BEFORE THE
STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of

Corning Natural Gas Corporation

Case 16-G-0369

October 2016

Prepared Exhibits of
Staff Finance Panel:

Abdul Qadir
Senior Utility Financial Analyst
Office of Accounting, Audits and Finance

Patrick Piscitelli
Principal Utility Financial Analyst
Office of Accounting, Audits and Finance

State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

Case 16-G-0369

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PATRICK PISCITELLI
3 Empire State Plaza
Albany, NY 12223-1350

PROFESSIONAL EXPERIENCE

New York State Department of Public Service, Albany, NY
Principal Financial Analyst
December 2003 – Present

Provide analysis and recommendations to Senior Management and other members of the Department of Public Service regarding financial and accounting issues for New York State utilities. Also, provides rate of return, financial, and accounting testimony in electric, telephone, and water company rate proceedings.

National Grid USA, Westborough, MA
Principal Financial Analyst
November 2002 – December 2003

Responsible for the development and implementation of the National Grid USA Risk Management Policy for the management of the Company's energy procurement market and credit risks. Also, responsible for establishing the procedures for evaluating, reporting, and monitoring the risk exposures and for the operating Companies adherence to the Corporate Policies and Procedures.

Niagara Mohawk Power Corporation, Syracuse, NY
Corporate Financial Risk Manager
October 1996 – November 2002

Responsible for the development and implementation of a Corporate Financial Risk Management Program to manage the financial risks of commodity and foreign currency transactions, and the corporate loan portfolio. Interact and make presentations to Senior Management regarding Financial Risk Management strategies and results. Developed and implemented Financial Risk Management Plans, Policies, and Procedures and developed Value-at-Risk and Credit-at-Risk Models to quantify the Capital-at-Risk resulting from the Energy and Gas Supply Portfolios.

Associate Director of Finance and Investments
May 1991 - October 1996

Analyzed and presented recommendations to Senior Management regarding the financing options available to the Company. Co-managed the Pension Fund and managed all investment aspects of the Nuclear Decommissioning Trust Fund, the Supplemental Executive Retirement Plan, and charitable foundation. Responsible for interacting with the Investment Community to carry out the plans and policies of Niagara Mohawk.

First Albany Corporation, Albany, NY
Assistant Vice President
October 1987 - May 1991

Responsibilities included investment banking, consulting, and conducting financial and economic analysis. As an Investment Banker and consultant, I was responsible for analyzing investment opportunities for institutional clients and authoring investment research reports. Served as the financial analyst to the United States Bankruptcy Court during the Public Service of New Hampshire Bankruptcy Proceeding.

New York State Department of Public Service, Albany, NY
Senior Utility Financial Analyst
July 1981 – May 1983
Associate Utility Financial Analyst
May 1983 –June 1985
Principal Financial Analyst
June 1985 – October 1987

In positions of increasing responsibility provided analysis and recommendations to Senior Management and other members of the Department of Public Service regarding financial and accounting issues for New York State utilities. Provided rate of return, financial, and accounting testimony in electric, telephone, and water company rate proceedings. Also negotiated and testified in various rate case settlements.

Russell Sage Graduate School, Albany, NY
Adjunct Professor, MBA Program
Fall 1996

EDUCATION

Union University, Schenectady, NY
Master of Business Administration
Concentration - Management Information Systems
State University College at Potsdam, New York
Bachelor of Arts
Major - Economics

VOLUNTEER ACTIVITIES

Empower Federal Credit Union,
Member of the Board of Directors
Finance Committee
September 1999 – present

Empower Associated Services
Chairman of the Board of Directors
March 2013 - present

Onondaga Community College Housing Development Corporation,
President of the Board of Directors
Finance and Audit Committee
September 2006 - present

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-196 AQ-1
Requested By:	Abdul Qadir
Requested of:	Ann E. Bulkley
Date of Request:	July 18, 2016
Response Due Date:	July 28, 2016
Subject:	Proxy Group Selection

On page 24 line 12 of your testimony, you state, "To ensure that the proxy group consists of companies that are primarily regulated utilities, I eliminated companies with less than 70 percent of total operating income derived from regulated utility operation"

Provide all the prior rate cases where the Commission had relied on "operating income" as one of the criteria for proxy group selection.

Response: Ms. Bulkley is not aware of any prior rate cases where the Commission has relied on "operating income" as one of the criteria for proxy group selection. As discussed in her Direct Testimony on page 28, operating income is the more appropriate criterion to use in proxy group selection:

> In establishing my proxy group, I relied on the percentage of net operating income derived from regulated operations instead of the percentage of total revenue derived from regulated operations because net operating income is more representative of the contribution of that business segment to earnings and the corporation's overall financial position. Specifically, a significant portion of gas and electric utility company revenue is derived from the costs of purchased gas, purchased fuel, and purchased power, which, in most cases, are recoverable through tracking mechanisms and do not, therefore, contribute to earnings. Furthermore, this portion of total revenue can fluctuate considerably based on the cost of gas and other inputs. Therefore, relying on a revenue screen does not provide a clear or necessarily consistent indicator of the contribution of the regulated utility operations to a company's earnings, which are [the most] important consideration for equity investors. Net operating income excludes the cost of purchased commodity, and therefore more closely represents the contribution of the business segment to earnings.

Name of Respondent: Ann E. Bulkley
Position of Respondent: Vice President, Concentric Energy Advisors, Inc.
Date of Response: July 22, 2016

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-197 AQ-2
Requested By:	Abdul Qadir
Requested of:	Ann E. Bulkley
Date of Request:	July 18, 2016
Response Due Date:	July 28, 2016
Subject:	Corporate Structure

Provide the corporate structure of the ultimate parent showing Corning Natural Gas Corporation (Company), the Company's immediate parent, and all the subsidiaries of the ultimate parent.

Response: The ultimate parent of the Company is Corning Natural Gas Holding Corporation (Holding Company). In addition to its ownership of 100 percent of the Company, the Holding Company owns 100 percent of Corning Natural Gas Appliance Corporation and 50 percent each of Leatherstocking Gas Company, LLC and Leatherstocking Pipeline Company, LLC.

Name of Respondent: Ann E. Bulkley
Position of Respondent: Vice President, Concentric Energy Advisors, Inc.
Date of Response: July 22, 2016

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-199 AQ-4
Requested By:	Abdul Qadir
Requested of:	Ann E. Bulkley
Date of Request:	July 18, 2016
Response Due Date:	July 28, 2016
Subject:	Proxy Group Selection

List the electric and gas companies covered by Value Line that were excluded from your proxy group selection and provide the justification for the exclusion of such companies.

Response: Please see the accompanying Excel file designated Attachment DPS-199.

Name of Respondent: Ann E. Bulkley
Position of Respondent: Vice President, Concentric Energy Advisors, Inc.
Date of Response: July 22, 2016

Proxy Group Screening - Combined Utility Proxy Group

		Include/ Exclude	TOTAL	S&P Credit Rating	Moody's Credit Rating	Pays Dividends	Covered by More Than One Analyst	Positive Growth Rate from at least one source (Value Line, Yahoo! First Call, and Zacks)	% Regulated Operating Income ≥ 70%	% Regulated Gas Income of Total Reg. Income ≥ 10%	Announced Merger	Other Considerations
AGL Resources Inc.	GAS		7	1	1	1	1	1	1	1		
Atmos Energy Corporation	ATO	Include	8	1	1	1	1	1	1	1	1	
Laclede Group, Inc. (The)	LG	Include	8	1	1	1	1	1	1	1	1	
New Jersey Resources Corporation	NJR	Include	8	1	1	1	1	1	1	1	1	
NiSource Inc.	NI		6	1			1	1	1	1	1	
Northwest Natural Gas Company	NWN	Include	8	1	1	1	1	1	1	1	1	
Piedmont Natural Gas Company, Inc.	PNY		7	1	1	1	1	1	1	1		
South Jersey Industries, Inc.	SJI	Include	8	1	1	1	1	1	1	1	1	
Southwest Gas Corporation	SWX	Include	8	1	1	1	1	1	1	1	1	
UGI Corporation	UGI		7	1	1	1	1	1		1	1	
WGL Holdings, Inc.	WGL	Include	8	1	1	1	1	1	1	1	1	
ALLETE, Inc.	ALE		7	1	1	1	1	1	1		1	
Alliant Energy Corporation	LNT	Include	8	1	1	1	1	1	1	1	1	
Ameren Corporation	AEE	Include	8	1	1	1	1	1	1	1	1	
American Electric Power Company, Inc.	AEP		7	1	1	1	1	1	1		1	
Avista Corporation	AVA	Include	8	1	1	1	1	1	1	1	1	
Black Hills Corporation	BKH		7	1	1	1	1	1	1	1		
CenterPoint Energy, Inc.	CNP	Include	8	1	1	1	1	1	1	1	1	
Cleco Corporation	CNL		6	1	1	1	1	1	1			
CMS Energy Corporation	CMS	Include	8	1	1	1	1	1	1	1	1	
Consolidated Edison, Inc.	ED	Include	8	1	1	1	1	1	1	1	1	
Dominion Resources, Inc.	D		7	1	1	1	1	1	1	1		
DTE Energy Company	DTE	Include	8	1	1	1	1	1	1	1	1	
Duke Energy Corporation	DUK		6	1	1	1	1	1	1			
Edison International	EIX		7	1	1	1	1	1	1		1	
El Paso Electric Company	EE		7	1	1	1	1	1	1		1	
Empire District Electric Company	EDE		6	1	1	1	1	1	1			
Entergy Corporation	ETR		6	1	1	1	1		1		1	
Eversource Energy	ES		7	1	1	1	1	1	1		1	
Exelon Corporation	EXC		6	1	1	1	1	1		1		
FirstEnergy Corporation	FE		6	1	1		1	1	1		1	
Great Plains Energy Inc.	GXP		7	1	1	1	1	1	1		1	
Hawaiian Electric Industries, Inc.	HE		6	1	1	1	1	1	1			
IDACORP, Inc.	IDA		7	1	1	1	1	1	1		1	
ITC Holdings Corporation	ITC		6	1	1	1	1	1	1			
MGE Energy, Inc.	MGEE		7	1	1	1	1	1		1	1	
NextEra Energy, Inc.	NEE		6	1	1	1	1	1	1			
NorthWestern Corporation	NWE	Include	8	1	1	1	1	1	1	1	1	
OGE Energy Corporation	OGE		7	1	1	1	1	1	1		1	
Otter Tail Corporation	OTTR		5	1	1	1		1			1	
Pepco Holdings, Inc.	POM		6	1	1	1	1	1	1			
PG&E Corporation	PCG		7	1	1	1	1	1	1		1	
Pinnacle West Capital Corporation	PNW		7	1	1	1	1	1	1		1	
PNM Resources, Inc.	PNM		7	1	1	1	1	1	1		1	
Portland General Electric Company	POR		7	1	1	1	1	1	1		1	
PPL Corporation	PPL		6	1	1	1	1	1			1	
Public Service Enterprise Group Inc.	PEG		7	1	1	1	1	1		1	1	
SCANA Corporation	SCG	Include	8	1	1	1	1	1	1	1	1	
Sempra Energy	SRE	Include	8	1	1	1	1	1	1	1	1	
Southern Company	SO		6	1	1	1	1	1	1			
TECO Energy, Inc.	TE		7	1	1	1	1	1	1	1		
Vectren Corporation	VVC	Include	8	1	1	1	1	1	1	1	1	
Westar Energy, Inc.	WR		7	1	1	1	1	1	1		1	
Wisconsin Energy Corporation	WEC		7	1	1	1	1	1		1	1	
Xcel Energy Inc.	XEL	Include	8	1	1	1	1	1	1	1	1	

Note:
[1] Chesapeake Utilities Corporation is classified by Value Line as a Natural Gas Distribution Company; however, the company was not included in the screening model because they do not have a credit rating from either S&P or Moody's.

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-202 AQ-7
Requested By:	Abdul Qadir
Requested of:	Ann E. Bulkley
Date of Request:	July 18, 2016
Response Due Date:	July 28, 2016
Subject:	Long-Term Growth Rate

On page 54 lines 2-4 of your testimony, the long-term growth rate is 5.36%, which is based on real GDP growth rate of 3.24% and projected inflation rate of 2.05%. Why is the long-term growth rate not 5.29% (the sum of 3.24% and 2.05%)?

Provide the reason and supporting documents for inflating the growth rate 7 basis points to the current 5.36%.

Response: The calculation for the long-term growth rate that is described on page 54 of Ms. Bulkley's Direct Testimony can be found in Exhibit CNG-12, Schedule AEB-3 GDP Growth. The electronic copy of this exhibit has been provided in response to DPS-198 as Attachment DPS-198.

Name of Respondent: Ann E. Bulkley
Position of Respondent: Vice President, Concentric Energy Advisors, Inc.
Date of Response: July 22, 2016

CALCULATION OF LONG-TERM GDP GROWTH RATE

Exhibit CNG-12
Schedule AEB-3
Page 1 of 1

Step 1	
Real GDP ($ Billions) [1]	
1929	$ 1,056.6
2015	$ 16,348.9
Compound Annual Growth Rate	**3.24%**
Step 2	
Consumer Price Index (YoY % Change) [2]	
2022-2026	2.20%
Average	2.20%
Consumer Price Index (All-Urban) [3]	
2025	2.89
2040	3.95
Compound Annual Growth Rate	2.11%
GDP Chain-type Price Index (2009=1.000) [3]	
2025	1.31
2040	1.73
Compound Annual Growth Rate	1.85%
Average Inflation Forecast	**2.05%**
Long-Term GDP Growth Rate	**5.36%**

Notes:
[1] Bureau of Economic Analysis, April 28, 2016
[2] Blue Chip Financial Forecasts, Vol. 34, No. 12, December 1, 2015, at 14
[3] Energy Information Administration, Annual Energy Outlook 2015, Table 20

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-200 AQ-5
Requested By:	Abdul Qadir
Information Requested of:	Mario Divalentino
Date of Request:	July 18, 2016
Response Due Date:	July 28, 2016
Subject:	Financial Statements

Provide the 2015 actual and pro forma Balance sheet and Income statements of Corning Natural Gas and all the entities in the Family Tree, including Ultimate parent and all the subsidiaries.

Response:

Please see the accompanying Excel file designated "Response DPS-200 (AQ-5) 2015 Financial Statements".

Name of Respondent: L. Mario DiValentino
Position of Respondent: President, Moonstone Consulting LLC
Date of Response: August 19, 2016

Holding Company
Balance Sheet (Unconsolidated)
Response DPS-200 (AQ-5)

	Dec 31, 15
ASSETS	
Current Assets	
Checking/Savings	
Community Bank Checking	244.66
Total Checking/Savings	244.66
Other Current Assets	
Austin Construction Note	38,477.29
Due from Associated Co-LGC	540,431.94
Note Receivable-CNG	985,734.92
Total Other Current Assets	1,564,644.15
Total Current Assets	1,564,888.81
Other Assets	
Debt Discount Fee	60,000.00
Investment in Appliance	2,997,549.54
Investment in LGC	2,027,724.45
Investment in LPC	314,927.07
Organizational Costs-Pike	53,990.82
Total Other Assets	5,454,191.88
TOTAL ASSETS	**7,019,080.69**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable	0.00
Total Accounts Payable	0.00
Other Current Liabilities	
Current Liab-2014 FIT	-82,706.00
Current Liab-2015 FIT	-49,893.00
Current Liab-2016 FIT	-1,362.00
Current Liab-NYS Franchise 2014	-17,409.00
Current Liab-NYS Franchise 2015	-11,228.00
Current Liab-NYS Franchise 2016	-325.00
Deferred Federal Income Taxes	-34,804.00
Deferred NYS Income Taxes	-7,268.00
Directors Shares Payable	32,497.50
Dividends Payable	356,964.81
Total Other Current Liabilities	184,467.31
Total Current Liabilities	184,467.31
Total Liabilities	184,467.31
Equity	
Capital Stock Expense	-23,822.48

Common Stock	24,637.24
Opening Balance Equity	-2,992,258.63
Paid In Capital	6,679,521.87
Retained Earnings	-275,350.19
Undistributed Subs Earnings	3,423,344.98
Net Income	-1,459.41
Total Equity	6,834,613.38
TOTAL LIABILITIES & EQUITY	**7,019,080.69**

Holding Company

Income Statement (Unconsolidated)

Response DPS-200 (AQ-5)

	Jan - Dec 15
Ordinary Income/Expense	
Income	
Equity in Earnings of Sub	-98,028.41
Interest Income	11,638.27
Total Income	-86,390.14
Expense	
Admin & General Exp - Misc	16,742.54
Current FIT Expense	-31,841.00
Current NYS Franchise Tax	-2,723.00
Deferred Income Tax Expense	-40,641.00
Interest Expense	906.82
Office Supplies & Expense	187.10
Professional Fees	31,605.11
Total Expense	-25,763.43
Net Ordinary Income	-60,626.71
Net Income	**-60,626.71**

CORNING NATURAL GAS CORPORATION

STATEMENT OF INCOME (CY 2015)

Response DPS-200 (AQ-5)

		CY 2015
Total Operating Revenues	$	21,437,605.93
Less: Purchased gas expense		6,063,599.91
Gross Profit		15,374,006.02
Operating Expenses and Taxes		
Operation-excl Purchased Gas		6,932,952.17
Maintenance		922,111.64
Provision for Depreciation		1,642,192.97
General Taxes		1,965,654.68
Income Taxes		1,055,240.57
Total Operating Exp and Taxes		12,518,152.03
Net Utility Income		2,855,853.99
Other Non-Operating Income		162,631.95
Deductions From Gross Income		
Interest on Long-term Debt		712,236.38
Interest on Notes Payable		228,449.93
Other Interest Deducts		11,781.29
Amortization of Debt Expense		76,580.15
Misc. Income Deducts		254,745.89
Total Deductions		1,283,793.64
Net Income-Utility	$	1,734,692.30

CORNING NATURAL GAS CORPORATION
BALANCE SHEET
Response DPS-200 (AQ-5)

ASSETS	2015	2014
TOTAL PLANT IN SERVICE	72,931,953.17	70,615,678.66
CONSTRUCTION WORK IN PROGRESS	4,244,134.19	142,400.62
TOTAL PLANT	77,176,087.36	70,758,079.28
LESS: RESERVE FOR DEPRECIATION	(21,433,767.17)	(20,002,566.62)
NET PLANT IN SERVICE	55,742,320.19	50,755,512.66
INVESTMENT IN ASSOCIATED COMPANIES	0.00	0.00
CURRENT ASSETS:		
CASH	(194,731.64)	(481,027.51)
SPECIAL DEPOSITS	2,256,915.82	2,414,802.89
TOTAL CASH & EQUIVALENTS	2,062,184.18	1,933,775.38
ACCOUNTS RECEIVABLE:		
CUSTOMERS	1,890,947.01	1,654,663.62
OTHER	663,124.24	583,283.30
ASSOCIATED COMPANIES	1,487.50	82,769.08
RECEIVABLES-GROSS	2,555,558.75	2,320,716.00
LESS: RESERVE FOR UNCOLLECTIBLE	(55,965.19)	(61,637.74)
RECEIVABLES-NET	2,499,593.56	2,259,078.26
MATERIALS & SUPPLIES	1,277,436.92	935,879.77
GAS STORED UNDERGROUND	1,071,157.65	1,733,650.52
PREPAYMENTS-INSURANCE	235,477.60	222,977.90
PREPAYMENTS AND OTHER	668,729.93	295,154.99
TOTAL CURRENT ASSETS	7,814,579.84	7,380,516.82
DEFERRED DEBITS:		
UNAMORTIZED DEBT DISCOUNT & EXPENSE	208,650.84	293,804.04
OTHER DEFERRED DEBITS	11,975,123.03	7,643,064.29
TOTAL DEFERRED DEBITS	12,183,773.87	7,936,868.33
CAPITAL STOCK EXPENSE	122,818.04	122,818.04
TOTAL ASSETS	$75,863,491.94	$66,195,715.85

LIABILITIES AND CAPITALIZATION

LIABILITIES		
CURRENT & ACCRUED LIABILITIES:		
SHORT TERM NOTES	12,368,343.19	6,887,281.66
ACCOUNTS PAYABLE	2,078,681.88	1,418,372.56
TAX COLLECTIONS PAYABLE	22,862.43	37,340.38
DIVIDENDS PAYABLE	0.00	0.00
CUSTOMERS DEPOSITS	1,856,385.99	244,099.80
TAXES ACCRUED-FEDERAL INCOME	(1,804,050.58)	(2,479,587.68)
TAXES ACCRUED-OTHER	(587,269.45)	(462,662.03)
ACCRUED INTEREST	7,562.61	2,991.78
OTHER CURRENT & ACCRUED LIABILITIES	7,549,105.14	6,893,045.49
TOTAL CURRENT & ACCRUED LIABILITIES	21,491,621.21	12,540,881.96
LONG TERM DEBT:		
TERM LOAN - M & T BANK	0.00	0.00
CAPEX LOAN - M & T BANK	0.00	0.00

NEW CAPEX LOAN - M & T BANK	1,265,759.89	1,453,443.12
TERM LOAN - M & T BANK	1,684,336.45	2,265,490.99
DEMAND LOAN - M & T BANK	2,725,217.79	3,612,004.65
CAPEX LOAN - M & T BANK - 2013	1,921,557.80	2,121,793.12
TERM LOANS - FIVE STAR	772,984.92	962,119.73
SENIOR NOTE 7.9%	0.00	0.00
M & T BANK - VEHICLES	194,875.39	235,263.49
CAPEX LOAN - COMMUNITY BANK	1,791,001.49	2,013,203.42
TERM LOANS - COMMUNITY BANK	472,024.00	589,622.95
TERM LOAN - M & T BANK	540,034.63	590,662.40
CAPEX LOAN - M & T BANK - 2014	3,461,854.05	3,771,453.61
TOTAL LONG TERM DEBT	14,829,646.41	17,615,057.48
OTHER DEFERRED CREDITS	1,936,668.39	2,197,220.07
ACCUMULATED DEFERRED INCOME TAXES	11,349,078.88	9,833,890.36
TOTAL DEFERRED CREDITS	13,285,747.27	12,031,110.43
TOTAL LIABILITIES	49,607,014.89	42,187,049.87
CAPITILIZATION		
CAPITAL STOCK:		
COMMON STOCK ISSUED	11,323,855.00	11,323,855.00
ADDITIONAL PAID-IN CAPITAL	12,043,721.92	12,043,721.92
TOTAL CAPITAL STOCK	23,367,576.92	23,367,576.92
SURPLUS:		
UNAPROP UNDISTRIBUTED SUSIDIARY EARNINGS	0.00	0.00
RETAINED EARNINGS	2,839,721.28	3,055,983.91
GROSS UNAPROP RETAINED EARNINGS	2,839,721.28	3,055,983.91
OCI-PENSION ADJUSTMENT	0.00	(2,550,950.93)
OCI-UNREALIZED GAIN ON TRUST	49,178.85	136,056.08
TOTAL OTHER COMPREHENSIVE INCOME	49,178.85	(2,414,894.85)
TOTAL SURPLUS	2,888,900.13	641,089.06
TOTAL CAPITAL STOCK & SURPLUS	26,256,477.05	24,008,665.98
TOTAL LIABILITIES AND CAPITALIZATION	$75,863,491.94	$66,195,715.85

Leatherstocking Pipeline
Response DPS-200 (AQ-5)

	Dec 31, 15
ASSETS	
Current Assets	
Checking/Savings	
Community Bank Checking	17,406.18
Total Checking/Savings	17,406.18
Accounts Receivable	
Accounts Receivable	43.31
Total Accounts Receivable	43.31
Total Current Assets	17,449.49
Fixed Assets	
Distribution Services	
Accum Dep - Dist Services	-8,845.86
Distribution Services - Other	57,099.00
Total Distribution Services	48,253.14
Improvements	
Accum Dep - Improvements	-4,151.40
Improvements - Other	21,366.96
Total Improvements	17,215.56
Regulator Station Equipment	
Accum Dep - Reg Station Equip	-107,167.68
Regulator Station Equipment - Other	665,704.68
Total Regulator Station Equipment	558,537.00
Structures	
Accum Dep - Structures	-3,826.94
Structures - Other	52,609.95
Total Structures	48,783.01
Total Fixed Assets	672,788.71
Other Assets	
Organizational Costs	
Organizational Costs-Acc Amort	-126.15
Organizational Costs - Other	1,060.35
Total Organizational Costs	934.20

Total Other Assets	934.20
TOTAL ASSETS	**691,172.40**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable	0.00
Total Accounts Payable	0.00
Other Current Liabilities	
Due to Leatherstocking Gas Co	61,354.58
Total Other Current Liabilities	61,354.58
Total Current Liabilities	61,354.58
Total Liabilities	61,354.58
Equity	
Member 1 Equity	29,500.00
Member 2 Equity	29,500.00
Opening Balance Equity	-36.32
Retained Earnings	579,272.18
Net Income	-8,418.04
Total Equity	629,817.82
TOTAL LIABILITIES & EQUITY	**691,172.40**

Leatherstocking Pipeline
Response DPS-200 (AQ-5)

	Jan - Dec 15
Income	
Transportation Revenue	20,323.44
Total Income	20,323.44
Cost of Goods Sold	
Operation Fees	3,190.14
Total COGS	3,190.14
Gross Profit	17,133.30
Expense	
Amortization Expense	35.40
Depreciation Expense	38,880.48
Fees	1,400.00
Interest Expense	42.57
Legal & Professional Expense	5,000.00
Station Maintenance	1,477.38
Supplies	118.76
Travel	0.00
Total Expense	46,954.59
Net Income	**-29,821.29**

Leatherstocking - Gas
Balance Sheet
Response DPS-200 (AQ-5)

	Dec 31, 15
ASSETS	
Current Assets	
Checking/Savings	
Five Star Bank Checking	98,208.50
M & T Bank Checking	0.00
Total Checking/Savings	98,208.50
Accounts Receivable	
A/R - Leatherstocking Pipeline	61,354.58
Accounts Receivable - Customers	111,728.27
Total Accounts Receivable	173,082.85
Other Current Assets	
Materials Inventory	205,607.03
Total Other Current Assets	205,607.03
Total Current Assets	476,898.38
Fixed Assets	
Accum Dep-Buildings, PA	-2,464.44
Accum Dep-Computers & Software	-1,528.14
Accum Dep-Furniture-PA	-32.70
Accum Dep-Improvements, PA	-400.68
Accum Dep-Land Rights	-487.32
Accum Dep-Mains, PA	-135,638.45
Accum Dep-Meas & Reg Station, P	-83,457.72
Accum Dep-Meter Installs, PA	-3,993.63
Accum Dep-Meters	-1,606.11
Accum Dep-Regulators, PA	-26.97
Accum Dep-Services, NY	-943.02
Accum Dep-Services, PA	-31,554.42
Accum Dep-Tools, PA	-426.99
Buildings, Dimock	44,985.09
Buildings, Montrose, PA	38,539.20
Computers & Software	11,741.23
CWIP	389,785.78
CWIP-Dimock	47,080.65
CWIP-New Milford	277,344.84
CWIP-Pentex	0.00
CWIP-Sidney	72,270.85
CWIP-Windsor	217,584.19

CWIP-Wyalusing	33,725.08
Furniture and Equipment	895.70
Improvements, Montrose	18,050.00
Land Rights-Pentex (Wyalusing)	40,000.00
Land Rights, Dimock, PA	1,726.00
Mains-Dimock, PA	915,610.84
Mains-Montrose, PA	4,749,636.50
Mains-Pentex (Wyalusing, PA)	753,715.31
Meas & Reg Station-Pentex	120,000.00
Meas & Reg Station, Dimock	845,722.50
Meas & Reg Station, Montrose	1,088,042.81
Meter Installs, Dimock, PA	71.56
Meter Installs, Montrose, PA	88,477.50
Meters	49,827.84
Plant - Accelerated Recovery	-197,134.84
Regulators	1,689.36
Services, Dimock, PA	87,658.35
Services, Montrose, PA	1,237,178.57
Services, Village of Sydney, NY	27,217.00
Tools, PA	6,623.57
Total Fixed Assets	10,705,504.89
Other Assets	
Accum Amort-Franchise	-3,996.34
Debt Discount-Five Star-2013	11,409.71
Debt Discount-Five Star-2014	18,061.18
Debt Discount-Five Star-2015	14,110.82
Debt Issuance-Pentex Loan	5,403.40
Franchise Fees	13,645.94
Franchise Fees-Windsor, Town	94,434.80
Franchise Fees-Windsor, Village	94,434.79
Organizational Costs	
Accum Amort-Organization	-32,054.57
Organizational Costs - Other	275,762.59
Total Organizational Costs	243,708.02
Organizational Costs-Devel Corp	1,574.40
Total Other Assets	492,786.72
TOTAL ASSETS	**11,675,189.99**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable	525,193.03

Total Accounts Payable	525,193.03
Other Current Liabilities	
Accounts Payable-CNG	0.00
Accounts Payable-Holding Corp	538,039.44
Accounts Payable-Mirabito	0.00
GAC Payable - Montrose	29,160.37
PA Local Tax Payable	351.09
Sales Tax Payable - PA	2,143.24
Sales Tax Payable - PA Use Tax	0.00
Total Other Current Liabilities	569,694.14
Total Current Liabilities	1,094,887.17
Long Term Liabilities	
Five Star 2013 Loan	1,520,474.67
Five Star 2014 Loan	3,999,715.63
Five Star 2015 Loan	500,000.00
Five Star Pentex Loan	504,130.80
Total Long Term Liabilities	6,524,321.10
Total Liabilities	7,619,208.27
Equity	
Member Investment	4,685,000.00
Members Equity	-636,235.10
Net Income	7,216.82
Total Equity	4,055,981.72
TOTAL LIABILITIES & EQUITY	**11,675,189.99**

Leatherstocking - Gas
Income Statement
Response DPS-200 (AQ-5)

	Dec 15
Ordinary Income/Expense	
Income	
Revenue - CER-Firm	14,549.16
Revenue - CER-Transportation	10,530.52
Revenue - Late Payment Charges	-0.30
Revenue - SC 1	27,163.33
Revenue - SC 2	25,381.60
Revenue - SC 3	21,986.33
Total Income	99,610.64
Cost of Goods Sold	
Balancing Charges	3,178.54
GAC Expense	614.32
Purchase Gas Cost	18,327.45
Total COGS	22,120.31
Gross Profit	77,490.33
Expense	
Advertising & Promotion-PA	233.66
Amortization Expense-NY	524.89
Amortization Expense-PA	782.20
Amortization of Debt Expense	505.08
Automobile Expense	108.20
Bank Service Charges	0.00
Current PA Tax	0.00
Depreciation Expense-CAIOC	17,255.10
Depreciation Expense-NY	54.69
Depreciation Expense-PA	16,420.04
Employee Benefits	990.13
Fees	284.50
FICA Expense	217.97
Interest on 2013 Five Star Loan	4,818.49
Interest on 2014 Five Star Loan	11,193.65
Interest on 2015 Five Star Loan	1,399.30
Interest on Five Star-Pentex	1,561.74
Legal Fees	0.00
Mains & Services Exp-Dimock	503.75
Mains & Services Exp-Montrose	1,662.90
Maintenance - Computer/Office	1,250.00
Meals and Entertainment-NY	15.88

Meter Reading	521.00
Office Supplies and Expense	3,197.43
Operating Fees	0.00
Payroll Expenses	475.82
Postage	249.38
Rent Expense	1,297.13
Station Maintenance	830.00
Supplies	13.63
Telephone Expense	1,103.87
Travel Expense	0.00
Utilities	37.26
Total Expense	67,507.69
Net Ordinary Income	9,982.64
Net Income	**9,982.64**
Net Income	**9,982.64**
Interest Expense	**18,973.18**
Income Tax Expense	**0.00**
Depreciation Expense	**33,729.83**
Amortizations	**1,812.17**
EBITDA	**64,497.82**

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-201 AQ-6
Requested By:	Abdul Qadir
Information Requested of:	Mario Divalentino / Anne Bulkley
Date of Request:	July 18, 2016
Response Due Date:	July 28, 2016
Subject:	Credit Metrics

Provide in electronic format with all formulas intact, the following Corning Natural Gas Corp's financial ratios for the rate year using the assumptions contained in the Company's rate filing:

As defined by S&P's corporate ratings criteria published November 26, 2013, as per the attached document

1. Funds from operations (FFO)/debt
2. Debt/EBITDA
3. Cash flow from operations (CFO)/debt
4. Free operating cash flow (FOCF)/debt
5. Discretionary cash flow (DCF)/debt
6. (FFO + interest)/cash interest (FFO cash interest coverage)
7. EBITDA/interest

Similarly, as defined by Moody's corporate ratings criteria for regulated electric and gas utilities published December 23, 2013, as per the attached document

1. Cash flow from operations (CFO) – WC + Interest / Interest
2. Cash flow from operations (CFO) pre-WC / Debt
3. Cash flow from operations (CFO) pre-WC – Dividends / Debt
4. Debt/Capitalization

Note: Retained cash flow should be calculated as FFO minus common, preferred, and minority dividends; FFO must be calculated as Cash flow from operations (CFO) before changes in working capital (WC) and changes in other short-term and long-term operating leases and liabilities; Debt should be calculated as current portion of long-term debt plus long-term debt. Free cash flow should be calculated as CFO minus capital expenditure (CAPEX) minus common, preferred, and minority dividends. Free operating cash flow (FOCF) should be calculated by deducting capital expenditures from CFO; Discretionary cash flow (DCF) should be calculated as cash flow from operating activities less capital expenditures and total dividends or FOCF minus cash dividends for common stock and preferred stock. Capitalization per Moody's is debt plus total equity plus minority interest plus non-current deferred Income taxes. If Corning Natural Gas Corp has no proposed data for an item, the Company can use historical

average or most recent data as a proxy. In your response, please provide copies of all work-papers, data, source documents, and assumptions that are used to develop the financial metrics.

Response:

Please see the accompanying Excel file designated "Response DPS-201 (AQ 6) Credit Metrics.xlsx". Please be aware that the calculations contained in this file are based on the Company's best efforts to interpret the rating criteria provided by Staff.

Name of Respondent: L. Mario DiValentino
Position of Respondent: President, Moonstone Consulting LLC
Date of Response: August 19, 2016

Corning Natural Gas
Response DPS-201 (AQ-6)

Standard & Poor's

	Reference Exhibit	Column	Line No.	W/O Rate Relief Amount	With Rate Relief Amount
Funds from Opertion					
Operatinig Income Net of Income Taxes	CNG-3 Summary	H	71	$ 456,177	$ 4,016,699
Add					
Depreciation Expense	CNG-3 Summary	H	51	1,875,669	1,875,669
Depreciation - Accelerated Recovery of Plant	CNG-3 Summary	H	52	279,244	279,244
Deferred Taxes-State	CNG-3 Summary	H	60	107,790	107,790
Deferred Taxes-Federal	CNG-3 Summary	H	68	56,778	56,778
Amortization					
GAC	CNG-5 Schedule 1	I	22-24	(180,019)	(180,019)
Regulatory Amortization	CNG-5 Schedule 7	I	17-23	515,232	515,232
Non Cash Pension Expense	CNG-5 Schedule 8	I	17	1,067,583	1,067,583
				4,178,454	7,738,976
Interest Expense				(1,065,267)	(1,065,266)
				3,113,187	6,673,710
Average Debt					
Long Term	CNG-6 Schedule 3	B	11	25,239,279	25,239,279
Short Term	CNG-6 Schedule 3	B	12	7,681,749	7,681,749
				32,921,028	32,921,028
Ratio				0.09	0.20

Debt to EBITDA		
EBITBA		
Operatinig Income Net of Income Taxes	$ 456,177	$ 4,016,699
Add		
Depreciation Expense	1,875,669	1,875,669
Depreciation - Accelerated Recovery of Plant	279,244	279,244
Income Tax-State	(148,349)	226,685
Income Tax-Federal	(295,196)	1,539,012
Amortization		
GAC	(180,019)	(180,019)
Regulatory Amortization	515,232	515,232
Non Cash Pension Expense	1,067,583	1,067,583
Interest Expense	1,065,267	1,065,266
	$ 4,635,607	$ 10,405,372
Average Debt		
Long Term	25,239,279	25,239,279
Short Term	7,681,749	7,681,749
	32,921,028	32,921,028
Debt to EBITDA Ratio	7.10	3.16

Cash flow from operations (CFO)/debt		
Operatinig Income Net of Income Taxes	$ (609,090)	$ 2,951,433
Depreciation Expense	1,875,669	1,875,669
Depreciation - Accelerated Recovery of Plant	279,244	279,244
Deferred Taxes-State	107,790	107,790
Deferred Taxes-Federal	56,778	56,778
Amortization		
GAC	(180,019)	(180,019)
Regulatory Amortization	515,232	515,232
Non Cash Pension Expense	1,067,583	1,067,583
	$ 3,113,187	$ 6,673,710
Change in Deferred Debits	(156,558)	(156,558)
Change in Deferred Credits	10,554	10,554
	$ 2,967,184	$ 6,527,707

Average Debt		
Long Term	25,239,279	25,239,279
Short Term	7,681,749	7,681,749
	32,921,028	32,921,028
CFO/Debt	0.090	0.198

Free operating cash flow (FOCF)/debt		
Funds from Opertion	$ 3,113,187	$ 6,673,710
Less		
CAPEX	7,776,749	7,776,749
Dividend Limitation	(548,181)	2,656,290
	(4,115,381)	(3,759,328)
Average Debt		
Long Term	25,239,279	25,239,279
Short Term	7,681,749	7,681,749
	32,921,028	32,921,028
Free operating cash flow (FOCF)/debt	-0.13	-0.11

Discretionary cash flow (DCF)/debt		
Operatinig Income Net of Income Taxes	$ 456,177	$ 4,016,699
Interest Expense	1,065,267	1,065,266
Income Available for Dividends (Discretionary)	$ (609,090)	$ 2,951,433
Dividend Limitation	90%	90%
Amount of DCF	$ (548,181)	$ 2,656,290
Average Debt		
Long Term	25,239,279	25,239,279
Short Term	7,681,749	7,681,749
	32,921,028	32,921,028
Discretionary cash flow (DCF)/debt	(0.017)	0.081

(FFO + interest)/cash interest (FFO cash interest coverage)		
FFO	$ 3,113,187	$ 6,673,710
Interest	1,065,267	1,065,266
FFO + Interest	4,178,454	7,738,976
Interest	1,065,267	1,065,266
Ratio	3.92	7.26
EBITDA/interest		
EBITDA	$ 4,635,607	$ 10,405,372
Interest	1,065,267	1,065,266
EBITDA/interest	4.35	9.77

Moody's

Cash flow from operations (CFO)/Interest		
Operatinig Income Net of Income Taxes	$ (609,090)	$ 2,951,433
Depreciation Expense	1,875,669	1,875,669
Depreciation - Accelerated Recovery of Plant	279,244	279,244
Deferred Taxes-State	107,790	107,790
Deferred Taxes-Federal	56,778	56,778
Amortization		
GAC	(180,019)	(180,019)
Regulatory Amortization	515,232	515,232
Non Cash Pension Expense	1,067,583	1,067,583
	$ 3,113,187	$ 6,673,710

Change in Deferred Debits	(156,558)	(156,558)
Change in Deferred Credits	10,554	10,554
	2,967,184	6,527,707
Interest	1,065,267	1,065,266
	4,032,451	7,592,973
Interest	1,065,267	1,065,266
CFO/Interest	3.79	7.13

Cash flow from operations (CFO)/Debt		
Cash flow from operations (CFO)	2,967,184	6,527,707
Average Debt		
Long Term	25,239,279	25,239,279
Short Term	7,681,749	7,681,749
	32,921,028	32,921,028
CFO/Debt	0.09	0.20

Cash flow from operations (CFO) pre-WC – Dividends / Debt		
Cash flow from operations (CFO)	2,967,184	6,527,707
Amount of Dividend	(548,181)	2,656,290
	3,515,365	3,871,417
Average Debt		
Long Term	25,239,279	25,239,279
Short Term	7,681,749	7,681,749
	32,921,028	32,921,028
(CFO) pre-WC – Dividends / Debt	0.11	0.12

Debt to Capitalization please see Exhibit CNG-6 Schedule 1

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-260 (PP-2)
Requested By:	Patrick Piscitelli
Information Requested of:	Sarhangi/DiValentino
Date of Request:	August 10, 2016
Response Due Date:	August 22, 2016
Subject:	Cost of Capital

Exhibit CNG-8, Schedule 2 includes loans listed in the exhibit as Loan 1, Loan 2, Loan 3, Loan 4, Loan 5, Loan 6, Loan 7, Loan 8, Loan 9, Loan 10, Loan 11, and Loan 12.

1. For each of the loans whose terms have already been established, provide term sheets and all financing documents.

   Response:

   Loan 1, Loan 2 and Loan3 are loans whose terms have already been established. The financing documents requested are attached as:

   "Response DPS-260 (PP-2) loan 1 $4.2 Million"
   "Response DPS-260 (PP-2) loan 2 $17.4 million Consolidation"
   "Response DPS-260 (PP-2) loan 3 Multiple Disbursement Term Note"

2. For each of the loans whose terms are yet to be determined, provide how the loan limits, interest rates, and amortizations were estimated.

   Response:

   The loan structure that is currently in effect with M&T is 60/40 debt to equity financing of construction, seven-year amortization, and five-year balloon payment. The interest rate was set at a current estimate of 4.05%.

Name of Respondent: L. Mario DiValentino
Position of Respondent: President, Moonstone Consulting LLC
Date of Response: August 19, 2016

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-261 (PP-4)
Requested By:	Patrick Piscitelli
Information Requested of:	Sarhangi/DiValentino
Date of Request:	August 10, 2016
Response Due Date:	August 22, 2016
Subject:	Financial Protections

Corning Natural Gas Corporation (Corning) has two loans outstanding with Manufacturers and Traders Trust Company. Does Corning's holding company or any of Corning's affiliates have outstanding loans with Manufacturers and Traders Trust Company? If so, provide the term sheets and all financing documents.

Response:

Neither the holding company nor any of the affiliates has outstanding loans with M&T Bank at this time.

Name of Respondent: L. Mario DiValentino
Position of Respondent: President, Moonstone Consulting LLC
Date of Response: August 19, 2016

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-262 (PP-5)
Requested By:	Patrick Piscitelli
Information Requested of:	Sarhangi/DiValentino
Date of Request:	August 10, 2016
Response Due Date:	August 22, 2016
Subject:	Debt Cost Rates

As per the requirements of Corning's $17.4 million loan with Manufacturers and Traders Trust Company for each rate year, provide Corning's projected funded debt/EBITDA. Also, for each input to the calculations provide references to where in the Company's cost of service filing the figures were obtained.

Response:

Please see the accompanying Excel file designated "Response DPS-262 (PP-5) Debt Cost Rates.xlsx".

Name of Respondent: L. Mario DiValentino
Position of Respondent: President, Moonstone Consulting LLC
Date of Response: August 19, 2016

Corning Natural Gas
Response DPS-262 (PP-5)

Debt to EBITDA	Reference			RY Ended 5/31/2018		RY Ended 5/31/2019		RY Ended 5/31/2020	
				W/O Rate Relief	With Rate Relief	W/O Rate Relief	With Rate Relief	W/O Rate Relief	With Rate Relief
EBITBA	**Exhibit**	**Column**	**Line No.**	**Amount**	**Amount**	**Amount**	**Amount**	**Amount**	**Amount**
Operatinig Income Net of Income Taxes	CNG-3 Summary	H,J,L,N,O,Q	71	$ 456,177	$ 4,016,699	$ 3,641,261	$ 4,340,319	$ 4,219,530	$ 4,621,065
Add									
Depreciation Expense	CNG-3 Summary	H	51	1,875,669	1,875,669	2,076,954	2,076,954	2,248,742	2,248,742
Depreciation - Accelerated Recovery of Plant	CNG-3 Summary	H	52	279,244	279,244	284,655	284,655	191,771	191,771
Income Tax-State	CNG-3 Summary	H	61	(148,349)	226,685	183,549	257,181	233,768	276,062
Income Tax-Federal	CNG-3 Summary	H	69	(295,196)	1,539,012	1,336,052	1,696,173	1,593,171	1,800,023
Amortization									
GAC	CNG-5 Schedule 1	I,J,K	22-24	(180,019)	(180,019)	(180,019)	(180,019)	(180,019)	(180,019)
Regulatory Amortization	CNG-5 Schedule 7	I,J,K	17-23	515,232	515,232	395,735	395,735	300,375	300,375
Non Cash Pension Expense	CNG-5 Schedule 8	I,J,K	17	1,067,583	1,067,583	1,003,333	1,003,333	728,250	728,250
Interest Expense	CNG-3 Schedule 5	G,H,I	18	1,065,267	1,065,266	1,107,376	1,107,376	1,220,384	1,220,384
				$ 4,635,607	$ 10,405,372	$ 9,848,896	$ 10,981,707	$ 10,555,972	$ 11,206,653
Average Debt									
Long Term	CNG-6 Schedule 3	B	11,44,77	25,239,279	25,239,279	28,421,513	28,421,513	30,070,012	30,070,012
Short Term	CNG-6 Schedule 3	B	12,45,78	7,681,749	7,681,749	7,681,749	7,681,749	7,681,749	7,681,749
				32,921,028	32,921,028	36,103,263	36,103,263	37,751,761	37,751,761
Debt to EBITDA Ratio				7.10	3.16	3.67	3.29	3.58	3.37

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-265 (PP-3)
Requested By:	Patrick Piscitelli
Information Requested of:	Sarhangi/DiValentino
Date of Request:	August 11, 2016
Response Due Date:	August 22, 2016
Subject:	Financial Protections

Ring fencing is defined as legally separating assets, or liabilities, in a subsidiary to protect them from creditors and are intended to insulate assets in a subsidiary from the risks of the holding company and other subsidiaries in a holding company. Provide all ring fencing measures implemented by Corning Natural Gas to insulate it from its holding company and other affiliates.

Response:

The debt incurred by Corning Natural Gas Corporation ("LDC") is Company-specific using only LDC assets for collateral. The LDC does not support or guarantee the debt of Corning Natural Gas Holding Corporation ("Holding Company") or of any other subsidiary of the Holding Company. In addition, the LDC is restricted as to the amount it can "dividend up" to the Holding Company, based on the Commission-approved debt-to-equity target ratio.

Name of Respondent: L. Mario DiValentino
Position of Respondent: President, Moonstone Consulting LLC
Date of Response: August 19, 2016

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-270
Requested By:	Patrick Piscitelli
Information Requested of:	Sarhangi/Devalentino
Date of Request:	August 17, 2016
Response Due Date:	August 29, 2016
Subject:	Corning's Improved Financial Condition

On page 6 lines 15 - 16 of your testimony states that "commercial lenders are now competing for Corning's business".

1. Provide all correspondence between Corning, and/or its parent or affiliated companies on Corning's behalf, and any potential lenders from January 1, 2014 to present.

   Response:

   Contacts include telephonic contact and meetings with potential lenders, such as insurance companies (*i.e.*, Great West, Prudential), banks (*i.e.,* Wells Fargo, Bank of America, Citizens Savings, etc.), and investment firms (*i.e.*, Janney Montgomery Scott LLC., Security Mutual).

   Prior to 2007, the Company relied on only one bank (Community Bank). Today, in addition to Community Bank, the Company has banking relationships with M&T, as well has Five Star.

Name of Respondent: L. Mario DiValentino
Position of Respondent: President, Moonstone Consulting LLC
Date of Response: August 19, 2016

M&T Bank

MULTIPLE DISBURSEMENT TERM NOTE
New York

January 27, 2016 $4,200,000.00

BORROWER (Name): **Corning Natural Gas Corporation**
(Organizational Structure): **Corporation**
(State Law organized under): **New York**
(Address of residence/chief executive office): **330 West William Street, Corning, New York 14830**

BANK: **M&T BANK**, a New York banking corporation with its banking offices at One M&T Plaza, Buffalo, NY 14203. Attention: Office of the General Counsel.

Definitions. The following terms shall have the indicated meanings in this Note:

1. **"Amortization Commencement Date"** shall mean the first day of the Permanent Loan Period, which shall be the Payment Due Date in the calendar month that is the **twelfth (12th)** month from the date of this Note.
2. **"Amortization Period"** shall be **seven (7)** years, and shall mean the approximate number of years, starting on the Amortization Commencement Date, needed to result in the full repayment of the Principal Amount, if all regularly scheduled payments are made at the required intervals over that period. The Amortization Period may be longer than the remaining term of this loan and shall not compromise the enforceability of the Maturity Date.
3. **"Disbursement Period"** shall mean the period from the date of this Note to, but not including, the Amortization Commencement Date, during which the Bank may advance funds to Borrower in accordance with the terms of this Note and/or a Loan Agreement, if applicable.
4. **"EBITDA"** shall mean net income after tax, plus depreciation, plus amortization, plus interest expense, plus non-cash expenses, less non-cash income, all as determined in accordance with G.A.A.P., as defined in the Credit Agreement being executed simultaneously herewith.
5. **"First Installment Payment Date"** shall mean the first Payment Due Date following the Amortization Commencement Date.
6. **"Loan Agreement"** shall mean any supplementary agreement, if any, between Borrower and the Bank dated on or about the date hereof and/or in connection herewith, providing for the disbursement of funds under this Note, as the same may be amended, modified or replaced from time to time.
7. **"Maturity Date"** shall mean the Payment Due Date in the **forty-eighth (48th)** month following the Amortization Commencement Date.
8. **"New York Business Day"** shall mean any day other than Saturday, Sunday or other day in which commercial banking institutions in New York, New York are authorized or required by law or other governmental action to remain closed for business.
9. **"Payment Due Date"** shall mean the 27th day of the applicable calendar month (or if there is no numerically corresponding day in a particular month, the last calendar day of such month); provided, however, to the extent, if at all, that a non-daily adjusting LIBOR-based interest rate is in effect, if in any applicable month the day identified above is not a Joint Business Day, the Payment Due Date shall be extended to the next succeeding Joint Business Day unless such next succeeding Joint Business Day would fall in the next calendar month, in which case such Payment Due Date shall be the immediately preceding Joint Business Day, so as to, in all instances, coincide with the end of the applicable Interest Period. See attached LIBOR Rate Rider, the terms of which are incorporated herein by reference, for definitions and additional provisions.
10. **"Permanent Loan Period"** shall mean the period from and including the Amortization Commencement Date to the Maturity Date, during which Borrower shall repay the outstanding Principal Amount, with interest, as set forth below.
11. **"Principal Amount"** shall mean **the amount actually advanced, which sum shall not exceed Four Million Two Hundred Thousand and 00/100 Dollars ($4,200,000.00).**

Promise to Pay. For value received, intending to be legally bound, Borrower promises to pay to the order of the Bank, on the dates set forth below, the Principal Amount plus interest as agreed below, all payments required by the Bank to fund any escrow accounts for the payment of taxes, insurance and/or other charges (collectively, "Escrow"), and all fees and costs (including without limitation attorneys' fees and disbursements whether for internal or outside counsel) the Bank incurs in order to collect any amount due under this Note, to negotiate or document a workout or restructuring, or to preserve its rights or realize upon any guaranty or other security for the payment of this Note ("Expenses").

Authorized Representatives. During the Disbursement Period, the Bank may fund loan proceeds hereunder in reliance upon any oral, telephonic, written, teletransmitted or other request (the "Request(s)") that the Bank in good faith believes to be valid and to have been made by Borrower or on behalf of Borrower by **Michael I. German as President or Firouzeh Sarhangi as Chief Financial Officer** (include name(s) and title(s), as appropriate) or any other officer, employee or representative of Borrower who is authorized or designated as a signer of loan documents under the provisions of Borrower's most recent resolutions or similar documents on file with the Bank (each an "Authorized Person"). Notwithstanding that individual names may have been provided to the Bank, the Bank shall be permitted at any time to rely solely on an individual's title to ascertain whether that individual is an Authorized Person. The Bank may act on the Request of any Authorized Person until the Bank shall have received from Borrower, and had a reasonable time to act on, written notice revoking the authority of such Authorized Person. Borrower acknowledges that the transmission between Borrower and Bank of any Request or other instructions involves the possibility of errors, omissions, misinterpretations, fraud and mistakes, and agrees to adopt such internal measures and operational procedures as may be necessary to prevent such occurrences. By reason thereof, Borrower hereby assumes all risk of loss and responsibility for, and releases and discharges the Bank from any and all responsibility or liability for, and agrees to indemnify, reimburse on demand and hold Bank harmless from, any and all claims, actions, damages, losses, liability and expenses by reason of, arising out of, or in any way connected with or related to: (i) Bank's accepting, relying on and acting upon any Request or other instructions with respect to the loan evidenced by this Note; or (ii) any such error, omission, misinterpretation, fraud or mistake, provided such

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error, omission, misinterpretation, fraud or mistake is not directly caused by the Bank's gross negligence or willful misconduct. The Bank shall incur no liability to Borrower or to any other person as a direct or indirect result of funding any advance pursuant to this paragraph.

Availability; Non-Revolving Credit. Borrower agrees that any request for an advance must be accompanied with a copy of a Public Service Commission capital expenditure tracker report. Once the Disbursement Period ends, no further advances shall be Requested under this Note. The aggregate amount of all advances made pursuant to this Note shall not exceed the Principal Amount, but in the event of any excess advances, the amount of any such excess shall be due and payable immediately, with interest calculated at the applicable rate. Repayment of any portion of any advance made hereunder shall NOT increase the remaining availability for future advances.

Interest. The unpaid Principal Amount of this Note shall, at all times, earn interest calculated on the basis of a 360-day year for the actual number of days of each year (365 or 366), from and including the date the proceeds of this Note are disbursed to, but not including, the date all amounts hereunder are paid in full, at a rate which shall be **determined on a daily basis as follows**:

During the Disbursement Period and the Permanent Loan Period:

Pricing Level	Funded Debt/EBITDA Leverage Ratio	Interest Rate Spread Over One Month LIBOR Rate As It Adjusts Daily (the spread changing quarterly)
Level I	Less than or equal to 2.0	1.70%
Level II	Greater than 2.0 but less than or equal to 2.5	2.00%
Level III	Greater than 2.5 but less than or equal to 3.0	2.30%
Level IV	Greater than 3.0	2.60%

For purposes of this computation, Funded Debt shall include the current and long term portion of term debt, but excludes the balance outstanding on revolver and line of credit obligations.

Until the first interest rate adjustment, which shall occur March 31, 2016 and thereafter 90 days after the end of each quarter, the LIBOR rate shall be set at 2.43%.

If no rate is specified above, interest shall accrue at the Maximum Legal Rate (defined below) for the applicable period.

Maximum Legal Rate. It is the intent of the Bank and Borrower that in no event shall interest be payable at a rate in excess of the maximum rate permitted by applicable law (the "Maximum Legal Rate"). Solely to the extent necessary to prevent interest under this Note from exceeding the Maximum Legal Rate, Borrower agrees that any amount that would be treated as excessive under a final judicial interpretation of applicable law shall be deemed to have been a mistake and automatically canceled, and, if received by the Bank, shall be refunded to Borrower, without interest.

Default Rate. If an Event of Default (defined below) occurs, the interest rate on the unpaid Principal Amount shall immediately be automatically increased to five (5) percentage points per year above the otherwise applicable rate per year, and any judgment entered hereon or otherwise in connection with any suit to collect amounts due hereunder shall bear interest at such default rate.

Payments. Payments shall be made in immediately available United States funds at any banking office of the Bank.

Preauthorized Transfers from Deposit Account. If a deposit account number is provided in the following blank, Borrower hereby authorizes the Bank to debit Borrower's deposit account #_____ with the Bank automatically for any amount which becomes due under this Note.

Interest Accrual; Application of Payments. Interest will continue to accrue on the actual principal balance outstanding until the Principal Amount is paid in full. All installment payments (excluding voluntary prepayments of principal) will be applied as of the date each payment is received and processed. Payments may be applied in any order in the sole discretion of the Bank, but, prior to an Event of Default, may be applied chronologically (i.e., oldest invoice first) to unpaid amounts due and owing, in the following order: first to accrued interest, then to principal, then to Escrow, then to late charges and other fees, and then to all other Expenses.

Repayment Terms. Borrower shall pay to the Bank the Principal Amount and all interest owing pursuant to this Note in installments as follows:

During the Disbursement Period:

All accrued and unpaid interest, in amounts that may vary, on the Payment Due Date of each month, beginning on the first Payment Due Date following the date of this Note, and continuing through and including the Amortization Commencement Date, or as otherwise invoiced by the Bank.

During the Permanent Loan Period:

(i) **Forty-seven (47)** consecutive level monthly installments consisting of both principal and interest, each in the amount that would result in the outstanding Principal Amount, as of the Amortization Commencement Date, plus interest at the applicable rate, being repaid in full over the course of the Amortization Period [or, as otherwise provided for on the attached schedule], due and payable on the First Installment Payment Date and each Payment Due Date thereafter, and

(ii) ONE (1) FINAL INSTALLMENT, due and payable on the Maturity Date, in an amount equal to the outstanding Principal Amount, together with all other amounts outstanding hereunder, including, without limitation, accrued interest, costs and expenses.

To the extent, if at all, that (i) the repayment terms of this Note contemplate level installments of principal and interest during any period in which the applicable interest rate is a variable rate ("Variable Rate P&I Period"), and (ii) during any such Variable Rate P&I Period, the applicable interest rate changes in accordance with the terms of this Note, the Bank may, but shall be under no obligation to, recalculate and adjust at any time the installment amount due and payable to the Bank, so as to appropriately reamortize the unpaid Principal Amount, as of the date of such adjustment through the Maturity Date (or such other date as may be provided for herein). Borrower understands that non-adjustment of the installment amount as described herein could result in a greater portion of the unadjusted installment amount being applied to interest due, leaving less available to reduce the Principal Amount balance, resulting in a higher than expected Principal Amount balance due and payable to the Bank on the Maturity Date. Absent manifest error, the Bank's determination of any amount due in connection herewith shall be conclusive.

Late Charge. If Borrower fails to pay, within five (5) days of its due date, any amount due and owing pursuant to this Note or any other agreement executed and delivered to the Bank in connection with this Note, including, without limitation, any Escrow payment due and owing, Borrower shall immediately pay to the Bank a late charge equal to the greatest of (a) $50.00, (b) five percent (5%) of the delinquent amount or (c) the Bank's then current late charge as announced from time to time. Notwithstanding the above, if this Note is secured by a one- to six-family owner-occupied residence, the late charge shall equal 2% of the delinquent amount and shall be payable if payment is not received within fifteen days of its due date.

Prepayment Premium. During the term of this Note, Borrower shall have the option of paying the unpaid Principal Amount to the Bank in advance of the Maturity Date, in whole or in part, at any time and from time to time upon written notice received by the Bank at least three (3) days prior to making such payment; provided, however, as consideration for the privilege of making such prepayment, Borrower shall pay to the Bank a fee (the "Premium") equal to the amount provided for on the **LIBOR Rate Rider**. Any partial prepayment of principal shall be posted as of the date received and applied in inverse order of maturity. With any prepayment in full of the Principal Amount balance, Borrower shall also pay to the Bank all accrued interest and Expenses owing pursuant to this Note. In the event the Maturity Date of this Note is accelerated following an Event of Default, the Bank's right to collect the Premium, as liquidated damages, shall accrue immediately, with the amount of the Premium to be determined in accordance with the terms of this Note at the time of any actual prepayment or other satisfaction, in whole or in part, by any means, of the principal indebtedness evidenced by this Note. Any tender of payment by or on behalf of the Borrower made after such Event of Default to satisfy or reduce the principal indebtedness shall be expressly deemed a voluntary prepayment, in which case, to the extent permitted by law, the Bank shall be entitled to the amount necessary to satisfy the entire indebtedness, plus the appropriate Premium calculated in accordance with the terms of this Note.

Representations, Warranties and Covenants. Borrower represents and warrants to and agrees and covenants with the Bank that now and until this Note is paid in full:

a. **Business Purpose.** The Loan proceeds shall be used only for a business purpose and not for any personal, family or household purpose.

b. **Good Standing; Authority.** Borrower is an entity or sole proprietor (i) duly organized and existing and in good standing under the laws of the jurisdiction in which it was formed, (ii) duly qualified, in good standing and authorized to do business in every jurisdiction in which failure to be so qualified might have a material adverse effect on its business or assets and (iii) has the power and authority to own each of its assets and to use them as contemplated now or in the future.

c. **Legality.** The execution, issuance, delivery to the Bank and performance by Borrower of this Note (i) are in furtherance of Borrower's purposes and within its power and authority; (ii) do not (A) violate any statute, regulation or other law or any judgment, order or award of any court, agency or other governmental authority or of any arbitrator or (B) violate Borrower's certificate of incorporation or other governing instrument, constitute a default under any agreement binding on Borrower, or result in a lien or encumbrance on any assets of Borrower; and (iii) have been duly authorized by all necessary corporate or partnership action.

d. **Compliance.** The Borrower conducts its business and operations and the ownership of its assets in compliance with each applicable statute, regulation and other law, including without limitation environmental laws. All approvals, including without limitation authorizations, permits, consents, franchises, licenses, registrations, filings, declarations, reports and notices (the "Approvals") necessary to the conduct of Borrower's business and for Borrower's due issuance of this Note have been duly obtained and are in full force and effect. The Borrower is in compliance with all conditions of each Approval.

e. **Financial and Other Information. Promptly deliver to the Bank (i) within sixty (60) days after the end of each of its first three fiscal quarters, an unaudited accountant prepared consolidating and consolidated financial statement of the Borrower and each Subsidiary as of the end of such quarter, which financial statement shall consist of income and cash flows for the quarter, for the corresponding quarter in the previous fiscal year and for the period from the end of the previous fiscal year, with a consolidating and consolidated balance sheet as of the quarter end all in such detail as the Bank may request; (ii) within one hundred twenty (120) days after the end of each fiscal year, consolidating and consolidated statements of the Borrower's and each Subsidiary's income and cash flows and its consolidating and consolidated balance sheet as of the end of such fiscal year, setting forth comparative figures for the preceding fiscal year and to be audited by an independent certified public accountant acceptable to the Bank; all such statements shall be certified by the Borrower's chief financial officer to be correct and in accordance with the Borrower's and each Subsidiary's records and to present fairly the results of the Borrower's and each Subsidiary's operations and cash flows and its financial position at year end.** Promptly upon the request of the Bank from time to time, Borrower shall supply all additional information requested and permit the Bank's officers, employees, accountants, attorneys and other agents to (i) visit and inspect each of Borrower's premises, (ii) examine, audit, copy and extract from Borrower's records and (iii) discuss Borrower's or its affiliates' business, operations, assets, affairs or condition (financial or other) with its responsible officers and independent accountants.

f. **Accounting; Tax Returns and Payment of Claims.** Borrower will maintain a system of accounting and reserves in accordance with generally accepted accounting principles, has filed and will file each tax return required of it and, except as disclosed in an attached schedule, has paid and will pay when due each tax, assessment, fee, charge, fine and penalty imposed by any taxing authority upon Borrower or any of its assets, income or franchises, as well as all amounts owed to mechanics, materialmen, landlords, suppliers and the like in the ordinary course of business.

g. **Title to Assets; Insurance.** Borrower has good and marketable title to each of its assets free of security interests and mortgages and other liens except as disclosed in its financial statements or on a schedule attached to this Note or pursuant to the Bank's prior written consent. Borrower will maintain its property in good repair and will maintain and on request provide the Bank with evidence of insurance coverage satisfactory to the Bank including without limitation fire and hazard, liability, worker's compensation and business interruption insurance and flood hazard insurance as required.

h. **Judgments and Litigation.** There is no pending or threatened claim, audit, investigation, action or other legal proceeding or judgment, order or award of any court, agency or other governmental authority or arbitrator (each an "Action") which involves Borrower or its assets and might have a material adverse effect upon Borrower or threaten the validity of this Note or any related document or transaction. Borrower will immediately notify the Bank in writing upon acquiring knowledge of any such Action.

i. Notice of Change of Address and of Default. Borrower will immediately notify the Bank in writing (i) of any change in its address or of the location of any collateral securing this Note, (ii) of the occurrence of any Event of Default defined below, (iii) of any material change in Borrower's ownership or management and (iv) of any material adverse change in Borrower's ability to repay this Note.

j. No Transfer of Assets. Until this Note is paid in full, Borrower shall not without the prior written consent of the Bank (i) sell or otherwise dispose of substantially all of its assets, (ii) acquire substantially all of the assets of another entity, (iii) if it is a corporation, participate in any merger, consolidation or other absorption or (iv) agree to do any of these things.

Events of Default. The following constitute an event of default ("Event of Default"): (i) failure by Borrower to make any payment when due (whether at the stated maturity, by acceleration or otherwise) of the amounts due under this Note, or any part thereof, or there occurs any event or condition which after notice, lapse of time or both will permit such acceleration; (ii) Borrower defaults in the performance of any covenant or other provision with respect to this Note or any other agreement between Borrower and the Bank or any of its affiliates or subsidiaries (collectively, "Affiliates"); (iii) Borrower fails to pay when due (whether at the stated maturity, by acceleration or otherwise) any indebtedness for borrowed money owing to the Bank (other than under this Note), any third party or Affiliate or the occurrence of any event which could result in acceleration of payment of any such indebtedness or the failure to perform any agreement with any third party or Affiliate; (iv) the reorganization, merger, consolidation or dissolution of Borrower (or the making of any agreement therefor); the sale, assignment, transfer or delivery of all or substantially all of the assets of Borrower to a third party; or the cessation by Borrower as a going business concern; (v) the death or judicial declaration of incompetency of Borrower, if an individual; (vi) failure to pay, withhold or collect any tax as required by law; the service or filing against Borrower or any of its assets of any lien (other than a lien permitted in writing by the Bank), judgment, garnishment, order or award; (vii) if Borrower becomes insolvent or is generally not paying its debts as such debts become due; (viii) the making of any general assignment by Borrower for the benefit of creditors; the appointment of a receiver or similar trustee for Borrower or its assets; or the making of any, or sending notice of any intended, bulk sale; (ix) Borrower commences, or has commenced against it, any proceeding or request for relief under any bankruptcy, insolvency or similar laws now or hereafter in effect in the United States of America or any state or territory thereof or any foreign jurisdiction or any formal or informal proceeding for the dissolution or liquidation of, settlement of claims against or winding up of affairs of Borrower; (x) any representation or warranty made in this Note, any related document, any agreement between Borrower and the Bank or any Affiliate or in any financial statement of Borrower proves to have been misleading in any material respect when made; Borrower omits to state a material fact necessary to make the statements made in this Note, any related document, any agreement between Borrower and the Bank or any Affiliate or any financial statement of Borrower not misleading in light of the circumstances in which they were made; or, if upon the date of execution of this Note, there shall have been any material adverse change in any of the facts disclosed in any financial statement, representation or warranty that was not disclosed in writing to the Bank at or prior to the time of execution hereof; (xi) any pension plan of Borrower fails to comply with applicable law or has vested unfunded liabilities that, in the opinion of the Bank, might have a material adverse effect on Borrower's ability to repay its debts; (xii) an adverse change in the Borrower, its business, assets, operations, management, ownership, affairs or condition (financial or otherwise) from the status shown on any financial statement or other document submitted to the Bank or any Affiliate, and which change the Bank determines will have a material adverse effect on (a) the Borrower, its business, assets, operations or condition (financial or otherwise), or (b) the ability of the Borrower to pay or perform any obligation to the Bank; (xiii) the occurrence of any event described in sub-paragraph (i) through and including (xii) hereof with respect to any guarantor or any other party liable for, or whose assets or any interest therein secures, payment of any of the amounts due under this Note ("Guarantor"); (xiv) Borrower fails to supply new or additional collateral within ten (10) days of request by the Bank; or (xv) the Bank in good faith deems itself insecure with respect to payment or performance under this Note.

Rights and Remedies Upon Default. Upon the occurrence of any Event of Default, the Bank without demand of performance or other demand, presentment, protest, advertisement or notice of any kind (except any notice required by law) to or upon the Borrower or any other person (all and each of which demands, presentments, protests, advertisements and notices are hereby waived), may exercise all rights and remedies under the Borrower's agreements with the Bank or its Affiliates, applicable law, in equity or otherwise and may declare all or any part of any amounts due hereunder not payable on demand to be immediately due and payable without demand or notice of any kind and terminate any obligation it may have to grant any additional loan, credit or other financial accommodation to the Borrower. All or any part of any amounts due hereunder whether or not payable on demand, shall be immediately due and payable automatically upon the occurrence of an Event of Default in sub-paragraph (ix) above, or at the Bank's option, upon the occurrence of any other Event of Default. The provisions hereof are not intended in any way to affect any rights of the Bank with respect to any amounts due hereunder which may now or hereafter be payable on demand.

Right of Setoff. The Bank shall have the right to set off against the amounts owing under this Note any property held in a deposit or other account with the Bank or any Affiliates or otherwise owing by the Bank or any Affiliates in any capacity to Borrower or any Guarantor or endorser of this Note. Such set-off shall be deemed to have been exercised immediately at the time the Bank or such Affiliate elects to do so.

USA PATRIOT Act Notice. Bank hereby notifies the Borrower that pursuant to the requirements of the USA PATRIOT Act ("Patriot Act"), it is required to obtain, verify and record information that identifies the Borrower, which information includes the name and address of the Borrower and other information that will allow Bank to identify the Borrower in accordance with the Patriot Act. The Borrower agrees to, promptly following a request by Bank, provide all such other documentation and information that Bank requests in order to comply with its ongoing obligations under applicable "know your customer" and anti-money laundering rules and regulations, including the Patriot Act.

Miscellaneous. This Note, together with any related loan and collateral agreements and guaranties, contains the entire agreement between the Bank and Borrower with respect to the Note, and supersedes every course of dealing, other conduct, oral agreement and representation previously made by the Bank. All rights and remedies of the Bank under applicable law and this Note or amendment of any provision of this Note are cumulative and not exclusive. No single, partial or delayed exercise by the Bank of any right or remedy shall preclude the subsequent exercise by the Bank at any time of any right or remedy of the Bank without notice. No waiver or amendment of any provision of this Note shall be effective unless made specifically in writing by the Bank. No course of dealing or other conduct, no oral agreement or representation made by the Bank, and no usage of trade, shall operate as a waiver of any right or remedy of the Bank. No waiver of any right or remedy of the Bank shall be effective unless made specifically in writing by the Bank. Borrower agrees that in any legal proceeding, a copy of this Note kept in the Bank's course of business may be admitted into evidence as an original. This Note is a binding obligation enforceable against Borrower and its successors and assigns and shall inure to the benefit of the Bank and its successors and assigns. If a court deems any provision of this Note invalid, the remainder of the Note shall remain in effect. Section headings are for convenience only. Singular number includes plural and neuter gender includes masculine and feminine as appropriate.

Notices. Any demand or notice hereunder or under any applicable law pertaining hereto shall be in writing and duly given if delivered to Borrower (at its address on the Bank's records) or to the Bank (at the address on page one and separately to the Bank officer responsible for Borrower's relationship with the Bank). Such notice or demand shall be deemed sufficiently given for all purposes when delivered (i) by personal delivery and shall be deemed effective when delivered, or (ii) by mail or courier and shall be deemed effective three (3) business days after deposit in an official depository maintained by the United States Post Office for the collection of mail or one (1) business day after delivery to a nationally recognized overnight courier service (*e.g.*, Federal Express). Notice by e-mail is not valid notice under this or any other agreement between Borrower and the Bank.

Joint and Several. If there is more than one Borrower, each of them shall be jointly and severally liable for all amounts and obligations that become due under this Note and the term "Borrower" shall include each as well as all of them.

Governing Law; Jurisdiction. This Note has been delivered to and accepted by the Bank and will be deemed to be made in the State of New York. Except as otherwise provided under federal law, this Note will be interpreted in accordance with the laws of the State of New York excluding its conflict of laws rules. **BORROWER HEREBY IRREVOCABLY CONSENTS TO THE EXCLUSIVE JURISDICTION OF ANY STATE OR FEDERAL COURT IN NEW YORK STATE IN A COUNTY OR JUDICIAL DISTRICT WHERE THE BANK MAINTAINS A BRANCH AND CONSENTS THAT THE BANK MAY EFFECT ANY SERVICE OF PROCESS IN THE MANNER AND AT BORROWER'S ADDRESS SET FORTH ABOVE FOR PROVIDING NOTICE OR DEMAND; PROVIDED THAT NOTHING CONTAINED IN THIS NOTE WILL PREVENT THE BANK FROM BRINGING ANY ACTION, ENFORCING ANY AWARD OR JUDGMENT OR EXERCISING ANY RIGHTS AGAINST BORROWER INDIVIDUALLY, AGAINST ANY SECURITY OR AGAINST ANY PROPERTY OF BORROWER WITHIN ANY OTHER COUNTY, STATE OR OTHER FOREIGN OR DOMESTIC JURISDICTION.** Borrower acknowledges and agrees that the venue provided above is the most convenient forum for both the Bank and Borrower. Borrower waives any objection to venue and any objection based on a more convenient forum in any action instituted under this Note.

Waiver of Jury Trial. BORROWER AND THE BANK HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT TO TRIAL BY JURY BORROWER AND THE BANK MAY HAVE IN ANY ACTION OR PROCEEDING, IN LAW OR IN EQUITY, IN CONNECTION WITH THIS NOTE OR THE TRANSACTIONS RELATED HERETO. BORROWER REPRESENTS AND WARRANTS THAT NO REPRESENTATIVE OR AGENT OF THE BANK HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT THE BANK WILL NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THIS JURY TRIAL WAIVER. BORROWER ACKNOWLEDGES THAT THE BANK HAS BEEN INDUCED TO ENTER INTO THIS NOTE BY, AMONG OTHER THINGS, THE PROVISIONS OF THIS SECTION.

☐ **Amended and Restated Note.** The Borrower acknowledges, agrees and understands that this Note is given in replacement of and in substitution for, but not in payment of, a prior note dated on or about _____, ____, in the original principal amount of $_____, given by Borrower in favor of the Bank (or its predecessor-in-interest), as the same may have been amended or modified from time to time ("Prior Note"), and further, that: (a) the obligations of the Borrower as evidenced by the Prior Note shall continue in full force and effect, as amended and restated by this Note, all of such obligations being hereby ratified and confirmed by the Borrower; (b) any and all liens, pledges, assignments and security interests securing the Borrower's obligations under the Prior Note shall continue in full force and effect, are hereby ratified and confirmed by the Borrower, and are hereby acknowledged by the Borrower to secure, among other things, all of the Borrower's obligations to the Bank under this Note, with the same priority, operation and effect as that relating to the obligations under the Prior Note; and (c) nothing herein contained shall be construed to extinguish, release, or discharge, or constitute, create, or effect a novation of, or an agreement to extinguish, the obligations of the Borrower with respect to the indebtedness originally described in the Prior Note or any of the liens, pledges, assignments and security interests securing such obligations.

Acknowledgment. Borrower acknowledges that it has read and understands all the provisions of this Note, including the provisions relating to **Governing Law**, **Jurisdiction** and **Waiver of Jury Trial**, and has been advised by counsel as necessary or appropriate.

CORNING NATURAL GAS CORPORATION

By: _____
Name: Michael I. German
Title: President

_____
Signature of Witness

_____
Typed Name of Witness

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ACKNOWLEDGMENT

STATE OF NEW YORK)
: SS.
COUNTY OF BROOME)

On the 27th day of January, in the year 2016, before me, the undersigned, a Notary Public in and for said State, personally appeared **MICHAEL I. GERMAN**, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

JEFF N. EVANS
Notary Public, State of New York
Steuben County No. 02EV6265099
Commission Expires July 9, 2016

FOR BANK USE ONLY

Authorization Confirmed: _____
Disbursement of Funds:
Credit A/C # _____ Off Ck # _____ Payoff Obligation # _____
$ _____ $ _____ $ _____

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M&T Bank

LIBOR RATE RIDER
(For Actual Balance Promissory Notes)

Borrower: Corning Natural Gas Corporation

Promissory Note Original Principal Amount: $4,200,000.00

Promissory Note Date: **January 27, 2016**

DEFINITIONS. The above-referenced Promissory Note is referred to herein as the "Note". As used in the Note and this Rider, each capitalized term shall have the meaning specified in the Note, and the following terms shall have the indicated meanings:

a. **"Base Rate"** shall mean the rate of interest announced by the Bank each day as its prime rate of interest ("Prime Rate").
b. **"Interest Period"** shall mean, as used in connection with a non-daily adjusting LIBOR Rate, the period commencing on the date of this Note or any Rate Adjustment Date (as the case may be) and ending on, as applicable, the next succeeding Payment Due Date or the Payment Due Date of the calendar month that is one (1) or three (3) months thereafter (as applicable in accordance with the LIBOR Rate in effect); provided, however, that if an Interest Period would end on a day that is not a Joint Business Day, such Interest Period shall be extended to the next succeeding Joint Business Day unless such next succeeding Joint Business Day would fall in the next calendar month, in which case such Interest Period shall end on the immediately preceding Joint Business Day. To the extent that the preceding clause results in either the extension or shortening of an Interest Period, the Bank shall have the right (but not the obligation) to shorten or extend, respectively, the succeeding Interest Period so that it shall end on a day that numerically corresponds to the intended Payment Due Date indicated in the Note.
c. **"Joint Business Day"** shall mean a day that is both a New York Business Day and a London Business Day.
d. **"LIBOR"** shall mean the rate per annum (rounded upward, if necessary, to the nearest 1/16th of 1%) obtained by dividing (i) either the one-day (i.e., overnight), one-month or three-month interest period London Interbank Offered Rate (as applicable in accordance with the LIBOR Rate in effect) as set and administered by ICE Benchmark Administration Limited (or such other administrator of LIBOR, as may be duly authorized by the UK Financial Conduct Authority or such other proper authority from time to time) for United States dollar deposits in the London interbank market at approximately 11:00 a.m. London, England time (or as soon thereafter as practicable) as determined by the Bank from any broker, quoting service or commonly available source utilized by the Bank, by (ii) a percentage equal to 100% minus the stated maximum rate of all reserves required to be maintained against "Eurocurrency Liabilities" as specified in Regulation D (or against any other category of liabilities which includes deposits by reference to which the interest rate on LIBOR-based loans is determined or any category of extensions of credit or other assets which includes loans by a non-United States' office of a bank to United States residents) on such date to any member bank of the Federal Reserve System. Notwithstanding any provision above, the practice of rounding to determine LIBOR may be discontinued at any time in the Bank's sole discretion.
e. **"LIBOR Rate"** shall mean the applicable LIBOR-based interest rate in effect from time to time, as provided for in the Note and this Rider.
f. **"London Business Day"** shall mean any day on which dealings in United States dollar deposits are carried on by banking institutions in the London interbank market.
g. **"New York Business Day"** shall mean any day other than Saturday, Sunday or other day in which commercial banking institutions in New York, New York are authorized or required by law or other governmental action to remain closed for business.
h. **"One-Month LIBOR"** shall mean LIBOR as fixed for a one-month interest period.
i. **"Rate Adjustment Date"** shall mean the effective date of a change in the applicable LIBOR Rate, as follows:
   i. For a daily-adjusting LIBOR Rate, the Rate Adjustment Date shall be each London Business Day.
   ii. For a monthly-adjusting LIBOR Rate (i.e., having an Interest Period of one (1) month), the Rate Adjustment Date shall be, in each month, the calendar day of that month that corresponds with the Payment Due Date in such month (as may be adjusted pursuant to the definition of "Payment Due Date" in the Note).
   iii. For a quarterly-adjusting LIBOR Rate (i.e., having an Interest Period of three (3) months), the Rate Adjustment Date shall be, initially, the Payment Due Date that is three (3) months after the first day such LIBOR Rate is in effect ("Effective Date"), and thereafter, the Payment Due Date that is three (3) months after each prior Rate Adjustment Date, respectively; provided, however, that if the Effective Date is not a Payment Due Date, the first Rate Adjustment Date shall be the next succeeding Payment Due Date, after which a new three-month Interest Period shall begin with quarterly Rate Adjustment Dates thereafter, as provided above.

ADDITIONAL PROVISIONS:

Interest Rate Determinations and Adjustments.

- To the extent a daily-adjusting LIBOR Rate is in effect, the LIBOR Rate shall be determined using the One-Month LIBOR in effect on the date of the Note (or if such day is not a London Business Day, on the immediately preceding London Business Day), and shall be adjusted thereafter on each subsequent Rate Adjustment Date using the One-Month LIBOR in effect on each respective Rate Adjustment Date.

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- To the extent a monthly-adjusting LIBOR Rate (i.e., a LIBOR Rate adjusting each month) or a quarterly-adjusting LIBOR Rate (i.e., a LIBOR Rate adjusting every three (3) months) is in effect, the initial LIBOR Rate shall be determined using the applicable LIBOR in effect two (2) London Business Days prior to the date of the Note (or two (2) London Business Days prior to the Amortization Commencement Date, as applicable), and shall be adjusted thereafter on each subsequent Rate Adjustment Date using the applicable LIBOR in effect two (2) London Business Days prior to each Rate Adjustment Date, respectively.

Prepayment; Breakage Fee. Subject to the following, during the term of this Note, Borrower shall have the option of paying the Principal Amount to the Bank in advance of the Maturity Date, in whole or in part, at any time and from time to time upon written notice received by the Bank at least three (3) days prior to making such payment; provided, however, that if (i) Borrower prepays, in whole or in part, any Principal Amount, when a LIBOR Rate is in effect (other than on a Rate Adjustment Date), or (ii) the LIBOR Rate is converted to the Base Rate on any day other than a Rate Adjustment Date, then Borrower shall be liable for and shall pay the Bank, on demand, the higher of $250.00 or the actual amount of the liabilities, expenses, costs or funding losses that are a direct or indirect result of such prepayment or other condition described above, whether such liability, expense, cost or loss is by reason of (a) any reduction in yield, by reason of the liquidation or reemployment of any deposit or other funds acquired by the Bank, (b) the fixing of the interest rate payable on any LIBOR-based loan or (c) otherwise (collectively, the "Breakage Fee"). The determination by the Bank of the foregoing amount shall, in the absence of manifest error, be conclusive and binding upon Borrower. The provisions of this paragraph shall not be applicable if the LIBOR Rate in effect at the time of the prepayment has an Interest Period of one day.

Inability to Determine LIBOR Rates, Increased Costs, Illegality.

a. **Increased Costs.** If the Bank shall determine that, due to either (a) the introduction of any change (other than any change by way of imposition of or increase in reserve requirements included in the calculation of the LIBOR Rate) in or in the interpretation of any requirement of law or (b) the compliance with any guideline or request from any central bank or other governmental authority (whether or not having the force of law), there shall be any increase in the cost to the Bank of agreeing to make or making, funding or maintaining any loans based on LIBOR, then Borrower shall be liable for, and shall from time to time, upon demand therefor by the Bank, pay to the Bank such additional amounts as are sufficient to compensate the Bank for such increased costs.

b. **Inability to Determine Rates.** If the Bank shall determine that for any reason adequate and reasonable means do not exist for ascertaining LIBOR, the Bank will give notice of such determination to Borrower. Thereafter, the Bank may not maintain the loan hereunder at the LIBOR Rate until the Bank revokes such notice in writing and, until such revocation, the Bank may convert the applicable interest rate to the Base Rate.

c. **Illegality.** If the Bank shall determine that the introduction of any law (statutory or common), treaty, rule, regulation, guideline or determination of an arbitrator or of a governmental authority or in the interpretation or administration thereof, has made it unlawful, or that any central bank or other governmental authority has asserted that it is unlawful for the Bank to make LIBOR-based loans, then, on notice thereof by the Bank to Borrower, the Bank may suspend the maintaining of the loan hereunder at the LIBOR Rate until the Bank shall have notified Borrower that the circumstances giving rise to such determination shall no longer exist. If the Bank shall determine that it is unlawful to maintain the loan hereunder based on LIBOR, the Bank may convert the applicable interest rate to the Base Rate.

Conversion To Base Rate Upon Default. Unless the Bank shall otherwise consent in writing, if (i) Borrower fails to pay when due, in whole or in part, the indebtedness under the Note (whether upon maturity, acceleration or otherwise), or (ii) there exists a condition or event which with the passage of time, the giving of notice or both shall constitute an Event of Default, the Bank, in its sole discretion, may (i) permit the LIBOR Rate to remain in effect until a Rate Adjustment Date, at which time the applicable interest rate shall automatically be converted to the Base Rate, or (ii) convert the LIBOR Rate to the Base Rate at or before a Rate Adjustment Date. Nothing herein shall be construed to be a waiver by the Bank of the right to have the Principal Amount accrue interest at the Default Rate or the right of the Bank to charge and collect a Breakage Fee.

Repayment Upon Conversion To Base Rate. If a LIBOR Rate with an Interest Period duration of greater than one day is converted to the Base Rate at a time when the repayment terms under the Note require the Borrower to make principal payments to the Bank, Borrower shall thereafter pay the unpaid Principal Amount in consecutive monthly installments commencing on the first Payment Due Date after the date of such conversion and on the same Payment Due Date thereafter, plus accrued interest in amounts that may vary, until (a) conversion back to the LIBOR Rate (at which time Borrower shall resume the monthly, bi-monthly or quarterly installments in the amount set forth in the Note, or as otherwise agreed to by the Bank and Borrower in writing) or (b) the Maturity Date (at which time Borrower shall pay the Final Installment), with each such installment being equal and in the amount necessary to fully amortize the outstanding Principal Amount of the Note in full by the Maturity Date or such other date agreed to by the Bank and Borrower in writing. The determination by the Bank of the foregoing amount shall, in the absence of manifest error, be conclusive and binding upon Borrower.

CORNING NATURAL GAS CORPORATION

By: _____
Name: Michael I. German
Title: President

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M&T Bank

COMPANY GENERAL CERTIFICATE

FROM: **Corning Natural Gas Corporation** (the "Company")

The undersigned hereby certifies that he/she has the power and authority to execute and deliver this Company General Certificate to M&T Bank, M&T Real Estate Trust, Wilmington Trust, N.A., and any of their affiliates (any or collectively, a "Lender") on behalf of the Company. The undersigned further certifies that the following are true and correct:

1. **Resolutions.** The resolutions attached as Schedule A (the "Resolutions") were duly adopted by the Company's board of directors (if a corporation), membership (if a limited liability company), partners (if a general partnership) or such other governing body as may be applicable to the Company, at a meeting duly called and held, or by unanimous consent, on **January 27, 2016**; that none of the Resolutions have been rescinded, revoked or modified in any way; that each Resolution is in full force and effect on the date of this Certificate; and that neither any of the Resolutions nor any action taken or to be taken pursuant to any of the Resolutions violates, or will result in any violation of, any statute, regulation or other law applicable to the Company or the governing documents applicable to the Company, or any instrument, agreement or document to which the Company is a party, or by which the Company or any of its assets is bound.

2. **Incumbency.** Each person whose name appears below, opposite a title/position ("Position"), has been duly elected or appointed to and qualified for such Position at the Company and that on the date of this Certificate such person holds such Position; and that each signature appearing below is a true specimen of the signature of the person whose signature it purports to be.

NAME	TITLE/POSITION	SIGNATURE
Michael I. German	President	

3. **Organization and Standing.** The Company is duly organized, validly existing and in good standing under the laws of the State/Commonwealth of New York. No petition for dissolution has been filed or is pending. The Company has, and at the time of adoption of the Resolutions had, full power and lawful authority to adopt the Resolutions and to confer the powers granted in them to the Position or persons named or referenced in said Resolutions including any delegation of powers; and any person holding such Position or the person so named shall have full power and lawful authority to exercise those powers. No other action or consent of any other person or entity is necessary in order for this Certificate or the Resolutions to be effective.

4. **Shareholder Consent to Guaranty (Corporation Only).** If the Company is a corporation and the Company is guarantying the debt of another party, subordinating debt in favor of a Lender or pledging assets to secure the debt of another party, the shareholders holding at least two-thirds of the shares entitled to vote consented and approved at a shareholders' meeting, duly called and held on_____, 20_____, that the Company is empowered to execute and deliver to the Lender the Agreements which were authorized per the attached Resolutions. If the shareholder approval was by written consent, then attached as Schedule B is a Shareholder Consent which constitutes the unanimous written consent of each shareholder of the Company.

January 27, 2016
Date

Stanley G. Sleve, Secretary

NOTE: If the person signing above is authorized to transact business by any Resolutions, this Certificate should be attested by a second officer, director, member or partner of the Company, unless the Company is owned by a single owner (*e.g.*, shareholder, member) and has no other officer, director or member.

Bank Use Only

Borrower: _____ **Obligation No:** _____

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BORROWING RESOLUTION

SCHEDULE A TO GENERAL CERTIFICATE

From: **Corning Natural Gas Corporation** (the "Company").

Re: Company General Certificate dated January 27, 2016

RESOLVED, that any person with the following title or position:

President

(by title or position only (each severally, an "Authorized Person") (is)/(are) may on behalf of and in the name of the Company or otherwise, transact with and through M&T Bank, M&T Bank, National Association, M&T Real Estate Trust, and any of their affiliates (any or collectively, a "Lender"), all such business as he or she (they) shall deem advisable upon such terms as he or she (they) shall deem proper including, but not limited to (i) obtaining loans, credits and other financial accommodations; (ii) discounting, selling, assigning, delivering and negotiating checks, drafts, bills of exchange, acceptances, notes and other writings containing a promise of, or order for, the payment of money (individually an "Item" and collectively "Items"); (iii) guaranteeing and otherwise becoming contingently liable for obligations of others; (iv) applying for services or products from a Lender ("Services and Products") including, without limitation, letters of credit, electronic funds transfers, Internet products, capital markets products, deposit and cash management products; and (v) pledging, hypothecating, assigning, mortgaging, encumbering, granting security interests in and otherwise creating liens upon property, whether real or personal, tangible or intangible ("Property"), as security for credits and for guaranties and other contingent liabilities. In connection with any such transaction of business, each Authorized Person has the power and authority on behalf of the Company to do all such acts and other things as he or she (they) shall deem proper, including but not limited to (i) signing, drawing, accepting, endorsing, executing and delivering Items; (ii) executing and delivering notes, guaranties, assignments, pledges, hypothecations, mortgages, deeds of trust, security agreements, powers of attorney, indemnifications, receipts, waivers, releases and other instruments, agreements and documents; (iii) making and receiving delivery of Property; (iv) accepting, receiving, withdrawing and waiving demands and notices; (v) incurring and paying liabilities, costs and expenses; and (vi) delegating to one or more people (who may be, but need not be, an Authorized Person) the power and authority granted to any Authorized Person herein or as set forth in an agreement with respect to any credit, Service or Product, including the authority to request advances from a Lender under one or more credits with a Lender. Without limiting the generality of the foregoing, each Authorized Person has the power and the authority on behalf of the Company to obtain from a Lender from time to time upon such terms as he or she (they) shall deem proper, credits in such amounts as they deem necessary; and be it further

RESOLVED, that without limiting the generality of the foregoing, the Company hereby specifically authorizes the following:

☒ a loan in the principal amount of $**4,200,000.00**; and be it further

☐ loans the total of the outstanding principal amounts of which shall not at any one time exceed $_____; and be it further

RESOLVED, that the authority given hereunder shall be deemed retroactive and any and all signatures, endorsements heretofore executed and all other actions heretofore taken (including agreements made electronically (*e.g.*, over the Internet)) by one or more of the Company's officers, members, partners or other persons, employees acting on behalf of the Company in any capacity (including Authorized Persons), and their delegees, (acting jointly or separately) are hereby adopted, ratified and confirmed; and be it further

RESOLVED, that any individual who holds the position or title identified above as an Authorized Person, and each person or persons designated by an Authorized Person to act on behalf of the Company (who may, but need not be, an Authorized Person), shall have the power and authority to transact business and bind the Company through electronic medium (*e.g.*, the Internet) and the Lender may rely on any of the following to the same extent as the actual signature and proof of identity of each such person to bind the Company: any electronic signature or digital signature, under applicable law, of such person; any identifier issued by the Lender, its affiliates or any other party (*e.g.*, Personal Identification Number associated with ATM or other card or any access device) to such person; or any other criteria that the Lender may reasonably rely on which may serve as an indicator of authentication for such person; and be it further

RESOLVED, that the foregoing resolutions shall remain in full force and effect and may be relied upon by a Lender, notwithstanding the dissolution or termination of existence of the Company or any change in the identity of, or any modification or termination of any authority of, any Authorized Person, until a copy of a subsequent resolution revoking or amending them, duly certified by an Authorized Person of the Company, shall be actually received by the account officer of a Lender responsible for the obligations of the Company and such Lender shall have had a reasonable time to act thereon; and any action taken by a Lender prior to such actual receipt and passage of time shall be binding upon the Company, irrespective of when such resolutions may have been adopted.

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M&T BANK

DISBURSEMENT CLOSING STATEMENT

DATE OF CLOSING:	**January 27, 2016**
BORROWER:	**Corning Natural Gas Corporation**
AMOUNT OF LOAN:	**$4,200,000.00**

M&T BANK (Payoff #9965898553-380)	**$1,001,142.35**
***M&T Bank (Balance of Payoff #9965898553-406)**	**$193,279.50**
M&T BANK (Payoff #9965898553-398)	**$3,005,578.15**
TOTAL AMOUNT DISBURSED:	**$4,200,000.00**

*** Balance of payoff paid out of $17,400,000.00 loan**

The undersigned Borrower/Mortgagor approves the payments made above by M&T Bank, confirms obligation to pay the fees listed and acknowledges receipt from M&T Bank of the full amount described as Total Disbursements.

Borrower/Mortgagor:

CORNING NATURAL GAS CORPORATION

By: _____
Name: Michael I. German
Title: President

Dated: January 27, 2016

Corning Natural Gas Corporation
Term Sheet Required by Ordering Clause 6 Case 15-G-0460
Issued and Effective January 21, 2016

Term Sheet:

Closing Date: January 27, 2016

Lender: Manufacturers and Traders Trust Company

Borrower: Corning Natural Gas Corporation

Principal Amount: $17,400,000

Purpose: Consolidate existing M&T Bank and other existing term debt identified at Community Bank and Five Star Bank

Term: 6 years

Interest Rate:

Tier	Funded Debt/EBITDA	Spread over 1 mo LIBOR Rate
IV	>3.0	2.60%
III	>2.50<=3.0	2.30%
II	>2.0<=2.50	2.00%
I	<=2.0	1.70%

Collateral: First security interest in all assets

Repayment: Billed Interest only for one year from closing, then loan will automatically convert to monthly payment of principal and interest based on a 5 year term and 7 year amortization

Reporting:

1. Audited financial statements within 120 days of end of fiscal year
2. Quarterly SEC Form 10-Q within 60 days of end of each quarter

Executed Documents: Attached A

Closing Statement: Attached B

M&T Bank

TERM NOTE
(Actual Balance Interest Accrual Method)
New York

January 27, 2016 $17,400,000.00

BORROWER (Name): **Corning Natural Gas Corporation**
(Organizational Structure): **Corporation**
(State Law organized under): **New York**
(Address of residence/chief executive office): **330 West William Street, Corning, New York 14830**

BANK: **M&T BANK**, a New York banking corporation with its banking offices at One M&T Plaza, Buffalo, NY 14203. Attention: Office of the General Counsel.

Promise to Pay. For value received, intending to be legally bound, Borrower promises to pay to the order of the Bank, on the dates set forth below, the principal sum of **Seventeen Million Four Hundred Thousand and 00/100 Dollars ($17,400,000.00)** (the "Principal Amount") plus interest as agreed below, all payments required by the Bank to fund any escrow accounts for the payment of taxes, insurance and/or other charges (collectively, "Escrow"), and all fees and costs (including without limitation attorneys' fees and disbursements whether for internal or outside counsel) the Bank incurs in order to collect any amount due under this Note, to negotiate or document a workout or restructuring, or to preserve its rights or realize upon any guaranty or other security for the payment of this Note ("Expenses").

HVCRE. To the extent any credit facility referenced herein shall now or at any time during its existence qualify as a "high-volatility commercial real estate exposure" ("HVCRE") under applicable federal banking regulations relating to the adoption of Basel III regulatory capital rules, as may be amended from time to time ("Basel III Regulations"), prior to the Bank funding any advance or draw under such credit facility, Borrower shall be required to have contributed cash equity to the project equal to 15% of the subject property's prospective value at the completion of any contemplated acquisition, development and/or construction, as determined by an appraisal deemed acceptable in form and substance to the Bank, which appraisal shall be received and reviewed by the Bank prior to closing, and Borrower shall further satisfy any other requirements necessary to facilitate the credit not being classified as an HVCRE per Basel III Regulations. Borrower shall be required to contribute sufficient cash equity in a manner acceptable to the Bank in its sole discretion, and such cash equity shall remain in place for as long as the credit facility remains classified as an HVCRE.

Interest. The unpaid Principal Amount of this Note shall earn interest calculated on the basis of a 360-day year for the actual number of days of each year (365 or 366), from and including the date the proceeds of this Note are disbursed to, but not including, the date all amounts hereunder are paid in full, at a rate which shall be determined on a daily basis as follows:

Pricing Level	Funded Debt/EBITDA Leverage Ratio	Interest Rate Spread Over One Month LIBOR Rate As It Adjusts Daily (the spread changing quarterly)
Level I	Less than or equal to 2.0	1.70%
Level II	Greater than 2.0 but less than or equal to 2.5	2.00%
Level III	Greater than 2.5 but less than or equal to 3.0	2.30%
Level IV	Greater than 3.0	2.60%

For purposes of this computation, Funded Debt shall include the current and long term portion of term debt, but excludes the balance outstanding on revolver and line of credit obligations.

Until the first interest rate adjustment, which shall occur March 31, 2016 and thereafter 90 days after the end of each quarter, the LIBOR rate shall be set at 2.43%.

EBITDA shall mean net income after tax, plus depreciation, plus amortization, plus interest expense, plus non-cash expenses, less non-cash income, all as determined in accordance with G.A.A.P., as defined in the Credit Agreement being executed simultaneously herewith.

Maximum Legal Rate. It is the intent of the Bank and Borrower that in no event shall interest be payable at a rate in excess of the maximum rate permitted by applicable law (the "Maximum Legal Rate"). Solely to the extent necessary to prevent interest under this Note from exceeding the Maximum Legal Rate, Borrower agrees that any amount that would be treated as excessive under a final judicial interpretation of applicable law shall be deemed to have been a mistake and automatically canceled, and, if received by the Bank, shall be refunded to Borrower, without interest.

Default Rate. If an Event of Default (defined below) occurs, the interest rate on the unpaid Principal Amount shall immediately be automatically increased to five (5) percentage points per year above the otherwise applicable rate per year, and any judgment entered hereon or otherwise in connection with any suit to collect amounts due hereunder shall bear interest at such default rate.

Payments. Payments shall be made in immediately available United States funds at any banking office of the Bank.

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Preauthorized Transfers from Deposit Account. If a deposit account number is provided in the following blank, Borrower hereby authorizes the Bank to debit Borrower's deposit account #_____ with the Bank automatically for any amount which becomes due under this Note.

Interest Accrual; Application of Payments. Interest will continue to accrue on the actual principal balance outstanding until the Principal Amount is paid in full. All installment payments (excluding voluntary prepayments of principal) will be applied as of the date each payment is received and processed. Payments may be applied in any order in the sole discretion of the Bank, but, prior to an Event of Default, may be applied chronologically (i.e., oldest invoice first) to unpaid amounts due and owing, in the following order: first to accrued interest, then to principal, then to Escrow, then to late charges and other fees, and then to all other Expenses.

"**Payment Due Date**" shall mean the **27th** day of the applicable calendar month. If there is no numerically corresponding calendar day in a particular month, the Payment Due Date shall be the last calendar day of such month); provided, however, to the extent, if at all, that a LIBOR-based interest rate is applicable, if in any applicable month the day identified above is not a Joint Business Day, the Payment Due Date shall be extended to the next succeeding Joint Business Day unless such next succeeding Joint Business Day would fall in the next calendar month, in which case such Payment Due Date shall be the immediately preceding Joint Business Day, so as to, in all instances, coincide with the end of the applicable Interest Period. See attached LIBOR Rate Rider, the terms of which are incorporated herein by reference, for definitions and additional provisions.

The "**First Installment Payment Date**" shall be the Payment Due Date in the month of **February, 2016.**

The "**Maturity Date**" of this Note is the Payment Due Date in the month of **January, 2022.**

Repayment Terms

☒ Borrower shall pay to the Bank the Principal Amount and interest owing pursuant to this Note in installments as follows:

(i) **Twelve (12) consecutive monthly payments of interest only due and payable on the First Installment Payment Date and on the Payment Due Date of each month thereafter in an amount equal to the interest that is scheduled to accrue from the date of this Note; and**

(ii) **Beginning with the February, 2017 Payment Due Date, and on each Payment Due Date thereafter, fifty-nine (59)** consecutive monthly installments of principal each in the amount of **$207,142.86**, together with an equal number of installments of interest payable in arrears in amounts that may vary, and

(iii) ONE (1) FINAL INSTALLMENT, due and payable on the Maturity Date, in an amount equal to the outstanding Principal Amount, together with all other amounts outstanding hereunder, including, without limitation, accrued interest, costs and expenses.

The amortization period for this loan is **seven (7)** years, meaning that this is the approximate number of years that would be needed to repay the Principal Amount in full, based on the installment amount and payment frequency stated above. The amortization period may be longer than the term of this loan and shall not compromise the enforceability of the Maturity Date. To the extent, if at all, that (i) the repayment terms of this Note contemplate level installments of principal and interest during any period in which the applicable interest rate is a variable rate ("Variable Rate P&I Period"), and (ii) during any such Variable Rate P&I Period, the applicable interest rate changes in accordance with the terms of this Note, the Bank may, but shall be under no obligation to, recalculate and adjust at any time the installment amount due and payable to the Bank, so as to appropriately reamortize the unpaid Principal Amount, as of the date of such adjustment through the Maturity Date (or such other date as may be provided for herein). Borrower understands that non-adjustment of the installment amount as described herein could result in a greater portion of the unadjusted installment amount being applied to interest due, leaving less available to reduce the Principal Amount balance, resulting in a higher than expected Principal Amount balance due and payable to the Bank on the Maturity Date. Absent manifest error, the Bank's determination of any amount due in connection herewith shall be conclusive.

Late Charge. If Borrower fails to pay, within five (5) days of its due date, any amount due and owing pursuant to this Note or any other agreement executed and delivered to the Bank in connection with this Note, including, without limitation, any Escrow payment due and owing, Borrower shall immediately pay to the Bank a late charge equal to the greatest of (a) $50.00, (b) five percent (5%) of the delinquent amount or (c) the Bank's then current late charge as announced from time to time. Notwithstanding the above, if this Note is secured by a one- to six-family owner-occupied residence, the late charge shall equal 2% of the delinquent amount and shall be payable if payment is not received within fifteen days of its due date.

Prepayment Premium. During the term of this Note, Borrower shall have the option of paying the unpaid Principal Amount to the Bank in advance of the Maturity Date, in whole or in part, at any time and from time to time upon written notice received by the Bank at least three (3) days prior to making such payment; provided, however, as consideration for the privilege of making such prepayment, Borrower shall pay to the Bank a fee (the "Premium") equal to the amount provided for on the **attached LIBOR Rate Rider**. Any partial prepayment of principal shall be posted as of the date received and applied in inverse order of maturity. With any prepayment in full of the Principal Amount balance, Borrower shall also pay to the Bank all accrued interest and Expenses owing pursuant to this Note. In the event the Maturity Date of this Note is accelerated following an Event of Default, the Bank's right to collect the Premium, as liquidated damages, shall accrue immediately, with the amount of the Premium to be determined in accordance with the terms of this Note at the time of any actual prepayment or other satisfaction, in whole or in part, by any means, of the principal indebtedness evidenced by this Note. Any tender of payment by or on behalf of the Borrower made after such Event of Default to satisfy or reduce the principal indebtedness shall be expressly deemed a voluntary prepayment, in which case, to the extent permitted by law, the Bank shall be entitled to the amount necessary to satisfy the entire indebtedness, plus the appropriate Premium calculated in accordance with the terms of this Note.

Representations, Warranties and Covenants. Borrower represents and warrants to and agrees and covenants with the Bank that now and until this Note is paid in full:

a. **Business Purpose.** The Loan proceeds shall be used only for a business purpose and not for any personal, family or household purpose.

b. **Good Standing; Authority.** Borrower is an entity or sole proprietor (i) duly organized and existing and in good standing under the laws of the jurisdiction in which it was formed, (ii) duly qualified, in good standing and authorized to do business in every jurisdiction in which failure to be so qualified might have a material adverse effect on its business or assets and (iii) has the power and authority to own each of its assets and to use them as contemplated now or in the future.

c. **Legality.** The execution, issuance, delivery to the Bank and performance by Borrower of this Note (i) are in furtherance of Borrower's purposes and within its power and authority; (ii) do not (A) violate any statute, regulation or other law or any judgment, order or award of any court, agency or other governmental authority or of any arbitrator or (B) violate Borrower's certificate of incorporation or other governing instrument, constitute a default under any agreement binding on Borrower, or result in a lien or encumbrance on any assets of Borrower; and (iii) have been duly authorized by all necessary corporate or partnership action.

d. **Compliance.** The Borrower conducts its business and operations and the ownership of its assets in compliance with each applicable statute, regulation and other law, including without limitation environmental laws. All approvals, including without limitation authorizations, permits, consents, franchises, licenses, registrations, filings, declarations, reports and notices (the "Approvals") necessary to the conduct of Borrower's business and for Borrower's due issuance of this Note have been duly obtained and are in full force and effect. The Borrower is in compliance with all conditions of each Approval.

e. **Financial and Other Information. Promptly deliver to the Bank (i) within sixty (60) days after the end of each of its first three fiscal quarters, an unaudited accountant prepared consolidating and consolidated financial statement of the Borrower and each Subsidiary as of the end of such quarter, which financial statement shall consist of income and cash flows for the quarter, for the corresponding quarter in the previous fiscal year and for the period from the end of the previous fiscal year, with a consolidating and consolidated balance sheet as of the quarter end all in such detail as the Bank may request; (ii) within one hundred twenty (120) days after the end of each fiscal year, consolidating and consolidated statements of the Borrower's and each Subsidiary's income and cash flows and its consolidating and consolidated balance sheet as of the end of such fiscal year, setting forth comparative figures for the preceding fiscal year and to be audited by an independent certified public accountant acceptable to the Bank; all such statements shall be certified by the Borrower's chief financial officer to be correct and in accordance with the Borrower's and each Subsidiary's records and to present fairly the results of the Borrower's and each Subsidiary's operations and cash flows and its financial position at year end.** Promptly upon the request of the Bank from time to time, Borrower shall supply all additional information requested and permit the Bank's officers, employees, accountants, attorneys and other agents to (i) visit and inspect each of Borrower's premises, (ii) examine, audit, copy and extract from Borrower's records and (iii) discuss Borrower's or its affiliates' business, operations, assets, affairs or condition (financial or other) with its responsible officers and independent accountants.

f. **Accounting; Tax Returns and Payment of Claims.** Borrower will maintain a system of accounting and reserves in accordance with generally accepted accounting principles, has filed and will file each tax return required of it and, except as disclosed in an attached schedule, has paid and will pay when due each tax, assessment, fee, charge, fine and penalty imposed by any taxing authority upon Borrower or any of its assets, income or franchises, as well as all amounts owed to mechanics, materialmen, landlords, suppliers and the like in the ordinary course of business.

g. **Title to Assets; Insurance.** Borrower has good and marketable title to each of its assets free of security interests and mortgages and other liens except as disclosed in its financial statements or on a schedule attached to this Note or pursuant to the Bank's prior written consent. Borrower will maintain its property in good repair and will maintain and on request provide the Bank with evidence of insurance coverage satisfactory to the Bank including without limitation fire and hazard, liability, worker's compensation and business interruption insurance and flood hazard insurance as required.

h. **Judgments and Litigation.** There is no pending or threatened claim, audit, investigation, action or other legal proceeding or judgment, order or award of any court, agency or other governmental authority or arbitrator (each an "Action") which involves Borrower or its assets and might have a material adverse effect upon Borrower or threaten the validity of this Note or any related document or transaction. Borrower will immediately notify the Bank in writing upon acquiring knowledge of any such Action.

i. **Notice of Change of Address and of Default.** Borrower will immediately notify the Bank in writing (i) of any change in its address or of the location of any collateral securing this Note, (ii) of the occurrence of any Event of Default defined below, (iii) of any material change in Borrower's ownership or management and (iv) of any material adverse change in Borrower's ability to repay this Note.

j. **No Transfer of Assets.** Until this Note is paid in full, Borrower shall not without the prior written consent of the Bank (i) sell or otherwise dispose of substantially all of its assets, (ii) acquire substantially all of the assets of another entity, (iii) if it is a corporation, participate in any merger, consolidation or other absorption or (iv) agree to do any of these things.

Events of Default. The following constitute an event of default ("Event of Default"): (i) failure by Borrower to make any payment when due (whether at the stated maturity, by acceleration or otherwise) of the amounts due under this Note, or any part thereof, or there occurs any event or condition which after notice, lapse of time or both will permit such acceleration, (ii) Borrower defaults in the performance of any covenant or other provision with respect to this Note or any other agreement between Borrower and the Bank or any of its affiliates or subsidiaries (collectively, "Affiliates"); (iii) Borrower fails to pay when due (whether at the stated maturity, by acceleration or otherwise) any indebtedness for borrowed money owing to the Bank (other than under this Note), any third party or Affiliate or the occurrence of any event which could result in acceleration of payment of any such indebtedness or the failure to perform any agreement with any third party or Affiliate; (iv) the reorganization, merger, consolidation or dissolution of Borrower (or the making of any agreement therefor); the sale, assignment, transfer or delivery of all or substantially all of the assets of Borrower to a third party; or the cessation by Borrower as a going business concern; (v) the death or judicial declaration of incompetency of Borrower, if an individual; (vi) failure to pay, withhold or collect any tax as required by law; the service or filing against Borrower or any of its assets of any lien (other than a lien permitted in writing by the Bank), judgment, garnishment, order or award; (vii) if Borrower becomes insolvent or is generally not paying its debts as such debts become due; (viii) the making of any general assignment by Borrower for the benefit of creditors; the appointment of a receiver or similar trustee for Borrower or its assets; or the making of any, or sending notice of any intended, bulk sale; (ix) Borrower commences, or has commenced against it, any proceeding or request for relief under any bankruptcy, insolvency or similar laws now or hereafter in effect in the United States of America or any state or territory thereof or any foreign jurisdiction or any formal or informal proceeding for the dissolution or liquidation of, settlement of claims against or winding up of affairs of Borrower; (x) any representation or warranty made in this Note, any related document, any agreement between Borrower and the Bank or any Affiliate or in any financial statement of Borrower proves to have been misleading in any material respect when made; Borrower omits to state a material fact necessary to make the statements made in this Note, any related document, any agreement between Borrower and the Bank or any Affiliate or any financial statement of Borrower not misleading in light of the circumstances in which they were made; or, if upon the date of execution of this Note, there shall have been any material adverse change in any of the facts disclosed in any financial statement, representation or warranty that was not disclosed in writing to the Bank at or prior to the time of execution hereof; (xi) any pension plan of Borrower fails to comply with applicable law or has vested unfunded liabilities that, in the opinion of the Bank, might have a material adverse effect on Borrower's ability to repay its debts; (xii) an adverse change in the Borrower, its business, assets, operations, management, ownership, affairs or condition (financial or otherwise) from the status shown on any financial statement or other document submitted to the Bank or any Affiliate, and which change the Bank determines will have a material adverse effect on (a) the Borrower, its business, assets, operations or condition (financial or otherwise), or (b) the ability of the Borrower to pay or perform any obligation to the Bank; (xiii) the occurrence of any event described in sub-paragraph (i) through and including (xii) hereof with respect to any guarantor or any other party liable for, or whose assets or any interest therein secures, payment of any of the amounts due under this Note ("Guarantor"); (xiv)

Borrower fails to supply new or additional collateral within ten (10) days of request by the Bank; or (xv) the Bank in good faith deems itself insecure with respect to payment or performance under this Note.

Rights and Remedies Upon Default. Upon the occurrence of any Event of Default, the Bank without demand of performance or other demand, presentment, protest, advertisement or notice of any kind (except any notice required by law) to or upon the Borrower or any other person (all and each of which demands, presentments, protests, advertisements and notices are hereby waived), may exercise all rights and remedies under the Borrower's agreements with the Bank or its Affiliates, applicable law, in equity or otherwise and may declare all or any part of any amounts due hereunder not payable on demand to be immediately due and payable without demand or notice of any kind and terminate any obligation it may have to grant any additional loan, credit or other financial accommodation to the Borrower. All or any part of any amounts due hereunder whether or not payable on demand, shall be immediately due and payable automatically upon the occurrence of an Event of Default in sub-paragraph (ix) above, or at the Bank's option, upon the occurrence of any other Event of Default. The provisions hereof are not intended in any way to affect any rights of the Bank with respect to any amounts due hereunder which may now or hereafter be payable on demand.

Right of Setoff. The Bank shall have the right to set off against the amounts owing under this Note any property held in a deposit or other account with the Bank or any Affiliates or otherwise owing by the Bank or any Affiliates in any capacity to Borrower or any Guarantor or endorser of this Note. Such setoff shall be deemed to have been exercised immediately at the time the Bank or such Affiliate elects to do so.

USA PATRIOT Act Notice. Bank hereby notifies the Borrower that pursuant to the requirements of the USA PATRIOT Act ("Patriot Act"), it is required to obtain, verify and record information that identifies the Borrower, which information includes the name and address of the Borrower and other information that will allow Bank to identify the Borrower in accordance with the Patriot Act. The Borrower agrees to, promptly following a request by Bank, provide all such other documentation and information that Bank requests in order to comply with its ongoing obligations under applicable "know your customer" and anti-money laundering rules and regulations, including the Patriot Act.

Miscellaneous. This Note, together with any related loan and collateral agreements and guaranties, contains the entire agreement between the Bank and Borrower with respect to the Note, and supersedes every course of dealing, other conduct, oral agreement and representation previously made by the Bank. All rights and remedies of the Bank under applicable law and this Note or amendment of any provision of this Note are cumulative and not exclusive. No single, partial or delayed exercise by the Bank of any right or remedy shall preclude the subsequent exercise by the Bank at any time of any right or remedy of the Bank without notice. No waiver or amendment of any provision of this Note shall be effective unless made specifically in writing by the Bank. No course of dealing or other conduct, no oral agreement or representation made by the Bank, and no usage of trade, shall operate as a waiver of any right or remedy of the Bank. No waiver of any right or remedy of the Bank shall be effective unless made specifically in writing by the Bank. Borrower agrees that in any legal proceeding, a copy of this Note kept in the Bank's course of business may be admitted into evidence as an original. This Note is a binding obligation enforceable against Borrower and its successors and assigns and shall inure to the benefit of the Bank and its successors and assigns. If a court deems any provision of this Note invalid, the remainder of the Note shall remain in effect. Section headings are for convenience only. Singular number includes plural and neuter gender includes masculine and feminine as appropriate.

Notices. Any demand or notice hereunder or under any applicable law pertaining hereto shall be in writing and duly given if delivered to Borrower (at its address on the Bank's records) or to the Bank (at the address on page one and separately to the Bank officer responsible for Borrower's relationship with the Bank). Such notice or demand shall be deemed sufficiently given for all purposes when delivered (i) by personal delivery and shall be deemed effective when delivered, or (ii) by mail or courier and shall be deemed effective three (3) business days after deposit in an official depository maintained by the United States Post Office for the collection of mail or one (1) business day after delivery to a nationally recognized overnight courier service (*e.g.*, Federal Express). Notice by e-mail is not valid notice under this or any other agreement between Borrower and the Bank.

Joint and Several. If there is more than one Borrower, each of them shall be jointly and severally liable for all amounts and obligations that become due under this Note and the term "Borrower" shall include each as well as all of them.

Governing Law; Jurisdiction. This Note has been delivered to and accepted by the Bank and will be deemed to be made in the State of New York. Except as otherwise provided under federal law, this Note will be interpreted in accordance with the laws of the State of New York excluding its conflict of laws rules. **BORROWER HEREBY IRREVOCABLY CONSENTS TO THE EXCLUSIVE JURISDICTION OF ANY STATE OR FEDERAL COURT IN NEW YORK STATE IN A COUNTY OR JUDICIAL DISTRICT WHERE THE BANK MAINTAINS A BRANCH AND CONSENTS THAT THE BANK MAY EFFECT ANY SERVICE OF PROCESS IN THE MANNER AND AT BORROWER'S ADDRESS SET FORTH ABOVE FOR PROVIDING NOTICE OR DEMAND; PROVIDED THAT NOTHING CONTAINED IN THIS NOTE WILL PREVENT THE BANK FROM BRINGING ANY ACTION, ENFORCING ANY AWARD OR JUDGMENT OR EXERCISING ANY RIGHTS AGAINST BORROWER INDIVIDUALLY, AGAINST ANY SECURITY OR AGAINST ANY PROPERTY OF BORROWER WITHIN ANY OTHER COUNTY, STATE OR OTHER FOREIGN OR DOMESTIC JURISDICTION.** Borrower acknowledges and agrees that the venue provided above is the most convenient forum for both the Bank and Borrower. Borrower waives any objection to venue and any objection based on a more convenient forum in any action instituted under this Note.

Waiver of Jury Trial. BORROWER AND THE BANK HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT TO TRIAL BY JURY BORROWER AND THE BANK MAY HAVE IN ANY ACTION OR PROCEEDING, IN LAW OR IN EQUITY, IN CONNECTION WITH THIS NOTE OR THE TRANSACTIONS RELATED HERETO. BORROWER REPRESENTS AND WARRANTS THAT NO REPRESENTATIVE OR AGENT OF THE BANK HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT THE BANK WILL NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THIS JURY TRIAL WAIVER. BORROWER ACKNOWLEDGES THAT THE BANK HAS BEEN INDUCED TO ENTER INTO THIS NOTE BY, AMONG OTHER THINGS, THE PROVISIONS OF THIS SECTION.

☐ **Amended and Restated Note.** The Borrower acknowledges, agrees and understands that this Note is given in replacement of and in substitution for, but not in payment of, a prior note dated on or about _____, ____, in the original principal amount of $_____, given by Borrower in favor of the Bank (or its predecessor-in-interest), as the same may have been amended or modified from time to time ("Prior Note"), and further, that: (a) the obligations of the Borrower as evidenced by the Prior Note shall continue in full force and effect, as amended and restated by this Note, all of such obligations being hereby ratified and confirmed by the Borrower; (b) any and all liens, pledges, assignments and security interests securing the Borrower's obligations under the Prior Note shall continue in full force and effect, are hereby ratified and confirmed by the Borrower, and are hereby acknowledged by the Borrower to secure, among other things, all of the Borrower's obligations to the Bank under this Note, with the same priority, operation and effect as that relating to the obligations under the Prior Note; and (c) nothing herein contained shall be construed to extinguish, release, or discharge, or constitute, create, or effect a novation of, or an agreement to extinguish, the obligations of the Borrower with respect to the indebtedness originally described in the Prior Note or any of the liens, pledges, assignments and security interests securing such obligations.

Acknowledgment. Borrower acknowledges that it has read and understands all the provisions of this Note, including the provisions relating to **Governing Law, Jurisdiction and Waiver of Jury Trial,** and has been advised by counsel as necessary or appropriate.

CORNING NATURAL GAS CORPORATION

By: _____
Name: Michael J. German
Title: President

_____
Signature of Witness

_____
Typed Name of Witness

ACKNOWLEDGMENT

STATE OF NEW YORK)
: SS.
COUNTY OF BROOME)

On the 27th day of January, in the year 2016, before me, the undersigned, a Notary Public in and for said State, personally appeared MICHAEL J. GERMAN, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public

JEFF N. EVANS
Notary Public, State of New York
Steuben County No. 02EV6265099
Commission Expires July 9, 2016

FOR BANK USE ONLY

Authorization Confirmed: _____
Disbursement of Funds:
Credit A/C # _____ $ _____ Off Ck # _____ $ _____ Payoff Obligation # _____ $ _____

M&T Bank

CREDIT AGREEMENT
New York

January 27, 2016

Borrower: Corning Natural Gas Corporation
a(n) ☐ individual ☒ corporation ☐ general partnership ☐ limited liability company ☐ _____
organized under the laws of New York
having its chief executive office at 330 West William Street, Corning, New York 14830

Bank: M&T BANK, a New York banking corporation with its chief executive office at One M&T Plaza, Buffalo, NY 14203. Attention: Office of General Counsel.

The Bank and the Borrower agree as follows:

1. DEFINITIONS.

a. **"Capital Expenditures"** means, for any fiscal year, the aggregate of all expenditures (whether paid in cash or accrued as liabilities, and including expenditures for obligations under any lease with respect to which Borrower's obligations thereunder should, in accordance with G.A.A.P., be capitalized and reflected as a liability on the balance sheet of Borrower) by Borrower during such period that are required by G.A.A.P. to be included in or reflected by the property, plant or equipment or similar fixed asset accounts on the balance sheet of Borrower.

b. **"Cash Flow"** means the sum of (i) net income after tax, dividends and distributions, plus (ii) depreciation expense and amortization, plus (iii) Interest Expense, plus (iv) non-cash expenses and minus (v) non-cash income, all determined in accordance with G.A.A.P.

c. **"Cash Flow Coverage"** means the ratio of Cash Flow to the sum of (i) the current portion of all Long Term Debt as specified in the financial statement dated twelve (12) months prior, plus (ii) Interest Expense, all determined in accordance with G.A.A.P

d. **"Credit"** means any and all credit facilities and any other financial accommodations made by the Bank in favor of the Borrower whether now or hereafter in existence.

e. **"Current Assets"** means, at any time, the aggregate amount of all current assets, including, but not limited to, cash, cash equivalents, marketable securities, receivables maturing within twelve (12) months from such time, and inventory (net of LIFO Reserve), but excluding prepaid expenses and officer, stockholder, employee and related entity advances and receivables, all as determined in accordance with G.A.A.P.

f. **"Current Liabilities"** means, at any time, the aggregate amount of all liabilities and obligations which are due and payable on demand or within twelve (12) months from such time, or should be properly reflected as attributable to such twelve (12) month period in accordance with G.A.A.P.

g. **"Current Ratio"** means the ratio of Current Assets to Current Liabilities.

h. **"G.A.A.P."** means, with respect to any date of determination, generally accepted accounting principles as used by the Financial Accounting Standards Board and/or the American Institute of Certified Public Accountants consistently applied and maintained throughout the periods indicated.

i. **"Interest Expense"** means all finance charges reflected on the income statement as interest expense for all obligations of Borrower to any person, including, but not limited to, Bank, as shown on the balance sheet in accordance with G.A.A.P.

j. **"Long Term Debt"** means all obligations of Borrower to any person, including, but not limited to, the Obligations, payable more than twelve (12) months from the date of their creation, which in accordance with G.A.A.P. are shown on the balance sheet as a liability (excluding reserves for deferred income taxes) for the period then ended.

k. **"Obligations"** means any and all indebtedness or other obligations of the Borrower to the Bank in any capacity, now existing or hereafter incurred, however created or evidenced, regardless of kind, class or form, whether direct, indirect, absolute or contingent (including obligations pursuant to any guaranty, endorsement, other assurance of payment or otherwise), whether joint or several, whether from time to time reduced and thereafter increased, or entirely extinguished and thereafter reincurred, together with all extensions, renewals and replacements thereof, and all interest, fees, charges, costs or expenses which accrue on or in connection with the foregoing, including any indebtedness or obligations (i) not yet outstanding but contracted for, or with regard to which any other commitment by the Bank exists; (ii) arising prior to, during or after

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any pendency of any bankruptcy, insolvency, receivership or other similar proceeding, regardless of whether allowed or allowable in such proceeding; (iii) owed by the Borrower to others and which the Bank obtained, or may obtain, by assignment or otherwise; and (iv) payable under this Agreement.

l. **"Quick Ratio"** means the ratio of Current Assets less inventory (net of LIFO Reserve), to Current Liabilities.

m. **"Subordinated Debt"** means all indebtedness of the Borrower which has been formally subordinated to payment and collection of the Obligations.

n. **"Subsidiary"** means any corporation or other business entity of which at least fifty percent (50%) of the voting stock or other ownership interest is owned by the Borrower directly or indirectly through one or more Subsidiaries. If the Borrower has no Subsidiaries, the provisions of this Agreement relating to the Subsidiaries shall be disregarded, without affecting the applicability of such provisions to the Borrower alone.

o. **"Tangible Net Worth"** means the aggregate assets of Borrower excluding all intangible assets, including, but not limited to, goodwill, licenses, trademarks, patents, copyrights, organization costs, appraisal surplus, officer, stockholder, related entity and employee advances or receivables, mineral rights and the like, less liabilities, plus Subordinated Debt, all determined in accordance with G.A.A.P. (except to the extent that under G.A.A.P. "tangible net worth" excludes leasehold improvements which are included in "Tangible Net Worth" as defined herein).

p. **"Total Funded Debt" means all the combined debt of Borrower for borrowed money and guaranties for borrowed money, but excluding the balance outstanding on revolver and line of credit obligations.**

q. **"Total Liabilities"** means the aggregate amount of all assets of the Borrower less the sum of shareholder equity and Subordinated Debt (if any), as shown on the balance sheet in accordance with G.A.A.P.

r. **"Transaction Documents"** means this Agreement and all documents, instruments or other agreements by the Borrower in favor of the Bank in connection (directly or indirectly) with the Obligations, whether now or hereafter in existence, including promissory notes, security agreements, guaranties and letter of credit reimbursement agreements.

s. **"Working Capital"** means that amount which is equal to the excess of Current Assets over Current Liabilities.

2. **REPRESENTATIONS AND WARRANTIES.** The Borrower makes the following representations and warranties and any "Additional Representations and Warranties" on the schedule attached hereto and made part hereof (the "Schedule"), all of which shall be deemed to be continuing representations and warranties as long as this Agreement is in effect:

a. **Good Standing; Authority.** The Borrower and each Subsidiary (if either is not an individual) is duly organized, validly existing and in good standing under the laws of the jurisdiction in which it was formed. The Borrower and each Subsidiary is duly authorized to do business in each jurisdiction in which failure to be so qualified might have a material adverse effect on its business or assets and has the power and authority to own each of its assets and to use them in the ordinary course of business now and in the future.

b. **Compliance.** The Borrower and each Subsidiary conducts its business and operations and the ownership of its assets in compliance with each applicable statute, regulation and other law, including environmental laws. All approvals, including authorizations, permits, consents, franchises, licenses, registrations, filings, declarations, reports and notices (the "Approvals") necessary for the conduct of the Borrower's and each Subsidiary's business and for the Credit have been duly obtained and are in full force and effect. The Borrower and each Subsidiary is in compliance with the Approvals. The Borrower and each Subsidiary (if either is not an individual) is in compliance with its certificate of incorporation, by-laws, partnership agreement, articles of organization, operating agreement or other applicable organizational or governing document as may be applicable to the Borrower or a Subsidiary depending on its organizational structure ("Governing Documents"). The Borrower and each Subsidiary is in compliance with each agreement to which it is a party or by which it or any of its assets is bound.

c. **Legality.** The execution, delivery and performance by the Borrower of this Agreement and all related documents, including the Transaction Documents, (i) are in furtherance of the Borrower's purposes and within its power and authority; (ii) do not (A) violate any statute, regulation or other law or any judgment, order or award of any court, agency or other governmental authority or of any arbitrator with respect to the Borrower or any Subsidiary or (B) violate the Borrower's or any Subsidiary's Governing Documents (if either is not an individual), constitute a default under any agreement binding on the Borrower or any Subsidiary or result in a lien or encumbrance on any assets of the Borrower or any Subsidiary, and (iii) if the Borrower or any Subsidiary is not an individual, have been duly authorized by all necessary organizational actions.

d. **Fiscal Year.** The fiscal year of the Borrower is the calendar year unless the following blank states otherwise: year ending **September 30th.**

e. **Title to Assets.** The Borrower and each Subsidiary has good and marketable title to each of its assets free of security interests, mortgages or other liens or encumbrances, except as set forth on the Schedule titled "Permitted Liens" or pursuant to the Bank's prior written consent.

f. **Judgments and Litigation.** There is no pending or threatened claim, audit, investigation, action or other legal proceeding or judgment, order or award of any court, agency or other governmental authority or arbitrator (any, an "Action") which involves the Borrower, its

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Subsidiaries or their respective assets and might have a material adverse effect upon the Borrower or any Subsidiary or threaten the validity of the Credit, any Transaction Document or any related document or action, **except as may be disclosed on periodic filings with the Securities Exchange Commission, copies of which will be provided to the Bank upon request.**

g. **Full Disclosure.** Neither this Agreement nor any certificate, financial statement or other writing provided to the Bank by or on behalf of the Borrower or any Subsidiary contains any statement of fact that is incorrect or misleading in any material respect or omits to state any fact necessary to make any such statement not incorrect or misleading. The Borrower has not failed to disclose to the Bank any fact that might have a material adverse effect on the Borrower or any Subsidiary.

3. **AFFIRMATIVE COVENANTS.** So long as this Agreement is in effect, the Borrower will comply with any "Additional Affirmative Covenant" contained in the Schedule and shall:

a. **Financial Statements and Other Information.** Promptly deliver to the Bank (i) within sixty (60) days after the end of each of its first three fiscal quarters, an unaudited **accountant prepared** consolidating and consolidated financial statement of the Borrower and each Subsidiary as of the end of such quarter, which financial statement shall consist of income and cash flows for the quarter, for the corresponding quarter in the previous fiscal year and for the period from the end of the previous fiscal year, with a consolidating and consolidated balance sheet as of the quarter end all in such detail as the Bank may request; (ii) within **one hundred twenty (120)** days after the end of each fiscal year, consolidating and consolidated statements of the Borrower's and each Subsidiary's income and cash flows and its consolidating and consolidated balance sheet as of the end of such fiscal year, setting forth comparative figures for the preceding fiscal year and to be (check applicable box, if no box is checked the financial statements shall be audited):

☒ **audited** ☐ **reviewed** ☐ **compiled**

by an independent certified public accountant acceptable to the Bank; all such statements shall be certified by the Borrower's chief financial officer to be correct and in accordance with the Borrower's and each Subsidiary's records and to present fairly the results of the Borrower's and each Subsidiary's operations and cash flows and its financial position at year end; and (iii) with each statement of income, a certificate executed by the Borrower's chief executive and chief financial officers or other such person responsible for the financial management of the Borrower (A) setting forth the computations required to establish the Borrower's compliance with each financial covenant, if any, during the statement period, (B) stating that the signers of the certificate have reviewed this Agreement and the operations and condition (financial or other) of the Borrower and each of its Subsidiaries during the relevant period and (C) stating that no Event of Default occurred during the period, or if an Event of Default did occur, describing its nature, the date(s) of its occurrence or period of existence and what action the Borrower has taken with respect thereto. The Borrower shall also promptly provide the Bank with copies of all annual reports, proxy statements and similar information distributed to shareholders, partners or members, and copies of all filings with the Securities and Exchange Commission and the Pension Benefit Guaranty Corporation, and shall provide, in form satisfactory to the Bank, such additional information, reports or other information as the Bank may from time to time reasonably request regarding the financial and business affairs of the Borrower or any Subsidiary. If the Borrower is an individual, the Borrower shall provide annually a personal financial statement in form and detail acceptable to the Bank and such other financial information as the Bank may from time to time reasonably request. Borrower shall also provide to Bank a copy of the Public Service Commission capital expenditure report at the time a request for a loan advance is submitted to Bank.

b. **Accounting; Tax Returns and Payment of Claims.** The Borrower and each Subsidiary will maintain a system of accounting and reserves in accordance with generally accepted accounting principles, has filed and will file each tax return required of it and, except as disclosed in the Schedule, has paid and will pay when due each tax, assessment, fee, charge, fine and penalty imposed by any taxing authority upon it or any of its assets, income or franchises, as well as all amounts owed to mechanics, materialmen, landlords, suppliers and the like in the normal course of business.

c. **Inspections.** Promptly upon the Bank's request, the Borrower will permit, and cause its Subsidiaries to permit, the Bank's officers, attorneys or other agents to inspect its and its Subsidiary's premises, examine and copy its records and discuss its and its Subsidiary's business, operations and financial or other condition with its and its Subsidiary's responsible officers and independent accountants.

d. **Equity Injection.** Borrower shall provide evidence in a form satisfactory to Bank, of Borrower's thirty (30%) percent equity injection paid up front for Public Service Commission related capital expenditure projects prior to Borrower requesting any loan advances from Bank.

e. **Changes in Management and Control.** If the Borrower is not an individual, immediately upon any change in the identity of the Borrower's chief executive officers or in its beneficial ownership, the Borrower will provide to the Bank a certificate executed by its senior individual authorized to transact business on behalf of the Borrower, specifying such change.

f. **Notice of Defaults and Material Adverse Changes.** Immediately upon acquiring reason to know of (i) any Event of Default, (ii) any event or condition that might have a material adverse effect upon the Borrower or any Subsidiary or (iii) any Action, the Borrower will provide to the Bank a certificate executed by the Borrower's senior individual authorized to transact business on behalf of the Borrower, specifying the date(s) and nature of the event or the Action and what action the Borrower or its Subsidiary has taken or proposes to take with respect to it.

g. **Insurance.** Maintain its, and cause its Subsidiaries to maintain, property in good repair and will on request provide the Bank with evidence of insurance coverage satisfactory to the Bank, including fire and hazard, liability, workers' compensation and business interruption insurance and flood hazard insurance as required.

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h. **Further Assurances.** Promptly upon the request of the Bank, the Borrower will execute, and cause its Subsidiaries to execute, and deliver each writing and take each other action that the Bank deems necessary or desirable in connection with any transaction contemplated by this Agreement.

4. **NEGATIVE COVENANTS.** As long as this Agreement is in effect, the Borrower shall not violate, and shall not suffer or permit any of its Subsidiaries to violate, any of the following covenants and any "Additional Negative Covenant" on the Schedule. The Borrower shall not:

a. **Intentionally omitted.**

b. **Intentionally omitted.**

c. **Intentionally omitted.**

d. **Intentionally omitted.**

e. **Intentionally omitted.**

f. **Intentionally omitted.**

g. **Changes In Form.** (i) Transfer or dispose of substantially all of its assets, (ii) acquire substantially all of the assets of any other entity, (iii) do business under or otherwise use any name other than its true name or (iv) make any material change in its business, structure, purposes or operations that might have a material adverse effect on the Borrower or any of its Subsidiaries. If the Borrower or any Subsidiary is not an individual, (i) participate in any merger, consolidation or other absorption or (ii) make, terminate or permit to be revoked any election pursuant to Subchapter S of the Internal Revenue Code.

5. **FINANCIAL COVENANTS.** During the term of this Agreement, **and in conjunction with all term debt,** the Borrower shall not violate, and shall not suffer or permit any of its Subsidiaries to violate, any of the following covenants (complete applicable financial covenant) or any Additional Financial Covenants on the Schedule. **For purposes of this Section, if the Borrower has any Subsidiaries all references to the Borrower shall include the Borrower and all of its Subsidiaries on a consolidated basis.** Unless a different measurement period is specified, compliance for the financial covenants shall be required at all times.

☐ A. Borrower shall maintain Tangible Net Worth of not less than $_____, measured (select one: quarterly or annually) _____ as of each (select one: quarter or fiscal year) _____ end.

☐ B. Borrower shall maintain a ratio of Total Liabilities to Tangible Net Worth of not greater than _____:_____, measured (select one: quarterly or annually) _____ as of each (select one: quarter or fiscal year) _____ end.

☒ C. Borrower shall maintain **a ratio of Total Funded Debt to EBITDA** of not greater than **3.75 : 1.0**, measured **quarterly based on Borrower's trailing twelve (12) month operating performance and fiscal quarterly financial statements.**

☒ D. **Minimum Cash Flow Coverage ratio.** Borrower shall maintain **Cash Flow Coverage** of not less than **1.10 : 1.0**, measured **quarterly based on Borrower's trailing twelve (12) month operating performance and fiscal quarterly financial statements. "Cash Flow Coverage" means the ratio of Cash Flow to the sum of (i) the current portion of all Long Term Debt as specified in the financial statement dated twelve (12) months prior, plus (ii) Interest Expense, all determined in accordance with G.A.A.P.**

☐ E. Without the prior written consent of Bank, Borrower shall not make any Capital Expenditures in excess of $_____ in the aggregate during any fiscal year of Borrower.

☐ F. Borrower shall not pay or accrue during any fiscal year compensation (including but not limited to all salary, bonuses, consulting, management or other fees, rentals and other payments to any person owning or managing 5%or more of the Borrower or any relative or cohabitant of such a person, and to any entity under common control with or controlling the Borrower) exceeding $_____ in the aggregate.

☐ G. Borrower shall not become obligated as lessee pursuant to operating leases exceeding $_____ in the aggregate during any fiscal year.

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6. **DEFAULT.**

a. **Events of Default.** Any of the following events or conditions shall constitute an "Event of Default": (i) failure by the Borrower to pay when due (whether at the stated maturity, by acceleration, upon demand or otherwise) the Obligations, or any part thereof, or there occurs any event or condition which after notice, lapse of time or after both notice and lapse of time will permit acceleration of any Obligation; (ii) default by the Borrower in the performance of any obligation, term or condition of this Agreement, the other Transaction Documents or any other agreement with the Bank or any of its affiliates or subsidiaries (collectively, "Affiliates"); (iii) failure by the Borrower to pay when due (whether at the stated maturity, by acceleration, upon demand or otherwise) any indebtedness or obligation owing to any third party or any Affiliate, the occurrence of any event which could result in acceleration of payment of any such indebtedness or obligation or the failure to perform any agreement with any third party or any Affiliate; (iv) the Borrower is dissolved, becomes insolvent, generally fails to pay or admits in writing its inability generally to pay its debts as they become due; (v) the Borrower makes a general assignment, arrangement or composition agreement with or for the benefit of its creditors or makes, or sends notice of any intended, bulk sale, the sale, assignment, transfer or delivery of all or substantially all of the assets of the Borrower to a third party; or the cessation by the Borrower as a going business concern; (vi) the Borrower files a petition in bankruptcy or institutes any action under federal or state law for the relief of debtors or seeks or consents to the appointment of an administrator, receiver, custodian or similar official for the wind up of its business (or has such a petition or action filed against it and such petition action or appointment is not dismissed or stayed within forty-five (45) days); (vii) the reorganization, merger, consolidation or dissolution of the Borrower (or the making of any agreement therefor); (viii) the death or judicial declaration of incompetency of the Borrower, if an individual; (ix) the entry of any judgment or order of any court, other governmental authority or arbitrator against the Borrower; (x) falsity, omission or inaccuracy of facts submitted to the Bank or any Affiliate (whether in a financial statement or otherwise); (xi) an adverse change in the Borrower, its business, assets, operations, affairs or condition (financial or otherwise) from the status shown on any financial statement or other document submitted to the Bank or any Affiliate, and which change the Bank determines will have a material adverse effect on (a) the Borrower, its business, assets, operations or condition (financial or otherwise), or (b) the ability of the Borrower to pay or perform the Obligations; (xii) any pension plan of the Borrower fails to comply with applicable law or has vested unfunded liabilities that, in the opinion of the Bank, might have a material adverse effect on the Borrower's ability to repay its debts; (xiii) any indication or evidence received by the Bank that the Borrower may have directly or indirectly been engaged in any type of activity which, in the Bank's discretion, might result in the forfeiture or any property of the Borrower to any governmental authority; (xiv) the occurrence of any event described in Section 6(a)(i) through and including 6(a)(xiii) with respect to any Subsidiary or to any endorser, guarantor or any other party liable for, or whose assets or any interest therein secures, payment of any of the Obligations; or (xv) the Bank in good faith deems itself insecure with respect to payment or performance of the Obligations.

b. **Rights and Remedies Upon Default.** Upon the occurrence of any Event of Default, the Bank without demand of performance or other demand, presentment, protest, advertisement or notice of any kind (except any notice required by law) to or upon the Borrower, any Subsidiary or any other person (all and each of which demands, presentments, protests, advertisements and notices are hereby waived), may exercise all rights and remedies under the Borrower's or its Subsidiaries' agreements with the Bank or its Affiliates, applicable law, in equity or otherwise and may declare all or any part of any Obligations not payable on demand to be immediately due and payable without demand or notice of any kind and terminate any obligation it may have to grant any additional loan, credit or other financial accommodation to the Borrower or any Subsidiary. All or any part of any Obligations whether or not payable on demand, shall be immediately due and payable automatically upon the occurrence of an Event of Default in Section 6(a)(vi) above. The provisions hereof are not intended in any way to affect any rights of the Bank with respect to any Obligations which may now or hereafter be payable on demand.

7. **EXPENSES.** The Borrower shall pay to the Bank on demand all costs and expenses (including all fees and disbursements of counsel retained for advice, suit, appeal or other proceedings or purpose and of any experts or agents it may retain), which the Bank may incur in connection with (i) the administration of the Obligations, including any administrative fees the Bank may impose for the preparation of discharges, releases or assignments to third-parties; (ii) the enforcement and collection of any Obligations or any guaranty thereof; (iii) the exercise, performance, enforcement or protection of any of the rights of the Bank hereunder; or (iv) the failure of the Borrower or any Subsidiary to perform or observe any provisions hereof. After such demand for payment of any cost, expense or fee under this Section or elsewhere under this Agreement, the Borrower shall pay interest at the highest default rate specified in any instrument evidencing any of the Obligations from the date payment is demanded by the Bank to the date reimbursed by the Borrower. All such costs, expenses or fees under this Agreement shall be added to the Obligations.

8. **TERMINATION.** This Agreement shall remain in full force and effect until (i) all Obligations outstanding, or contracted or committed for (whether or not outstanding), shall be finally and irrevocably paid in full and (ii) all Transaction Documents have been terminated by the Bank.

9. **RIGHT OF SETOFF.** If an Event of Default occurs, the Bank shall have the right to set off against the amounts owing under this Agreement and the other Transaction Documents any property held in a deposit or other account or otherwise with the Bank or its Affiliates or otherwise owing by the Bank or its Affiliates in any capacity to the Borrower, its Subsidiary or any guarantor of, or endorser of any of the Transaction Documents evidencing, the Obligations. Such setoff shall be deemed to have been exercised immediately at the time the Bank or such Affiliate elect to do so.

10. **USA PATRIOT ACT NOTICE.** Bank hereby notifies the Borrower that pursuant to the requirements of the USA PATRIOT Act ("Patriot Act"), it is required to obtain, verify and record information that identifies the Borrower, which information includes the name and address of the Borrower and other information that will allow Bank to identify the Borrower in accordance with the Patriot Act. The Borrower agrees to, promptly following a request by Bank, provide all such other documentation and information that Bank requests in order to comply with its ongoing obligations under applicable "know your customer" and anti-money laundering rules and regulations, including the Patriot Act.

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11. MISCELLANEOUS.

a. **Notices.** Any demand or notice hereunder or under any applicable law pertaining hereto shall be in writing and duly given if delivered to Borrower (at its address on the Bank's records) or to the Bank (at the address on page one and separately to the Bank officer responsible for Borrower's relationship with the Bank). Such notice or demand shall be deemed sufficiently given for all purposes when delivered (i) by personal delivery and shall be deemed effective when delivered, or (ii) by mail or courier and shall be deemed effective three (3) business days after deposit in an official depository maintained by the United States Post Office for the collection of mail or one (1) business day after delivery to a nationally recognized overnight courier service (e.g., Federal Express). Notice by e-mail is not valid notice under this or any other agreement between Borrower and the Bank.

b. **Generally Accepted Accounting Principles.** Any financial calculation to be made, all financial statements and other financial information to be provided, and all books and records, system of accounting and reserves to be kept in connection with the provisions of this Agreement, shall be in accordance with generally accepted accounting principles consistently applied during each interval and from interval to interval; provided, however, that in the event changes in generally accepted accounting principles shall be mandated by the Financial Accounting Standards Board or any similar accounting body of comparable standing, or should be recommended by Borrower's certified public accountants, to the extent such changes would affect any financial calculations to be made in connection herewith, such changes shall be implemented in making such calculations only from and after such date as Borrower and the Bank shall have amended this Agreement to the extent necessary to reflect such changes in the financial and other covenants to which such calculations relate.

c. **Indemnification.** If after receipt of any payment of all, or any part of, the Obligations, the Bank is, for any reason, compelled to surrender such payment to any person or entity because such payment is determined to be void or voidable as a preference, an impermissible setoff, or a diversion of trust funds, or for any other reason, the Transaction Documents shall continue in full force and the Borrower shall be liable, and shall indemnify and hold the Bank harmless for, the amount of such payment surrendered. The provisions of this Section shall be and remain effective notwithstanding any contrary action which may have been taken by the Bank in reliance upon such payment, and any such contrary action so taken shall be without prejudice to the Bank's rights under the Transaction Documents and shall be deemed to have been conditioned upon such payment having become final and irrevocable. The provisions of this Section shall survive the termination of this Agreement and the Transaction Documents.

d. **Further Assurances.** From time to time, the Borrower shall take, and cause its Subsidiaries to take, such action and execute and deliver to the Bank such additional documents, instruments, certificates, and agreements as the Bank may reasonably request to effectuate the purposes of the Transaction Documents.

e. **Cumulative Nature and Non-Exclusive Exercise of Rights and Remedies.** All rights and remedies of the Bank pursuant to this Agreement and the Transaction Documents shall be cumulative, and no such right or remedy shall be exclusive of any other such right or remedy. In the event of any unreconcilable inconsistencies, this Agreement shall control. No single or partial exercise by the Bank of any right or remedy pursuant to this Agreement or otherwise shall preclude any other or further exercise thereof, or any exercise of any other such right or remedy, by the Bank.

f. **Governing Law; Jurisdiction.** This Agreement has been delivered to and accepted by the Bank and will be deemed to be made in the State of New York. Except as otherwise provided under federal law, this Agreement will be interpreted in accordance with the laws of the State of New York excluding its conflict of laws rules. **BORROWER HEREBY IRREVOCABLY CONSENTS TO THE EXCLUSIVE JURISDICTION OF ANY STATE OR FEDERAL COURT IN THE STATE OF NEW YORK IN A COUNTY OR JUDICIAL DISTRICT WHERE THE BANK MAINTAINS A BRANCH AND CONSENTS THAT THE BANK MAY EFFECT ANY SERVICE OF PROCESS IN THE MANNER AND AT BORROWER'S ADDRESS SET FORTH ABOVE FOR PROVIDING NOTICE OR DEMAND; PROVIDED THAT NOTHING CONTAINED IN THIS AGREEMENT WILL PREVENT THE BANK FROM BRINGING ANY ACTION, ENFORCING ANY AWARD OR JUDGMENT OR EXERCISING ANY RIGHTS AGAINST BORROWER INDIVIDUALLY, AGAINST ANY SECURITY OR AGAINST ANY PROPERTY OF BORROWER WITHIN ANY OTHER COUNTY, STATE OR OTHER FOREIGN OR DOMESTIC JURISDICTION.** Borrower acknowledges and agrees that the venue provided above is the most convenient forum for both the Bank and Borrower. Borrower waives any objection to venue and any objection based on a more convenient forum in any action instituted under this Agreement.

g. **Joint and Several; Successors and Assigns.** If there is more than one Borrower, each of them shall be jointly and severally liable for all amounts, which become due, and the performance of all obligations under this Agreement, and the term "the Borrower" shall include each as well as all of them. This Agreement shall be binding upon the Borrower and upon its heirs and legal representatives, its successors and assignees, and shall inure to the benefit of, and be enforceable by, the Bank, its successors and assignees and each direct or indirect assignee or other transferee of any of the Obligations; provided, however, that this Agreement may not be assigned by the Borrower without the prior written consent of the Bank.

h. **Waivers; Changes in Writing.** No failure or delay of the Bank in exercising any power or right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such a right or power, preclude any other or further exercise thereof or the exercise of any other right or power. The Borrower expressly disclaims any reliance on any course of dealing or usage of trade or oral representation of the Bank (including representations to make loans to the Borrower) and agrees that none of the foregoing shall operate as a waiver of any right or remedy of the Bank. No notice to or demand on the Borrower in any case shall entitle the Borrower to any other or further notice or demand in similar or other circumstances. No waiver of any provision of this Agreement or consent to any departure by the Borrower therefrom shall in any event be effective unless made specifically in writing by the Bank and then such waiver or consent shall be effective only in the specific instance and for the purpose for

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which given. No modification to any provision of this Agreement shall be effective unless made in writing in an agreement signed by the Borrower and the Bank.

i. **Interpretation.** Unless the context otherwise clearly requires, references to plural includes the singular and references to the singular include the plural; references to "individual" shall mean a natural person and shall include a natural person doing business under an assumed name (*e.g.*, a "DBA"); the word "or" has the inclusive meaning represented by the phrase "and/or", the word "including", "includes" and "include" shall be deemed to be followed by the words "without limitation"; and captions or section headings are solely for convenience and not part of the substance of this Agreement. Any representation, warranty, covenant or agreement herein shall survive execution and delivery of this Agreement and shall be deemed continuous. Each provision of this Agreement shall be interpreted as consistent with existing law and shall be deemed amended to the extent necessary to comply with any conflicting law. If any provision nevertheless is held invalid, the other provisions shall remain in effect. The Borrower agrees that in any legal proceeding, a photocopy of this Agreement kept in the Bank's course of business may be admitted into evidence as an original.

j. **Waiver of Jury Trial.** **THE BORROWER AND THE BANK HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT TO TRIAL BY JURY THE BORROWER AND THE BANK MAY HAVE IN ANY ACTION OR PROCEEDING, IN LAW OR IN EQUITY, IN CONNECTION WITH THIS AGREEMENT OR ANY TRANSACTIONS RELATED HERETO. THE BORROWER REPRESENTS AND WARRANTS THAT NO REPRESENTATIVE OR AGENT OF THE BANK HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT THE BANK WILL NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THIS JURY TRIAL WAIVER. THE BORROWER ACKNOWLEDGES THAT THE BANK HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE PROVISIONS OF THIS SECTION.**

Acknowledgment. Borrower acknowledges that it has read and understands all the provisions of this Agreement, including the **Governing Law, Jurisdiction and Waiver of Jury Trial,** and has been advised by counsel as necessary or appropriate.

M&T BANK

By _____
Name: Edgar B. Parsons III
Title: Vice President

CORNING NATURAL GAS CORPORATION

_____
Name: Michael I. German
Title: President

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ACKNOWLEDGMENT

STATE OF NEW YORK)
: SS.
COUNTY OF BROOME)

On the 27th day of January in the year 2016, before me, the undersigned, a Notary Public in and for said State, personally appeared EDGAR B. PARSONS III, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Kelly J. Anderson
Notary Public

KELLY J ANDERSON
NOTARY PUBLIC STATE OF NEW YORK
TIOGA COUNTY
LIC# 01AN6003218
COMM. EXP. 12/13/20

ACKNOWLEDGMENT

STATE OF NEW YORK)
: SS.
COUNTY OF BROOME)

On the 27th day of January in the year 2016, before me, the undersigned, a Notary Public in and for said State, personally appeared MICHAEL I. GERMAN, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Kelly J. Anderson
Notary Public

KELLY J ANDERSON
NOTARY PUBLIC STATE OF NEW YORK
TIOGA COUNTY
LIC# 01AN6003218
COMM. EXP. 12/13/20

BANK USE ONLY

Authorization Confirmed: _____
Signature

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SCHEDULE

Additional Representations and Warranties (§2)

Additional Affirmative Covenants (§3)

Permitted Indebtedness (§4(a))

Permitted Guaranties (§4(b))

Permitted Liens (§4(c))

Permitted Investments (§4(d))

Permitted Loans (§4(e))

Additional Financial Covenants (§5)

M&T Bank

LIBOR RATE RIDER
(For Actual Balance Promissory Notes)

Borrower: Corning Natural Gas Corporation

Promissory Note Original Principal Amount: $17,400,000.00

Promissory Note Date: January 27, 2016

DEFINITIONS. The above-referenced Promissory Note is referred to herein as the "Note". As used in the Note and this Rider, each capitalized term shall have the meaning specified in the Note, and the following terms shall have the indicated meanings:

a. **"Base Rate"** shall mean the rate of interest announced by the Bank each day as its prime rate of interest ("Prime Rate").
b. **"Interest Period"** shall mean, as used in connection with a non-daily adjusting LIBOR Rate, the period commencing on the date of this Note or any Rate Adjustment Date (as the case may be) and ending on, as applicable, the next succeeding Payment Due Date or the Payment Due Date of the calendar month that is one (1) or three (3) months thereafter (as applicable in accordance with the LIBOR Rate in effect); provided, however, that if an Interest Period would end on a day that is not a Joint Business Day, such Interest Period shall be extended to the next succeeding Joint Business Day unless such next succeeding Joint Business Day would fall in the next calendar month, in which case such Interest Period shall end on the immediately preceding Joint Business Day. To the extent that the preceding clause results in either the extension or shortening of an Interest Period, the Bank shall have the right (but not the obligation) to shorten or extend, respectively, the succeeding Interest Period so that it shall end on a day that numerically corresponds to the Intended Payment Due Date indicated in the Note.
c. **"Joint Business Day"** shall mean a day that is both a New York Business Day and a London Business Day.
d. **"LIBOR"** shall mean the rate per annum (rounded upward, if necessary, to the nearest 1/16th of 1%) obtained by dividing (i) either the one-day (i.e., overnight), one-month or three-month interest period London Interbank Offered Rate (as applicable in accordance with the LIBOR Rate in effect) as set and administered by ICE Benchmark Administration Limited (or such other administrator of LIBOR, as may be duly authorized by the UK Financial Conduct Authority or such other proper authority from time to time) for United States dollar deposits in the London interbank market at approximately 11:00 a.m. London, England time (or as soon thereafter as practicable) as determined by the Bank from any broker, quoting service or commonly available source utilized by the Bank, by (ii) a percentage equal to 100% minus the stated maximum rate of all reserves required to be maintained against "Eurocurrency Liabilities" as specified in Regulation D (or against any other category of liabilities which includes deposits by reference to which the interest rate on LIBOR-based loans is determined or any category of extensions of credit or other assets which includes loans by a non-United States' office of a bank to United States residents) on such date to any member bank of the Federal Reserve System. Notwithstanding any provision above, the practice of rounding to determine LIBOR may be discontinued at any time in the Bank's sole discretion.
e. **"LIBOR Rate"** shall mean the applicable LIBOR-based interest rate in effect from time to time, as provided for in the Note and this Rider.
f. **"London Business Day"** shall mean any day on which dealings in United States dollar deposits are carried on by banking institutions in the London interbank market.
g. **"New York Business Day"** shall mean any day other than Saturday, Sunday or other day in which commercial banking institutions in New York, New York are authorized or required by law or other governmental action to remain closed for business.
h. **"One-Month LIBOR"** shall mean LIBOR as fixed for a one-month interest period.
i. **"Rate Adjustment Date"** shall mean the effective date of a change in the applicable LIBOR Rate, as follows:
   i. For a daily-adjusting LIBOR Rate, the Rate Adjustment Date shall be each London Business Day.
   ii. For a monthly-adjusting LIBOR Rate (i.e., having an Interest Period of one (1) month), the Rate Adjustment Date shall be, in each month, the calendar day of that month that corresponds with the Payment Due Date in such month (as may be adjusted pursuant to the definition of "Payment Due Date" in the Note).
   iii. For a quarterly-adjusting LIBOR Rate (i.e., having an Interest Period of three (3) months), the Rate Adjustment Date shall be, initially, the Payment Due Date that is three (3) months after the first day such LIBOR Rate is in effect ("Effective Date"), and thereafter, the Payment Due Date that is three (3) months after each prior Rate Adjustment Date, respectively; provided, however, that if the Effective Date is not a Payment Due Date, the first Rate Adjustment Date shall be the next succeeding Payment Due Date, after which a new three-month Interest Period shall begin with quarterly Rate Adjustment Dates thereafter, as provided above.

ADDITIONAL PROVISIONS:

Interest Rate Determinations and Adjustments.

- To the extent a daily-adjusting LIBOR Rate is in effect, the LIBOR Rate shall be determined using the One-Month LIBOR in effect on the date of the Note (or if such day is not a London Business Day, on the immediately preceding London Business Day), and shall be adjusted thereafter on each subsequent Rate Adjustment Date using the One-Month LIBOR in effect on each respective Rate Adjustment Date.

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- To the extent a monthly-adjusting LIBOR Rate (i.e., a LIBOR Rate adjusting each month) or a quarterly-adjusting LIBOR Rate (i.e., a LIBOR Rate adjusting every three (3) months) is in effect, the initial LIBOR Rate shall be determined using the applicable LIBOR in effect two (2) London Business Days prior to the date of the Note (or two (2) London Business Days prior to the Amortization Commencement Date, as applicable), and shall be adjusted thereafter on each subsequent Rate Adjustment Date using the applicable LIBOR in effect two (2) London Business Days prior to each Rate Adjustment Date, respectively.

Prepayment; Breakage Fee. Subject to the following, during the term of this Note, Borrower shall have the option of paying the Principal Amount to the Bank in advance of the Maturity Date, in whole or in part, at any time and from time to time upon written notice received by the Bank at least three (3) days prior to making such payment; provided, however, that if (i) Borrower prepays, in whole or in part, any Principal Amount, when a LIBOR Rate is in effect (other than on a Rate Adjustment Date), or (ii) the LIBOR Rate is converted to the Base Rate on any day other than a Rate Adjustment Date, then Borrower shall be liable for and shall pay the Bank, on demand, the higher of $250.00 or the actual amount of the liabilities, expenses, costs or funding losses that are a direct or indirect result of such prepayment or other condition described above, whether such liability, expense, cost or loss is by reason of (a) any reduction in yield, by reason of the liquidation or reemployment of any deposit or other funds acquired by the Bank, (b) the fixing of the interest rate payable on any LIBOR-based loan or (c) otherwise (collectively, the "Breakage Fee"). The determination by the Bank of the foregoing amount shall, in the absence of manifest error, be conclusive and binding upon Borrower. The provisions of this paragraph shall not be applicable if the LIBOR Rate in effect at the time of the prepayment has an Interest Period of one day.

Inability to Determine LIBOR Rates, Increased Costs, Illegality.

a. **Increased Costs.** If the Bank shall determine that, due to either (a) the introduction of any change (other than any change by way of imposition of or increase in reserve requirements included in the calculation of the LIBOR Rate) in or in the interpretation of any requirement of law or (b) the compliance with any guideline or request from any central bank or other governmental authority (whether or not having the force of law), there shall be any increase in the cost to the Bank of agreeing to make or making, funding or maintaining any loans based on LIBOR, then Borrower shall be liable for, and shall from time to time, upon demand therefor by the Bank, pay to the Bank such additional amounts as are sufficient to compensate the Bank for such increased costs.

b. **Inability to Determine Rates.** If the Bank shall determine that for any reason adequate and reasonable means do not exist for ascertaining LIBOR, the Bank will give notice of such determination to Borrower. Thereafter, the Bank may not maintain the loan hereunder at the LIBOR Rate until the Bank revokes such notice in writing and, until such revocation, the Bank may convert the applicable interest rate to the Base Rate.

c. **Illegality.** If the Bank shall determine that the introduction of any law (statutory or common), treaty, rule, regulation, guideline or determination of an arbitrator or of a governmental authority or in the interpretation or administration thereof, has made it unlawful, or that any central bank or other governmental authority has asserted that it is unlawful for the Bank to make LIBOR-based loans, then, on notice thereof by the Bank to Borrower, the Bank may suspend the maintaining of the loan hereunder at the LIBOR Rate until the Bank shall have notified Borrower that the circumstances giving rise to such determination shall no longer exist. If the Bank shall determine that it is unlawful to maintain the loan hereunder based on LIBOR, the Bank may convert the applicable interest rate to the Base Rate.

Conversion To Base Rate Upon Default. Unless the Bank shall otherwise consent in writing, if (i) Borrower fails to pay when due, in whole or in part, the indebtedness under the Note (whether upon maturity, acceleration or otherwise), or (ii) there exists a condition or event which with the passage of time, the giving of notice or both shall constitute an Event of Default, the Bank, in its sole discretion, may (i) permit the LIBOR Rate to remain in effect until a Rate Adjustment Date, at which time the applicable interest rate shall automatically be converted to the Base Rate, or (ii) convert the LIBOR Rate to the Base Rate at or before a Rate Adjustment Date. Nothing herein shall be construed to be a waiver by the Bank of the right to have the Principal Amount accrue interest at the Default Rate or the right of the Bank to charge and collect a Breakage Fee.

Repayment Upon Conversion To Base Rate. If a LIBOR Rate with an Interest Period duration of greater than one day is converted to the Base Rate at a time when the repayment terms under the Note require the Borrower to make principal payments to the Bank, Borrower shall thereafter pay the unpaid Principal Amount in consecutive monthly installments commencing on the first Payment Due Date after the date of such conversion and on the same Payment Due Date thereafter, plus accrued interest in amounts that may vary, until (a) conversion back to the LIBOR Rate (at which time Borrower shall resume the monthly, bi-monthly or quarterly installments in the amount set forth in the Note, or as otherwise agreed to by the Bank and Borrower in writing) or (b) the Maturity Date (at which time Borrower shall pay the Final Installment), with each such installment being equal and in the amount necessary to fully amortize the outstanding Principal Amount of the Note in full by the Maturity Date or such other date agreed to by the Bank and Borrower in writing. The determination by the Bank of the foregoing amount shall, in the absence of manifest error, be conclusive and binding upon Borrower.

CORNING NATURAL GAS CORPORATION

By: _____
Name: Michael I. German
Title: President

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M&T Bank

GENERAL SECURITY AGREEMENT
New York

Debtor (Name): **Corning Natural Gas Corporation**
(Organizational Structure): **Corporation**
(State Law organized under): **New York**
(Organizational Identification Number, if any; note that this is NOT a request for the Taxpayer Identification Number):
(Address of residence/chief executive office): **330 West William Street, Syracuse, New York 14830**

Bank/Secured Party: M&T Bank, a New York banking corporation with its banking offices at One M&T Plaza, Buffalo, New York 14203 Attention: Office of General Counsel.

For good and valuable consideration, the receipt and sufficiency of which is acknowledged, and intending to be legally bound, Debtor agrees with Secured Party as follows:

1. Security Interests.

1.1 Grant. As security for the prompt and complete payment and performance when due of all of the Obligations, Debtor does hereby grant to Secured Party a continuing security interest ("Security Interest") in all personal property and fixtures of Debtor, wherever located, whether now existing or owned or hereafter arising or acquired, whether or not subject to the Uniform Commercial Code, as the same may be in effect in the State of New York, as amended from time to time ("UCC"), and whether or not affixed to any realty, including, without limitation, (i) all accounts, chattel paper, investment property, deposit accounts, documents, goods, equipment, farm products, general intangibles (including trademarks, service marks, trade names, patents, copyrights, licenses and franchises), instruments, inventory, money, letter of credit rights, causes of action (including tort claims) and other personal property (including agreements and instruments not constituting chattel paper or a document, general intangible or instrument); (ii) all additions to, accessions to, substitutions for, replacements of and supporting obligations of the foregoing; (iii) all proceeds and products of the foregoing, including, without limitation, insurance proceeds; and (iv) all business records and information relating to any of the foregoing and any software or other programs for accessing and manipulating such information (collectively, the "Collateral"). Debtor acknowledges and agrees that the foregoing collateral description is intended to cover all assets of Debtor.

1.2 Obligations. The term "Obligations" means any and all indebtedness or other obligations of Debtor to Secured Party in any capacity, now existing or hereafter incurred, however created or evidenced, regardless of kind, class or form, whether direct, indirect, absolute or contingent (including obligations pursuant to any guaranty, endorsement, other assurance of payment or otherwise), whether joint or several, whether from time to time reduced and thereafter increased, or entirely extinguished and thereafter reincurred, together with all extensions, renewals and replacements thereof, and all interest, fees, charges, costs or expenses which accrue on or in connection with the foregoing, including, without limitation, any indebtedness or obligations (i) not yet outstanding but contracted for, or with regard to which any other commitment by Secured Party exists, (ii) arising prior to, during or after any pendency of any bankruptcy, insolvency, receivership or other similar proceeding, regardless of whether allowed or allowable in such proceeding; (iii) owed by Debtor to others and which Secured Party obtained, or may obtain, by assignment or otherwise; or (iv) payable under this Agreement.

2. Covenants. Debtor covenants and agrees as follows:

2.1 Perfection of Security Interest. Debtor shall execute and deliver to Secured Party such financing statements, control agreements or other documents, in form and content satisfactory to Secured Party, as Secured Party may from time to time request to perfect and continue the Security Interest. Upon the request of Secured Party, Debtor shall deliver to Secured Party any and all instruments, chattel paper, negotiable documents or other documents evidencing or constituting any part of the Collateral properly endorsed or assigned, in a manner satisfactory to Secured Party. Until such delivery, Debtor shall hold such portion of the Collateral in trust for Secured Party. Debtor shall pay all expenses for the preparation, filing, searches and related costs in connection with the grant and perfection of the Security Interest. Debtor authorizes (both prospectively and retroactively) Secured Party to file financing statements, and any continuations and amendments thereof, with respect to the Collateral without Debtor's signature. A photocopy or other reproduction of any financing statement or this Agreement shall be sufficient as a financing statement for filing in any jurisdiction.

2.2 Negative Pledge; Disposition of Collateral. Debtor shall not grant or allow the imposition of any lien, security interest or encumbrance on, or assignment of, the Collateral unless consented to in writing by Secured Party. Debtor shall not make or permit to be made any sale, transfer or other disposition of the Collateral; provided, however, prior to the occurrence of an Event of Default, Debtor may in the ordinary course of business consistent with its past practices and with prudent and standard practices used in the industry that is the same or similar to that in which Debtor is engaged: (i) dispose of any Collateral consisting of equipment that is obsolete or worn-out; (ii) sell or exchange any Collateral consisting of equipment in connection with the acquisition of other equipment that is at least as valuable as such equipment, that Debtor intends to use for substantially the same purposes as such equipment and that is not subject to any security interest or other lien or encumbrance; (iii) collect Collateral

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consisting of accounts or assign such Collateral for purposes of collection; or (iv) sell or lease Collateral consisting of inventory. A sale, lease or other transfer of such Collateral consisting of inventory in the ordinary course of Debtor's business does not include a transfer in partial or complete satisfaction of any liability or obligation or any bulk sale.

2.3 Condition of Collateral; Impermissible Use. Debtor shall keep the Collateral consisting of goods in good condition and shall not commit or permit damage or destruction (other than ordinary wear and tear) to such Collateral. Debtor shall not permit any Collateral consisting of goods (i) to be used in such a manner that would violate any insurance policy or warranty covering the Collateral or that would violate any applicable law of any governmental authority (including any environmental law) now or hereafter in effect; (ii) to become fixtures on any real property on which Secured Party does not have a first priority mortgage lien (unless Secured Party has been provided with an acceptable landlord/mortgagee waiver) or become an accession to any goods not included in the Collateral; or (iii) to be placed in any warehouse that may issue a negotiable document with regard to such Collateral.

2.4 Modification to Collateral. Debtor shall not, without Secured Party's prior written consent, grant any extension on, compound, settle for less than the full amount of, release (in whole or in part), modify, cancel, or allow for any substitution, credit or adjustment on Collateral consisting of accounts, chattel paper, general intangibles, instruments, documents or investment property, except that in the absence of an Event of Default, Debtor may grant to account debtors, or other persons obligated with respect to the Collateral, extensions, credits, discounts, compromises or settlements in the ordinary course of business consistent with its past practices and consistent with prudent and standard practices used in the industries that are the same or similar to those in which Debtor is engaged.

2.5 Titled Goods. Debtor shall cause all goods included in the Collateral to be properly titled and registered to the extent required by applicable law. Upon the request of Secured Party, Debtor shall cause the interest of Secured Party to be properly indicated on any certificate of title relating to such goods and deliver to Secured Party each such certificate, and any additional evidence of ownership, certificates of origin or other documents evidencing any interest in such goods.

2.6 Insurance. Debtor shall, at its own expense and at all times, maintain effective insurance policies covering damage to persons and against fire, flood, theft and all other risks to which the Collateral may be subject, all in such amounts, with such deductibles and issued by such insurance company as shall be satisfactory to Secured Party. Such insurance policies shall have all endorsements that Secured Party may require and shall further (i) name Secured Party, exclusively, as the additional insured on the casualty insurance and the lender's loss payee and/or mortgagee on the hazard insurance; (ii) provide that Secured Party shall receive a minimum of thirty (30) days prior written notice of any amendment or cancellation; and (iii) insure Secured Party notwithstanding any act or neglect of Debtor or other owner of the property described in such insurance. If Debtor fails to obtain the required insurance as provided herein, Secured Party may, but is not obligated, to obtain such insurance as Secured Party may deem appropriate, including, without limitation, if Secured Party so chooses, "single interest insurance" which will cover only Secured Party's interest in the Collateral. Debtor shall pay or reimburse to Secured Party the cost of such insurance. Secured Party shall have the option, in its sole discretion, to hold insurance proceeds as part of the Collateral, apply any insurance proceeds toward the Obligations or allow the Debtor to apply the insurance proceeds towards repair or replacement of the item of Collateral in respect of which such proceeds were received. Upon the request of Secured Party, Debtor shall from time to time deliver to Secured Party such insurance policies, or other evidence of such policies satisfactory to Secured Party, and such other related information Secured Party may request.

2.7 Collateral Information. Debtor shall provide all information, in form and substance satisfactory to Secured Party, that Secured Party shall from time to time request to (i) identify the nature, extent, value, age and location of any of the Collateral, or (ii) identify any account debtor or other party obligated with respect to any chattel paper, general intangible, instrument, investment property, document or deposit account included in the Collateral.

2.8 Financial Information. Debtor shall furnish to Secured Party financial statements in such form (*e.g.*, audited, reviewed, compiled) and at such intervals as Secured Party shall request from time to time plus any additional financial information that Secured Party may request. All such financial statements shall be in conformity with generally accepted accounting principles consistently applied.

2.9 Taxes; Licenses; Compliance with Laws. Before the end of any applicable grace period, Debtor shall pay each tax, assessment, fee and charge imposed by any governmental authority upon the Collateral, the ownership, disposition or use of any of the Collateral, this Agreement or any instrument evidencing any of the Obligations. Debtor shall maintain in full force and effect each license, franchise or other authorization needed for any ownership, disposition or use of the Collateral and the conduct of its business, operations or affairs. Debtor shall comply with all applicable law of any governmental authority (including any environmental law), now or hereafter in effect, applicable to the ownership, disposition or use of the Collateral or the conduct of its business, operations or affairs.

2.10 Records; Legend. Debtor shall maintain accurate and complete books and records relating to the Collateral in conformity with generally accepted accounting principles consistently applied. At Secured Party's request, Debtor will legend, in form and manner satisfactory to Secured Party, its books and records to indicate the Security Interest.

2.11 Additional Collateral. If at any time the liquidation value of any of the Collateral is unsatisfactory to Secured Party, then, on demand of Secured Party, Debtor shall immediately (i) furnish such additional collateral satisfactory to Secured Party to be held by Secured Party as if originally pledged hereunder and execute such additional security agreements, financing statements or other agreements as requested by Secured Party, or (ii) repay the Obligations to bring the outstanding amount of the Obligations to within a satisfactory relationship to the liquidation value of the Collateral.

2.12 Notifications of Change. Immediately upon acquiring knowledge or reason to know of any of the following, Debtor shall notify Secured Party of the occurrence or existence of (i) any Event of Default; (ii) any event or condition that, after notice, lapse of time or after both notice and lapse of time, would constitute an Event of Default; (iii) any account or general intangible that arises out of a contract with any

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governmental authority (including the United States); (iv) any event or condition that has or (so far as can be foreseen) will or might have any material adverse effect on the Collateral (including a material loss, destruction or theft of, or of any damage to, the Collateral, material decline in value of the Collateral or a material default by an account debtor or other party's performance of obligations with respect to the Collateral), on Debtor or its business, operations, affairs or condition (financial or otherwise).

2.13 Lien Law. If any account or general intangible included in the Collateral represents money owing pursuant to any contract for the improvement of real property or for a public improvement for purposes of the Lien Law of the State of New York (the "Lien Law"), Debtor shall (i) give Secured Party notice of such fact; (ii) receive and hold any money advanced by Secured Party with respect to such account or general intangible as a trust fund to be first applied to the payment of trust claims as such term and/or concept is defined in the Lien Law (in Section 71 thereof, or otherwise); and (iii) until such trust claim is paid, not use or permit the use of any such money for any purpose other than the payment of such trust claims.

2.14 Protection of Collateral; Further Assurances. Debtor shall, at its own cost, faithfully preserve, defend and protect the Security Interest as a prior perfected security interest in the Collateral under the UCC and other applicable law, superior and prior to the rights of all third parties (other than those permitted pursuant to Section 3.1) and shall defend the Collateral against all setoffs, claims, counterclaims, demands and defenses. At the request of Secured Party, Debtor shall do, obtain, make, execute and deliver all such additional and further acts, things, deeds, assurances and instruments as Secured Party may deem necessary or advisable from time to time in order to attach, continue, preserve, perfect or protect the Security Interest and Secured Party's rights hereunder including obtaining waivers (in form and content acceptable to Secured Party) from landlords, warehousemen and mortgagees. Debtor hereby irrevocably appoints Secured Party, its officers, employees and agents, or any of them, as attorneys-in-fact for Debtor with full power and authority in the place and stead of Debtor and in the name of Debtor or its own name from time to time in Secured Party's discretion, to perform all acts which Secured Party deems appropriate to attach, continue, preserve or perfect and continue the Security Interest, including signing for Debtor (to the extent such signature may be required by applicable law) UCC-1 financing statements, UCC-3 amendment or other instruments and documents to accomplish the purposes of this Agreement. This power of attorney, being coupled with an interest, is irrevocable and shall not be affected by the subsequent disability or incompetence of Debtor.

3. Representations and Warranties. Debtor represents, warrants and agrees as follows:

3.1 Title. Debtor holds good and marketable title to the Collateral free and clear from any security interest or other lien or encumbrance of any party, other than the Security Interest or such liens, security interests or other liens or encumbrances specifically permitted by Secured Party and set forth on Exhibit A hereto ("Permitted Liens"). Debtor has not made any prior sale, pledge, encumbrance, assignment or other disposition of any of the Collateral except for the Permitted Liens.

3.2 Authority. If Debtor is a business entity, it is duly organized, validly existing and in good standing under the laws of the above-named state of organization. Debtor has the full power and authority to grant the Security Interest and to execute, deliver and perform its obligations in accordance with this Agreement. The execution and delivery of this Agreement will not (i) violate any applicable law of any governmental authority or any judgment or order of any court, other governmental authority or arbitrator; (ii) violate any agreement governing Debtor or to which Debtor is a party; or (iii) result in a security interest or other lien or encumbrance on any of Debtor's assets, except in favor of Secured Party. Debtor's certificate of incorporation, by-laws or other organizational documents do not prohibit any term or condition of this Agreement. Each authorization, approval or consent from, each registration and filing with, each declaration and notice to, and each other act by or relating to, any party required as a condition of Debtor's execution, delivery or performance of this Agreement (including any shareholder or board of directors or similar approvals) has been duly obtained and is in full force and effect. Debtor has the power and authority to transact the business in which it is engaged and is duly licensed or qualified and in good standing in each jurisdiction in which the conduct of its business or ownership of property requires such licensing or such qualifications.

3.3 Judgments and Litigation. There is no pending or threatened claim, audit, investigation, action or other legal proceeding or judgment or order of any court, agency or other governmental authority or arbitrator which involves Debtor or the Collateral and which might have a material adverse effect upon the Collateral, the Debtor, its business, operations, affairs or condition (financial or otherwise), or threaten the validity of this Agreement or any related document or action. Debtor will immediately notify Secured Party upon acquiring knowledge of the foregoing.

3.4 Enforceability of Collateral. Instruments, chattel paper, accounts or documents which constitute any part of the Collateral are genuine and enforceable in accordance with their terms, comply with the applicable law of any governmental authority concerning form, content, manner of preparation and execution, and all persons appearing to be obligated on such Collateral have authority and capacity to contract and are in fact obligated as they appear to be on such Collateral. There are no restrictions on any assignment or other transfer or grant of the Security Interest by Debtor. Each sum represented by Debtor from time to time as owing on accounts, instruments, deposit accounts, chattel paper and general intangibles constituting any part of the Collateral by account debtors and other parties with respect to such Collateral is the sum actually and unconditionally owing by account debtors and other parties with respect thereto at such time, except for applicable normal cash discounts. None of the Collateral is subject to any defense, set-off, claim or counterclaim of a material nature against Debtor except as to which Debtor has notified Secured Party in writing.

3.5 Location of Chief Executive Office, Records, Collateral. The locations of the following are listed on page one of this Agreement or, if different or additional, on Exhibit A hereto: (i) Debtor's residence, principal place of business and chief executive office; (ii) the office in which Debtor maintains its books or records relating to the Collateral; (iii) the facility (including any storage facility) at which now owned or subsequently acquired inventory, equipment and fixtures constituting any part of the Collateral shall be kept; and (iv) the real property on which any crop included in the Collateral is growing or is to be grown, or on which any timber constituting any part of the Collateral is or is to be standing. Debtor will not effect or permit any change in any of the foregoing locations (or remove or permit the removal of the records or Collateral therefrom, except for mobile equipment included in the Collateral which may be moved to another location for not more than thirty (30) days) without thirty (30) days prior written notice to Secured Party and all actions deemed necessary by Secured Party to maintain the Security Interest intended to be granted

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hereby at all times fully perfected and in full force and effect have been taken. All of the locations listed on page one or Exhibit A are owned by Debtor, or if not, by the party(ies) identified on Exhibit A.

3.6 Structure; Name. Debtor's organizational structure, state of registration and organizational identification number (if any) are stated accurately on page one of this Agreement, and its full legal name and any trade name used to identify it are stated accurately on page one of this Agreement, or if different or additional are listed on Exhibit A hereto. Debtor will not change its name, any trade names or its identity, its organizational structure, state of registration or organizational identification number without thirty (30) days prior written notice to Secured Party. All actions deemed necessary by Secured Party to maintain the Security Interest intended to be granted hereby at all times fully perfected and in full force and effect have been taken.

4. Performance and Expenditures by Secured Party. If Debtor fails to perform or comply with any of the terms hereof, Secured Party, at its option, but without any obligation so to do, may perform or comply, or otherwise cause performance or compliance, with such terms including the payment or discharge of all taxes, fees, security interest or other liens, encumbrances or claims, at any time levied or placed on the Collateral. An election to make expenditures or to take action or perform an obligation of Debtor under this Agreement, after Debtor's failure to perform, shall not affect Secured Party's right to declare an Event of Default and to exercise its remedies. Nor shall the provisions of this Section relieve Debtor of any of its obligations hereunder with respect to the Collateral or impose any obligation on Secured Party to proceed in any particular manner with respect to the Collateral.

5. Duty of Secured Party. Secured Party's sole duty with respect to the custody, safekeeping and physical preservation of the Collateral in its possession shall be to deal with it in the same manner as Secured Party deals with similar property for its own account. Neither Secured Party nor its directors, officers, employees or agents shall be liable for failure to demand, collect or realize upon the Collateral or for any delay in doing so or shall be under any obligation to sell or otherwise dispose of the Collateral upon the request of Debtor or any other person or to take any other action whatsoever with regard to the Collateral. The powers conferred on Secured Party hereunder are solely to protect Secured Party's interests in the Collateral and shall not impose any duty upon any Secured Party to exercise any such powers. Secured Party shall be accountable only for amounts that it actually receives as a result of the exercise of its powers under this Agreement, and neither it nor its officers, directors, employees or agents shall be responsible to Debtor for any act or failure to act hereunder, except for its own gross negligence or willful misconduct.

6. Certain Rights and Remedies.

6.1 Inspection; Verification. Secured Party, and such persons as it may designate, shall have the right from time to time to (i) audit and inspect (a) the Collateral, (b) all books and records related thereto (and make extracts and copies from such records), and (c) the premises upon which any of the Collateral or books and records may be located; (ii) discuss Debtor's business, operations, affairs or condition (financial or otherwise) with its officers, accountants; and (iii) verify the validity, amount, quality, quantity, value, condition and status of, or any other matter relating to the Collateral in any manner and through any medium Secured Party may consider appropriate (including contacting account debtors or third party possessing the Collateral for purpose of making such verification). Debtor shall furnish all assistance and information and perform any acts Secured Party may require regarding thereto. Debtor shall bear the cost and expense of any such inspection and verification.

6.2 Notification of Security Interest. Secured Party may notify any or all account debtors and other person obligated with respect to the Collateral of the Security Interest therein. Upon the request of Secured Party, Debtor agrees to enter into such warehousing, lockbox or other custodial arrangement with respect to any of the Collateral that Secured Party shall deem necessary or desirable.

6.3 Application of Proceeds. Secured Party may apply the proceeds from the sale, lease or other disposition or realization upon the Collateral to the Obligations in such order and manner and at such time as Secured Party shall, in its sole discretion, determine. Debtor shall remain liable for any deficiency if the proceeds of any sale, lease or other disposition or realization upon the Collateral are insufficient to pay the Obligations. Any proceeds received by Debtor from the Collateral after an Event of Default shall (i) be held by Debtor in trust for Secured Party in the same medium in which received; (ii) not be commingled with any assets of Debtor; and (iii) be delivered to Secured Party in the form received, properly indorsed to permit collection. After an Event of Default, Debtor shall promptly notify Secured Party of the return to or repossession by Debtor of goods constituting part of the Collateral, and Debtor shall hold the same in trust for Secured Party and shall dispose of the same as Secured Party directs.

6.4 Income and Proceeds of Instruments and Investment Property. Until the occurrence of an Event of Default, Debtor reserves the right to request to receive all cash income or cash distribution (whether in cash or evidenced by check) payable on account of any instrument or investment property constituting part of the Collateral (collectively, "Cash Distribution"). Until actually paid, all rights in the foregoing shall remain subject to the Security Interest. Any other income, dividend, distribution, increase in or profits (including any stock issued as a result of any stock split or dividend, any capital distributions and the like) on account of any instrument or investment property constituting part of the Collateral and, upon the occurrence of an Event of Default, all Cash Distributions, shall be delivered to Secured Party immediately upon receipt, in the exact form received and without commingling with other property which may be received by, paid or delivered to Debtor or for Debtor's account, whether as an addition to, in discharge of, in substitution of, or in exchange of the Collateral. Until delivery, such Collateral shall be held in trust for Secured Party.

6.5 Registered Holder of the Collateral. Secured Party shall have the right to transfer to or register (with or without reference to this Agreement) in the name of Secured Party or its nominee any investment property, general intangible, instrument or deposit account constituting part of the Collateral so that Secured Party or such nominee shall appear as the sole owner of record thereof; provided, however, that so long as no Event of Default has occurred, Secured Party shall deliver to Debtor all notices, statements or other communications received by it or its nominee as such registered owner, and upon demand and receipt of payment of necessary expenses thereof, shall give to Debtor or its designee a proxy or proxies to vote and take all action with respect to such Collateral. After the occurrence of any Event of Default, Debtor waives all rights to be advised of or to receive any notices, statements or communications received by Secured Party or its nominee as such record owner, and agrees that no proxy or proxies given by Secured Party to Debtor or its designee as aforesaid shall thereafter be effective.

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7. Default.

7.1 Events of Default. Any of the following events or conditions shall constitute an "Event of Default": (i) failure by Debtor to pay when due (whether at the stated maturity, by acceleration, upon demand or otherwise) the Obligations, or any part thereof, or there occurs any event or condition which after notice, lapse of time or after both notice and lapse of time will permit acceleration of any Obligation; (ii) default by Debtor in the performance of any obligation, term or condition of this Agreement or any other agreement with Secured Party or any of its affiliates or subsidiaries (collectively, "Affiliates"); (iii) failure by Debtor to pay when due (whether at the stated maturity, by acceleration, upon demand or otherwise) any indebtedness or obligation owing to any third party or any Affiliate, the occurrence of any event which could result in acceleration of payment of any such indebtedness or obligation or the failure to perform any agreement with any third party or any affiliate; (iv) Debtor is dissolved, becomes insolvent, generally fails to pay or admits in writing its inability generally to pay its debts as they become due; (v) Debtor makes a general assignment, arrangement or composition agreement with or for the benefit of its creditors or makes, or sends notice of any intended, bulk sale; the sale, assignment, transfer or delivery of all or substantially all of the assets of Debtor to a third party; or the cessation by Debtor as a going business concern; (vi) Debtor files a petition in bankruptcy or institutes any action under federal or state law for the relief of debtors or seeks or consents to the appointment of an administrator, receiver, custodian or similar official for the wind up of its business (or has such a petition or action filed against it and such petition action or appointment is not dismissed or stayed within forty-five (45) days); (vii) the reorganization, merger, consolidation or dissolution of Debtor (or the making of any agreement therefor); (viii) the death or judicial declaration of incompetency of Debtor, if an individual; (ix) the entry of any judgment or order of any court, other governmental authority or arbitrator against Debtor; (x) falsity, omission or inaccuracy of facts submitted to Secured Party or any Affiliate (whether in a financial statement or otherwise); (xi) an adverse change in the Collateral, Debtor, its business, operations, affairs or condition (financial or otherwise) from the status shown on any financial statement or other document submitted to Secured Party, and which change Secured Party determines will have a material adverse effect on (a) Debtor, its business, operations or condition (financial or otherwise), or (b) the ability of Debtor to pay or perform the Obligations; (xii) any pension plan of Debtor fails to comply with applicable law or has vested unfunded liabilities that, in the opinion of Secured Party, might have a material adverse effect on Debtor's ability to repay its debts; (xiii) any indication or evidence received by Secured Party that Debtor may have directly or indirectly been engaged in any type of activity which, in Secured Party's discretion, might result in the forfeiture of any property of Debtor to any governmental authority; (xiv) the occurrence of any event described in Section 7.1(i) through and including 7.1(xiii) with respect to any endorser, guarantor or any other party liable for, or whose assets or any interest therein secures, payment of any of the Obligations; or (xv) Secured Party in good faith deems itself insecure with respect to payment or performance of the Obligations.

7.2 Rights and Remedies Upon Default. Upon the occurrence of any Event of Default, Secured Party without demand of performance or other demand, presentment, protest, advertisement or notice of any kind (except any notice required by law) to or upon Debtor or any other person (all and each of which demands, presentments, protests, advertisements and notices are hereby waived), may exercise all rights and remedies of a secured party under the UCC, under other applicable law, in equity or otherwise or available under in this Agreement including:

7.2.1 Obligations Immediately Due; Termination of Lending. Secured Party may declare all or any part of any Obligations not payable on demand to be immediately due and payable without demand or notice of any kind. All or any part of any Obligations whether or not payable on demand, shall be immediately due and payable automatically upon the occurrence of an Event of Default in Section 7.1 (vi) above. The provisions hereof are not intended in any way to affect any rights of Secured Party with respect to any Obligations which may now or hereafter be payable on demand. Secured Party may terminate any obligation it may have to grant any additional loan, credit or other financial accommodation to Debtor.

7.2.2 Access to Collateral. Secured Party, or its agents, may peaceably retake possession of the Collateral with or without notice or process of law, and for that purpose may enter upon any premises where the Collateral is located and remove the same. At Secured Party's request, Debtor shall assemble the Collateral and deliver it to Secured Party or any place designated by Secured Party, at Debtor's expense.

7.2.3 Sell Collateral. Secured Party shall have the right to sell, lease or otherwise dispose of the Collateral in one or more parcels at public or private sale or sales upon such terms and conditions as it may deem advisable and at such prices as it may deem best, for cash or on credit or for future delivery without assumption of any credit risk. Each purchaser at any such sale shall hold the property sold absolutely, free from any claim or right on the part of Debtor. Debtor hereby waives (to the extent permitted by law) all rights of redemption, stay and appraisal which Debtor now has or may at any time in the future have under any applicable law now existing or hereafter enacted. Secured Party shall have the right to use Debtor's premises and any materials or rights of Debtor (including any intellectual property rights) without charge for such sales or disposition of the Collateral or the completion of any work in progress for such times as Secured Party may see fit. Without in any way requiring notice to be given in the following time and manner, Debtor agrees that with respect to any notice by Secured Party of any sale, lease or other disposition or realization or other intended action hereunder or in connection herewith, whether required by the UCC or otherwise, such notice shall be deemed reasonable and proper if given at least five (5) days before such action in the manner described below in the Section entitled "Notices".

7.2.4 Collect Revenues. Secured Party may either directly or through a receiver (i) demand, collect and sue on any Collateral consisting of accounts or any other Collateral including notifying account debtors or any other persons obligated on the Collateral to make payment on the Collateral directly to Secured Party; (ii) file any claim or to take any other action or proceeding in any court of law or equity or otherwise deemed appropriate by Secured Party with respect to the Collateral or to enforce any other right in respect of the Collateral; (iii) take control, in any manner, of any payment or proceeds from the Collateral; (iv) prosecute or defend any suit, action or proceeding brought against Debtor with respect to the Collateral; (v) settle, compromise or adjust any and all claims arising under the Collateral or, to give such discharges or releases as Secured Party may deem appropriate; (vi) receive and collect all mail addressed to Debtor, direct the place of delivery thereof to any location designated by Secured Party; to open such mail; to remove all contents therefrom; to retain all contents thereof constituting or relating to the Collateral; (vii) execute, sign or endorse any and all claims, endorsements, assignments, checks or other instruments with respect to the Collateral; or (viii) generally, use, sell, transfer, pledge and make any agreement with respect to or otherwise deal with any of the Collateral; and Debtor

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hereby irrevocably appoints Secured Party, its officers, employees and agents, or any of them, as attorneys-in-fact for Debtor with full power and authority in the place and stead of Debtor and in the name of Debtor or in its own name from time to time in Secured Party's discretion, to take any and all appropriate action Secured Party deems necessary or desirable to accomplish any of the foregoing or otherwise to protect, preserve, collect or realize upon the Collateral or to accomplish the purposes of this Agreement. Debtor revokes each power of attorney (including any proxy) heretofore granted by Debtor with regard to the Collateral. This power of attorney, being coupled with an interest, is irrevocable and shall not be affected by the subsequent disability or incompetence of Debtor.

7.2.5 Setoff. Secured Party may place an administrative hold on and set off against the Obligations any property held in a deposit or other account with Secured Party or any of its Affiliates or otherwise owing by Secured Party or any of its Affiliates in any capacity to Debtor. Such set-off shall be deemed to have been exercised immediately at the time Secured Party or such Affiliate elects to do so.

8. Expenses. Debtor shall pay to Secured Party on demand all costs and expenses (including all reasonable fees and disbursements of all counsel retained for advice, suit, appeal or other proceedings or purpose and of any experts or agents it may retain), which Secured Party may incur in connection with (i) the administration of this Agreement, including any administrative fees Secured Party may impose for the preparation of discharges, releases or assignments to third-parties; (ii) the custody or preservation of, or the sale, lease or other disposition or realization on the Collateral; (iii) the enforcement and collection of any Obligations or any guaranty thereof; (iv) the exercise, performance, enforcement or protection of any of the rights of Secured Party hereunder; or (v) the failure of Debtor to perform or observe any provisions hereof. After such demand for payment of any cost, expense or fee under this Section or elsewhere under this Agreement, Debtor shall pay interest at the highest default rate specified in any instrument evidencing any of the Obligations from the date payment is demanded by Secured Party to the date reimbursed by Debtor. All such costs, expenses or fees under this Agreement shall be added to the Obligations.

9. Indemnification. Debtor shall indemnify Secured Party and its Affiliates and each officer, employee, accountant, attorney and other agent thereof (each such person being an "Indemnified Party") on demand, without any limitation as to amount, against each liability, cost and expense (including all reasonable fees and disbursements of all counsel retained for advice, suit, appeal or other proceedings or purpose, and of any expert or agents an Indemnified Party may retain) heretofore or hereafter imposed on, incurred by or asserted against any Indemnified Party (including any claim involving any allegation of any violation of applicable law of any governmental authority (including any environmental law or criminal law)), however asserted and whether now existing or hereafter arising, arising out of any ownership, disposition or use of any of the Collateral; provided, however, the foregoing indemnity shall not apply to liability, cost or expense solely attributable to an Indemnified Party's gross negligence or willful misconduct. This indemnity agreement shall survive the termination of this Agreement. Any amounts payable under this or any other section of this Agreement shall be additional Obligations secured hereby.

10. USA PATRIOT Act Notice. Secured Party hereby notifies the Debtor that pursuant to the requirements of the USA PATRIOT Act ("Patriot Act"), it is required to obtain, verify and record information that identifies the Debtor, which information includes the name and address of the Debtor and other information that will allow Secured Party to identify the Debtor in accordance with the Patriot Act. The Debtor agrees to, promptly following a request by Secured Party, provide all such other documentation and information that Secured Party requests in order to comply with its ongoing obligations under applicable "know your customer" and anti-money laundering rules and regulations, including the Patriot Act.

11. Miscellaneous.

11.1 Notices. Any demand or notice hereunder or under any applicable law pertaining hereto shall be in writing and duly given if delivered to Debtor (at its address on Secured Party's records) or to Secured Party (at the address on page one and separately to Secured Party's officer responsible for Debtor's relationship with Secured Party). Such notice or demand shall be deemed sufficiently given for all purposes when delivered (i) by personal delivery and shall be deemed effective when delivered, or (ii) by mail or courier and shall be deemed effective three (3) business days after deposit in an official depository maintained by the United States Post Office for the collection of mail or one (1) business day after delivery to a nationally recognized overnight courier service (e.g., Federal Express). Notice by e-mail is not valid notice under this or any other agreement between Debtor and Secured Party.

11.2 Governing Law; Jurisdiction. This Agreement has been delivered to and accepted by Secured Party and will be deemed to be made in the State of New York. Except as otherwise provided under federal law, this Agreement will be interpreted in accordance with the laws of the State of New York excluding its conflict of laws rules. **DEBTOR HEREBY IRREVOCABLY CONSENTS TO THE EXCLUSIVE JURISDICTION OF ANY STATE OR FEDERAL COURT IN THE STATE OF NEW YORK IN A COUNTY OR JUDICIAL DISTRICT WHERE SECURED PARTY MAINTAINS A BRANCH AND CONSENTS THAT SECURED PARTY MAY EFFECT ANY SERVICE OF PROCESS IN THE MANNER AND AT DEBTOR'S ADDRESS SET FORTH ABOVE FOR PROVIDING NOTICE OR DEMAND; PROVIDED THAT NOTHING CONTAINED IN THIS AGREEMENT WILL PREVENT SECURED PARTY FROM BRINGING ANY ACTION, ENFORCING ANY AWARD OR JUDGMENT OR EXERCISING ANY RIGHTS AGAINST DEBTOR INDIVIDUALLY, AGAINST ANY SECURITY OR AGAINST ANY PROPERTY OF DEBTOR WITHIN ANY OTHER COUNTY, STATE OR OTHER FOREIGN OR DOMESTIC JURISDICTION.** Debtor acknowledges and agrees that the venue provided above is the most convenient forum for both Secured Party and Debtor. Debtor waives any objection to venue and any objection based on a more convenient forum in any action instituted under this Agreement.

11.3 Security Interest Absolute. All rights of Secured Party hereunder, the Security Interest and all obligations of Debtor hereunder shall be absolute and unconditional irrespective of (i) any filing by or against Debtor of any petition in bankruptcy or any action under federal or state law for the relief of debtors or the seeking or consenting to of the appointment of an administrator, receiver, custodian or similar officer for the wind up of its business; (ii) any lack of validity or enforceability of any agreement with respect to any of the Obligations, (iii) any change in the time, manner or place of payment of, or in any other term of, all or any of the Obligations, or any other amendment or waiver of or any consent to any departure from any agreement or instrument with respect to the Obligations, (iv)any exchange, release or non-perfection of any lien or any release or amendment or waiver of or consent under or departure from any guarantee, securing or guaranteeing all or any of the Obligations, or (v) any other circumstance that

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might otherwise constitute a defense available to, or a discharge of, Debtor in respect of the Obligations or this Agreement. If, after receipt of any payment of all or any part of the Obligations, Secured Party is for any reason compelled to surrender such payment to any person or entity, because such payment is determined to be void or voidable as a preference, impermissible setoff, or a diversion of trust funds, or for any other reason, such payment shall be reinstated as part of the Obligations and this Agreement shall continue in full force notwithstanding any contrary action which may have been taken by Secured Party in reliance upon such payment, and any such contrary action so taken shall be without prejudice to Secured Party's rights under this Agreement and shall be deemed to have been conditioned upon such payment having become final and irrevocable.

11.4 Remedies Cumulative; Preservation of Rights. The rights and remedies herein are cumulative, may be exercised singly or concurrently and are not exclusive of any other rights or remedies which Secured Party may have under other agreements now or hereafter in effect between Debtor and Secured Party, at law (including under the UCC) or in equity. No failure or delay of Secured Party in exercising any power or right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such a right or power, preclude any other or further exercise thereof or the exercise of any other right or power. Debtor expressly disclaims any reliance on any course of dealing or usage of trade or oral representation of Secured Party including representations to make loans to Debtor. No notice to or demand on Debtor in any case shall entitle Debtor to any other or further notice or demand in similar or other circumstances.

11.5 Joint and Several; Successors and Assigns. If there is more than one Debtor, each of them shall be jointly and severally liable for all amounts, which become due, and the performance of all obligations under this Agreement and the term "Debtor" shall include each as well as all of them. This Agreement shall be binding upon Debtor and upon its heirs and legal representatives, its successors and assignees, and shall inure to the benefit of, and be enforceable by, Secured Party, its successors and assignees and each direct or indirect assignee or other transferee of any of the Obligations; provided, however, that this Agreement may not be assigned by Debtor without the prior written consent of Secured Party.

11.6 Waivers; Changes in Writing. No course of dealing or other conduct, no oral agreement or representation made by Secured Party or usage of trade shall operate as a waiver of any right or remedy of Secured Party. No waiver of any provision of this Agreement or consent to any departure by Debtor therefrom shall in any event be effective unless made specifically in writing by Secured Party and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given. No modification to any provision of this Agreement shall be effective unless made in writing in an agreement signed by Debtor and Secured Party.

11.7 Interpretation. Unless the context otherwise clearly requires, references to plural includes the singular and references to the singular include the plural; the word "or" has the inclusive meaning represented by the phrase "and/or"; the word "including", "includes" and "include" shall be deemed to be followed by the words "without limitation"; and captions or section headings are solely for convenience and not part of the substance of this Agreement. Any representation, warranty, covenant or agreement herein shall survive execution and delivery of this Agreement and shall be deemed continuous. Each provision of this Agreement shall be interpreted as consistent with existing law and shall be deemed amended to the extent necessary to comply with any conflicting law. If any provision nevertheless is held invalid, the other provisions shall remain in effect. Debtor agrees that in any legal proceeding, a photocopy of this Agreement kept in Secured Party's course of business may be admitted into evidence as an original. Terms not otherwise defined in this Agreement shall have the meanings attributed to such terms in the UCC.

11.8 Waiver of Jury Trial. **DEBTOR AND SECURED PARTY HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT TO TRIAL BY JURY DEBTOR AND SECURED PARTY MAY HAVE IN ANY ACTION OR PROCEEDING, IN LAW OR IN EQUITY, IN CONNECTION WITH THIS AGREEMENT OR ANY TRANSACTIONS RELATED HERETO. DEBTOR REPRESENTS AND WARRANTS THAT NO REPRESENTATIVE OR AGENT OF SECURED PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SECURED PARTY WILL NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THIS JURY TRIAL WAIVER. DEBTOR ACKNOWLEDGES THAT SECURED PARTY HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE PROVISIONS OF THIS SECTION.**

Dated January 27, 2016

CORNING NATURAL GAS CORPORATION

By: _____
Name: Michael I. German
Title: President

_____
Signature of Witness

_____
Typed Name of Witness

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ACKNOWLEDGMENT

STATE OF NEW YORK)
: SS.
COUNTY OF BROOME)

On the 27th day of January, in the year 2016, before me, the undersigned, a Notary Public in and for said State, personally appeared **MICHAEL J. GERMAN**, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

JEFF N. EVANS
Notary Public, State of New York
Steuben County No. 02EV6265099
Commission Expires July 9, 2016

FOR SECURED PARTY USE ONLY:
Authorization confirmed: _____
If Debtor's Obligations arise under a guaranty in favor of Secured Party, list the name whose indebtedness is being guaranteed under such guaranty:

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Exhibit A

1. **Grant (§1.1): the Security Interest granted by Debtor includes but is not limited to the property described below:**

   All rights, tangible and intangible (including pipelines, easements, rights of way and compressors) in the Debtor's gas distribution system pursuant to municipal franchises or otherwise.

2. Permitted Liens (§3.1)

3. Residence, principal place of business or chief executive office (§3.5(i))

   330 West William Street, Corning, New York 14830

4. Location of Books and Records (§3.5(ii))

   330 West William Street, Corning, New York 14830

5. Location of Inventory, Equipment, Fixtures, Crops or Timber (§3.5(iii) and §3.5(iv))

   330 West William Street, Corning, New York 14830

6. Locations Not Owned by Debtor and Name of Record Owner (§3.5)

   N/A

6. Trade Name, "Doing Business As" Name or Assumed Name (§3.6)

   N/A

M&T BANK

DISBURSEMENT CLOSING STATEMENT

DATE OF CLOSING:	January 27, 2016
BORROWER:	Corning Natural Gas Corporation
AMOUNT OF LOAN:	$17,400,000.00

COUGHLIN & GERHART, L.L.P. (Bank Legal Fees)	$17,500.00
NEW YORK STATE DEPARTMENT OF STATE (NYS UCC filing)	$40.00
PENNSYLVANIA DEPARTMENT OF STATE (PA UCC filing)	$84.00
STEUBEN COUNTY CLERK'S OFFICE (County UCC filing)	$40.00
M&T BANK (Payoff #9965898553-190)	$1,269,643.20
M&T BANK (Payoff #9965898553-240)	$35,627.18
M&T Bank (Payoff #9965898553-257)	$1,689,382.16
M&T Bank (Payoff #9965898553-273)	$2,732,822.09
M&T BANK (Payoff #9965898553-299)	$1,945,946.27
M&T BANK (Payoff #9965898553-315)	$546,923.81
M&T Bank (Payoff #9965898553-331)	$88,915.39
*M&T Bank (Remaining payoff #9965898553-406)	$7,187.14
M&T Bank (Payoff #9965898553-349)	$3,471,966.18
COMMUNITY BANK, N.A. (Payoff #4280406904)	$463,058.33
COMMUNITY BANK, N.A. (Payoff #1207136429)	$1,773,688.50
FIVE STAR BANK (Payoff #7002039121)	$177,277.46
FIVE STAR BANK (Payoff #7002039113)	$177,275.00
FIVE STAR BANK (Payoff #7002029533)	$416,740.23
CORNING NATURAL GAS CORPORATION (Balance of loan proceeds)	$2,585,883.06
TOTAL AMOUNT DISBURSED:	$17,400,000.00

*** Balance of payoff paid out of $4,200,000.00 loan**

The undersigned Borrower/Mortgagor approves the payments made above by M&T Bank, confirms obligation to pay the fees listed and acknowledges receipt from M&T Bank of the full amount described as Total Disbursements.

Borrower/Mortgagor:

CORNING NATURAL GAS CORPORATION

By:

Dated: January 27, 2016

Name: Michael J. German
Title: President

M&T Bank

MULTIPLE DISBURSEMENT TERM NOTE
New York

September __, 2015 $**150,000.00**

BORROWER (Name): **Corning Natural Gas Corporation**
(Organizational Structure): **Corporation**
(State Law organized under): **New York**
(Address of residence/chief executive office): **330 West William Street, Corning, New York 14830**

BANK: **M&T BANK**, a New York banking corporation with its banking offices at One M&T Plaza, Buffalo, NY 14203. Attention: Office of the General Counsel.

Definitions. The following terms shall have the indicated meanings in this Note:

1. **"Amortization Commencement Date"** shall mean the first day of the Permanent Loan Period, which shall be the Payment Due Date in **December, 2015**.
2. **"Amortization Period"** shall be **three (3)** years, and shall mean the approximate number of years, starting on the Amortization Commencement Date, needed to result in the full repayment of the Principal Amount, if all regularly scheduled payments are made at the required intervals over that period. The Amortization Period may be longer than the remaining term of this loan and shall not compromise the enforceability of the Maturity Date.
3. **"Disbursement Period"** shall mean the period from the date of this Note to, but not including, the Amortization Commencement Date, during which the Bank may advance funds to Borrower in accordance with the terms of this Note and/or a Loan Agreement, if applicable.
4. **"First Installment Payment Date"** shall mean the first Payment Due Date following the Amortization Commencement Date.
5. **"Loan Agreement"** shall mean any supplementary agreement, if any, between Borrower and the Bank dated on or about the date hereof and/or in connection herewith, providing for the disbursement of funds under this Note, as the same may be amended, modified or replaced from time to time.
6. **"Maturity Date"** shall mean the Payment Due Date in the **thirty-sixth (36th)** month following the Amortization Commencement Date.
7. **"New York Business Day"** shall mean any day other than Saturday, Sunday or other day in which commercial banking institutions in New York, New York are authorized or required by law or other governmental action to remain closed for business.
8. **"Payment Due Date"** shall mean the _____ day of the applicable calendar month (or if there is no numerically corresponding day in a particular month, the last calendar day of such month); provided, however, to the extent, if at all, that a non-daily adjusting LIBOR-based interest rate is in effect, if in any applicable month the day identified above is not a Joint Business Day, the Payment Due Date shall be extended to the next succeeding Joint Business Day unless such next succeeding Joint Business Day would fall in the next calendar month, in which case such Payment Due Date shall be the immediately preceding Joint Business Day, so as to, in all instances, coincide with the end of the applicable Interest Period. See attached LIBOR Rate Rider, the terms of which are incorporated herein by reference, for definitions and additional provisions.
9. **"Permanent Loan Period"** shall mean the period from and including the Amortization Commencement Date to the Maturity Date, during which Borrower shall repay the outstanding Principal Amount, with interest, as set forth below.
10. **"Principal Amount"** shall mean **the amount actually advanced, which sum shall not exceed One Hundred Fifty Thousand and 00/100 Dollars ($150,000.00)**.

Promise to Pay. For value received, intending to be legally bound, Borrower promises to pay to the order of the Bank, on the dates set forth below, the Principal Amount plus interest as agreed below, all payments required by the Bank to fund any escrow accounts for the payment of taxes, insurance and/or other charges (collectively, "Escrow"), and all fees and costs (including without limitation attorneys' fees and disbursements whether for internal or outside counsel) the Bank incurs in order to collect any amount due under this Note, to negotiate or document a workout or restructuring, or to preserve its rights or realize upon any guaranty or other security for the payment of this Note ("Expenses").

Authorized Representatives. During the Disbursement Period, the Bank may fund loan proceeds hereunder in reliance upon any oral, telephonic, written, teletransmitted or other request (the "Request(s)") that the Bank in good faith believes to be valid and to have been made by Borrower or on behalf of Borrower by **Michael I. German as President or Firouzeh Sarhangi as Chief Financial Officer** (include name(s) and title(s), as appropriate) or any other officer, employee or representative of Borrower who is authorized or designated as a signer of loan documents under the provisions of Borrower's most recent resolutions or similar documents on file with the Bank (each an "Authorized Person"). Notwithstanding that individual names may have been provided to the Bank, the Bank shall be permitted at any time to rely solely on an individual's title to ascertain whether that individual is an Authorized Person. The Bank may act on the Request of any Authorized Person until the Bank shall have received from Borrower, and had a reasonable time to act on, written notice revoking the authority of such Authorized Person. Borrower acknowledges that the transmission between Borrower and Bank of any Request or other instructions involves the possibility of errors, omissions, misinterpretations, fraud and mistakes, and agrees to adopt such internal measures and operational procedures as may be necessary to prevent such occurrences. By reason thereof, Borrower hereby assumes all risk of loss and responsibility for, and releases and discharges the Bank from any and all responsibility or liability for, and agrees to indemnify, reimburse on demand and hold Bank harmless from, any and all claims, actions, damages, losses, liability and expenses by reason of, arising out of, or in any way connected with or related to: (i) Bank's accepting, relying on and acting upon any Request or other instructions with respect to the loan evidenced by this Note; or (ii) any such error, omission, misinterpretation, fraud or mistake, provided such error, omission, misinterpretation, fraud or mistake is not directly caused by the Bank's gross negligence or willful misconduct. The Bank shall incur no liability to Borrower or to any other person as a direct or indirect result of funding any advance pursuant to this paragraph.

Availability; Non-Revolving Credit. Once the Disbursement Period ends, no further advances shall be Requested under this Note. The aggregate amount of all advances made pursuant to this Note shall not exceed the Principal Amount, but in the event of any excess advances, the amount of any such excess shall be due and payable immediately, with interest calculated at the applicable rate. Repayment of any portion of any advance made hereunder shall NOT increase the remaining availability for future advances.

Interest. The unpaid Principal Amount of this Note shall, at all times, earn interest calculated on the basis of a 360-day year for the actual number of days of each year (365 or 366), from and including the date the proceeds of this Note are disbursed to, but not including, the date all amounts hereunder are paid in full, at a rate per year which shall be:

During the Disbursement Period:

☒ **0.75** percentage points above the rate in effect each day as announced by the Bank as its prime rate of interest.

During the Permanent Loan Period:

☒ **3.50** percentage points above the sum of the yield on United States Treasury Obligations adjusted to a constant maturity of **three (3)** years in effect two (2) New York Business Days prior to the Amortization Commencement Date, as published by the Board of Governors of the Federal Reserve System in the Federal Reserve Statistical Release H.15 (519), or by such other quoting service, index or commonly available source utilized by the Bank, plus the "ask" side of the **three (3)** year LIBOR swap spread in effect two (2) New York Business Days prior to the Amortization Commencement Date, as quoted by Bloomberg, L.P. or such other quoting service, index or commonly available service utilized by the Bank.

If no rate is specified above, interest shall accrue at the Maximum Legal Rate (defined below) for the applicable period.

Maximum Legal Rate. It is the intent of the Bank and Borrower that in no event shall interest be payable at a rate in excess of the maximum rate permitted by applicable law (the "Maximum Legal Rate"). Solely to the extent necessary to prevent interest under this Note from exceeding the Maximum Legal Rate, Borrower agrees that any amount that would be treated as excessive under a final judicial interpretation of applicable law shall be deemed to have been a mistake and automatically canceled, and, if received by the Bank, shall be refunded to Borrower, without interest.

Default Rate. If an Event of Default (defined below) occurs, the interest rate on the unpaid Principal Amount shall immediately be automatically increased to five (5) percentage points per year above the otherwise applicable rate per year, and any judgment entered hereon or otherwise in connection with any suit to collect amounts due hereunder shall bear interest at such default rate.

Payments. Payments shall be made in immediately available United States funds at any banking office of the Bank.

Preauthorized Transfers from Deposit Account. If a deposit account number is provided in the following blank, Borrower hereby authorizes the Bank to debit Borrower's deposit account #_____ with the Bank automatically for any amount which becomes due under this Note.

Interest Accrual; Application of Payments. Interest will continue to accrue on the actual principal balance outstanding until the Principal Amount is paid in full. All installment payments (excluding voluntary prepayments of principal) will be applied as of the date each payment is received and processed. Payments may be applied in any order in the sole discretion of the Bank, but, prior to an Event of Default, may be applied chronologically (i.e., oldest invoice first) to unpaid amounts due and owing, in the following order: first to accrued interest, then to principal, then to Escrow, then to late charges and other fees, and then to all other Expenses.

Repayment Terms. Borrower shall pay to the Bank the Principal Amount and all interest owing pursuant to this Note in installments as follows:

During the Disbursement Period:

All accrued and unpaid interest, in amounts that may vary, on the Payment Due Date of each month, beginning on the first Payment Due Date following the date of this Note, and continuing through and including the Amortization Commencement Date, or as otherwise invoiced by the Bank.

During the Permanent Loan Period:

(i) **Thirty-five (35)** consecutive level monthly installments consisting of both principal and interest, each in the amount that would result in the outstanding Principal Amount, as of the Amortization Commencement Date, plus interest at the applicable rate, being repaid in full over the course of the Amortization Period [or, as otherwise provided for on the attached schedule], due and payable on the First Installment Payment Date and each Payment Due Date thereafter, and

(ii) ONE (1) FINAL INSTALLMENT, due and payable on the Maturity Date, in an amount equal to the outstanding Principal Amount, together with all other amounts outstanding hereunder, including, without limitation, accrued interest, costs and expenses.

To the extent, if at all, that (i) the repayment terms of this Note contemplate level installments of principal and interest during any period in which the applicable interest rate is a variable rate ("Variable Rate P&I Period"), and (ii) during any such Variable Rate P&I Period, the applicable interest rate changes in accordance with the terms of this Note, the Bank may, but shall be under no obligation to, recalculate and adjust at any time the installment amount due and payable to the Bank, so as to appropriately reamortize the unpaid Principal Amount, as of the date of such adjustment through the Maturity Date (or such other date as may be provided for herein). Borrower understands that non-adjustment of the installment amount as described herein could result in a greater portion of the unadjusted installment amount being applied to interest due, leaving less available to reduce the Principal Amount balance, resulting in a higher than expected Principal Amount balance due and payable to the Bank on the Maturity Date. Absent manifest error, the Bank's determination of any amount due in connection herewith shall be conclusive.

Late Charge. If Borrower fails to pay, within five (5) days of its due date, any amount due and owing pursuant to this Note or any other agreement executed and delivered to the Bank in connection with this Note, including, without limitation, any Escrow payment due and owing, Borrower shall immediately pay to the Bank a late charge equal to the greatest of (a) $50.00, (b) five percent (5%) of the delinquent amount or (c) the Bank's then

current late charge as announced from time to time. Notwithstanding the above, if this Note is secured by a one- to six-family owner-occupied residence, the late charge shall equal 2% of the delinquent amount and shall be payable if payment is not received within fifteen days of its due date.

Prepayment Premium. During the term of this Note, Borrower shall have the option of paying the unpaid Principal Amount to the Bank in advance of the Maturity Date, in whole or in part, at any time and from time to time upon written notice received by the Bank at least three (3) days prior to making such payment; provided, however, as consideration for the privilege of making such prepayment, Borrower shall pay to the Bank a fee (the "Premium") equal to the amount provided for on the **LIBOR Rate Rider**. Any partial prepayment of principal shall be posted as of the date received and applied in inverse order of maturity. With any prepayment in full of the Principal Amount balance, Borrower shall also pay to the Bank all accrued interest and Expenses owing pursuant to this Note. In the event the Maturity Date of this Note is accelerated following an Event of Default, the Bank's right to collect the Premium, as liquidated damages, shall accrue immediately, with the amount of the Premium to be determined in accordance with the terms of this Note at the time of any actual prepayment or other satisfaction, in whole or in part, by any means, of the principal indebtedness evidenced by this Note. Any tender of payment by or on behalf of the Borrower made after such Event of Default to satisfy or reduce the principal indebtedness shall be expressly deemed a voluntary prepayment, in which case, to the extent permitted by law, the Bank shall be entitled to the amount necessary to satisfy the entire indebtedness, plus the appropriate Premium calculated in accordance with the terms of this Note.

Representations, Warranties and Covenants. Borrower represents and warrants to and agrees and covenants with the Bank that now and until this Note is paid in full:

a. Business Purpose. The Loan proceeds shall be used only for a business purpose and not for any personal, family or household purpose.

b. Good Standing; Authority. Borrower is an entity or sole proprietor (i) duly organized and existing and in good standing under the laws of the jurisdiction in which it was formed, (ii) duly qualified, in good standing and authorized to do business in every jurisdiction in which failure to be so qualified might have a material adverse effect on its business or assets and (iii) has the power and authority to own each of its assets and to use them as contemplated now or in the future.

c. Legality. The execution, issuance, delivery to the Bank and performance by Borrower of this Note (i) are in furtherance of Borrower's purposes and within its power and authority; (ii) do not (A) violate any statute, regulation or other law or any judgment, order or award of any court, agency or other governmental authority or of any arbitrator or (B) violate Borrower's certificate of incorporation or other governing instrument, constitute a default under any agreement binding on Borrower, or result in a lien or encumbrance on any assets of Borrower; and (iii) have been duly authorized by all necessary corporate or partnership action.

d. Compliance. The Borrower conducts its business and operations and the ownership of its assets in compliance with each applicable statute, regulation and other law, including without limitation environmental laws. All approvals, including without limitation authorizations, permits, consents, franchises, licenses, registrations, filings, declarations, reports and notices (the "Approvals") necessary to the conduct of Borrower's business and for Borrower's due issuance of this Note have been duly obtained and are in full force and effect. The Borrower is in compliance with all conditions of each Approval.

e. Financial and Other Information. Promptly deliver to the Bank (i) within sixty (60) days after the end of each of its first three fiscal quarters, an unaudited accountant prepared consolidating and consolidated financial statement of the Borrower and each Subsidiary as of the end of such quarter, which financial statement shall consist of income and cash flows for the quarter, for the corresponding quarter in the previous fiscal year and for the period from the end of the previous fiscal year, with a consolidating and consolidated balance sheet as of the quarter end all in such detail as the Bank may request; (ii) within one hundred twenty (120) days after the end of each fiscal year, consolidating and consolidated statements of the Borrower's and each Subsidiary's income and cash flows and its consolidating and consolidated balance sheet as of the end of such fiscal year, setting forth comparative figures for the preceding fiscal year and to be audited by an independent certified public accountant acceptable to the Bank; all such statements shall be certified by the Borrower's chief financial officer to be correct and in accordance with the Borrower's and each Subsidiary's records and to present fairly the results of the Borrower's and each Subsidiary's operations and cash flows and its financial position at year end. Promptly upon the request of the Bank from time to time, Borrower shall supply all additional information requested and permit the Bank's officers, employees, accountants, attorneys and other agents to (i) visit and inspect each of Borrower's premises, (ii) examine, audit, copy and extract from Borrower's records and (iii) discuss Borrower's or its affiliates' business, operations, assets, affairs or condition (financial or other) with its responsible officers and independent accountants.

f. Accounting; Tax Returns and Payment of Claims. Borrower will maintain a system of accounting and reserves in accordance with generally accepted accounting principles, has filed and will file each tax return required of it and, except as disclosed in an attached schedule, has paid and will pay when due each tax, assessment, fee, charge, fine and penalty imposed by any taxing authority upon Borrower or any of its assets, income or franchises, as well as all amounts owed to mechanics, materialmen, landlords, suppliers and the like in the ordinary course of business.

g. Title to Assets; Insurance. Borrower has good and marketable title to each of its assets free of security interests and mortgages and other liens except as disclosed in its financial statements or on a schedule attached to this Note or pursuant to the Bank's prior written consent. Borrower will maintain its property in good repair and will maintain and on request provide the Bank with evidence of insurance coverage satisfactory to the Bank including without limitation fire and hazard, liability, worker's compensation and business interruption insurance and flood hazard insurance as required.

h. Judgments and Litigation. There is no pending or threatened claim, audit, investigation, action or other legal proceeding or judgment, order or award of any court, agency or other governmental authority or arbitrator (each an "Action") which involves Borrower or its assets and might have a material adverse effect upon Borrower or threaten the validity of this Note or any related document or transaction. Borrower will immediately notify the Bank in writing upon acquiring knowledge of any such Action.

i. Notice of Change of Address and of Default. Borrower will immediately notify the Bank in writing (i) of any change in its address or of the location of any collateral securing this Note, (ii) of the occurrence of any Event of Default defined below, (iii) of any material change in Borrower's ownership or management and (iv) of any material adverse change in Borrower's ability to repay this Note.

j. No Transfer of Assets. Until this Note is paid in full, Borrower shall not without the prior written consent of the Bank (i) sell or otherwise dispose of substantially all of its assets, (ii) acquire substantially all of the assets of another entity, (iii) if it is a corporation, participate in any merger, consolidation or other absorption or (iv) agree to do any of these things.

Events of Default. The following constitute an event of default ("Event of Default"): (i) failure by Borrower to make any payment when due (whether at the stated maturity, by acceleration or otherwise) of the amounts due under this Note, or any part thereof, or there occurs any event or condition which after notice, lapse of time or both will permit such acceleration; (ii) Borrower defaults in the performance of any covenant or other provision with respect to this Note or any other agreement between Borrower and the Bank or any of its affiliates or subsidiaries (collectively, "Affiliates"); (iii) Borrower fails to pay when due (whether at the stated maturity, by acceleration or otherwise) any indebtedness for borrowed

money owing to the Bank (other than under this Note), any third party or Affiliate or the occurrence of any event which could result in acceleration of payment of any such indebtedness or the failure to perform any agreement with any third party or Affiliate; (iv) the reorganization, merger, consolidation or dissolution of Borrower (or the making of any agreement therefor); the sale, assignment, transfer or delivery of all or substantially all of the assets of Borrower to a third party; or the cessation by Borrower as a going business concern; (v) the death or judicial declaration of incompetency of Borrower, if an individual; (vi) failure to pay, withhold or collect any tax as required by law; the service or filing against Borrower or any of its assets of any lien (other than a lien permitted in writing by the Bank), judgment, garnishment, order or award; (vii) if Borrower becomes insolvent or is generally not paying its debts as such debts become due; (viii) the making of any general assignment by Borrower for the benefit of creditors; the appointment of a receiver or similar trustee for Borrower or its assets; or the making of any, or sending notice of any intended, bulk sale; (ix) Borrower commences, or has commenced against it, any proceeding or request for relief under any bankruptcy, insolvency or similar laws now or hereafter in effect in the United States of America or any state or territory thereof or any foreign jurisdiction or any formal or informal proceeding for the dissolution or liquidation of, settlement of claims against or winding up of affairs of Borrower; (x) any representation or warranty made in this Note, any related document, any agreement between Borrower and the Bank or any Affiliate or in any financial statement of Borrower proves to have been misleading in any material respect when made; Borrower omits to state a material fact necessary to make the statements made in this Note, any related document, any agreement between Borrower and the Bank or any Affiliate or any financial statement of Borrower not misleading in light of the circumstances in which they were made; or, if upon the date of execution of this Note, there shall have been any material adverse change in any of the facts disclosed in any financial statement, representation or warranty that was not disclosed in writing to the Bank at or prior to the time of execution hereof; (xi) any pension plan of Borrower fails to comply with applicable law or has vested unfunded liabilities that, in the opinion of the Bank, might have a material adverse effect on Borrower's ability to repay its debts; (xii) an adverse change in the Borrower, its business, assets, operations, management, ownership, affairs or condition (financial or otherwise) from the status shown on any financial statement or other document submitted to the Bank or any Affiliate, and which change the Bank determines will have a material adverse effect on (a) the Borrower, its business, assets, operations or condition (financial or otherwise), or (b) the ability of the Borrower to pay or perform any obligation to the Bank; (xiii) the occurrence of any event described in sub-paragraph (i) through and including (xii) hereof with respect to any guarantor or any other party liable for, or whose assets or any interest therein secures, payment of any of the amounts due under this Note ("Guarantor"); (xiv) Borrower fails to supply new or additional collateral within ten (10) days of request by the Bank; or (xv) the Bank in good faith deems itself insecure with respect to payment or performance under this Note.

Rights and Remedies Upon Default. Upon the occurrence of any Event of Default, the Bank without demand of performance or other demand, presentment, protest, advertisement or notice of any kind (except any notice required by law) to or upon the Borrower or any other person (all and each of which demands, presentments, protests, advertisements and notices are hereby waived), may exercise all rights and remedies under the Borrower's agreements with the Bank or its Affiliates, applicable law, in equity or otherwise and may declare all or any part of any amounts due hereunder not payable on demand to be immediately due and payable without demand or notice of any kind and terminate any obligation it may have to grant any additional loan, credit or other financial accommodation to the Borrower. All or any part of any amounts due hereunder whether or not payable on demand, shall be immediately due and payable automatically upon the occurrence of an Event of Default in sub-paragraph (ix) above, or at the Bank's option, upon the occurrence of any other Event of Default. The provisions hereof are not intended in any way to affect any rights of the Bank with respect to any amounts due hereunder which may now or hereafter be payable on demand.

Right of Setoff. The Bank shall have the right to set off against the amounts owing under this Note any property held in a deposit or other account with the Bank or any Affiliates or otherwise owing by the Bank or any Affiliates in any capacity to Borrower or any Guarantor or endorser of this Note. Such set-off shall be deemed to have been exercised immediately at the time the Bank or such Affiliate elects to do so.

USA PATRIOT Act Notice. Bank hereby notifies the Borrower that pursuant to the requirements of the USA PATRIOT Act ("Patriot Act"), it is required to obtain, verify and record information that identifies the Borrower, which information includes the name and address of the Borrower and other information that will allow Bank to identify the Borrower in accordance with the Patriot Act. The Borrower agrees to, promptly following a request by Bank, provide all such other documentation and information that Bank requests in order to comply with its ongoing obligations under applicable "know your customer" and anti-money laundering rules and regulations, including the Patriot Act.

Miscellaneous. This Note, together with any related loan and collateral agreements and guaranties, contains the entire agreement between the Bank and Borrower with respect to the Note, and supersedes every course of dealing, other conduct, oral agreement and representation previously made by the Bank. All rights and remedies of the Bank under applicable law and this Note or amendment of any provision of this Note are cumulative and not exclusive. No single, partial or delayed exercise by the Bank of any right or remedy shall preclude the subsequent exercise by the Bank at any time of any right or remedy of the Bank without notice. No waiver or amendment of any provision of this Note shall be effective unless made specifically in writing by the Bank. No course of dealing or other conduct, no oral agreement or representation made by the Bank, and no usage of trade, shall operate as a waiver of any right or remedy of the Bank. No waiver of any right or remedy of the Bank shall be effective unless made specifically in writing by the Bank. Borrower agrees that in any legal proceeding, a copy of this Note kept in the Bank's course of business may be admitted into evidence as an original. This Note is a binding obligation enforceable against Borrower and its successors and assigns and shall inure to the benefit of the Bank and its successors and assigns. If a court deems any provision of this Note invalid, the remainder of the Note shall remain in effect. Section headings are for convenience only. Singular number includes plural and neuter gender includes masculine and feminine as appropriate.

Notices. Any demand or notice hereunder or under any applicable law pertaining hereto shall be in writing and duly given if delivered to Borrower (at its address on the Bank's records) or to the Bank (at the address on page one and separately to the Bank officer responsible for Borrower's relationship with the Bank). Such notice or demand shall be deemed sufficiently given for all purposes when delivered (i) by personal delivery and shall be deemed effective when delivered, or (ii) by mail or courier and shall be deemed effective three (3) business days after deposit in an official depository maintained by the United States Post Office for the collection of mail or one (1) business day after delivery to a nationally recognized overnight courier service (*e.g.,* Federal Express). Notice by e-mail is not valid notice under this or any other agreement between Borrower and the Bank.

Joint and Several. If there is more than one Borrower, each of them shall be jointly and severally liable for all amounts and obligations that become due under this Note and the term "Borrower" shall include each as well as all of them.

Governing Law; Jurisdiction. This Note has been delivered to and accepted by the Bank and will be deemed to be made in the State of New York. Except as otherwise provided under federal law, this Note will be interpreted in accordance with the laws of the State of New York excluding its conflict of laws rules. **BORROWER HEREBY IRREVOCABLY CONSENTS TO THE EXCLUSIVE JURISDICTION OF ANY STATE OR FEDERAL COURT IN NEW YORK STATE IN A COUNTY OR JUDICIAL DISTRICT WHERE THE BANK MAINTAINS A BRANCH AND CONSENTS THAT THE BANK MAY EFFECT ANY SERVICE OF PROCESS IN THE MANNER AND AT BORROWER'S ADDRESS SET FORTH ABOVE FOR PROVIDING NOTICE OR DEMAND; PROVIDED THAT NOTHING CONTAINED IN THIS NOTE WILL PREVENT THE BANK FROM BRINGING ANY ACTION, ENFORCING ANY AWARD OR JUDGMENT OR EXERCISING ANY RIGHTS AGAINST BORROWER INDIVIDUALLY, AGAINST ANY SECURITY OR AGAINST ANY PROPERTY OF BORROWER WITHIN ANY OTHER COUNTY, STATE OR OTHER FOREIGN OR DOMESTIC JURISDICTION.** Borrower acknowledges and agrees that the venue provided above is the most convenient forum for both the Bank and Borrower. Borrower waives any objection to venue and any objection based on a more convenient forum in any action instituted under this Note.

Waiver of Jury Trial. BORROWER AND THE BANK HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT TO TRIAL BY JURY BORROWER AND THE BANK MAY HAVE IN ANY ACTION OR PROCEEDING, IN LAW OR IN EQUITY, IN CONNECTION WITH THIS NOTE OR THE TRANSACTIONS RELATED HERETO. BORROWER REPRESENTS AND WARRANTS THAT NO REPRESENTATIVE OR AGENT OF THE BANK HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT THE BANK WILL NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THIS JURY TRIAL WAIVER. BORROWER ACKNOWLEDGES THAT THE BANK HAS BEEN INDUCED TO ENTER INTO THIS NOTE BY, AMONG OTHER THINGS, THE PROVISIONS OF THIS SECTION.

☐ **Amended and Restated Note**. The Borrower acknowledges, agrees and understands that this Note is given in replacement of and in substitution for, but not in payment of, a prior note dated on or about _____, ____, in the original principal amount of $_____, given by Borrower in favor of the Bank (or its predecessor-in-interest), as the same may have been amended or modified from time to time ("Prior Note"), and further, that: (a) the obligations of the Borrower as evidenced by the Prior Note shall continue in full force and effect, as amended and restated by this Note, all of such obligations being hereby ratified and confirmed by the Borrower; (b) any and all liens, pledges, assignments and security interests securing the Borrower's obligations under the Prior Note shall continue in full force and effect, are hereby ratified and confirmed by the Borrower, and are hereby acknowledged by the Borrower to secure, among other things, all of the Borrower's obligations to the Bank under this Note, with the same priority, operation and effect as that relating to the obligations under the Prior Note; and (c) nothing herein contained shall be construed to extinguish, release, or discharge, or constitute, create, or effect a novation of, or an agreement to extinguish, the obligations of the Borrower with respect to the indebtedness originally described in the Prior Note or any of the liens, pledges, assignments and security interests securing such obligations.

Acknowledgment. Borrower acknowledges that it has read and understands all the provisions of this Note, including the provisions relating to **Governing Law**, **Jurisdiction** and **Waiver of Jury Trial**, and has been advised by counsel as necessary or appropriate.

CORNING NATURAL GAS CORPORATION

By:_____
Name: Michael I. German
Title: President

_____
Signature of Witness

_____
Typed Name of Witness

ACKNOWLEDGMENT

STATE OF NEW YORK)
: SS.
COUNTY OF _____)

On the _____ day of September, in the year 2015, before me, the undersigned, a Notary Public in and for said State, personally appeared **MICHAEL I. GERMAN**, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public

FOR BANK USE ONLY

Authorization Confirmed: _____
Disbursement of Funds:
Credit A/C # _____ Off Ck # _____ Payoff Obligation # _____

$ _____ $ _____ $ _____

NIXON PEABODY

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1300 Clinton Square
Rochester, NY 14604-1792
585-263-1000

August 19, 2016

Via E-Mail

Joseph Dowling, Esq.
Assistant Counsel
New York Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

RE: Case 16-G-0369 - Corning Natural Gas Corporation Responses to Department of Public Service Staff Interrogatories DPS-200; DPS-201; DPS-260; DPS-261; DPS-262; DPS-265; & DPS-270

Dear Mr. Dowling:

Enclosed please find Corning Natural Gas Corporation's responses to the above-referenced interrogatories, together with attachments.

If you have any questions regarding this matter, please contact me.

Very truly yours,

Stanley W. Widger, Jr./cjd

Stanley W. Widger, Jr.

Enclosures
cc (w/encs.): Brandon Goodrich, Esq.
Allison Esposito
Molly Wright
Johanna Miller
Sandra Bruce
Amanda De Vito Trinsey, Esq.
James King, Esq.
Gregg Collar
Erin Hogan

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585-263-1000

September 1, 2016

Via E-Mail

Joseph Dowling, Esq.
Assistant Counsel
New York Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

RE: Case 16-G-0369 - Corning Natural Gas Corporation UPDATED Responses to Department of Public Service Staff Interrogatories DPS-200 & DPS-252; and Response to DPS-299

Dear Mr. Dowling:

Enclosed please find Corning Natural Gas Corporation's UPDATED responses and response to the above-referenced interrogatories, together with attachments.

If you have any questions regarding this matter, please contact me.

Very truly yours,

Stanley W. Widger, Jr.

Stanley W. Widger, Jr.

Enclosures
cc (w/encs.): Brandon Goodrich, Esq.
Allison Esposito
Molly Wright
Johanna Miller
Sandra Bruce
Amanda De Vito Trinsey, Esq.
James King, Esq.
Gregg Collar
Erin Hogan
Michael Zimmerman

STAFF OF THE DEPARTMENT OF PUBLIC SERVICE
INTERROGATORY/DOCUMENT REQUEST

Corning Natural Gas Corporation
Case 16-G-0369
Gas Rates

Request No.:	DPS-200 AQ-5 **[UPDATED]**
Requested By:	Abdul Qadir
Information Requested of:	Mario Divalentino
Date of Request:	July 18, 2016
Response Due Date:	July 28, 2016
Subject:	Financial Statements

Provide the 2015 actual and pro forma Balance sheet and Income statements of Corning Natural Gas and all the entities in the Family Tree, including Ultimate parent and all the subsidiaries.

Response:

Please see the accompanying Excel file designated "Response DPS-200 (AQ-5) 2015 Financial Statements".

Updated Response:

Please see the accompanying Excel file designated "Response DPS-200 (AQ-5) Financial Statements Update.xlsx".

Name of Respondent: L. Mario DiValentino
Position of Respondent: President, Moonstone Consulting LLC
Date of Response: August 19, 2016 **[UPDATED SEPTEMBER 1, 2016]**

CORNING NATURAL GAS HOLDING CORPORATION
Consolidated Balance Sheets
At September 2015
Attachment 3 (Revised)

****CNGHC and PCL&P have different Fiscal years. CNGHC the twelve months ended September and PCL&P calendar year end. In order to show the annualized impact of the acquisition the full 2015 amounts for PCL&P have been used in this Balance Sheet presentation. PCL&P annual report will be available in April, 2016 the PCL&P amounts will be updated when the information becomes available

Assets	CNGHC September 30, 2015	**** PCL&P Acquisition	Combined
Plant:			
Utility property, plant and equipment	$74,297,174	$23,711,000	$98,008,174
Less: accumulated depreciation	(20,984,031)	(5,630,000)	(26,614,031)
Total plant utility and non-utility, net	53,313,143	18,081,000	71,394,143
Investments:			
Marketable securities available-for-sale at fair value	2,153,785	-	2,153,785
Investment in joint ventures	2,293,252	-	2,293,252
	4,447,037	-	4,447,037
Current assets:			
Cash and cash equivalents	75,289	-	75,289
Customer accounts receivable, (net of allowance for uncollectible accounts of $44,377 and $42,540), respectively	1,585,845	570,000	2,155,845
Related party receivables	525,920		525,920
Accrued Unbilled		789,000	789,000
Gas stored underground, at average cost	1,182,955		1,182,955
Materials and supplies inventory	1,295,304	235,000	1,530,304
Prepaid expenses	1,203,355	88,000	1,291,355
Deferred tax Assets current	-	253,000	253,000
Total current assets	5,868,668	1,935,000	7,803,668
Deferred debits and other assets:			
Regulatory assets:			
Unrecovered gas costs	37,191		37,191
Deferred regulatory costs	2,751,339	3,916,000	6,667,339
Deferred pension	4,517,673		4,517,673
Unamortized debt issuance cost (net of accumulated amortization of $675,326 and $595,637), respectively	287,858		287,858
Other	192,869	-	192,869
Total deferred debits and other assets	7,786,930	3,916,000	11,702,930
Total assets	$71,415,778	$23,932,000	$95,347,778

CORNING NATURAL GAS HOLDING CORPORATION
Consolidated Balance Sheets
At September 2014
Attachment 2

September 30, 2015

Liabilities and capitalization:

Long-term debt, less current installments	12,554,397	12,000,000	24,554,397
Current liabilities:			
Current portion of long-term debt	$2,923,133		2,923,133
Borrowings under lines-of-credit	9,003,599		9,003,599
Accounts payable	1,721,720	522,000	2,243,720
Accrued expenses	418,221	241,000	659,221
Customer deposits and accrued interest	1,357,452	149,000	1,506,452
Dividends declared	354,924		354,924
Refundable Energy Costs		348,000	348,000
Deferred income taxes	385,973	-	385,973.00
Total current liabilities	16,165,022	1,260,000	17,425,022
Deferred credits and other liabilities:			
Deferred income taxes	3,207,741		3,207,741
Deferred compensation	1,492,488		1,492,488
Pension costs and post-retirement benefits	6,857,399		6,857,399
Other	1,410,299	883,000	2,293,299
Total deferred credits and other liabilities	12,967,927	883,000	13,850,927
Common stockholders' equity:			
Common stock (common stock $.01 par value per share. Authorized 3,500,000 shares; issued and outstanding 2,449,647 shares at September 30, 2015 and 2,430,184 at September 30, 2014)	24,496		24,496
Other paid-in capital	26,362,369		26,362,369
Retained earnings	3,312,638	9,789,000	13,101,638
Accumulated other comprehensive loss	28,929	-	28,929
Total common stockholders' equity	29,728,432	9,789,000	39,517,432
Total liabilities and capitalization	$71,415,778	$23,932,000	$95,347,778

CORNING NATURAL GAS HOLDING CORPORATION
Consolidated Statements of Comprehensive Income
For the Years Ended September 30, 2015
Attachment 5 (Revised)

****CNGHC and PCL&P have different Fiscal years. CNGHC the twelve months ended September and PCL&P calendar year end. In order to show the annualized impact of the acquisition the full 2015 amounts for PCL&P have been used in this Income Statement presentation. PCL&P annual report will be available in April, 2016 the PCL&P amounts will be updated when the information becomes available

	CNGHC September 30, 2015	**** PCL&P Acquisition	Combined
Utility operating revenues	$22,503,411	$11,308,000	$33,811,411
Natural gas and Electricity purchased	7,107,533	5,447,000	12,554,533
Gross margin	15,395,878	5,861,000	21,256,878
Cost and expense			
Operating and maintenance expense	7,806,524	3,422,000	11,228,524
Taxes other than income taxes	1,981,439	571,000	2,552,439
Depreciation	1,620,700	614,000	2,234,700
Other deductions, net	284,331	16,000	300,331
Total costs and expenses	11,692,994	4,623,000	16,315,994
Utility operating income	3,702,884	1,238,000	4,940,884
Other income and (expense)			
Interest expense	(917,818)	(540,000)	(1,457,818)
Other expense	(57,944)	-	(57,944)
Other income	59,992	4,000	63,992
Investment income	133,551	-	133,551
(Loss) from joint ventures	(117,505)	-	(117,505)
Rental income	48,522	-	48,522
Net income from utility operations, before income taxes	2,851,682	702,000	3,553,682
Income taxes			
Income tax benefit (expense), current	(78,000)	(219,484)	(297,484)
Income tax (expense), deferred	(991,631)	-	(991,631)
Total tax (expense)	(1,069,631)	(219,484)	(1,289,115)
Net income	1,782,051	482,516	2,264,567
Other comprehensive income (loss)			
Pension adjustment, net of tax of $1,140,051 and $332,859, respectively	(222,363)		(222,363)
Accumulated OCI reduction for regulatory asset estalbishment net of tax of $807,192 and 0, respectively	2,748,238		
Net unrealized gain (loss) on securities available for sale net of tax of $45,587and $49,956, respectively	(98,749)		(98,749)
Total other comprehensive income (loss)	2,427,126		(321,112)
Total comprehensive income (loss)	$4,209,177	$482,516	$1,943,455

Corning Natural Gas Corporation

Weighted Average Cost of Capital

Component	Amount	% of Capital	Cost Rate		After-Tax Cost of Capital	Pre-Tax Cost of Capital
Long-Term Debt	25,239,279	46.08%	3.14%	1.45%	1.45%	
Short-Term Debt	2,729,034	4.98%	2.80%	0.14%	0.14%	
Total Debt	27,968,313	51.06%		3.11%	1.59%	1.59%
Customer Deposits	514,889	0.94%		0.84%	0.01%	0.01%
Common Equity	26,292,186	48.00%		8.20%	3.94%	6.54%
Total Debt	54,775,387	100.00%			5.53%	8.13%

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Industry Economic And Ratings Outlook:

U.S. Regulated Utilities On Stable Trajectory Amid Moderate Economic Growth

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Senior Economist:
Beth Ann Bovino, New York (1) 212-438-1652; bethann.bovino@standardandpoors.com

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Economic Outlook

Industry Ratings Outlook

Contact Information

Related Criteria And Research

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Industry Economic And Ratings Outlook:

U.S. Regulated Utilities On Stable Trajectory Amid Moderate Economic Growth

Standard & Poor's Ratings Services' outlook for credit quality in the U.S. investor-owned regulated electric, gas, and water utility sectors is generally stable for the remainder of 2014 and into 2015. We can trace this stable trend to our expectations for continued gradual improvement in the U.S. economy, sustained demand for the essential services utilities provide, limited competitive pressures, generally constructive regulatory decisions, including ratemaking mechanisms that allow for timely cost recovery, and continued appetite by investors for utility debt and equity offerings.

Economic Outlook

Standard & Poor's economists publish monthly scenarios for where we think the U.S. economy could be heading. Beyond projecting GDP and inflation, we also include outlooks for other major economic categories. We call this forecast our "baseline scenario," and we use it in all areas of our credit analyses. We factor this scenario into our ratings in the regulated utility sectors. However, we realize that financial market participants also want to know how we think the economy could worsen--or improve--from our baseline scenario. Any point-in-time forecast of the economy will be wrong; it is simply a question of how far wrong. As a result, we also project two additional scenarios, one upside and one downside. We set these scenarios approximately at one standard deviation from the base line (roughly the 20th and 80th percentile of the distribution of possible outcomes). We use the downside case to estimate the credit impact of an economic outlook that is weaker than the expected case.

Standard & Poor's analysis of regulated electric, gas, and water utilities considers the general macroeconomic environment and, in particular, key economic indicators or drivers that are most correlated with customer consumption. Standard & Poor's key baseline assumptions that influence our current stable view of the regulated utilities sector include the following indicators:

- Estimated real U.S. GDP to expand to about 2.5% in 2014 (from 1.9% in 2013) and 3.2% in 2015;
- Gradual improvement in the labor markets, with the unemployment rate dropping to 6.5% in 2014 and 6% in 2015;
- An increase in real disposable income of about 2.2% in 2014 and 3.7% in 2015;
- Housing starts at about 1.03 million units, slightly higher than last year's 930,000 units. For 2015, we are forecasting an increase in housing starts to 1.38 million units; and
- The 10-year Treasury yield at 2.9% in 2014 and 3.3% in 2015.

Our economists continue to believe that the U.S. economy will continue to gradually rebound despite our lower forecast of 2.5% for real GDP growth for 2014. The lower projection was due primarily to our downward revision to first-quarter growth, which was characterized by a weather-related business slump, reduced inventory gains, and weaker-than expected housing data (attributable in part to the winter weather). In the housing market, we are forecasting a softer recovery, reflecting weaker home sales, constrained supply, tighter lending, and a decline in affordability. As such, our outlook for housing starts for 2014 has been lowered slightly to about 1.03 million units from

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our previous forecast of 1.08 million units. We continue to forecast modest improvement in the job markets, with the unemployment rate expected to fall to 6.5% in 2014 from 7.4% in 2013. We also expect real disposable income growth to pick up to roughly 2.0% this year from less than 1% in 2013.

We assess the overall risk of another recession occurring in the next 12 months at 10% to 15%. Our downside case, which is characterized by low growth, could be triggered by a sharp growth deceleration in China, stalled recovery in Europe, and increased caution/risk aversion in the U.S. economy. We continue to believe that the probability of a quick turnaround is at 15% to 20%. In our upside case, excessive caution in the domestic economy dissipates and the global economy picks up. This bolsters consumer and business confidence and spending.

Table 1

2014-2015 Industry Economic Outlook For U.S. Regulated Utilities

				FORECAST/SCENARIOS			
	Actual	Baseline*		Upside¶		Downside¶	
	2013	2014	2015	2014	2015	2014	2015
Macroeconomic indicators							
Real GDP (% change)	1.88	2.46	3.17	3.51	4.07	1.17	1.57
Unemployment rate (%)	7.35	6.45	5.95	5.83	4.79	7.00	7.06
Core CPI (% change)	1.76	1.79	1.99	2.45	2.61	1.77	2.14
Household obligations ratio (%)	15.44	16.11	16.35	16.29	17.05	16.29	16.17
Households (mil.)	121.41	122.76	124.39	123.14	125.02	122.77	124.36
CPI (% change)	1.46	1.91	1.53	2.54	1.83	1.52	1.70
ECI, wages and salaries (% change)	1.87	1.69	2.29	2.76	2.86	1.67	2.01
Households (% change)	1.18	1.11	1.33	1.43	1.53	1.12	1.29
Industry drivers							
Housing starts (mil. units)	0.93	1.03	1.38	1.13	1.57	0.92	1.04
10-yr. Treasury note yield (%)	2.35	2.89	3.33	3.76	4.91	2.41	2.48
Real disposable income (% change)	0.74	2.03	3.73	2.36	5.14	1.50	2.20
Consumer spending, electricity (% change)	3.52	6.56	(0.02)	5.36	2.53	4.80	0.94
Power plant nonresidential (% change)	(6.30)	(2.19)	(4.38)	(3.98)	(3.19)	(4.71)	(4.72)

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Table 1

2014-2015 Industry Economic Outlook For U.S. Regulated Utilities (cont.)							
Investment in public utilities (% change)	(5.77)	3.04	(4.24)	2.42	(3.34)	1.44	(5.28)
Investment in electric and gas utilities (% change)	(4.68)	(0.96)	(3.41)	(2.36)	(2.51)	(3.07)	(3.80)
'BBB' bond yield (%)	5.10	5.14	5.81	5.97	7.44	5.05	5.32
PPI coal (% change)	(1.59)	3.54	2.63	5.92	1.38	5.47	0.99
PPI electricity (% change)	1.49	4.20	1.59	4.61	1.97	4.26	1.65
Employment, private (mil.)	114.50	116.94	119.54	117.22	121.21	116.46	118.30
Employment, utilities (mil.)	0.55	0.55	0.53	0.55	0.54	0.55	0.55
Deflator electricity prices (% change)	2.16	4.57	0.50	4.69	1.03	4.38	0.64
'BBB' interest rate spread (%)	2.75	2.24	2.48	2.21	2.54	2.63	2.84
Disposable income (% change)	1.89	3.53	5.14	4.33	6.77	2.61	3.75

*Based on Beth Ann Bovino's "U.S. Economic Forecast: And Now Back To Our Regularly Scheduled Recovery," May 15 2014. ¶Based on Beth Ann Bovino's "U.S. Economic Forecast: Spring Thaw," April 23, 2014.

Effect on ratings

Rating activity since the beginning of the year was relatively quiet compared with the large number of rating changes in 2013 (42 upgrades and six downgrades). Through May 16, 2014, we recorded just six rating changes (all upgrades, three of which related to a single group, Great Plains Energy Inc.), eight outlook revisions (six of which were positive), and two CreditWatch listings. The main drivers of the improving credit picture were effective management of regulatory risk, focus on straightforward pure-play utility business models, improving financial measures, additional insulatory protections, and a potential merger with a higher-rated entity.

The vast majority of investor-owned regulated utility companies have stable credit outlooks and the predominance of ratings remain entrenched in the 'BBB+' category. We see only modest influence on the utilities' creditworthiness from economic fluctuations due to the essential nature of the services that they provide, the rate-regulated character of the business, and the generally supportive posture of regulators toward cost recovery for incremental capital investments. As a result, most ratings should remain relatively stable even if economic conditions worsen in the near term, as in our downside forecast, which suggests real GDP growth of just 1.2% in 2014 and 1.6% in 2015 and a higher unemployment rate of about 7% in both years. However, if the economy continues to contract beyond 2015, we believe regulatory support by state commissions could become more tenuous. Insufficient responses by utilities to counteract a reduction in regulatory support may drag on the industry, especially if utilities come under increased cost scrutiny by regulators, which is virtually inevitable. This could lead us to a negative stance on overall U.S. utility credit quality. However, if the economy grows faster than we are expecting, as in our upside scenario with better consumer and business

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confidence, and the real GDP growth rate is about 3.5% in 2014 and 4.1% in 2015, the jobless rate falling to 5.9% in 2014 and 4.8% in 2015, utility credit quality could improve. Lower unemployment rates and increases in real disposable income would help to reduce bad debts and spur stronger housing starts and more households would lead to an increase in consumption. In addition, regulatory risk could lessen as concerns about utility base rate increases lessen.

Despite the slow economic recovery and our expectations for relatively flat utility sales growth (which is also suppressed by more effective demand-side management programs, conservation, limited adoption of rooftop solar, and energy efficiency initiatives), we anticipate ratings stability for the utility industry. We base 0ur view on expectations of sustained demand for a critical commodity, a continued focus on core competencies, generally responsive rate case outcomes, receptive capital markets, and access to liquidity.

Industry Ratings Outlook

The prospective rating movement for U.S. regulated utilities, as measured by outlooks and CreditWatch listings, is limited, with nearly 9% of companies having positive outlooks or positive CreditWatch listings and about 6% carrying negative outlooks. One company (0.5%) has a developing outlook. (Importantly, outlooks and CreditWatch placements do not predict rating changes. Rather, they highlight the potential for rating changes and their direction.) With the remaining 85% of the industry having stable outlooks, and with a moderate influence on the sector's business risk and financial risk profiles as a result of economic volatility, we expect few rating changes in the sector in the near-to-intermediate term.

Our ratings' center of gravity for the dU.S. regulated utility sector remains firmly entrenched at 'BBB+'. The solid investment-grade median ratings are a function of the strength of business risk profiles in the sector and the industry's need for easy uninterrupted access to capital markets given utilities' highly capital-intensive nature. We categorize business risk profiles as "excellent," "strong," "satisfactory," "fair," "weak," or "vulnerable." The regulated utility sector business risk profiles are predominately in the "excellent" (71%) and "strong" (27%) categories.

We have seen that investors have been responsive to regulated utility debt under all market conditions and we expect pricing and demand to remain robust. The amount of medium- to long-term debt and hybrid securities issued during the first four months of the year was about $11 billion. Most utilities continue to proactively manage their liquidity needs by increasing the size and extending the tenor of their revolving credit facilities with maturity dates well into 2018 and beyond. And, several companies have issued common stock to partially fund construction programs, which has helped to support capital structure balance. In addition, many utilities are accessing short-term credit markets and issuing commercial paper at very low rates. The relative certainty of financial performance by utilities operating under relatively predictable regulatory frameworks, an effective monopoly position, and long-lived assets continue to make the utility sector attractive to investors. We believe that utilities will continue to tap the short-term debt markets with relative ease and, as a result, we expect liquidity to remain adequate for most utilities under our criteria. The ability of utilities to issue short-term debt and access liquidity is critical, especially in light of significant capital budgets for aging infrastructure, environmental compliance, plant improvements, and ongoing transmission and distribution investments.

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All in all, our outlook for the electric, gas, and water industries remains stable based on continuing moderate improvement in economic conditions, generally supportive regulatory decisions, including mechanisms that allow for timely cost recovery, limited competition, growth that is focused on a straightforward regulated utility business model, receptive capital markets, and easy access to liquidity.

Chart 1

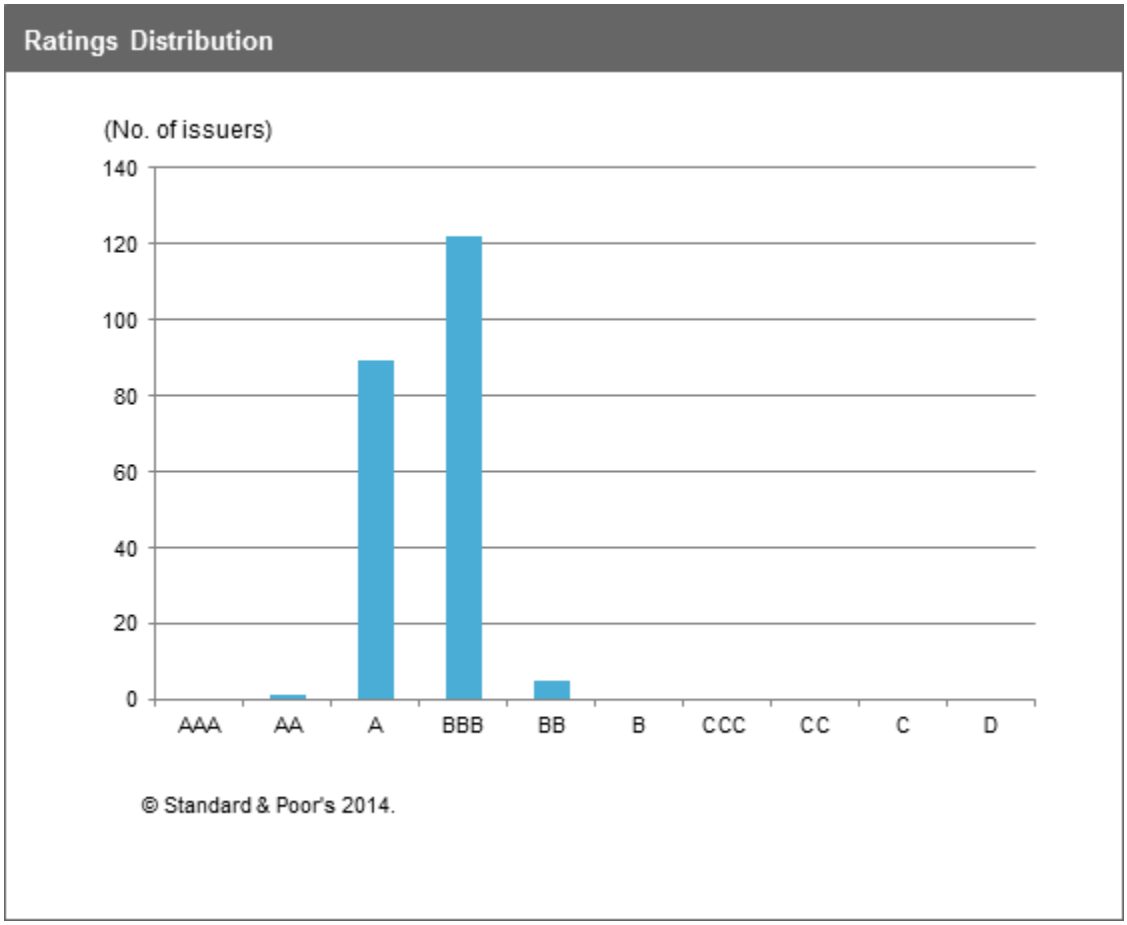

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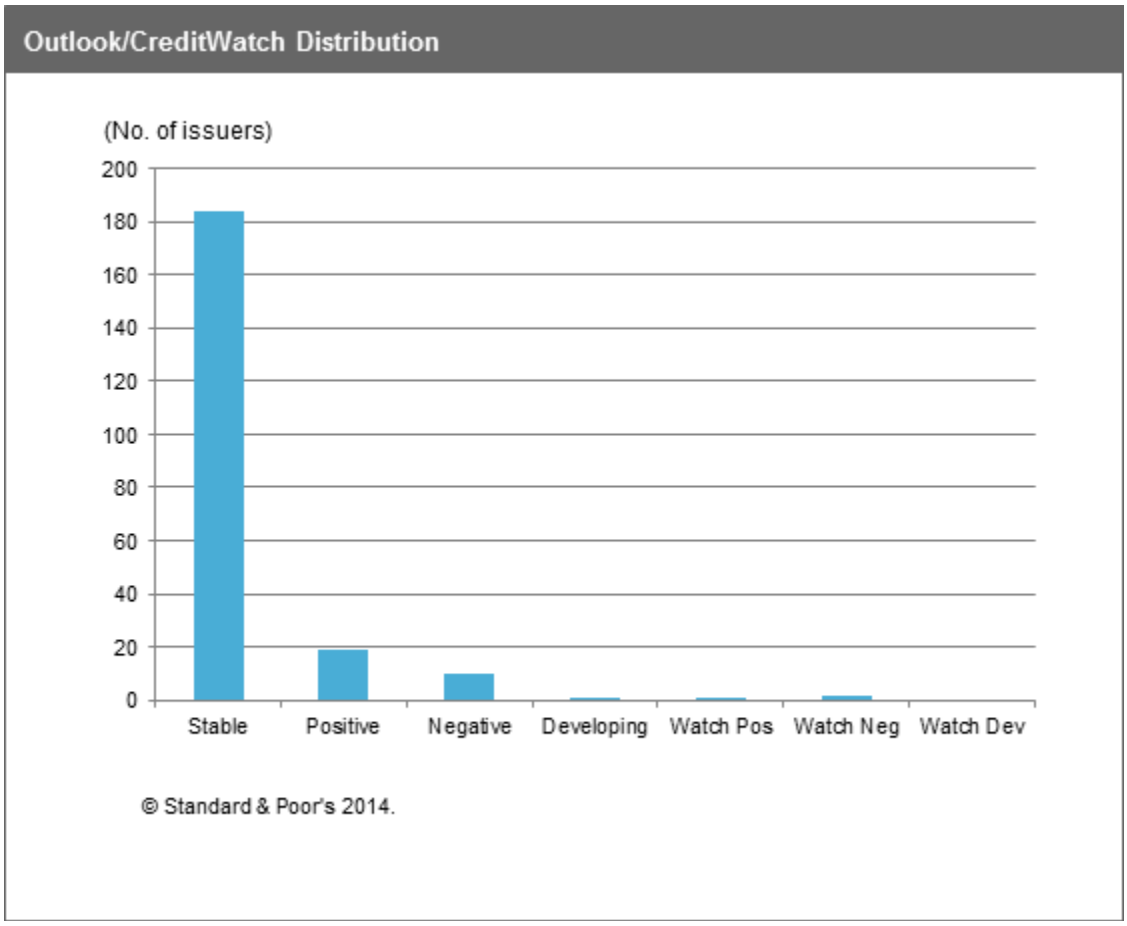
Chart 2



The upgrades

We raised ratings on Westar Energy Inc. (BBB+/Stable/A-2) and its subsidiary Kansas Gas & Electric Co. to reflect our assessment of the company's improved business risk profile, effective management of regulatory risk, and strengthening cost recovery through the regulatory process. Profitability has subsequently stabilized and financial measures have strengthened. We expect that Westar will continue to favor moderate financial policies, such as the use of equity-forward agreements to raise equity, which supports the company's credit measures. As such, our base-case forecast level of adjusted funds from operations (FFO) to debt of 18% to 20% is in line with the current "significant" financial risk profile category.

We raised ratings on Great Plains Energy Inc. (GPE; BBB+/Stable/--) and its subsidiaries Kansas City Power & Light Co. and KCP&L Greater Missouri Operations Co. based on our assessment of GPE's improved business risk profile stemming from its continuing strategy to focus on its regulated utility business model, effective management of regulatory risk, strengthening cost-recovery through the regulatory process, and stronger financial measures.

We raised the ratings on Edison International (EIX; BBB+/Stable/A-2) two notches owing to the resolution of subsidiary Edison Mission Energy's (EME) emergence from bankruptcy without a conspicuous effect on EIX's credit profile. The ratings on EIX utility subsidiary Southern California Edison Co. (SCE) were affirmed. The recent

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announcement of a settlement on rate-related issues surrounding the closure of the San Onofre nuclear plant would, if approved, alleviate many uncertainties about the financial cost of the shutdown, but it does not fundamentally change SCE's creditworthiness. Management's commitment to maintaining a financial profile at levels appropriate for the rating, as well its stated plans to focus mainly on regulated activities, are important considerations when we assess EIX's financial risk category and its overall credit quality.

Recent outlook revisions/CreditWatch listings

We revised the outlook on Public Service Enterprise Group Inc. (PSEG; BBB+/Postive/A-2), Public Service Electric & Gas Co., and PSEG Power LLC to positive from stable. We can trace the positive outlook to our expectations that the company will continue to disproportionately grow the regulated part of its business over the riskier merchant power operations, where the emphasis is more on maintaining operational excellence and cost-control than on growth. This strategy could lead to an overall improvement of the companies' already "strong" business risk profile. We could raise the ratings as PSEG continues to invest disproportionately in its regulated business, and if it can maintain a ratio of FFO to debt in the high-20% area.

We revised our outlook on Northeast Utilities (A-/Positive/A-2) and its subsidiaries NSTAR Electric Co., NSTAR Gas Co., Connecticut Light & Power Co., Public Service Co. of New Hampshire, Western Massachusetts Electric Co., and Yankee Gas Services Co. to positive from stable. The positive outlook reflects the company's successful merger integration to date and our expectations that the company will continue to manage regulatory risk to achieve constructive rate case outcomes, deliver superior customer service, and aggressively reduce costs, while also earning its allowed returns on equity. As such, these actions could result in consistent prospective financial measures (adjusted FFO to total debt consistently above 15% and debt to EBITDA at about 4x) that would support a stronger financial risk profile and, therefore, higher ratings.

We revised our outlook on PNM Resources Inc. (BBB/Positive/--) and its subsidiaries Public Service Co. of New Mexico and Texas-New Mexico Power Co. to positive from stable. The positive outlook reflects our expectations that the company will continue to gradually improve on its management of regulatory risk by reducing its regulatory rate-case lag and earning close to its allowed return on equity. We expect that this could lead to an overall improvement of the company's competitive position and business risk profile. At the same time, we expect the company will maintain financial measures that are consistent with the "significant" financial risk profile category, despite its high capital spending program. Specifically, we expect FFO to debt of about 17% and debt to EBITDA of about 4x.

We revised the outlook on CMS Energy Corp. (BBB/Positive/A-2) and subsidiary Consumers Energy Co. to positive from stable based on our expectations that the company will continue to effectively manage regulatory risk and earn its allowed return on equity by successfully managing costs and minimizing regulatory lag. The outlook also reflects our baseline forecast that could result in gradually improving financial measures, including FF0 to total debt consistently above 15% and debt to EBITDA at about 4.5x, measures that are toward the lower end of the range for the significant financial risk profile category. Key to the positive outlook is our expectation that Michigan legislators will not raise the existing 10% customer choice cap--which limits the percentage of sales that alternative suppliers can provide--in the intermediate term.

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We revised the outlooks on New York State Electric & Gas Corp. (NYSEG; BBB+/Positive/--) and Rochester Gas & Electric Corp. (RG&E; BBB+/Positive/--) to positive from stable reflecting our assessment of the companies' enhancement of their insulation from ultimate parent company Iberdrola S.A. through greater regulatory restrictions, including a minimum equity ratio tied to the ratemaking capital structure that restricts dividends to the parent in some situations, along with the companies' stand-alone credit profiles. Given our base case forecasts of adjusted FFO to total debt of 21% and debt to EBITDA of less than 3.5x for both companies, we could raise the ratings on NYSEG and RG&E by up to two notches.

We revised the outlook on Connecticut Water Service Inc. (A-/Stable/-) to stable from negative, reflecting the company's effective management of regulatory risk, including enhanced cost-recovery mechanisms, reduced leverage, and the use of prudent tax strategies that have resulted in improved financial measures, which we expect it will sustain. Accordingly, we expect that financial measures will continue to remain in the middle of the range for the "intermediate" financial risk profile such that FFO to debt approximates 17%, EBITDA interest coverage of about 6x, and cash flow from operations to debt of about 14%.

We affirmed our ratings on Oncor Electric Delivery Co. LLC (BBB+/Developing/--) and revised the outlook to developing from stable following the bankruptcy and reorganization filing of its majority owner, Energy Future Holdings Corp. (EFH). The outlook reflects the potential for higher ratings for Oncor if, after the EFH restructuring, Oncor maintains its existing business and financial risk profiles and is no longer burdened by the uncertainties related to EFH's bankruptcy filing. At the same time, the developing outlook reflects the risk of a downgrade should Oncor's operations or credit profile be hurt during the course of the restructuring of EFH, leading to a deterioration in Oncor's credit fundamentals. We based the ratings affirmation on our view that EFH's bankruptcy and reorganization will not affect the company.. As anticipated, EFH's bankruptcy filing excludes Oncor from the bankruptcy estate, honoring that company's ring-fenced status and structural insulation provisions.

We placed the ratings on The Laclede Group Inc. (LG; A-/Watch-Neg/--) and subsidiary Laclede Gas Co. on CreditWatch with negative implications to reflect our view of the potential impact to LG's financial profile in light of the company's announcement to acquire Alabama Gas Corp. for $1.6 billion from Energen Corp. (BBB-/Watch Pos/--). Although the company has established a fully committed $1.35 billion bridge facility, we expect that it will move forward with common equity, mandatory convertible securities, and long-term debt issuances before closing the transaction. Nevertheless, depending on the amount of debt issued to fund the acquisition, we believe the company's financial risk profile could fall to the lower end of the "intermediate" category. We would consider a downgrade if consolidated adjusted FFO to total debt were to fall to the low teens and debt/EBITDA remained above 4x on a sustained basis. At the same time, we placed our ratings on Alabama Gas on CreditWatch with positive implications, reflecting the potential for an upgrade due to the possible acquisition by higher-rated LG. The transaction is subject to regulatory approval. We expect it to close in 2014.

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Related Criteria And Research

Related criteria

- Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Jan. 2, 2014
- Key Credit Factors For The Regulated Utilities Industry, Nov. 19, 2013
- Group Rating Methodology, Nov. 19, 2013
- Corporate Methodology: Ratios and Adjustments, Nov. 19, 2013
- Corporate Methodology, Nov. 19, 2013
- Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities And Insurers, Nov. 13, 2012

Related research

- U.S. Forecast Update: And Now Back To Our Regularly Scheduled Recovery, May 15, 2014
- U.S. Economic Forecast: Spring Thaw; April 23, 2014
- Economic Research: U.S. Weekly Economic Roundup: Putting The Winter Blues Behind, March 28, 2014

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2016 Outlook – US Regulated Utilities

Credit-Supportive Regulatory Environment Drives Stable Outlook

Our outlook for the US regulated utilities industry is stable. This outlook reflects our expectations for fundamental business conditions in the industry over the next 12 to 18 months.

» **The credit-supportive regulatory environment is the main reason for our stable outlook.** We expect that the relationship between regulators and utilities in 2016 will remain credit-supportive, enabling utilities to recover costs in a timely manner and maintain stable cash flows.

» **We estimate that the ratio of cash flow from operations (CFO) to debt will hold steady at about 21%, on average for the industry, over the next 12 to 18 months.** The use of timely cost-recovery mechanisms and continued expense management will help utilities offset a lack of growth in electricity demand and lower allowed returns on equity, enabling financial metrics to remain stable. Tax benefits tied to the expected extension of bonus depreciation will also support CFO-to-debt ratios.

» **States to watch in 2016.** Although we expect that regulation will remain credit-supportive for the industry next year, the level of regulatory support could change for a handful of states. Among them are Arizona, California and Hawaii, to name a few.

» **Solar power is a potential game-changer over the long term for utilities that operate under a traditional ratemaking structure.** However, the regulatory response has thus far been credit-supportive. Across the US, utilities are working with regulators to refine their rate design in order to stay ahead of a potential industry transformation that a widespread adoption of solar and wind power would bring.

» **Utilities are increasingly using holding company leverage to drive returns, a credit negative.** Although not a driver of our outlook, utilities are using leverage at the holding company level to invest in other businesses, make acquisitions and earn higher returns on equity, which could have negative implications across the whole family.

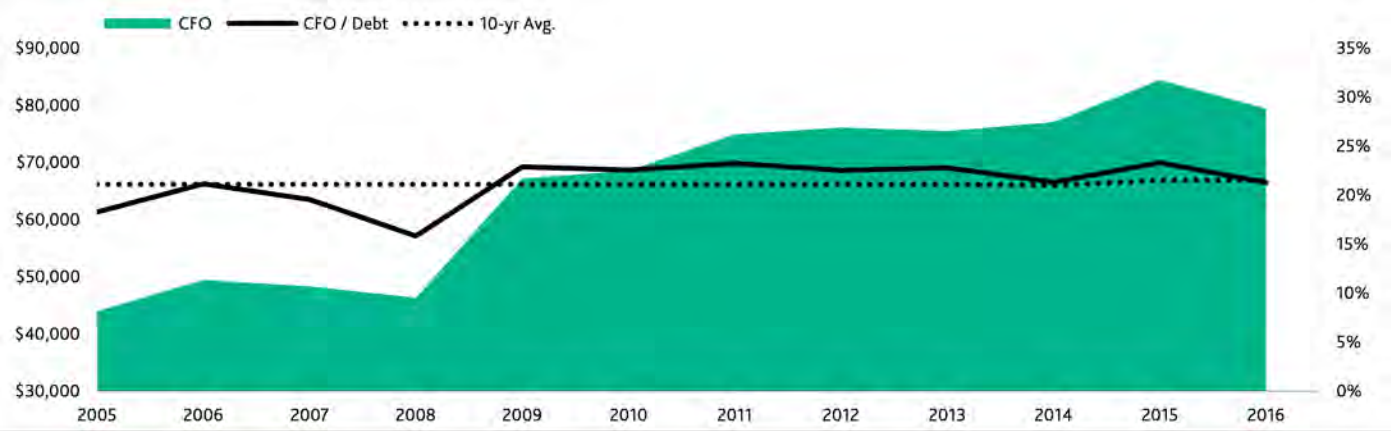
» **What could change our outlook.** We would consider changing our outlook to positive if regulatory support increased, for example through a broader use of rate designs that decouple revenue from power demand, or if the ratio of CFO to debt rises toward 25% on a sustainable basis (including bonus depreciation). A more contentious regulatory environment or other pressures that weigh on cash flow, such that the ratio fell toward 18% (including bonus depreciation), could cause us to take a negative view.

Credit-supportive regulatory environment will continue to drive steady cash flows

We expect that regulatory support will continue to allow utilities recover costs in a timely manner and maintain stable cash flow next year, such that the ratio of CFO to debt will be at about 21% (Exhibit 1), on average, based on our peer group of 127 rated issuers (see Appendix A).

Utilities are contending with stagnant electricity demand and lower allowed returns on equity. However, we believe that timely cost-recovery and utilities' management of operating costs will help offset these headwinds. Also, we expect that bonus depreciation will be extended through 2016,[1] at least, which will also support cash flow through tax savings.

Exhibit 1
We expect that the industry ratio of cash flow to debt will hold steady with the 10-year average in 2016



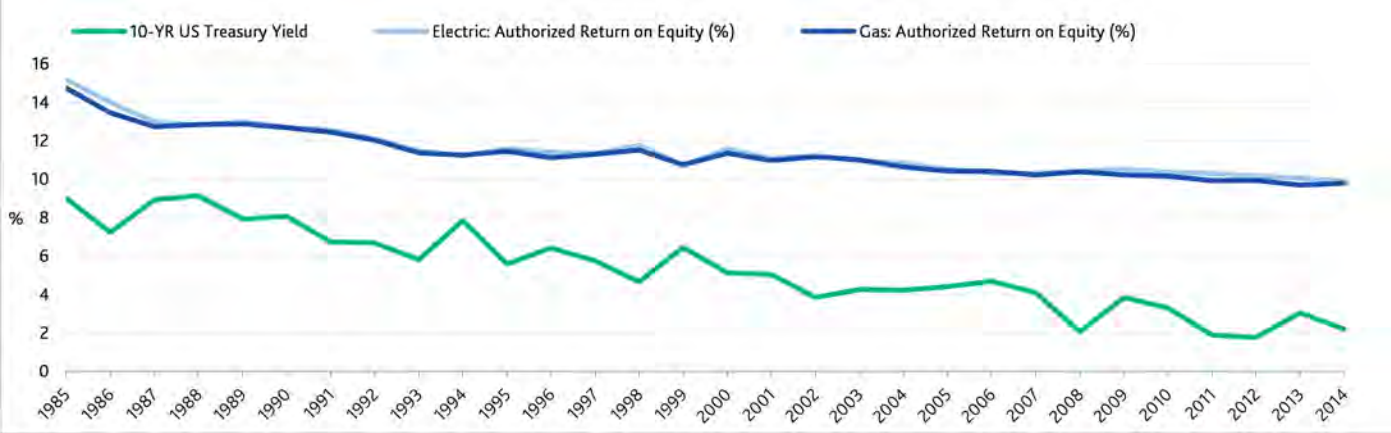
Source: Moody's Investors Service

As shown in Exhibit 2, the average allowed return on equity (ROE) for regulated electric and gas utilities has trended lower over the past 30 years, broadly in line with 10-year US Treasury yield. Moody's expect interest rates to begin rising over the next year so we anticipate the decline in authorized ROEs to have leveled off in the high 9% range. At the same time, we expect any increases in authorized ROEs to lag increases in interest rates. In addition, since the financial downturn, customer load growth has stagnated, illustrated by annual electricity sales volume (Exhibit 3).

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

Exhibit 2

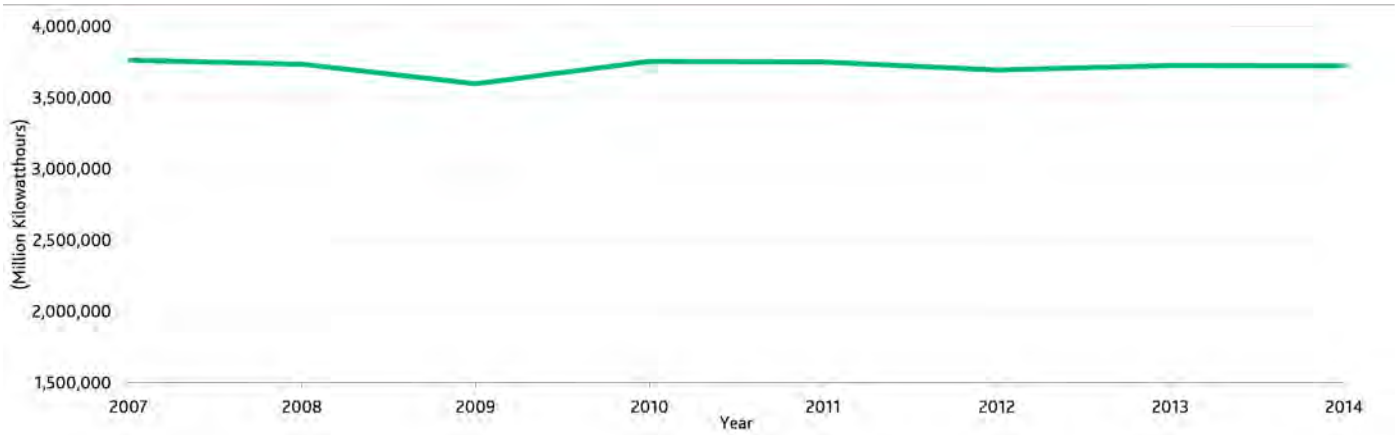
Allowed returns on equity have trended lower for decades, along with the 10-Year US Treasury yield



Sources: SNL Financial, FactSet Research Systems Inc.

Exhibit 3

Annual US electricity retail sales have been flat since the financial downturn



Source: US Energy Information Administration

Against this backdrop, regulated utilities have significantly benefited from expense management, cost-recovery mechanisms and bonus depreciation. As such, cash flow from operations for our peer group has risen about 67% to $77 billion in 2014 from $46 billion in 2008. An increase in cash flow generation has coincided with an increase in debt over the same period as utilities have invested heavily to meet environmental standards and upgrade their transmission and distribution infrastructure.

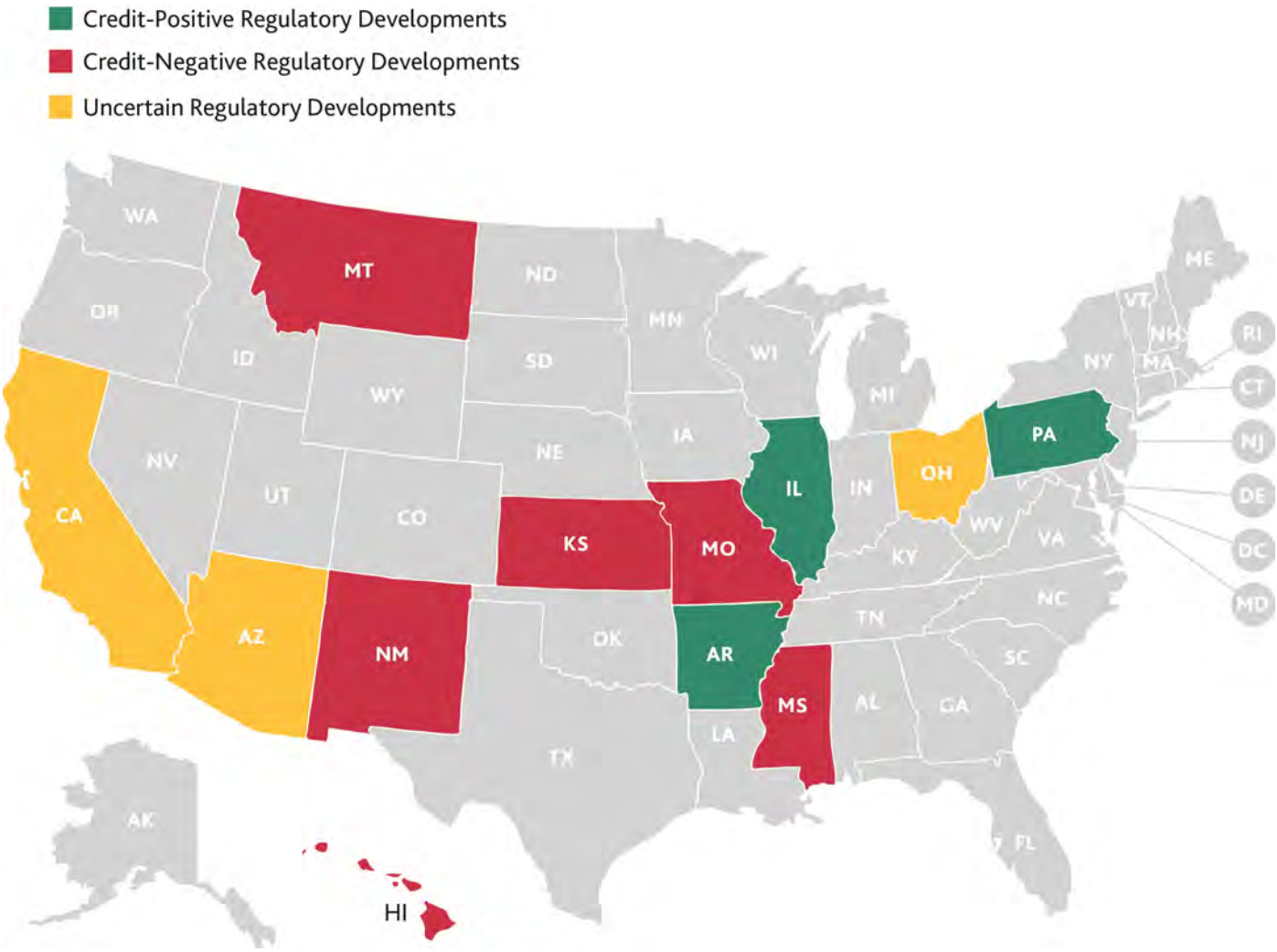
On average, EBITDA margins rose to 31% in 2014, from 24% in 2008. We estimate that the tax benefits associated with bonus depreciation have contributed about 300 basis points annually to the peer group's average ratio of CFO to debt since 2009.

What could change our outlook. We would consider changing our outlook to positive if regulatory support increased through the broader use of rate designs that decouple revenues from power demand or the ratio of CFO to debt increased toward 25% (including bonus depreciation) on a sustainable basis, which could happen if returns on equity rises, volume growth increases materially, or if utilities deleverage their balance sheets significantly. Conversely, a more contentious regulatory environment, customer affordability pressures or an increase in the use of distributed generation that depresses power demand and results in a material deterioration in cash flow, such that the ratio of CFO to debt declined to 18% (including bonus depreciation) on a sustained basis, could cause us to take a negative view. We do not think either scenario is likely to play out over the next 12 months.

States to watch in 2016

While we view state regulatory jurisdictions as broadly credit supportive, for certain states, regulatory supportiveness might change in 2016. We discuss these states below, including the events or circumstances that could influence our view over the next 12 months.

Exhibit 4
States to Watch in 2016



Source: Moody's Investors Service

Credit-Positive Regulatory Developments

Arkansas – In March, a law passed that will provide for formulaic rate plans, which could include forward test-years and rate adjustments to meet a targeted ROE. Formula rate plans provide more transparent and prescriptive frameworks of timely recovery of capital investments and support cash-flow predictability.

Illinois – In April, lawmakers extended the annual true-up of infrastructure investment recovery under the Energy Infrastructure Modernization Act (EIMA) until the end of 2019, which will continue to provide Illinois utilities a path for infrastructure-related capital investments and cost recovery over the next five years.

Pennsylvania – In April, the state regulator approved a settlement between FirstEnergy Corp.'s (Baa3 stable) Pennsylvania utilities and all major intervenors on the utilities' comprehensive distribution rate plans. The settlement did not specify an authorized ROE or capital structure, but the approved revenue increase was close to what the utilities had requested. In addition, in September, the regulator approved PPL Electric Utilities Corp.'s (A3 stable) rate case settlement, whereby the utility received 74% of its requested revenue increase of $167.5 million.

Credit-Negative Regulatory Developments

Hawaii – Hawaiian Electric Company (HECO, Baa1 negative) is under heavy pressure from its regulators and stakeholders to reduce rates, resulting in depressed cash flows and poor returns on equity. HECO also bears considerable risk as it attempts to reduce its costs by switching to renewables and liquefied natural gas and away from traditionally expensive fuel oil that currently dominates its fuel mix.

Kansas – The Kansas Corporation Commission challenged the ROE for transmission investment at Westar Energy, Inc. (Baa1 stable), authorized by FERC, resulting in a decrease in Westar's FERC-regulated base transmission ROE to 9.8% from 10.8%. Furthermore, the regulator authorized a 9.3% allowed ROE (100 basis points lower than the prior allowed ROE of 10.3%) in Kansas City Power & Light Company's (Baa1 stable) latest general rate case.

Mississippi - Mississippi Power Co. (Baa3 negative) faces significant regulatory risk reflecting the lack of permanent cost-recovery provisions in place for the Kemper IGCC project, following the Mississippi Supreme Court's invalidation of the utility's 2013 approved rate plan. The MPSC approved emergency interim rate relief by a 2-1 vote in August and is in the process of potentially making these interim rates permanent. However, the two commissioners supporting the interim rate relief are leaving the MPSC at the end of the year, with the two new commissioners elected voicing concerns and reservations about the Kemper project.

Missouri – Authorized ROEs continue to be reduced by the Missouri Public Service Commission. The decline in the allowed ROEs was somewhat offset by higher allowed equity ratios. The allowed ROE for Union Electric Company (Baa1 stable) declined to 9.5% in the latest rate case from 9.8% in 2012. Great Plain Energy Inc.'s (Baa2 stable) two electric utilities in Missouri were granted an allowed ROE of 9.7%, down from 10%. In addition to the lower allowed ROEs, the regulator discontinued several riders and trackers, such as storm cost and vegetation management costs, in some of the rate case decisions.

Montana - The Montana Public Service Commission voted to remove a lost revenue adjustment mechanism from NorthWestern Corp.'s (A3 stable) suite of recovery mechanisms. The mechanism was designed to keep margins steady in the face of lower volumes owing to demand-side management or other energy-saving activities.

New Mexico – In May, the New Mexico Public Regulation Commission changed its definition of a future test year in rate case filings. The regulator now defines a future test year as the 12-month period beginning 45 days after a rate case application, which in our view, resembles a current test year more than a future test year. While the new definition improves the regulatory lag associated with rate recovery, compared with the use of a historical test year, it does not allow a utility to recover its costs in as timely a fashion.

Uncertain Regulatory Developments

Arizona – The Arizona Corporation Commission is expected to conduct hearings in early 2016 to assess the cost of service of solar or the actual utility costs to serve customers with rooftop solar compared to the actual amount these customers pay for their continuing reliance on the grid. In addition, as part of the hearings the regulator will attempt to determine the value of solar and understand its benefits. The outcomes of these hearings could be used to change rate design for Arizona utilities as it relates to rooftop solar customers.

California – The California Utility Commission is due to rule on net energy metering reform in the fourth quarter of 2015. New rules on net energy metering could include some form of fixed charges, demand charges or value of solar credit for residential rooftop solar customers.

Ohio - FirstEnergy Corp. (Baa3 stable) and American Electric Power Company Inc. (Baa1 stable) have requested that the Ohio Public Utility Commission approve long-term, cost-plus power purchase agreements for their Ohio merchant generation plants signed with their respective distribution utilities. If approved, this would represent a partial re-regulation of the utility industry in the state. Although it would not affect the credit profiles of the regulated transmission and distribution utilities in the state, it would be a credit positive for the parent companies, which would in turn receive stable revenue. It would also imply a greater commitment to maintaining coal-fired generation in the state, which could complicate Ohio's plans for compliance with the Environmental Protection Agency's Clean Power Plan.

Solar power is a long-term game-changer

Solar power and other forms of distributed generation are a long-term threat to utilities operating under the typical traditional ratemaking structure. But the proactive regulatory response thus far, coupled with potential changes to rate design, are credit supportive.

Across the US, utilities are working with their regulators to refine their suite of recovery mechanisms to stay ahead of the potential industry transformation that a widespread adoption of solar would bring. A few states are going further in pursuing a brand new utility business model that embraces solar and wind power, but most are tackling rate design and policy issues first.

Right now, utilities are working with regulators to reform net energy metering to reduce the cost-shift from customers who have rooftop solar to those who do not. There are several rate design reforms that lessen the impact arising from net metering, including revenue decoupling, which reduces the volume risk to revenues, and higher fixed charges or rooftop solar surcharges, which improves the recovery of the fixed costs to operate utility assets.

Exhibit 5
Distributed Generation: Recent Regulatory Responses

Concern	Regulatory Rate Design Reform	Regulatory Jurisdictions Utilizing a Version of the Reform
» Cost shift - Customers without rooftop solar have to pay more than their share of the fixed costs to maintain the utility's infrastructure	» Increase fixed charge on all customers	» California » Connecticut » Maine » Wisconsin
	» Implement a surcharge on rooftop solar customers to pay for the utility's infrastructure that acts as a back-up to self generating customers	» Arizona » Colorado » Hawaii » Maine » Oklahoma » Utah » Wisconsin
» Rooftop solar customers sell power to the grid at a higher retail rate that is credited to their bills, resulting in lower revenues to the utility that must be made up by other customers in order to meet the utility's revenue requirement	» Reform net metering to change the compensation that the rooftop solar customers receive for excess power sold back to the grid	» California » Hawaii
» Rates for power generated by rooftop solar do not sufficiently capture the value solar energy brings to the grid	» Replace net metering with a Value of Solar tariff that incorporates the net value provided by solar energy	» Austin, TX » Minnesota

Sources: SNL Financial, Moody's Investors Service

Although we view solar, wind and other forms of distributed generation as a potential long-term disruption to the traditional utility business model, we do not believe that mass grid defection is likely in the foreseeable future because the cost of batteries used for energy storage is still too high.

Regulatory support will also be important to battery adoption. Support can take many forms including energy-storage mandates or subsidies, like those promoted in California, New York and Hawaii. Federal regulations that permit batteries to provide grid ancillary services in the New York and PJM wholesale markets are another form of support. While technological developments are inherently uncertain and could be disruptive, the electric grid is a critical to the US economy. Consequently, we believe that utilities will continue to receive constructive regulatory treatment.

Increased use of parent debt to boost returns is credit negative

Although not a primary driver of our industry outlook, several US utilities are increasingly using holding company leverage to drive returns, a credit negative. Utilities are using leverage at the holding company level to invest in other businesses, make acquisitions and earn higher returns on equity. An increase in parent leverage could have negative implications for the whole family.

The most pervasive driver of rating differentials has been structural subordination of debt at the holding company. The operating company services its debt with cash flow from its operations, whereas the holding company depends on dividends from subsidiaries to service its debt obligations, which can be less certain. The uncertainty around allocation of parent debt to its operating companies can also complicate matters. We have viewed the greatest drivers of rating differentials of more than one notch have been the degree of leverage at the parent and/or investments in unregulated businesses with higher operating risk.

We are finding that utility holding companies are increasingly using parent debt to finance M&A deals. Several recent acquisitions that have closed and are still pending include the use of significant leverage at the parent as part of the acquisition financing. As a result, we have taken negative rating actions on the parent's rating or outlook for several recently announced deals. In August, we changed The Southern Co.'s (Baa1 negative) rating outlook to negative from stable when it announced its acquisition of AGL Resources Inc. (unrated), an Atlanta-based natural gas distribution company, for approximately $8 billion in cash. Initially, the transaction will result in a the addition of up to $8 billion of debt at the Southern holding company. This would increase parent company debt to $10 billion-$11 billion (around 25% of consolidated debt) from less than $3 billion currently (10% of total consolidated debt), pressuring cash flow coverage metrics.

Other utility holding companies are raising debt at the parent to fund investments in regulated and unregulated businesses. Several holding companies are increasing parent leverage to invest in Federal Energy Regulatory Commission (FERC)-regulated transmission assets. Ameren Corporation (Baa1 stable) has been funding investments in its FERC-regulated transmission subsidiary, Transmission Company of Illinois (ATXI, not rated), using short-term debt at the parent that is expected to be refinanced with long-term debt at the ATXI. Similarly, FirstEnergy Corp. (Baa3 stable) is raising debt at its intermediate holding company, FirstEnergy Transmission (FET, Baa3 stable), as a way to finance increasing transmission investments at its transmission subsidiaries, American Transmission System, Inc. (Baa2 stable) and Trans-Allegheny Interstate Line Company (A3 stable).

Some utility holding companies like Dominion Resources (Dominion, Baa2 stable) and NextEra Energy, Inc. (NEE, Baa1 issuer rating) through its principal debt financing vehicle , NextEra Energy Capital Holdings, Inc. (NEECH, Baa1 stable), are using parent level debt to continue to invest heavily in unregulated businesses. Although these investments are not regulated, they are generally long-term contracted assets that contain "utility-like" qualities of stable and predictable cash flows over a long period of time.

Longer-term themes that run beyond the scope of our outlook period

What follows are longer-term themes we will be monitoring in 2016 and beyond:

US Environmental Protection Agency's (EPA) Clean Power Plan – The final regulatory rules on carbon emissions issued by the EPA in August are likely beneficial to regulated utilities, even if they have significant exposure to coal. Additional investments required by the rule will result in greater regulated earnings opportunities, a credit positive for the industry overall. Although the rule could push up consumer electricity bills, a credit negative, we believe that regulated utilities will still benefit on balance.

Cyber-security - A large-scale cyber-attack that significantly disrupts service and severely damages utility infrastructure would be materially credit negative. But we believe that the government would step in to help utilities recover financially, given the essential nature of utility services.

Rising interest rates – Higher interest rates would mean higher borrowing costs for the capital-intensive US utility industry, a credit negative. But most utilities are protected by the ability to recover costs, by long-dated maturities and by our expectation that rates will rise slowly.

Batteries – Battery adoption would be credit negative for US regulated utilities, but less than the impact on US merchant generators. Peak-shaving of load demand would lower the power bills of commercial and industrial utility customers. In turn, lower revenue would lead regulated utilities to shift costs to other customers. However, we believe that cost-shifting will in the long run be addressed by changes to the rate design allowed by regulators.

New York's "Reforming the Energy Vision" – In 2014, the New York Public Service Commission (NYPSC) began the so-called REV initiative that seeks to transform the state's energy distribution system toward cleaner and more local power, while changing its utilities' business model and regulatory framework. At this early stage, we cannot gauge how REV will affect the utilities' credit quality. Although REV is garnering attention as a potential precursor for the rest of the electric utility industry, the NYPSC has not yet charted a road map to its implementation. Fully realizing its end-vision would take a decade or so, because the necessary structure, tools, and customer behavior do not widely exist today and the plan is intended to be rolled our gradually.

Natural gas reserves - Increasingly, utilities are looking to invest in natural gas reserves and to recover these investments through the regulated rate base. Efforts to reduce customer exposure to volatile fuel prices, diversify their fuel supplies and foster earnings growth are the principal reasons utilities cite for these investments. We see this as a relatively new rate base strategy, so credit implications will develop over time as the transactions season and mature across changing financial and commodity cycles.

Appendix A: List of Issuers

Vertically Integrated	Long-Term Rating	Outlook - Current	CFO/Debt (3-Yr Avg as of Dec 2014)
Alabama Power Company	A1	Stable	24.52%
ALLETE, Inc.	A3	Stable	19.82%
Appalachian Power Company	Baa1	Stable	17.59%
Arizona Public Service Company	A2	Stable	31.89%
Avista Corp.	Baa1	Stable	18.10%
Black Hills Power, Inc.	A3	Stable	23.81%
Cleco Power LLC	A3	Negative	21.36%
Consumers Energy Company	A1*	Stable	24.10%
Dayton Power & Light Company	Baa3	Stable	33.20%
DTE Electric Company	A2	Stable	24.89%
Duke Energy Carolinas, LLC	A1	Stable	25.86%
Duke Energy Florida, Inc.	A3	Stable	20.67%
Duke Energy Indiana, Inc.	A2	Stable	18.70%
Duke Energy Kentucky, Inc.	Baa1	Stable	17.03%
Duke Energy Ohio, Inc.	Baa1	Stable	21.01%
Duke Energy Progress, Inc.	A1	RUR - Down	22.89%
El Paso Electric Company	Baa1	Stable	21.43%
Empire District Electric Company (The)	Baa1	Stable	19.36%
Entergy Arkansas, Inc.	Baa2	Positive	16.35%
Entergy Louisiana Power, LLC	Baa1	Stable	20.59%
Entergy Mississippi, Inc.	Baa2	Stable	19.62%
Entergy Texas, Inc.	Baa3	Stable	16.99%
Florida Power & Light Company	A1	Stable	34.34%
Georgia Power Company	A3	Stable	24.40%
Gulf Power Company	A2	Stable	23.92%
Hawaiian Electric Company, Inc.	Baa1	Negative	16.14%
Idaho Power Company	A3	Stable	16.13%
Indiana Michigan Power Company	Baa1	Stable	21.74%
Indianapolis Power & Light Company	Baa1	Stable	23.72%
Interstate Power and Light Company	A3	Negative	17.89%
Kansas City Power & Light Company	Baa1	Stable	16.31%
Kentucky Power Company	Baa2	Stable	16.71%
Kentucky Utilities Co.	A3	Stable	24.11%
Louisville Gas & Electric Company	A3	Stable	25.23%
Madison Gas and Electric Company	A1	Stable	32.50%
MidAmerican Energy Company	A1	Stable	24.99%
Mississippi Power Company	Baa3	Negative	19.26%
Monongahela Power Company	Baa2	Stable	16.56%
Nevada Power Company	Baa1	Stable	18.37%
Northern Indiana Public Service Company	Baa1	Stable	27.82%
Northern States Power Company (Minnesota)	A2	Stable	22.99%
Northern States Power Company (Wisconsin)	A2	Stable	23.69%
NorthWestern Corporation	A3	Stable	14.85%
Ohio Power Company	Baa1	Stable	24.19%
Oklahoma Gas & Electric Company	A1	Stable	26.73%
Otter Tail Power Company	A3	Stable	23.64%
Pacific Gas & Electric Company	A3	Stable	23.22%
PacifiCorp	A3	Stable	22.22%
Portland General Electric Company	A3	Stable	23.13%
Public Service Company of Colorado	A3	Stable	23.60%
Public Service Company of New Hampshire	Baa1	Positive	22.89%
Public Service Company of New Mexico	Baa2	Stable	22.13%
Public Service Company of Oklahoma	A3	Stable	22.62%
Puget Sound Energy, Inc.	Baa1	Stable	20.27%
San Diego Gas & Electric Company	A1	Stable	20.01%
Sierra Pacific Power Company	Baa1	Stable	18.34%

Vertically Integrated	Long-Term Rating	Outlook - Current	CFO/Debt (3-Yr Avg as of Dec 2014)
South Carolina Electric & Gas Company	Baa2	Negative	16.03%
Southern California Edison Company	A2	Stable	28.84%
Southern Indiana Gas & Electric Company	A2	Stable	28.20%
Southwestern Electric Power Company	Baa2	Stable	20.99%
Southwestern Public Service Company	Baa1	Stable	21.91%
Superior Water, Light and Power Company	A3	Stable	27.51%
Tampa Electric Company	A2	Stable	30.97%
Tucson Electric Power Company	A3	Stable	19.03%
Union Electric Company	Baa1	Stable	24.09%
UNS Electric, Inc.	A3	Stable	29.91%
Virginia Electric and Power Company	A2	Stable	24.10%
Wisconsin Electric Power Company	A1	Stable	16.94%
Wisconsin Power and Light Company	A1	Negative	24.94%
Wisconsin Public Service Corporation	A1	Stable	25.76%

Source: Moody's Investors Service

Transmission & Distribution Companies	Long-Term Rating	Outlook - Current	CFO/Debt (3-Yr Avg as of Dec 2014)
AEP Texas Central Company	Baa1	Stable	13.96%
AEP Texas North Company	Baa1	Stable	19.02%
Ameren Illinois Company	A3	Stable	25.02%
Atlantic City Electric Company	Baa2	Stable	17.42%
Baltimore Gas and Electric Company	A3	Stable	23.87%
CenterPoint Energy Houston Electric, LLC	A3	Stable	15.90%
Central Hudson Gas & Electric Corporation	A2	Stable	21.73%
Cleveland Electric Illuminating Company (The)	Baa3	Stable	10.25%
Commonwealth Edison Company	Baa1	Positive	18.68%
Connecticut Light and Power Company	Baa1	Stable	13.57%
Consolidated Edison Company of New York, Inc.	A2	Stable	21.39%
Delmarva Power & Light Company	Baa1	Stable	16.71%
Jersey Central Power & Light Company	Baa2	Stable	14.58%
Metropolitan Edison Company	Baa1	Stable	19.50%
New York State Electric and Gas Corporation	A3	Stable	17.52%
Niagara Mohawk Power Corporation	A2	Stable	19.26%
NSTAR Electric Company	A2	Stable	26.57%
Ohio Edison Company	Baa1	Stable	23.40%
Oncor Electric Delivery Company LLC	Baa1*	Positive	19.14%
Orange and Rockland Utilities, Inc.	A3	Stable	18.98%
PECO Energy Company	A2	Stable	29.71%
Pennsylvania Electric Company	Baa2	Stable	13.70%
Pennsylvania Power Company	Baa1	Stable	24.73%
Potomac Edison Company (The)	Baa2	Stable	20.98%
Potomac Electric Power Company	Baa1	Stable	15.07%
Public Service Electric and Gas Company	A2	Stable	24.41%
Rochester Gas & Electric Corporation	Baa1	Stable	23.54%
Texas-New Mexico Power Company	A3	Stable	27.40%
Toledo Edison Company	Baa3	Stable	4.18%
United Illuminating Company	Baa1	Stable	24.44%
West Penn Power Company	Baa1	Stable	24.51%

Local Distribution Companies	Long-Term Rating	Outlook - Current	CFO/Debt (3-Yr Avg as of Dec 2014)
AGL Capital Corporation	Baa1	Stable	16.93%
Alabama Gas Corporation	A2	Stable	27.10%
Atmos Energy Corporation	A2	Stable	24.05%
Berkshire Gas Company	Baa1	Stable	26.59%
CenterPoint Energy Resources Corp.	Baa2	Stable	22.61%
Colonial Gas Company	A3	Stable	34.66%
Connecticut Natural Gas Corporation	A3	Stable	31.96%
DTE Gas Company	Aa3*	Stable	19.28%
Indiana Gas Company, Inc.	A2	Stable	27.59%
KeySpan Gas East Corporation	A2	Stable	13.93%
Laclede Gas Company	(P)A3	Stable	16.74%
New Jersey Natural Gas Company	Aa2*	Stable	19.94%
Northwest Natural Gas Company	(P)A3	Stable	17.70%
Piedmont Natural Gas Company, Inc.	A2	Stable	20.50%
Public Service Co. of North Carolina, Inc.	A3	Negative	24.78%
Questar Gas Company	A2	Stable	24.24%
SEMCO Energy, Inc.	Baa1	Stable	14.58%
South Jersey Gas Company	A2	Stable	18.44%
Southern California Gas Company	A1	Stable	32.31%
Southern Connecticut Gas Company	Baa1	Stable	23.86%
Southwest Gas Corporation	A3	Stable	22.15%
UGI Utilities, Inc.	A2	Stable	25.92%
UNS Gas, Inc.	A3	Stable	21.53%
Washington Gas Light Company	A1	Stable	32.93%
Wisconsin Gas LLC	A1	Stable	19.09%
Yankee Gas Services Company	Baa1	Stable	16.31%

Note: All ratings are long-term issuer / senior unsecured rating unless otherwise noted. * denotes senior secured rating.

Source: Moody's Investors Service

Moody's Related Research

Outlooks:

» Regulatory Support Drives Our Stable Outlook, December 2014 (1000683)

» Stable Gas Prices, Declining Reserve Margins Underpin Our Stable Outlook, December 2014 (1000699)

Sector In-Depth:

» Batteries Charge Up For the Electric Grid, September 2015 (1004007)

» New York's REV: Seeking a Greener Utility Grid for the Environment and Investors, October 2015 (1008618)

» In a Major Cyber Attack, the Likelihood Of Government Relief Is High, October 2015 (1008532)

» What Rising Interest Rates Would Mean for US Utilities, September 2015 (1006796)

» High Leverage at the Parent Often Hurts the Whole Family, May 2015 (1002758)

» Investments in Gas Reserves Heighten Risks, But Utilities Are Starting Small, May 2015 (1004448)

» Regulatory Lag Persists for Electric Utilities in Missouri, November 2015 (1008997)

Rating Methodology:

» Regulated Electric and Gas Utilities, December 2013 (157160)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Endnotes

1 In July, the US Senate Finance Committee voted to extend bonus depreciation through 2016. The full Senate has not indicated if or when it will act on this legislation, and the House of Representatives is scheduled to take up the issue in late 2015.

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Regulatory Research Associates
REGULATORY FOCUS

January 22, 2016

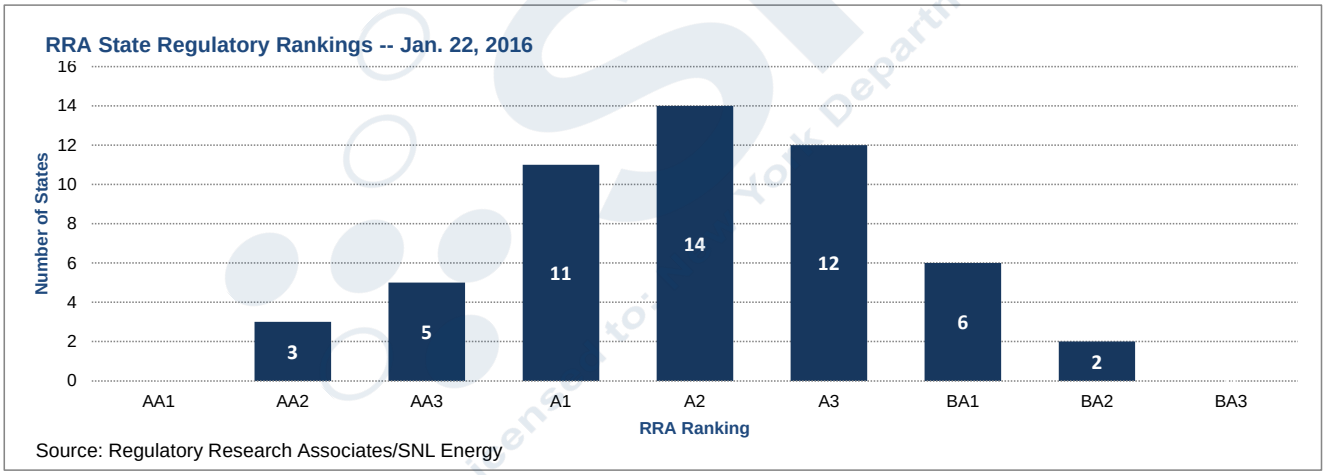
STATE REGULATORY EVALUATIONS

~ Including an Overview of RRA's ranking process ~

RRA evaluates the regulatory climates of the jurisdictions within the 50 states and the District of Columbia (a total of 53 jurisdictions) on an ongoing basis. The evaluations are assigned from an investor perspective and indicate the relative regulatory risk associated with the ownership of securities issued by each jurisdiction's electric and gas utilities. Each evaluation is based upon consideration of the numerous factors affecting the regulatory process in the state, and is changed as major events occur that cause RRA to modify its view of the regulatory risk accruing to the ownership of utility securities in that individual jurisdiction.

RRA also reviews evaluations when updating Commission Profiles, and when publishing this quarterly comparative report. The issues considered are discussed in Focus Notes, Commission Profiles, or Final Reports. RRA also considers information obtained from contacts with commission, company, and government personnel in the course of its research. The final evaluation is an assessment of the probable level and quality of the earnings to be realized by the state's utilities as a result of regulatory, legislative, and court actions.

RRA maintains three principal rating categories, Above Average, Average, and Below Average, with Above Average indicating a relatively more-constructive, lower-risk regulatory environment from an investor viewpoint, and Below Average indicating a less-constructive, higher-risk regulatory climate from an investor viewpoint. Within the three principal rating categories, the numbers 1, 2, and 3 indicate relative position. The designation 1 indicates a stronger (more constructive) rating; 2, a mid-range rating; and, 3, a weaker (less constructive) rating. We endeavor to maintain about an equal number of ratings above the average and below the average. The graph below depicts the current distribution of our rankings. (**For a discussion of RRA's ratings process, see the Appendix that starts on page 3**.)



RRA's previous "State Regulatory Evaluations" report was published on Oct. 28, 2015, at which time RRA made three ratings changes: to recognize the generally restrictive posture of the Washington Utilities and Transportation Commission (WUTC), RRA lowered the rating of that jurisdiction to Average/3 from Average/2; in light of generally restrictive ratemaking practices and the uncertainty surrounding the District of Columbia Public Service Commission's review of the proposed Exelon/Pepco Holdings merger, RRA lowered the ranking of that jurisdiction to Below Average/1 from Average/3; and, in light of the policy shift to allow the Pennsylvania Public Utility Commission to set base rates utilizing forecasted test years and approval of expedited infrastructure investment recovery mechanisms, RRA raised the ranking of that jurisdiction to Average/2 from Average/3. Since that time, RRA has made no rankings changes. However, RRA continues to monitor developments in Arkansas, noting that a change may be warranted in the near future. Legislation enacted in 2015 permits the Arkansas Public Service Commission (PSC) to approve the use of formula rate plans (FRPs) for the state's utilities; however, no such requests have been approved (two are pending). Approval of these FRPs would be a constructive step, and coupled with the recent approval of an acquisition-related settlement, suggest that an upward revision in the ranking may be justified.

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Above Average	Average	Below Average
1	**1**	**1**
	California	District of Columbia
	Colorado	Illinois
	Hawaii	Montana
	Kentucky	New Mexico
	Louisiana—PSC	Texas PUC
	Louisiana—NOCC	West Virginia
	Michigan	
	North Carolina	
	North Dakota	
	South Carolina	
	Tennessee	
2	**2**	**2**
Alabama	Alaska	Connecticut
Virginia	Idaho	Maryland
Wisconsin	Kansas	
	Maine	
	Minnesota	
	Missouri	
	Nebraska	
	Nevada	
	New York	
	Ohio	
	Oklahoma	
	Pennsylvania	
	Utah	
	Wyoming	
3	**3**	**3**
Florida	Arizona	
Georgia	Arkansas	
Indiana	Delaware	
Iowa	Massachusetts	
Mississippi	New Hampshire	
	New Jersey	
	Oregon	
	Rhode Island	
	South Dakota	
	Texas RRC	
	Vermont	
	Washington	

ALPHABETICAL LISTING

Alabama - AA/2
Alaska – A/2
Arizona - A/3
Arkansas –A/3
California – A/1
Colorado - A/1
Connecticut – BA/2
Delaware – A/3
Dist. of Col. – BA/1
Florida – AA/3
Georgia – AA/3
Hawaii - A/1
Idaho - A/2
Illinois - BA/1
Indiana - AA/3
Iowa - AA/3
Kansas – A/2
Kentucky - A/1
Louisiana PSC – A/1
Louisiana NOCC—A/1
Maine - A/2
Maryland – BA/2
Massachusetts – A/3
Michigan - A/1
Minnesota - A/2
Mississippi - AA/3
Missouri - A/2
Montana - BA/1
Nebraska – A/2
Nevada – A/2
New Hampshire – A/3
New Jersey - A/3
New Mexico - BA/1
New York – A/2
North Carolina - A/1
North Dakota - A/1
Ohio - A/2
Oklahoma - A/2
Oregon - A/3
Pennsylvania - A/2
Rhode Island - A/3
South Carolina - A/1
South Dakota - A/3
Tennessee - A/1
Texas PUC - BA/1
Texas RRC – A/3
Utah - A/2
Vermont - A/3
Virginia - AA/2
Washington - A/3
West Virginia – BA/1
Wisconsin - AA/2
Wyoming - A/2

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Appendix: Explanation of RRA ratings process

As noted above, RRA maintains three principal rating categories, Above Average, Average, and Below Average, with Above Average indicating a relatively more constructive, lower-risk regulatory environment from an investor viewpoint, and Below Average indicating a less constructive, higher-risk regulatory climate. Within the three principal rating categories, the numbers 1, 2, and 3 indicate relative position. The designation 1 indicates a stronger (more constructive) rating; 2, a mid-range rating; and, 3, a weaker (less constructive) rating within each higher-level category. Hence, if you were to assign numeric values to each of the nine resulting categories, with a "1" being the most constructive from an investor viewpoint and a "9" being the least constructive from an investor viewpoint, then Above Average/1 would be a "1" and Below Average/3 would be a "9."

The rankings are subjective and are intended to be comparative in nature. Consequently, we do not use a mathematical model to determine each state's ranking. However, we endeavor to maintain a "normal distribution" with an approximately equal number of rankings above and below the average. The variables that RRA considers in determining each state's ranking are largely the broad issues addressed in our State Regulatory Reviews/Commission Profiles and those that arise in the context of rate cases and are discussed in RRA Rate Case Final Reports. Keep in mind that the rankings reflect not only the decisions rendered by the state regulatory commission, but also take into account the impact of the actions taken by the governor, the legislature, the courts, and the consumer advocacy groups. The summaries below are intended to provide an overview of these variables and how each can impact a given regulatory environment.

Commissioner Selection Process/Membership--RRA looks at how commissioners are selected in each state. All else being equal, RRA attributes a greater level of investor risk to states in which commissioners are elected rather than appointed. Generally, energy regulatory issues are less politicized when they are not subject to debate in the context of an election. Realistically, a commissioner candidate who indicates sympathy for utilities and appears to be amenable to rate increases is not likely to be popular with the voting public. Of course, in recent years there have been some notable instances in which energy issues in appointed-commission states have become gubernatorial/senatorial election issues, with detrimental consequences for the utilities (e.g., Illinois, Florida, and Maryland, all of which were downgraded by RRA when increased politicization of the regulatory process became apparent.)

In addition, RRA looks at the commissioners themselves and their backgrounds. Experience in economics and finance and/or energy issues is generally seen as a positive sign. Previous employment by the commission or a consumer advocacy group is sometimes viewed as a negative indicator. In some instances, new commissioners have very little experience or exposure to utility issues, and in some respects, these individuals represent the highest level of risk, simply because there is no way to foresee what they will do or how long it will take them to "get up to speed."

Commission Staff/Consumer Interest--Most commissions have a staff that participates in rate proceedings. In some instances the Staff has a responsibility to represent the consumer interest and in others the Staff's statutory role is less defined. In addition, there may or may not be: additional state-level organizations that are charged with representing the interests of a certain class or classes of customers; private consortia that represent certain customer groups; and/or, large-volume customers that intervene directly in rate cases. Generally speaking, the greater the number of consumer intervenors, the greater the level of uncertainty for investors. The level of risk for investors also depends on the caliber and influence (political and otherwise) of the intervening parties and the level of contentiousness in the rate case process. RRA's opinion on these issues is largely based on past experience and observations.

Rate Case Timing/Interim Procedures--For each state commission, RRA considers whether there is a set time frame within which a rate case must be decided, the length of any such statutory time frame, the degree to which the commission adheres to that time frame, and whether interim increases are permitted. Generally speaking, we view a set time frame as preferable, as it provides a degree of certainty as to when any new revenue may begin to be collected. In addition, shorter time frames for a decision generally reduce the likelihood that the actual conditions during the first year the new rates will be in effect will vary markedly from the test period utilized (a discussion of test periods is provided below) to set new rates. In addition, the ability to implement all or a portion of a proposed rate increase on an interim basis prior to a final decision in a rate case is viewed as constructive.

Return on Equity--Return on equity (ROE) is perhaps the single most litigated issue in any rate case. There are two aspects RRA considers when evaluating an individual rate case and the overall regulatory environment: (1) how the authorized ROE compares to the average of returns authorized for energy utilities nationwide over the 12 months, or so, immediately preceding the decision; and, (2) whether the company has been accorded a reasonable opportunity to earn the authorized return in the first year of the new rates. (It is important to note that even if a utility is accorded a "reasonable opportunity" to earn its authorized ROE, there is no guarantee that the utility will do so.)

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With regard to the first criteria, RRA looks at the ROEs historically authorized for utilities in a given state and compares them to utility industry averages (the benchmark statistics are available in *RRA's Major Rate Case Decisions Quarterly Updates*). Intuitively, authorized ROEs that meet or exceed the prevailing averages at the time established are viewed as more constructive than those that fall short of these averages.

With regard to the second consideration, in the context of a rate case, a utility may be authorized a relatively high ROE, but factors, e.g., capital structure changes, the age or "staleness" of the test period, rate base and expense disallowances, the manner in which the commission chooses to calculate test year revenue, and other adjustments, may render it unlikely that the company will earn the authorized return on a financial basis. Hence, the overall decision may be negative from an investor viewpoint, even though the authorized ROE is equal to or above the average. (RRA's *Rate Case Final Reports* provide a detailed analysis of each fully-litigated commission decision.)

Rate Base and Test Period--As noted above, a commission's policies regarding rate base and test year can impact the ability of a utility to earn its authorized ROE. These policies are often outlined in state statutes and the commission usually does not have much latitude with respect to these overall policies. With regard to rate base, commissions employ either a year-end or average valuation (some also use a date-certain). In general, assuming rate bases are rising, i.e., new investment is outpacing depreciation, a year-end valuation is preferable from an investor viewpoint. Again this relates to how well the parameters used to set rates reflect actual conditions that will exist during the rate-effective period; hence, the more recent the valuation, the more likely it is to approximate the actual level of rate base being employed to serve customers once the new rates are placed into effect. Some commissions permit post-test-year adjustments to rate base for "known and measurable" items, and, in general, this practice is beneficial to the utilities.

Another key consideration is whether state law and/or the commission generally permits the inclusion in rate base of construction work in progress (CWIP), i.e., assets that are not yet, but ultimately will be, operational in serving customers. Generally, investors view inclusion of CWIP in rate base for a cash return as constructive, since it helps to maintain cash flow metrics during a large construction phase. Alternatively, the utilities accrue allowance for funds used during construction (AFUDC), which is essentially booking a return on the construction investment as a regulatory asset that is recoverable from ratepayers once the project in question becomes operational. While this method bolsters earnings, it does not augment cash flow.

With regard to test periods, there are a number of different practices employed, with the extremes being fully-forecasted (most constructive) on the one hand and fully historical (least constructive) on the other. Some states utilize a combination of the two, in which a utility is permitted to file a rate case that is based on data that is fully or partially forecast at the time of filing, and is later updated to reflect actual data that becomes known during the course of the proceeding.

Accounting--RRA looks at whether a state commission has permitted unique or innovative accounting practices designed to bolster earnings. Such treatment may be approved in response to extraordinary events such as storms, or for volatile expenses such as pension costs. Generally, such treatment involves deferral of expenditures that exceed the level of such costs reflected in base rates. In some instances the commission may approve an accounting adjustment to temporarily bolster certain financial metrics during the construction of new generation capacity. From time-to-time commissions have approved frameworks under which companies were permitted to, at their own discretion, adjust depreciation in order to mitigate under-earnings or eliminate an over-earnings situation without reducing rates. These types of practices are generally considered to be constructive from an investor viewpoint.

Alternative Regulation--Generally, RRA views as constructive the adoption of alternative regulation plans that: allow a company or companies to retain a portion of cost savings (e.g. fuel, purchased power, pension, etc.) versus benchmark levels; permit a company to retain for shareholders a portion of off-system sales revenues; or, provide a company an enhanced ROE for achieving operational performance and/or customer service metrics or for investing in certain types of projects (e.g., demand-side management programs, renewable resources, new traditional plant investment). The use of ROE-based earnings sharing plans is, for the most part, considered to be constructive, but it depends upon the level of the ROE benchmarks specified in the plan, and whether there is symmetrical sharing of earnings outside the specified range.

Court Actions--This aspect of state regulation is particularly difficult to evaluate. Common sense would dictate that a court action that overturns restrictive commission rulings is a positive. However, the tendency for commission rulings to come before the courts, and for extensive litigation as appeals go through several layers of court review, may add an untenable degree of uncertainty to the regulatory process. Also, similar to commissioners, RRA looks at whether judges are appointed or elected.

Legislation--While *RRA's Commission Profile*s provide statistics regarding the make-up of each state legislature, RRA has not found there to be any specific correlation between the quality of energy legislation enacted and which

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political party controls the legislature. Of course, in a situation where the governor and legislature are of the same political party, generally speaking, it is easier for the governor to implement key policy initiatives, which may or may not be focused on energy issues. Key considerations with respect to legislation include: how prescriptive newly enacted laws are; whether the bill is clear or ambiguous and open to varied interpretations; whether it balances ratepayer and shareholder interests rather than merely "protecting" the consumer; and, whether the legislation takes a long-term view or is it a "knee-jerk" reaction to a specific set of circumstances.

Corporate Governance--This term generally refers to a commission's ability to intervene in a utility's financial decision-making process through required pre-approval of all securities issuances, limitations on leverage in utility capital structures, dividend payout limitations, ring-fencing, and authority over mergers (discussed below). Corporate governance may also include oversight of affiliate transactions. In general, RRA views a modest level of corporate governance provisions to be the norm, and in some circumstances these provisions (such as ring-fencing) have protected utility investors as well as ratepayers. However, a degree of oversight that would allow the commission to "micromanage" the utility's operations and limit the company's financial flexibility would be viewed as restrictive.

Merger Activity--In cases where the state commission has authority over mergers, RRA reviews the conditions, if any, placed on the commission's approval of these transactions, specifically: whether the company will be permitted to retain a portion of any merger-related cost savings; if guaranteed rate reductions or credits were required; whether certain assets were required to be divested; and, whether the commission placed stringent limitations on capital structure and/or dividend policy.

Electric Regulatory Reform/Industry Restructuring--RRA generally does not view a state's decision to implement retail competition as either positive or negative from an investor viewpoint. However, for those states that have implemented retail competition, RRA considers: whether up-front guaranteed rate reductions were required; how stranded costs were quantified and whether the utilities were accorded a reasonable opportunity to recover stranded costs; the length of the transition period and whether utilities were at risk for power price fluctuations associated with their default service responsibilities during the transition period; how default service is procured following the end of the transition period; and, how any price volatility issues that arose as the transition period expired were addressed.

Gas Regulatory Reform/Industry Restructuring--Retail competition for gas supply is more widespread than is electric retail competition, and the transition was far less contentious, as the magnitude of potential stranded asset costs was much smaller. Similar to the electric retail competition, RRA generally does not view a state's decision to implement retail competition for gas service as either positive or negative from an investor viewpoint. RRA primarily considers the manner in which stranded costs were addressed and how default service obligation-related costs are recovered.

Securitization--Securitization refers to the issuance of bonds backed by a specific existing revenue stream that has been "guaranteed" by regulators. State commissions have used securitization to allow utilities to recover demand-side management costs, electric-restructuring-related stranded costs, environmental compliance costs, and storm costs. RRA views the use of this mechanism as generally constructive from an investor viewpoint, as it virtually eliminates the recovery risk for the utility.

Adjustment Clauses--For many years adjustment clauses have been widely utilized to allow utilities to recover fuel and purchased power costs outside a general rate case, as these costs are generally subject to a high degree of variability. In some instances a base amount is reflected in base rates, with the clause used to reflect variations from the base level, and in others, the entire annual fuel/purchased power cost amount is reflected in the clause. More recently, the types of costs recovered through these mechanisms has been expanded in some jurisdictions to include such items as pension and healthcare costs, demand-side management program costs, FERC-approved transmission costs, and new generation plant investment. Generally, RRA views the use of these types of mechanisms as constructive, but also looks at the frequency with which the adjustments occur, whether there is a true-up mechanism, and whether adjustments are forward-looking in nature. Other mechanisms that RRA views as constructive are weather normalization clauses that are designed to remove the impact of weather on a utility's revenue and decoupling mechanisms that may remove not only the impact of weather, but also the earnings impacts of customer participation in energy efficiency programs. Generally, an adjustment mechanism would be viewed as less constructive if there are provisions that limit the utility's ability to fully implement revenue requirement changes under certain circumstances, e.g., if the utility is earning in excess of its authorized return.

Integrated Resource Planning--RRA generally considers the existence of a resource planning process as constructive from an investor viewpoint, as it may provide the utility at least some measure of protection from hindsight prudence reviews of its resource acquisition decisions. In some cases, the process may also provide for pre-approval of the ratemaking parameters and/or a specific cost for the new facility. RRA views these types of provisions as constructive, as the utility can make more informed decisions as to whether it will proceed with a proposed project.

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Renewable Energy/Emissions Requirements--As with retail competition, RRA does not take a stand as to whether the existence of renewable portfolio standards or an emissions reduction mandate is positive or negative from an investor viewpoint. However, RRA considers whether there is a defined pre-approval and/or cost-recovery mechanism for investments in projects designed to comply with these standards. RRA also reviews whether there is a mechanism (e.g., a percent rate increase cap) that ensures that meeting the standards does not impede the utility's ability to pursue other investments and/or recover increased costs related to other facets of its business. RRA also looks at whether incentives, such as an enhanced ROE, are available for these types of projects.

Rate Structure--RRA looks at whether there are economic development or load-retention rate structures in place, and if so, how any associated revenue shortfall is recovered. RRA also looks at whether there have been steps taken over recent years to reduce/eliminate inter-class rate subsidies, i.e., equalize rates of return across customer classes. In addition, RRA considers whether the commission has adopted or moved towards a straight-fixed-variable rate design, under which a greater portion (or all) of a company's fixed costs are recovered through the monthly customer charge, thus according the utility greater certainty of recovering its fixed costs.

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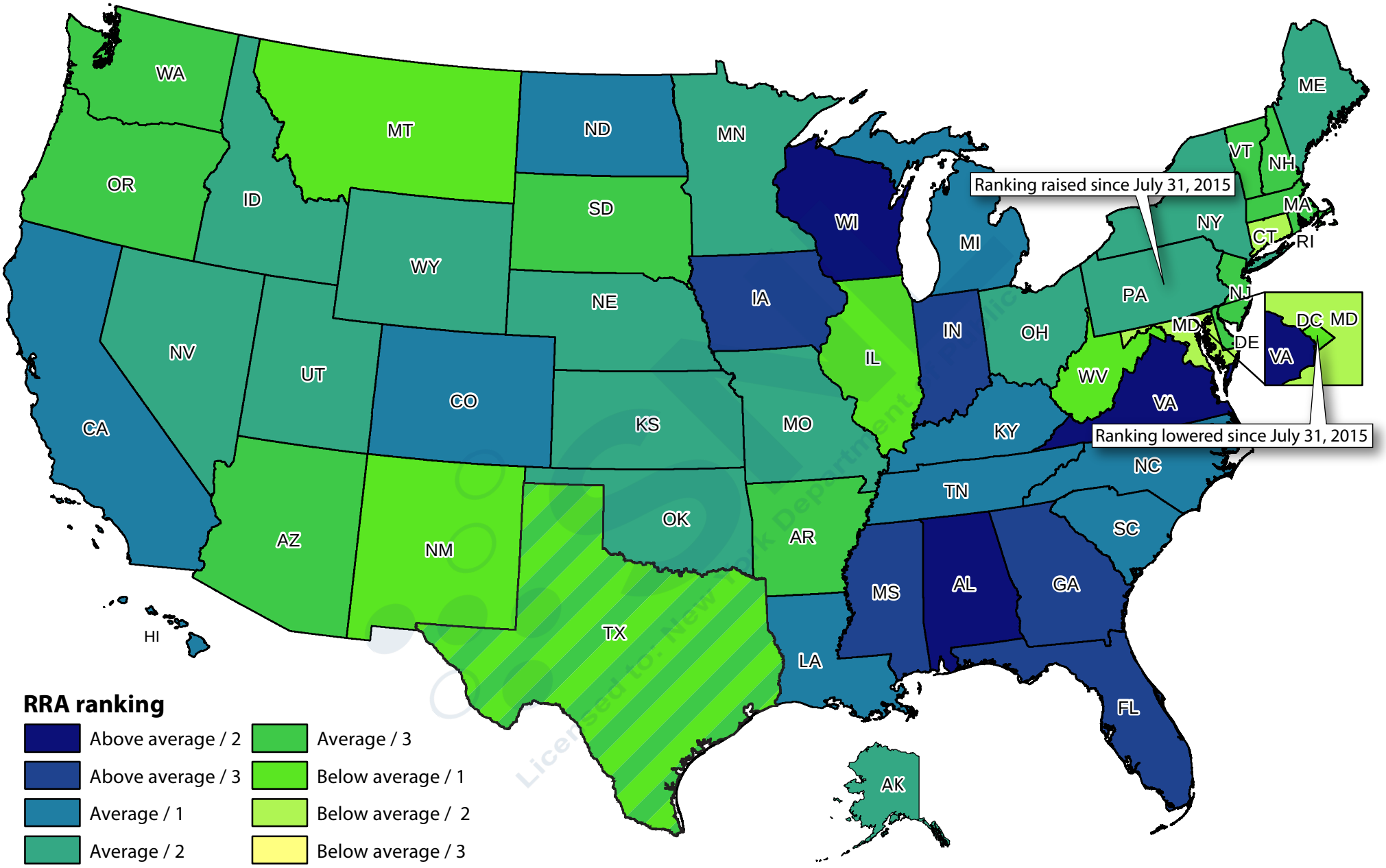
RRA state regulatory rankings



Source: SNL Energy/RRA
As of January 22, 2016
Texas PUC is Below Average/1 and the Texas RRC is Average/3

SNLFinancial

Actual

Corning Holding (Consolidated) as of Dec 31, 2015

	$m Amount	% of Capital
Total Debt	26.21	46.6%
Common Equity	30.04	53.4%
	56.25	100.0%

Corning Natural Gas

	$m Amount	% of Capital
Total Debt	23.89	47.1%
Common Equity	26.86	52.9%
	50.75	100.0%

Implied Capital Structure of non-Corning Gas Assets

	$m Amount	% of Capital
Total Debt	2.32	42.2%
Common Equity	3.18	57.8%
	5.50	100.0%

at 48% Equity at Corning Gas

Corning Holding (Consolidated) as of Dec 31, 2015

	$m Amount	% of Capital
Total Debt	26.21	46.6%
Common Equity	30.04	53.4%
	56.25	100.0%

Corning Natural Gas

	$m Amount	% of Capital
Total Debt	26.39	52.0%
Common Equity	24.36	48.0%
	50.75	100.0%

Implied Capital Structure of non-Corning Gas Assets

	$m Amount	% of Capital
Total Debt	-0.18	-3.2%
Common Equity	5.68	103.2%
	5.50	100.0%

Corning Holding (Consolidated) as of Dec 31, 2015

	$m Amount	% of Capital
Long-Term Debt	19.03	38.8%
Common Equity	30.04	61.2%
	49.07	100.0%

Corning Natural Gas

	$m Amount	% of Capital
Long-Term Debt	16.21	37.6%
Common Equity	26.86	62.4%
	43.07	100.0%

Implied Capital Structure of non-Corning Gas Assets

	$m Amount	% of Capital
Long-Term Debt	2.82	47.08%
Common Equity	3.18	52.99%
	6.00	100%

Corning Natural Gas Corporation
Term Sheet Required by Ordering Clause 6 Case 15-G-0460
Issued and Effective January 21, 2016

Term Sheet:

Closing Date: January 27, 2016

Lender: Manufacturers and Traders Trust Company

Borrower: Corning Natural Gas Corporation

Principal Amount: $17,400,000

Purpose: Consolidate existing M&T Bank and other existing term debt identified at Community Bank and Five Star Bank

Term: 6 years

Interest Rate:

Tier	Funded Debt/EBITDA	Spread over 1 mo LIBOR Rate
IV	>3.0	2.60%
III	>2.50<=3.0	2.30%
II	>2.0<=2.50	2.00%
I	<=2.0	1.70%

Collateral: First security interest in all assets

Repayment: Billed Interest only for one year from closing, then loan will automatically convert to monthly payment of principal and interest based on a 5 year term and 7 year amortization

Reporting:

1. Audited financial statements within 120 days of end of fiscal year
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Edison Electric Institute

Alternative Regulation for Evolving Utility Challenges:

An Updated Survey

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Edison Electric Institute

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I. Introduction: The Problem of Financial Attrition Under Traditional Cost of Service Regulation

Many utilities are exploring alternatives to traditional rate regulation today. The underlying problem they face is a tendency of cost to grow more rapidly than the billing determinants (*e.g.* kWh of use) that determine revenue growth between rate cases. On the cost side, some utilities need large new generation or transmission investments. Others are engaged in accelerated distribution system modernization. Even without accelerated modernization, "wireco utilities" tend to experience more rate base growth than was the norm in the last years before they sold or spun off their generation. On the revenue side, growth in energy usage per customer ("average use") helped finance utility cost growth before 1980 because it bolstered revenue appreciably more than cost. Arguably, this was a feature of the Regulatory Compact which allowed utilities to finance needed new capacity.[1] Growth in average use has been much slower since then. Few utilities have experienced much bounceback in average use since the recession thanks to sluggish economic growth, increased energy efficiency, and the spread of distributed generation ("DG"). Some utilities are experiencing declining average use.

Traditional approaches to utility regulation can fail to provide timely rate relief for such conditions. The frequency of rate cases has increased. Utilities facing a pronounced gap between cost and billing determinant growth can experience chronic underearning even with annual rate cases. Financial attrition undoubtedly has been a factor in the long-term decline of average credit ratings among investor-owned electric utilities. This is illustrated in Figure 1. Higher risk raises financing costs and can discourage needed investments.

Alternative approaches to regulation have been developed which handle today's business conditions better. Some, such as multiyear rate plans, formula rates, and fully-forecasted test years, are comprehensive in character but involve large-scale departures from traditional regulation. Others, such as revenue decoupling and cost trackers, target cost and revenue problem areas that cause cost and revenue growth to differ. Judicious use of targeted approaches can bring revenue and cost growth into better balance and reduce the frequency of rate cases.

This survey, now updated to include precedents through late 2012, briefly explains salient alternative regulation ("Altreg") options and details precedents for electric and natural gas utilities. A summary of states that currently use these approaches is featured in Table 1. Natural gas precedents are included because of their relevance to "wires only" utilities.

[1] See Cost of Service Regulation in the Investor-Owned Electric Utility Industry: A History of Adaptation, by Karl McDermott, June 2012. Prepared for the Edison Electric Institute.

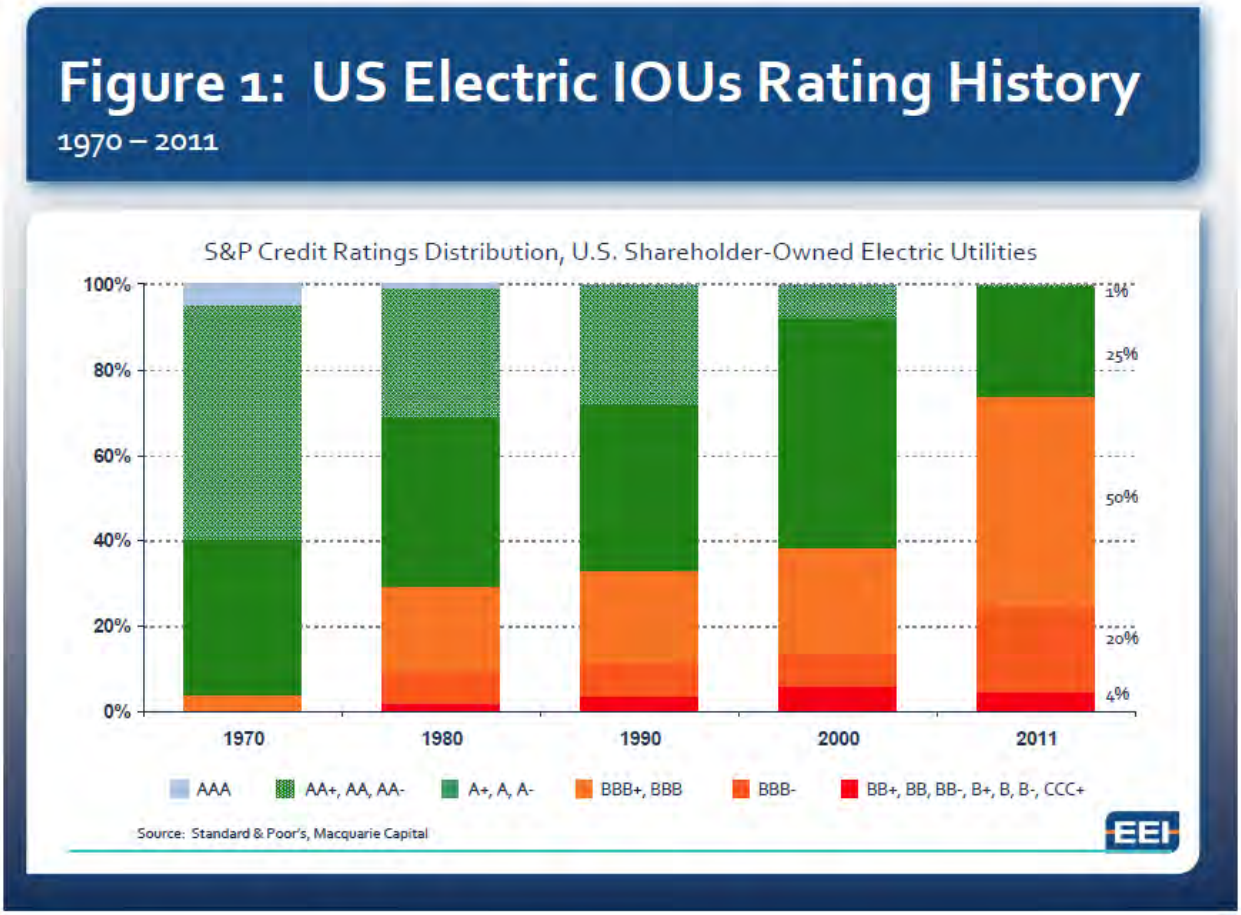


Figure 1: US Electric IOUs Rating History
1970 – 2011
S&P Credit Ratings Distribution, U.S. Shareholder-Owned Electric Utilities
100%
80%
60%
40%
20%
0%
1970
1980
1990
2000
2011
1%
25%
50%
20%
4%
AAA
AA+, AA, AA-
A+, A, A-
BBB+, BBB
BBB-
BB+, BB, BB-, B+, B, B-, CCC+
Source: Standard & Poor's, Macquarie Capital
EEI

Table 1
Innovations to Reduce Regulatory Lag: An Overview of Current Precedents

State	Capex Cost Tracker	CWIP in Rate Base[1]	Multiyear Rate Plan[2]	Revenue Decoupling			Retail Formula Rate Plans	Forward Test Years
				Decoupling True Up Plans	Lost Revenue Adjustment Mechanisms	Fixed Variable Retail Pricing		
Alabama	Yes						Yes	Yes
Arizona	Yes		Yes (electric only)	Yes (gas only)	Yes			
Arkansas	Yes			Yes (gas only)	Yes			
California	Yes		Yes	Yes				Yes
Colorado	Yes	Yes	Yes (electric only)					
Connecticut	Yes (electric only)			Yes (electric only)	Yes (gas only)	Yes		Yes
Delaware	Pending							
District of Columbia				Yes (electric only)				
Florida	Yes	Yes	Yes (electric only)			Yes (gas only)		Yes
Georgia	Yes	Yes	Yes (electric only)	Yes (gas only)		Yes (gas only)	Yes (gas only)	Yes
Hawaii	Yes (electric only)		Yes (electric only)	Yes (electric only)				Yes
Idaho				Yes (electric only)				
Illinois				Yes (gas only)		Yes	Yes (electric only)	Yes
Indiana	Yes (electric only)	Yes		Yes (gas only)	Yes (electric only)			
Iowa	Yes (electric only)		Yes (electric only)					
Kansas	Yes	Pending			Yes (electric only)			
Kentucky	Yes				Yes	Yes (gas only)		Yes
Louisiana	Yes (electric only)	Yes	Yes (electric only)		Yes (electric only)		Yes	Yes (electric only)
Maine	Yes (electric only)		Yes (electric only)					Yes
Maryland				Yes				
Massachusetts	Yes			Yes	Yes			
Michigan	Yes (gas only)	Pending		Yes (gas only)				Yes

Table 1 (continued)
Innovations to Reduce Regulatory Lag: An Overview of Current Precedent

State	Capex Cost Tracker	CWIP in Rate Base[1]	Multiyear Rate Cap[2]	Revenue Decoupling			Retail Formula Rate Plans	Forward Test Years
				Decoupling True Up Plans	Lost Revenue Adjustment Mechanisms	Fixed Variable Retail Pricing		
Minnesota	Yes	Yes		Yes (gas only)				Yes
Mississippi	Yes (electric only)	Yes				Yes (electric only)	Yes	Yes
Missouri	Yes (gas only)					Yes (gas only)		
Montana	Yes				Yes			
Nebraska								
Nevada				Yes (gas only)	Yes (electric only)			
New Hampshire	Yes		Yes (electric only)		Yes (electric only)			
New Jersey	Yes			Yes (gas only)				
New Mexico		Pending						Pending
New York	Yes (electric only)		Yes	Yes	Yes			Yes
North Carolina		Yes		Yes (gas only)	Yes (electric only)			
North Dakota		Pending				Yes (gas only)		Yes
Ohio	Yes	Pending	Yes (electric only)	Yes (electric only)	Yes (electric only)	Yes (gas only)		
Oklahoma	Yes (electric only)	Pending			Yes (electric only)	Yes (gas only)	Yes (gas only)	
Oregon	Yes			Yes	Yes			Yes
Pennsylvania	Yes (electric only)							Pending
Rhode Island	Yes			Yes				Yes
South Carolina	Yes (electric only)	Yes			Yes (electric only)		Yes (gas only)	
South Dakota	Yes (electric only)	Pending						
Tennessee				Yes (gas only)				Yes
Texas	Yes	Yes					Yes (gas only)	
Utah	Yes (gas only)			Yes (gas only)				Yes
Vermont	Yes (electric only)		Yes					
Virginia	Yes	Yes	Yes (electric only)	Yes (gas only)				
Washington	Pending			Yes (gas only)				
West Virginia	Yes (electric only)	Yes						
Wisconsin		Yes		Yes				Yes
Wyoming	Yes (electric only)	Yes		Yes (gas only)	Yes			Yes (electric only)

[1] This column pertains only to electric utilities.
[2] This column excludes plans involving rate freezes without extensive supplemental funding from trackers.

II. Cost Trackers and CWIP in Rate Base

A cost tracker is a mechanism for expedited recovery of specific utility costs. Balancing accounts are typically used to track unrecovered allowances. Cost recovery is often implemented using tariff sheet provisions called riders.

Trackers are used in various situations where they are a more practical means of adjusting rates for particular business conditions. Utilities usually recover fuel and purchased power costs via trackers because the volatility and substantial size of these costs would otherwise lead to frequent general rate cases and high risk. Other volatile expenses that are sometimes addressed using trackers include those for pension contributions and uncollectible bills.

A second common use of trackers is for costs that must be incurred because they are required by government agencies. Examples here include franchise fees and certain taxes. Tracking costs like these is fair to utilities and encourages government agents to moderate policies that are apt to raise customer bills.

Trackers are also widely used to compensate utilities for costs that are rapidly rising and don't produce much revenue, whether or not they are volatile or mandated. This can facilitate the targeted expenditures and reduce operating risk and rate case frequency. Examples of operation and maintenance ("O&M") expenses that are sometimes tracked due in whole or part to their rapid growth include those for health care and demand side management ("DSM").

Trackers for the costs of plant additions are sometimes called capital expenditure ("capex") trackers. The costs that are recovered typically include the accumulating depreciation, return on asset value, and taxes that the capex gives rise to. Recovery is sometimes achieved by keeping a rate case open beyond the date of a final decision for the limited purpose of adding assets to the revenue requirement.

Capex costs can qualify for expedited recovery using either or both of the second or third reasons just discussed. A utility might, for example, be compelled to make capital expenditures due to highway relocations or changes in government safety or reliability standards or conductor undergrounding requirements. Capex costs might also be tracked because they are large enough to cause material growth in assets that would otherwise occasion frequent rate cases.

The construction of base load generating capacity is a common source of major plant additions for VIEUs. This kind of capacity can take years to construct, especially when it is powered by solid fuels or hydroelectric resources. An allowance in rates for funds used during construction was traditionally not permitted until assets were used and useful and a rate case was filed. Deferred recovery can strain utility cash flow, involve extra financing expenses, and induce rate "shock" when the value of the plant and construction financing is finally added to the rate base. This is particularly true if the utility is not experiencing growth in average use during the years of construction. Many commissions address these problems by making a return on construction work in progress ("CWIP") eligible for immediate recovery. Capital cost trackers are often used in lieu of frequent rate cases to obtain CWIP recovery.

The capex costs of distribution system modernization are sometimes recovered using trackers for somewhat different reasons. The annual expenditure may not be as large as that for solid-fuel generation capacity, and construction of specific assets usually takes less than a year. However, the expenditures can still be sizable and, unlike new generation or customer connections, don't automatically trigger new revenue when construction is finished. A tracker for the cost of the new investment can help a company modernize its grid and improve its services without frequent rate cases.

The capex costs of generation emissions controls are often accorded expedited recovery for a combination of the reasons just discussed. The controls are occasioned by the emissions policies of state and federal agencies. Additionally, the facilities do not produce revenue and some facilities often become used and useful each year over a series of years.

There are varied treatments of costs in approved capex trackers. Plant addition budgets are usually set in advance and commission review of these budgets can be extensive. Once a budget is established, treatment of variances from the budget becomes an issue. Some trackers permit conventional prudence review treatment of cost overruns. In other cases, no adjustments are subsequently made if cost exceeds the budget. In between these extremes are mechanisms in which deviations, of prescribed magnitude, from budgeted amounts are shared formulaically (*e.g.* 50-50) between the utility and its customers.

Recent precedents for capital cost trackers are listed in Table 2 and Figures 2 and 3. It can be seen that the precedents are quite numerous and continue to grow. This is one of the most widespread approaches to Altreg. On the electric side, trackers for emissions controls, generation capacity, and advanced metering infrastructure have been especially common in recent years. Trackers for gas utilities often focus on the cost of replacing old cast iron and bare steel mains. Trackers for water utilities, sometimes called distribution system improvement charges ("DSICs"), are also common for accelerated modernization. Recent electric utility precedents for CWIP in rate base are listed in Table 3 and Figure 4. It can be seen that most involve investments in generating plant.

Figure 2: Recent Capex Tracker Precedents by State: Energy Utilities

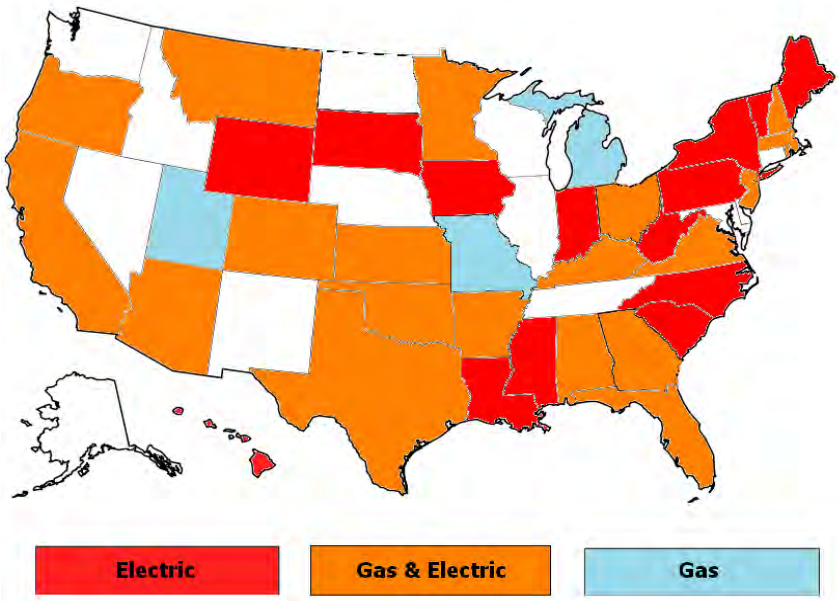


Table 2
Recent Capex Tracker Precedents

Jurisdiction	Company Name	Services Included	Tracker Name	Eligible Investments	Case Reference
Current					
AL	Alabama Power	Electric	Rate Certificated New Plant	Any approved by Commission through CPCN	Dockets 18117 and 18416 (November 1982)
AL	Mobile Gas Service	Gas	Cast Iron Replacement Factor	Replacement of cast iron mains	Docket 24794 (November 1995)
AR	CenterPoint Energy Arkla	Gas	Main Replacement Rider	Replacement of cast iron and bare steel mains and services	Docket 06-161-U (October 2007)
AR	CenterPoint Energy Arkla	Gas	Government Mandated Expenditure Surcharge Rider	Replacements resulting from highway and street rebuilding	Docket No. 10-108-U (March 2011)
AR	Oklahoma Gas & Electric	Electric	Smart Grid Rider	Systemwide smart grid implementation	Docket No. 10-109-U (August 2011)
AR	SWEPCO	Electric	Generation Recovery Rider	New generation	Docket No. 09-008-U (November 2009)
AZ	Arizona Public Service	Electric	Environmental Improvement Surcharge	Environmental improvement projects	Docket No. E-01345A-11-024
AZ	Arizona Public Service	Electric	Renewable Energy Standard Adjustment Schedule	Renewables not recovered in base rates	Docket No. E-01345A-08-0172
AZ	Southwest Gas	Gas	Customer Owned Yard Line Cost Recovery Mechanism	Replacement and ownership of customer-owned yard lines that have been shown to be leaking	Docket No. G-01551A-10-0458 (January 2012)
CA	Pacific Gas & Electric	Electric & Gas	Smart Meter Balancing Accounts	AMI	Decision 06-07-027 (July 2006)
CA	Pacific Gas & Electric	Electric	Cornerstone Improvement Project Balancing Account	Capital and O&M expenses to improve the reliability of the electric distribution system	Decision 10-06-048 (June 2010)
CA	Pacific Gas & Electric	Gas Transmission	Pipeline Safety Implementation Plan	Pipeline replacement, automated valve installation, and upgrades to pipeline	Decision 12-12-030 (December 2012)
CA	San Diego Gas & Electric	Electric & Gas	Advanced Metering Infrastructure Balancing Account	AMI	Decision 07-04-043 (April 2007)
CA	San Diego Gas & Electric	Electric	SONGS Major Additions Adjustment Clause	Steam generator replacement for San Onofre Nuclear Generating Station	Decision 06-11-026 (November 2006)
CA	Southern California Edison	Electric	Steam Generator Replacement Project	Steam generator replacement for San Onofre Nuclear Generating Station	Decision 05-12-040 (December 2005)
CA	Southern California Edison	Electric	SmartConnect Balancing Account	Advanced Metering Infrastructure Project	Decision No. 08-09-039 (September 2008)
CA	Southern California Edison	Electric	Solar PV Balancing Account	Solar generation	Decision No. 09-06-049 (June 2009)
CA	Southern California Gas	Gas	Advanced Metering Infrastructure Balancing Account	AMI	Decision 10-04-027 (April 2010)
CO	Atmos Energy	Gas	AMI Surcharge	AMI pilot deployment	Docket No. 10A-189G (May 2010)
CO	Public Service Company of Colorado	Electric	Transmission Cost Adjustment	Transmission projects	Docket No. 07A-339E, Decision No. C07-1085 (December 2007)
CO	Public Service Company of Colorado	Gas	Pipeline Safety Integrity Adjustment	Gas distribution and transmission integrity management programs, main replacement, partial recovery of two large pipeline replacements	Docket No. 10-AL-963G (August 2011)
CT	Connecticut Light & Power	Electric	System Resiliency Plan	Structural hardening	Docket No. 12-07-06 (January 2013)
DE	All utilities may file	Electric & Gas	Utility Facility Relocation Charge	Replacements due to mandated relocations that are not otherwise reimbursed	PSC Regulation Docket No. 63 (April 2012)
FL	Chesapeake Utilities	Gas	Gas Reliability Infrastructure Program Tariff	Replacement of bare steel mains and services	Docket No. 120036-GU (September 2012)
FL	Florida Public Utilities	Gas	Gas Reliability Infrastructure Program Tariff	Replacement of bare steel mains and services	Docket No. 120036-GU (September 2012)
FL	Gulf Power	Electric	Environmental Cost Recovery Clause	Environmental	Docket No. 930613-EI (January 1994)
FL	Florida Power and Light	Electric	Environmental Cost Recovery Clause	Environmental	Docket No. 080281-EI (August 2008)
FL	Florida Power and Light	Electric	Generation Base Rate Adjustment	Generation	Docket No. 120015-EI (December 2012)
FL	Florida Power and Light	Electric	Capacity Cost Recovery Clause	Nuclear power	Docket No. 090009-EI (November 2009)
FL	Peoples Gas System	Gas	Cast Iron/Bare Steel Replacement Rider	Replacement of bare steel and cast iron pipes	Docket No. 110320-GU (September 2012)
FL	Progress Energy Florida	Electric	Capacity Cost Recovery Clause	Nuclear power	Docket No. 090009-EI (November 2009)
FL	Progress Energy Florida	Electric	Environmental Cost Recovery Clause	Environmental	Docket No. 050078-EI (September 2005)
FL	Tampa Electric	Electric	Environmental Cost Recovery Clause	Environmental	Docket No. 960688-EI (August 1996)
GA	Atmos Energy	Gas	Pipe Replacement Surcharge	Replace cast iron and bare steel pipe	Docket No. 12509-U (December 2000)
GA	Atlanta Gas Light	Gas	Strategic Infrastructure Development and Enhancement Program	Infrastructure improvements that sustain reliability and operational flexibility	Docket No. 8516-U (October 2009)
GA	Georgia Power Company	Electric	Environmental Compliance Cost Recovery	Environmental	Docket No. 25060-U (December 2007)
GA	Georgia Power Company	Electric	Nuclear Construction Cost Recovery	Nuclear generation	Docket No. 27800, Senate Bill 31

Table 2 (continued)
Recent Capex Tracker Precedents

Jurisdiction	Company Name	Services Included	Tracker Name	Eligible Investments	Case Reference
HI	Hawaii Electric Light	Electric	Renewable Energy Infrastructure Program Surcharge	Renewable energy infrastructure	Docket No. 2007-0416 (December 2009)
HI	Hawaiian Electric Company	Electric	Renewable Energy Infrastructure Program Surcharge	Renewable energy infrastructure	Docket No. 2007-0416 (December 2009)
HI	Maui Electric	Electric	Renewable Energy Infrastructure Program Surcharge	Renewable energy infrastructure	Docket No. 2007-0416 (December 2009)
IA	MidAmerican Energy	Electric	Cooper Tracking Mechanism	Nuclear plant	Docket APP-96-1 (June 1997), Docket No. TF-02-154 (APP-96-1, RPU-96-8) (May 2002)
IN	Duke Energy Indiana	Electric	Qualified Pollution Control Property	Environmental	Cause No. 41744 (February 2001)
IN	Duke Energy Indiana	Electric	Integrated Coal Gasification Combined Cycle Generating Facility Cost Recovery Adjustment	Integrated gasification combined cycle generating plant	Docket No. 43114 (November 2007)
IN	Indianapolis Power & Light	Electric	Environmental Compliance Cost Recovery	Environmental	Cause 42170 (November 2002)
IN	Indiana Michigan Power	Electric	Clean Coal Technology Rider	Environmental	Cause No. 43636 (June 2009)
IN	Northern Indiana Public Service	Electric	Environmental Cost Recovery Mechanism	Environmental	Cause No. 42150 (November 2002)
KS	Atmos Energy	Gas	Gas System Reliability Surcharge	Infrastructure system replacements	Docket No. 10-ATMG-133-TAR (December 2009)
KS	Black Hills Energy (Aquila)	Gas	Gas System Reliability Surcharge	Infrastructure system replacements	Docket No. 07-AQLG-431-RTS (May 2007)
KS	Kansas Gas Service	Gas	Gas System Reliability Surcharge	Infrastructure system replacements	Docket 10-KGSG-155-TAR (December 2009)
KS	Kansas Gas & Electric	Electric	Environmental Cost Recovery Rider	Environmental	Docket No. 05-WSEE-981-RTS (October 2005)
KS	Midwest Energy	Gas	Gas System Reliability Surcharge	Infrastructure system replacements	Docket 09-MDWE-722-TAR (May 2009)
KS	Westar Energy Inc.	Electric	Environmental Cost Recovery Rider	Environmental	Docket No. 05-WSEE-981-RTS (October 2005)
KY	Atmos Energy	Gas	Pipe Replacement Program Rider	Replacement of bare steel service lines, curb valves, meter loops, and mandated relocates	Docket No. 2009-00354 (May 2010)
KY	Columbia Gas	Gas	Advanced Main Replacement Rider	Replacement of cast iron and bare steel mains and services	Docket No. 2009-00141 (September 2009)
KY	Delta Natural Gas	Gas	Pipe Replacement Program Surcharge	Replacement of bare steel pipe, service lines, curb valves, meter loops, and mandated pipe relocations	Case No. 2010-00116 (October 2010)
KY	Kentucky Power	Electric	Environmental Cost Recovery Surcharge	Environmental	Docket No. 2002-00169 (March 2003)
KY	Kentucky Utilities	Electric	Environmental Cost Recovery Surcharge	Environmental	Case No. 93-465 (July 1994)
KY	Louisville Gas & Electric	Electric	Environmental Cost Recovery Surcharge	Environmental	Case No. 94-332 (April 1995)
KY	Louisville Gas & Electric	Gas	Gas Line Tracker	Replacement and transfer of ownership of customer owned service risers	Case No. 2012-00222 (December 2012)
LA	Cleco Power	Electric	Infrastructure and Incremental Costs Recovery	Generation, Transmission, environmental, other projects to be determined	Docket U-30689 (October 2010)
MA	Bay State Gas	Gas	Targeted Infrastructure Recovery Factor	Replacement of bare steel mains and services	DPU 09-30
MA	Massachusetts Electric	Electric	Net CapEx Factor	All distribution above depreciation expense	DPU 09-39
MA	Massachusetts Electric	Electric	Solar Cost Adjustment Provision	Solar generation	DPU 09-38
MA	Nantucket Electric	Electric	Solar Cost Adjustment Provision	Solar generation	DPU 09-38
MA	National Grid (Boston-Essex Gas and Colonial Gas	Gas	Targeted Infrastructure Recovery Factor	Replacement of bare steel, cast iron, and wrought iron mains, services, meters, meter installations, and house regulators	DPU 10-55
MA	New England Gas	Gas	Targeted Infrastructure Recovery Factor	Replacement of non-cathodically protected steel mains and services and small diameter cast-iron and wrought iron	DPU 10-114
MA	NSTAR Electric	Electric	Capital Projects Scheduling List	Stray voltage inspection survey and remediation program; double pole inspections, replacements, and restorations; and manhole inspection, repair, and upgrade	DTE 05-85 and DPU 10-70-B
MA	NSTAR Electric	Electric	NA	Smart grid pilot	DPU-09-33
MA	Western Massachusetts Electric	Electric	Solar Program Cost Adjustment	Solar generation	DPU 09-05
MN	Minnesota Power	Electric	Arrowhead Regional Emission Abatement Rider	Environmental	M-05-1678 (June 2006)
MN	Minnesota Power	Electric	Renewable Resource Rider	Renewable generation	Docket M-10-273 (July 2010)
MN	Minnesota Power	Electric	Transmission Cost Recovery Rider	Incremental transmission investment	Docket M-07-965 (December 2007)
MN	Northern States Power (Xcel Energy)	Electric	Renewable Energy Standard Cost Recovery Rider	Renewable generation	M-07-872 (March 2008)
MN	Northern States Power (Xcel Energy)	Electric	Metropolitan Emissions Reduction Project (later called Environmental Improvement Rider)	Environmental	Docket M-02-633 (March 2004)
MN	Northern States Power (Xcel Energy)	Electric	Mercury Cost Recovery Rider	Environmental	Docket No. M-09-847 (November 2009)
MN	Northern States Power (Xcel Energy)	Gas	State Energy Policy Rider	Cast iron replacements	Docket No. M-08-261 (November 2008)

Table 2 (continued)
Recent Capex Tracker Precedents

Jurisdiction	Company Name	Services Included	Tracker Name	Eligible Investments	Case Reference
ME	Central Maine Power	Electric	NA	AMI	Docket No. 2007-215(II) (February 2010)
MI	SEMCO Gas	Gas	Main Replacement Rider	Replacement of cast iron and unprotected steel mains and service lines	Case U-16169 (January 2011)
MO	AmerenUE	Gas	Infrastructure System Replacement Surcharge	Replacement of mains, valves, service lines, regulator stations, vaults, other pipeline components	Case No. GT-2008-0184 (February 2008)
MO	Atmos Energy	Gas	Infrastructure System Replacement Surcharge	Replacement of mains, valves, service lines, regulator stations, vaults, other pipeline components	Docket No. GO-2009-0046 (October 2008)
MO	Laclede Gas	Gas	Infrastructure System Replacement Surcharge	Replacement of mains, valves, service lines, regulator stations, vaults, other pipeline components	Docket No. GR-2007-0208 (July 2007)
MO	Missouri Gas Energy	Gas	Infrastructure System Replacement Surcharge	Natural gas line replacements and relocations	Docket No. GR-2009-0355 (February 2010)
MS	Mississippi Power	Electric	Enviromental Compliance Overview Plan Rate	Environmental	Docket No. 92-UA-0058 and 92-UN-0059 (July 1992)
MT	Northwestern Energy	Electric	NA - Amounts recovered through electric supply service rates	Generation	Docket D.2008.6.69 (November 2008)
MT	Northwestern Energy	Gas	Natural Gas Supply Tracker	Battle Creek natural gas production resources	Docket No. D2012.3.25 (November 2012)
NH	Energy North	Gas	Cast Iron/Bare Steel Replacement Program	Replacement of cast iron and bare steel pipe	Docket DG-107 (June 2007)
NH	Granite State Electric	Electric	Reliability Enhancement Plan Capital Investment Allowance	Feeder hardening and asset replacement	Docket DG-107 (June 2007)
NH	Public Service Company of New Hampshire	Electric	Energy Service	Environmental	DE 11-250 (April 2012)
NJ	Elizabethtown Gas	Gas	Utility Infrastructure Enhancement Rate	Projects to enhance reliability and reinforce infrastructure	Docket No. GO09010053 (April 2009)
NJ	Elizabethtown Gas	Gas	Utility Infrastructure Enhancement Rate II	Projects to enhance reliability and reinforce infrastructure	Docket No. GO10120969 (May 2011)
NJ	New Jersey Natural Gas	Gas	Compressed Natural Gas Pilot Program	Compressed natural gas infrastructure	Docket No. GR11060361 (June 2012)
NJ	Public Service Electric and Gas	Electric & Gas	Capital Infrastructure Investment Program	Electric: reliability upgrades & feeder replacement, Gas: replacement of cast iron & bare steel mains and services	Docket No. GO09010050 (April 2009)
NJ	Public Service Electric and Gas	Electric & Gas	Capital Infrastructure Investment Program II	Electric: reliability upgrades & feeder replacement, Gas: replacement of cast iron & bare steel mains and services	Docket No. EO11020088, GO10110862 (July 2011)
NJ	Public Service Electric and Gas	Electric	Solar Generation Investment Program	Solar generation	Docket No., EO09020125 (August 2009)
NJ	Rockland Electric	Electric	Smart Grid Surcharge	Smart Grid pilot	Docket No. EO09060459 (April 2010)
NJ	South Jersey Gas	Gas	Capital Investment Recovery Tracker	Bare steel replacement, expand key distribution mains for reliability	Docket No. GO09010051 (April 2009)
NJ	South Jersey Gas	Gas	Capital Investment Recovery Tracker II	Bare steel replacement, expand key distribution mains for reliability	Docket No. GO10100765 (March 2011)
NJ	South Jersey Gas	Gas	Capital Investment Recovery Tracker III	Accelerated Main Replacement Program	Docket No. GO11100632 (May 2012)
NY	Consolidated Edison	Electric	Monthly Adjustment Clause	AMI, SCADA, undergrounding	Case 09-E-0310 (October 2010)
OH	Cleveland Electric Illuminating	Electric	Rider AMI	Ohio Site Deployment	Case Nos. 09-1820-EL-ATA and 12-1230-EL-SSO
OH	Cleveland Electric Illuminating	Electric	Delivery Capital Recovery Rider	Distribution, subtransmission, general, and intangible plant not included in most recent rate case	Case No. 10-388-EL-SSO (August 2010)
OH	Columbia Gas of Ohio	Gas	Infrastructure Replacement Program Rider	Replacement of cast iron and bare steel mains & services, AMI	Case No. 08-0072-GA-AIR, 08-0073-GA-ALT, 08-0074-GA-AAM, and 08-0075-GA-AAM (December 2008); Case No. 09-1036-GA-RDR (April 2010)
OH	Columbus Southern Power	Electric	Distribution Investment Rider	Net capital additions since the date certain of most recent rate case not recovered through other riders	Case 11-346-EL-SSO
OH	Columbus Southern Power	Electric	GridSMART Rider (Phase I)	Smart grid	Case No. 08-917-EL-SSO and 08-918-EL-SSO (March 2009)
OH	Dayton Power and Light	Electric	Environmental Investment Rider	Environmental	Case No. 05-276-EL-AIR (December 2005)
OH	East Ohio Gas d/b/a Dominion East Ohio	Gas	Pipeline Infrastructure Replacement Rider	Pipelines & faulty riser replacements	Case No. 09-458-GA-RDR (December 2009)
OH	East Ohio Gas d/b/a Dominion East Ohio	Gas	Automated Meter Reading Charge	AMI	Case No. 07-0829-GA-AIR, 07-0830-GA-ALT, 07-0831-GA-AAM, 08-0169-GA-ALT, and 06-1453-GA-UNC (October 2008); Case No. 09-38-GA-UNC (May 2009); Case No. 09-1875-GA-RDR (May 2010)

Table 2 (continued)
Recent Capex Tracker Precedents

Jurisdiction	Company Name	Services Included	Tracker Name	Eligible Investments	Case Reference
OH	Duke Energy Ohio	Gas	Accelerated Main Replacement Program Rider	Replacement of bare steel and cast iron mains and services	Case No. 01-1228-GA-AIR, and 01-1478-GA-ALT, and 01-1539-GA-AAM (May 2002); 07-0589-GA-AIR 07-0590-GA-ALT 07-0591-GA-AAM (May 2008)
OH	Duke Energy Ohio	Gas	Advanced Utility Rider	Gas AMI	Case No. 07-0589-GA-AIR 07-0590-GA-ALT 07-0591-GA-AAM (May 2008)
OH	Duke Energy Ohio	Electric	Infrastructure Modernization Distribution Rider	Electric AMI	Case No. 08-920-EL-SSO and 08-921-EL-AAM and 08-922-EL-UNC and 08-923-EL-ATA (December 2008)
OH	Ohio Edison	Electric	Rider AMI	Ohio Site Deployment	Case Nos. 09-1820-EL-ATA and 12-1230-EL-SSO
OH	Ohio Edison	Electric	Delivery Capital Recovery Rider	Distribution, subtransmission, general, and intangible plant not included in most recent rate case (filed in 2007)	Case No. 10-388-EL-SSO (August 2010)
OH	Ohio Power	Electric	Distribution Investment Rider	Net capital additions since the date certain of most recent rate case not recovered through other riders	Case 11-346-EL-SSO
OH	Ohio Power	Electric	GridSMART Rider (Phase I)	Smart grid	Case No. 08-917-EL-SSO and 08-918-EL-SSO (March 2009)
OH	Toledo Edison	Electric	Rider AMI	Ohio Site Deployment	Case Nos. 09-1820-EL-ATA and 12-1230-EL-SSO
OH	Toledo Edison	Electric	Delivery Capital Recovery Rider	Power Distribution, subtransmission, general, and intangible plant not included in most recent rate case (filed in 2007)	Case No. 10-388-EL-SSO (August 2010)
OH	Vectren Energy Delivery	Gas	Distribution Replacement Rider	Replacement of cast iron and bare steel mains and services	Docket No. 07-1081-GA-ALT, 07-1080-GA-AIR and 08-0632-GA-AAM (January 2009)
OK	Oklahoma Gas & Electric	Electric	Smart Grid Rider	Smart grid	Cause No. PUD 201000029 (July 2010)
OK	Oklahoma Gas & Electric	Electric	System Hardening Recovery Rider	Undergrounding and other circuit hardening	Cause No. PUD 20080387, Order No. 567670 (May 2009)
OK	Oklahoma Gas & Electric	Electric	Crossroads Rider	Crossroads Wind Farm	Cause No. PUD 201000037 (July 2010)
OK	Public Service Company of Oklahoma	Electric	Reliability Vegetation/Undergrounding Rider	Conversion of overhead to underground customer service lines	Cause No. PUD 200800144 (January 2009)
OR	Northwest Natural Gas	Gas	System Integrity Program	Bare steel replacement, Transmission integrity management program, distribution integrity management program	Docket UM 1406, Order No. 09-067 (March 2009)
OR	PacifiCorp	Electric	Renewable Adjustment Clause	Renewable generation	Docket UM 1330 (December 2007)
OR	PacifiCorp	Electric	NA	Mona to Oquirrh transmission line only if line is placed into service within 6 months of May 31, 2013	Docket UE 246, Order 12-493 (December 2012)
OR	Portland General Electric	Electric	Renewable Adjustment Clause	Renewable generation	Docket UM 1330 (December 2007)
PA	All utilities may file	Electric & Gas	Distribution System Improvement Charge	Non-expense reducing, non-revenue producing infrastructure replacement projects	Docket No. M-2012-2293611 (August 2012)
PA	PPL Electric Utilities	Electric	Act 129 Compliance Rider	AMI	Docket No. M-2009-2123945 (January 2010)
PA	PECO	Electric	Smart Meter Cost Recovery Rider	AMI	Docket No. M-2009-2123944 (April 2010)
PA	Metropolitan Edison	Electric	Smart Meters Technologies Charge	AMI	Docket M-2009-2123950 (April 2010)
PA	Pennsylvania Electric	Electric	Smart Meters Technologies Charge	AMI	Docket M-2009-2123950 (April 2010)
PA	Pennsylvania Power	Electric	Smart Meters Technologies Charge	AMI	Docket M-2009-2123950 (April 2010)
PA	Duquesne Light	Electric	Smart Meter Charge Rider	AMI	Docket No. M-2009-2123948 (April 2010)
PA	West Penn Power	Electric	Smart Meter Surcharge	AMI	Docket No. M-2009-2123951 (June 2011)
RI	Narragansett Electric (electric operations)	Electric	Electric Infrastructure, Safety, and Reliability Plan Factor	Replacements and load growth	Docket No. 4218 (December 2011)
RI	Narragansett Electric (gas operations)	Gas	Gas Infrastructure, Safety, and Reliability Plan Factor	Replacement investment	Docket No. 4219 (September 2011)
SC	South Carolina Electric & Gas	Electric	NA	Nuclear generation	Docket 2008-196-E (March 2009)
SD	Black Hills Power	Electric	Environmental Improvement Adjustment tariff	Environmental	Docket EL11-001
SD	Northern States Power- MN	Electric	Environmental Cost Recovery Tariff	Environmental	Docket EL07-026 (January 2009)

Table 2 (continued)
Recent Capex Tracker Precedents

Jurisdiction	Company Name	Services Included	Tracker Name	Eligible Investments	Case Reference
TX	All Electric Utilities	Electric	Distribution Cost Recovery Factor	Any distribution	Docket 39465
TX	AEP Texas Central	Electric	Advanced Metering System Surcharge	AMI	Docket No. 36928
TX	AEP Texas North	Electric	Advanced Metering System Surcharge	AMI	Docket No. 36928
TX	Atmos Energy Mid Tex	Gas	Gas Reliability Infrastructure Program	Incremental investment in new and replacement pipe, pipeline integrity	Texas Utilities Code 104.301 and Gas Utilities Docket 9615
TX	Atmos Energy Pipelines	Gas	Gas Reliability Infrastructure Program	Incremental investment in new and replacement pipe, pipeline integrity	Texas Utilities Code 104.301 and Gas Utilities Docket 9615
TX	Atmos Energy West Texas Division	Gas	Gas Reliability Infrastructure Program	Incremental investment in new and replacement pipe, pipeline integrity	Texas Utilities Code 104.301 and Gas Utilities Docket 9608
TX	Centerpoint Energy Entex - Houston Division	Gas	Gas Reliability Infrastructure Program	Incremental investment in new and replacement pipe, pipeline integrity	Texas Utilities Code 104.301 and Gas Utilities Docket 10067
TX	Centerpoint Energy Houston Electric	Electric	Advanced Metering System Surcharge	AMI	Docket No. 35620 (August 2008)
TX	Oncor Electric Delivery	Electric	Advanced Metering System Surcharge	AMI	Docket No. 35718 (August 2008)
TX	Texas-New Mexico Power	Electric	Advanced Metering System Surcharge	AMI	Docket No. 38306 (July 2011)
UT	Questar Gas	Gas	Infrastructure Rate Adjustment Tracker	Replacement of aging high-pressure feeder lines	Docket 09-057-16 (June 2010)
VA	Appalachian Power	Electric	Environmental & Reliability Cost Recovery Surcharge	Environmental & reliability	Docket No. PUE-2007-00069 (December 2007)
VA	Appalachian Power	Electric	Environmental Rate Adjustment Clause	Environmental	Case No. PUE-2011-00035 (November 2011)
VA	Appalachian Power	Electric	Generation Rate Adjustment Clause	Dresden plant	Docket No. PUE-2011-00036 (January 2012)
VA	Atmos Energy	Gas	Infrastructure Reliability and Replacement Adjustment	Replacement of first generation plastic pipe and service lines and bare steel mains and services	Case No. PUE-2012-00049 (August 2012)
VA	Columbia Gas of Virginia	Gas	SAVE Rider	Replacement of bare steel and cast iron mains, some early plastic pipe, isolated bare steel services, and risers prone to failure	Case No. PUE-2011-00049 (November 2011)
VA	Virginia Electric Power	Electric	Rider R	Bear Garden Generating Station	Case No. PUE-2009-00017 (March 2010)
VA	Virginia Electric Power	Electric	Rider S	Virginia City Hybrid Energy Center	Case No. PUE-2007-00066 (March 2008)
VA	Virginia Electric Power	Electric	Rider W	Warren County Power Station	Case No. PUE-2011-00042 (February 2012)
VA	Virginia Electric Power	Electric	Rider B	Biomass conversions	Case No. PUE-2011-00073 (March 2012)
VA	Washington Gas Light	Gas	SAVE Rider	Replacement of bare and unprotected steel services and mains, mechanically coupled pipe, copper services, cast iron main, and plastic services	Case No. PUE-2010-00087 (April 2011)
VT	Central Vermont Public Service	Electric	New Initiatives Adder	AMI	Dockets 7586 and 7612
WA	All gas utilities may file	Gas	Special Pipe Replacement Program Cost Recovery Mechanism	Replacement of pipe that is at an elevated risk of failure	Docket UG-120715 (December 2012)
WV	Appalachian Power	Electric	Construction/765kW Surcharge	Generation, Environmental	Case No. 11-0274-E-GI (June 2011)
WV	Wheeling Power	Electric	Construction/765kW Surcharge	Generation, Environmental	Case No. 11-0274-E-GI (June 2011)
WY	Black Hills Power	Electric	Cheyenne Prairie Generating Station rate rider tariff	Construction of Cheyenne Prairie Generating Station	Docket No. 20002-84-ET-12 (November 2012)
WY	Cheyenne Light, Fuel, & Power	Electric	Cheyenne Prairie Generating Station rate rider tariff	Construction of Cheyenne Prairie Generating Station	Docket No. 20003-123-ET-12 (November 2012)

Table 2 (continued)
Recent Capex Tracker Precedents

Jurisdiction	Company Name	Services Included	Tracker Name	Eligible Investments	Case Reference
			Historic		
CA	San Diego Gas & Electric	Electric & Gas	Advanced Metering Infrastructure Balancing Account	AMI	Application 05-03-015 (March 2005)
CA	Southern California Edison	Electric	Advanced Metering Infrastructure Balancing Account	AMI	Docket No. 07-07-042 (July 2007)
CO	Public Service Company of Colorado	Electric	Air Quality Improvement Rider	Environmental	Docket 98A-511E
GA	Atlanta Gas Light	Gas	Pipeline Replacement Program Cost Recovery Rider	Replacement of cast iron and bare steel pipe	Docket 8516-U later updated in Docket No. 29950 as STRIDE tracker in 2009
IL	Commonwealth Edison	Electric	Rider Systems Modernization Projects, renamed Rider Advanced Metering Pilot	AMI	Case 07-0566, Case 09-0263
IL	Peoples Gas Light & Coke	Gas	Rider Incremental Cost Recovery	Replacement of cast iron and bare steel pipe	Docket No. 09-0167 (January 2010)
KY	Union Light, Heat and Power (Duke Energy Kentucky)	Gas	Advanced Main Replacement Rider	Replacement of cast iron and bare steel mains and services	Docket No. 2001-00092 (January 2002)
NJ	Atlantic City Electric	Electric	Infrastructure Investment Surcharge	Replacements	Docket No. EO09010049 and GO09010054 (April 2009)
NJ	New Jersey Natural Gas	Gas	Accelerated Infrastructure Projects	Replace bare steel mains, reinforce distribution system & transmission mains	Docket No. GO09010052 and GR07110889 (April 2009)
NJ	New Jersey Natural Gas	Gas	Accelerated Infrastructure Projects II	Replace bare steel mains, reinforce distribution system & transmission mains	Docket No. GR10100793 (March 2011)
NY	Corning Natural Gas	Gas	Delivery Rate Adjustment	Incremental additions	Docket No. 08-G-1137 (March 2009)
NY	NYSEG	Gas	Gas Cost Savings Incentive Mechanism	Infrastructure that reduces the cost of gas supply	Docket No. 01-G-1668 (November 2002)
OH	Cleveland Electric Illuminating	Electric	Delivery Service Improvement Rider	Distribution reliability	0021-EL-ATA, 09-0022-EL-AEM, and 09-0023-EL-AAM (March 2009)
OH	Columbus Southern Power	Electric	IGCC Surcharge (Phase I only)	Early IGCC development	Case No. 05-376-EL-UNC (April 2006)
OH	Columbus Southern Power	Electric	IGCC Surchage (Phase II) IGCC Recovery Factor (Phase III)	IGCC	Case No. 05-376-EL-UNC (June 2006)
OH	Columbus Southern Power	Electric	Generation Cost Recovery Rider	Environmental	Case No. 07-63-EL-UNC (October 2007)
OH	Columbus Southern Power	Electric	Environmental Investment Carrying Charges (applies only to standard offer service customers)	Environmental	Case 08-917-EL-SSO (October 2011)
OH	Ohio Edison	Electric	Delivery Service Improvement Rider	Distribution reliability	Case No. 08-0935-EL-SSO, 09-0021-EL-ATA, 09-0022-EL-AEM, and 09-0023-EL-AAM (March 2009)
OH	Ohio Power	Electric	Environmental Investment Carrying Charges (applies only to standard offer service customers)	Environmental	Case 08-917-EL-SSO (October 2011)
OH	Ohio Power	Electric	Generation Cost Recovery Rider	Environmental	Case No. 07-63-EL-UNC (October 2007)
OH	Ohio Power	Electric	IGCC Surcharge (Phase I only)	Early IGCC development	Case No. 05-376-EL-UNC (April 2006)
OH	Ohio Power	Electric	IGCC Surchage (Phase II) IGCC Recovery Factor (Phase III)	IGCC	Case No. 05-376-EL-UNC (June 2006)
OH	Toledo Edison	Electric	Delivery Service Improvement Rider	Distribution reliability	Case No. 08-0935-EL-SSO, 09-0021-EL-ATA, 09-0022-EL-AEM, and 09-0023-EL-AAM (March 2009)
OK	Empire District Electric	Electric	Capital Recovery Rider	All incremental investment between rate cases	Cause No. PUD 201000033, Order 577904 (August 2010)
OK	Oklahoma Gas & Electric	Electric	OU Spirit Rider	OU Spirit Wind Farm	Cause No. 200900167, Order No. 571788 (October 2009)
OK	Oklahoma Gas & Electric	Electric	Smart Power Rider	Norman, Oklahoma pilot smart grid program	Cause No. 200800398
OK	Public Service Company of Oklahoma	Electric	Capital Investment Rider (CIR)	All incremental investment between rate cases	Cause No. 200900181 (August 2009)
OR	Northwest Natural Gas	Gas	NA	AMI	Docket UM 1413, Order 09-105 (March 2009)
OR	Northwest Natural Gas	Gas	Bare steel replacement program	Replacement of bare steel	Docket No. UM 1030, Order No. 01-843 (September 2001)
OR	Portland General Electric	Electric	NA	AMI	Docket UE 189, Order No. 08-245 (May 2008)
PA	PPL Electric Utilities	Electric	Energy Development Rider	Renewable interconnections	Docket No. M-00031715 F0003 (August 2006); Previously R-00973954 (May 14, 1998)
RI	Narragansett Electric (gas operations)	Gas	Accelerated Capital Replacement Program	Replacement of high pressure bare steel services inside customer premises	Docket No. 3943 (January 2009)
WV	Appalachian Power	Electric	NA: tracker included in the Expanded Net Energy Cost Mechanism	Transmission line, Environmental	Case No. 05-1278-E-PC-PW-42T (July 2006)

Figure 3: Recent Capex Tracker Precedents by State: Water Utilities

Figure 4: Recent Electric Precedents for CWIP In Rate Base

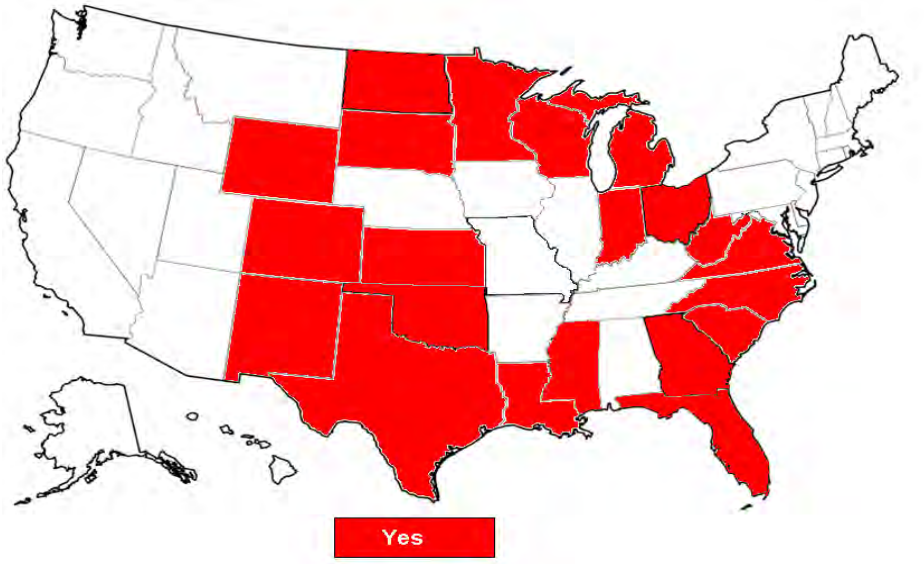


Table 3
CWIP in Rate Base: Recent Electric Retail Precedents

Jurisdiction	Company	Year Approved	Type of Project	Reference
Colorado	Public Service of Colorado	2006	Transmission, generation	Docket No. 06S-234EG
Colorado	Legislation	2007	Transmission	Senate Bill 07-100
Florida	Rulemaking	2007	Nuclear and IGCC generation	Docket 060508-EL
Florida	Florida Power & Light	2008	Nuclear generation	Docket 080650-EL
Florida	Progress Energy Florida	2008	Nuclear generation	Docket 080148-EI
Georgia	Georgia Power	2009	Nuclear generation	Docket 27800
Indiana	General Policy		Environmental	
Indiana	Duke Energy Indiana	2007	IGCC generation	Docket No. 43114
Kansas	Legislation	2008	Nuclear generation	Senate Bill 586
Louisiana	Rulemaking	2007	Nuclear generation	Docket R-29712
Louisiana	Cleco Power	2006	Generation	Docket U-28765
Michigan	Legislation	2008	Significant capital projects	House Bill 5524
Minnesota	Northern States Power- MN	2004	Environmental	Docket No. M-02-633
Minnesota	Minnesota Power	2007	Transmission	Docket M-07-965
Mississippi	Mississippi Power	2001	All projects within 1 year of completion	Docket No. 01-UN-0548
New Mexico	Legislation	2009	All	Senate Bill 477
North Carolina	Duke Energy Carolinas	2009	Generation	Docket No. E-7, Sub 909
North Carolina	Legislation	2007	Generation	Senate Bill 3
North Dakota	Legislation	2007	Transmission, federally mandated environmental	Senate Bill 2031 & House Bill 1221
Ohio	Legislation	2008	New Generation, Environmental	SB 221
Oklahoma	Legislation	2005	Environmental, transmission	House Bill 1910
South Carolina	South Carolina Electric & Gas	2003	Generation	Docket No. 2002-223-E
South Carolina	South Carolina Electric & Gas	2009	Nuclear generation	Docket 2009-211-E
South Dakota	Legislation	2006/2007	Transmission, environmental	
Texas	Rulemaking	2005	All Transmission within ERCOT (conditional)	Project 28884
Virginia	Legislation	2007	Reliability-related, nuclear, renewables, new generation using Virginia coal	Senate Bill 1416
Virginia	Virginia Electric Power	2008	New generation using Virginia coal	PUE-2007-00066
West Virginia	Appalachian Power	2006	Transmission, environmental, IGCC generation	Case No. 05-1278-E-PC-PW-42T
West Virginia	Monongahela Power	2007	Environmental	Case No. 05-0750-E-PC
Wisconsin	Wisconsin Public Service	2000	Nuclear generation, transmission	Docket 6690-UR-112
Wisconsin	Wisconsin Public Service	2005	Generation	Docket 6690-UR-117
Wisconsin	Wisconsin Power & Light	2012	All Commission approved projects	Docket 6680-UR-118
Wisconsin	General Policy		Diverse operations	
Wyoming	Black Hills Power	2012	Generation	Docket 20002-84-ET-12
Wyoming	Cheyenne Light, Fuel, & Power	2012	Generation	Docket 20003-123-ET-12

III. Revenue Decoupling

We use the term revenue decoupling to describe a diverse set of rate treatments designed to facilitate recovery of allowed revenue. The link between a utility's revenue and its sales is thereby weakened. This reduces the utility's disincentive to promote energy efficiency and can alleviate the financial stress caused by DSM programs and declining average use. DSM programs to encourage energy efficiency and discourage load peakedness can yield large cost savings for customers. Three approaches to decoupling are well established: decoupling true up plans, lost revenue adjustment mechanisms ("LRAMs"), and fixed variable pricing.

A. Decoupling True Up Plans

Decoupling true up plans adjust rates periodically to ensure that a utility's actual revenue tracks the revenue allowed by regulators. Most decoupling true up plans have two basic components: a revenue decoupling mechanism ("RDM") and an allowed revenue adjustment mechanism ("RAM"). The RDM tracks variances between actual and allowed revenue and makes periodic true ups. To the extent that recovery of allowed revenue is achieved, utilities can use rate designs more aggressively to promote DSM goals.

Decoupling true ups may be made annually or more frequently. More frequent adjustments cause actual and allowed revenue each year to correlate better so that rates fluctuate less from year to year. The size of the true up that is permitted in a given year is sometimes capped. A "soft" cap permits utilities to defer for later recovery any account balances that cannot be recovered immediately.

RDMs vary in the scope of utility services to which they apply. Quite commonly, only revenues from residential and commercial business customers are decoupled. These customers account for a high share of distribution base rate revenue and are usually the primary focus of DSM programs. RDMs also vary in terms of the service classes for which revenues are pooled for true up purposes. In some plans all service classes are placed in the same "basket". Other plans have multiple baskets. These insulate customers of services in each basket from changes in demands for services in other baskets.

Some RDMs are "partial" in the sense that they exclude from decoupling the revenue impact of certain kinds of demand fluctuations. For example, true ups are sometimes allowed only for the difference between weather normalized revenue and allowed revenue. An RDM that instead accounts for *all* sources of demand variance is called a "full" decoupling mechanism. Full decoupling provides more encouragement for rate design experimentation.

The RAM component of a decoupling true up plan escalates allowed revenue between rate cases. Virtually all decoupling true up plans have some kind of RAM because if allowed revenue is static the utility will experience financial attrition as its costs rise. Utilities that do not have RAMs in their decoupling true up plans often file annual rate cases.

Some RAMs are "broad-based" in the sense that they provide enough revenue growth to compensate the utility for several kinds of cost pressures. Broad-based RAMs are essentially the same thing as the revenue cap escalators that we discuss below in the section on multiyear rate plans. When RAMs are not broad-based, utilities usually retain the right to file rate cases during the decoupling plan and frequently do file. The revenue per customer ("RPC") freeze is a popular approach to RAM design. Allowed revenue grows at

the same gradual pace as customer growth. An RPC freeze is not a broad-based RAM and will enhance expected revenue growth only when average use is expected to decline.

True up plans are the most popular approach to revenue decoupling in the United States. States that have tried gas and electric decoupling true up plans are indicated on the maps below in Figures 5a and 5b, respectively. Decoupling true up plan precedents in the United States and Canada are detailed in Table 4. It can be seen that there are more plans for gas utilities than for electric utilities. This reflects the fact that gas distributors have been much more likely to experience declining average use. Decoupling true up plans are nonetheless operative for a number of electric utilities in states with large DSM programs. Note also that RAMs for electric utilities are frequently broad-based, whereas most RAMs for gas distributors are revenue per customer freezes.

Figure 5a: Electric Decoupling True up Plans by State

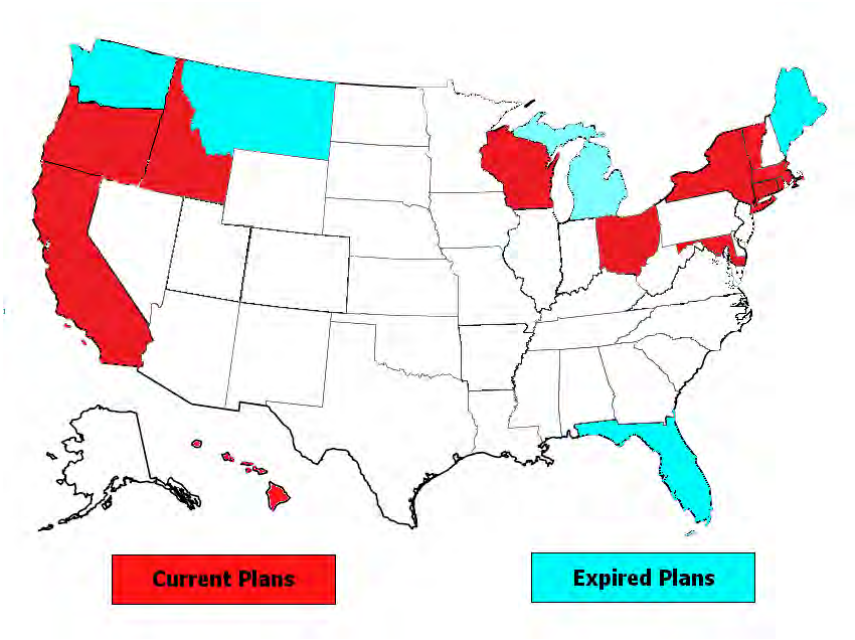


Figure 5b: Gas Decoupling True up Plans by State

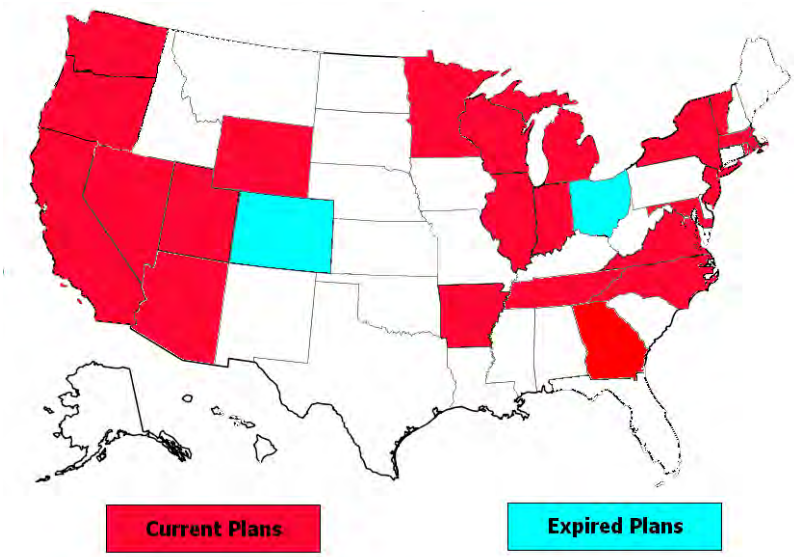


Table 4
Decoupling True Up Plan Precedents

Jurisdiction	Company Name	Services	Plan Years	Revenue Adjustment Mechanism	Case Reference
			Current		
Canada					
AB	Altagas Utilities	Gas	2013-2017	RPC Index	Decision 2012-237
AB	ATCO Gas	Gas	2013-2017	RPC Index	Decision 2012-237
BC	BC Hydro	Electric	2012-2014	Stairstep	Order G-77-12A
BC	FortisBC	Electric	2012-2013	Stairstep	Order G 110-12
BC	Terasen Gas	Gas	2012-2013	Stairstep	Order G-44-12
BC	Pacific Northern Gas	Gas	2003-open	RPC Freeze	N/A
ON	Union Gas	Gas	2008-2012, extended through 2013	RPC Index through 2012, RPC Freeze for 2013	Docket EB-2007-0606
United States					
AR	CenterPoint Energy	Gas	2008-2015	No RAM but broad-based capex tracker	Dockets 06-161-U, 11-088-U
AR	Arkansas Oklahoma Gas	Gas	2007-2013	No RAM	Dockets 07-026-U, 07-077-TF
AR	Arkansas Western	Gas	2007-2013	No RAM	Docket 07-078-TF
AZ	Southwest Gas	Gas	2012-open	RPC Freeze	Docket No. G-01551A-10-0458
CA	California Pacific Electric	Electric	2013-2015	Indexing	Decision 12-11-030
CA	Pacific Gas & Electric	Gas & Electric	2011-2013	Stairstep	Decision 11-05-018
CA	Southwest Gas	Gas	2009-2013	Stairstep	Decision 08-11-048
CA	Southern California Edison	Electric	2012-2014	Hybrid	Decision 12-11-051
CA	Southern California Gas	Gas	2008-2011	Stairstep	Decision 08-07-046
CA	San Diego Gas & Electric	Gas & Electric	2008-2011	Stairstep	Decision 08-07-046
CT	United Illuminating	Electric	2009-open	Stairstep until 2011/No RAM for 2011 onwards	Docket No. 08-07-04
DC	Potomac Electric Power	Electric	2010-open	RPC Freeze	Order 15556
GA	Atmos Energy	Gas	2012-open	No RAM but FRP type mechanism also in effect	Docket No. 34734
HI	Hawaiian Electric Company	Electric	2011-open	Hybrid	0083
HI	Hawaiian Electric Light Company	Electric	2012-open	Hybrid	Docket No. 2008-0274, 2009-
HI	Maui Electric	Electric	2012-open	Hybrid	Dockets 2008-0274, 2009-0163
ID	Idaho Power	Electric	2012-open	RPC Freeze	Case No. IPC-E-11-19
IL	North Shore Gas	Gas	2012-open	No RAM	Case 11-0280
IL	Peoples Gas Light & Coke	Gas	2012-open	No RAM	Case 11-0281
IN	Indiana Gas	Gas	2011-2015	RPC Freeze	Cause No. 44019
IN	Vectren Southern Indiana	Gas	2011-2015	RPC Freeze	Cause No. 44019
IN	Citizens Gas	Gas	2007-open	RPC Freeze	Cause No. 42767
MA	Fitchburg Gas & Electric	Gas	2011-open	RPC Freeze	DPU 11-02
MA	Fitchburg Gas & Electric	Electric	2011-open	No RAM	DPU 11-01
MA	New England Gas	Gas	2011-open	RPC Freeze	DPU-10-114
MA	Western Massachusetts Electric	Electric	2011-open	No RAM	DPU 10-70
MA	Massachusetts Electric	Electric	2010-open	No RAM but broad-based capex tracker	DPU 09-39
MA	Bay State Gas	Gas	2009-open	RPC Freeze	DPU 09-30
MA	Boston-Essex Gas	Gas	2010-open	RPC Freeze	DPU 10-55
MA	Colonial Gas	Gas	2010-open	RPC Freeze	DPU 10-55
MD	Baltimore Gas & Electric	Electric	2008-open	RPC Freeze	Letter Orders ML 108069, 108061
MD	Delmarva Power & Light	Electric	2007-open	RPC Freeze	Order No. 81518
MD	Potomac Electric Power	Electric	2007-open	RPC Freeze	Order No. 81517
MD	Chesapeake Utilities	Gas	2006-open	RPC Freeze	Order No. 81054
MD	Washington Gas Light	Gas	2005-open	RPC Freeze	Order No. 80130
MD	Baltimore Gas & Electric	Gas	1998-open	RPC Freeze	Case No. 8780
MI	Michigan Consolidated Gas	Gas	2013-open	No RAM	Case No. U-16999
MI	Michigan Gas Utilities	Gas	2010-open	RPC Freeze	Case No. U-15990
MN	Minnesota Energy Resources	Gas	2012-2015	RPC Freeze	GR-10-977
MN	CenterPoint Energy	Gas	2010-2013	RPC Freeze	GR-08-1075
NC	Public Service Co of NC	Gas	2008-open	RPC Freeze	Docket No. G-5, Sub 495
NC	Piedmont Natural Gas	Gas	2008-open	RPC Freeze	Docket No. G-9, Sub 550
NJ	New Jersey Natural Gas	Gas	2010-2013	RPC Freeze	Docket GR05121020
NJ	South Jersey Gas	Gas	2010-2013	RPC Freeze	Docket GR05121019
NV	Southwest Gas	Gas	2009-open	RPC Freeze	D-09-04003
NY	Orange & Rockland Utilities	Gas	2012-open	RPC Freeze	Case 08-G-1398
NY	Corning Natural Gas	Gas	2012-2015	RPC Stairstep	Case 11-G-0280
NY	Orange & Rockland Utilities	Electric	2012-2015	Stairstep	Case 11-E-0408
NY	Niagara Mohawk	Electric	2011-open	No RAM	Case 10-E-0050
NY	New York State Electric & Gas	Gas & Electric	2010-2013	RPC Stairstep for Gas, Stairstep for Electric	Case 09-E-0715
NY	Rochester Gas & Electric	Gas & Electric	2010-2013	RPC Stairstep for Gas, Stairstep for Electric	Case 09-E-0717

Table 4 (continued)
Decoupling True Up Plan Precedents

Jurisdiction	Company Name	Services	Plan Years	Revenue Adjustment Mechanism	Case Reference
NY	Consolidated Edison	Gas	2010-2013	RPC Stairstep	Case 09-G-0795
NY	Consolidated Edison	Electric	2010-2013	Stairstep	Case 09-E-0428
NY	Central Hudson G&E	Gas & Electric	2010-2013	RPC Stairstep for Gas, Stairstep for Electric	Case 09-E-0588
NY	Keyspan Energy Delivery - Long Island	Gas	2010-open	RPC Stairstep through 2012, RPC Freeze After 2012	Case 06-G-1186
NY	Keyspan Energy Delivery - New York	Gas	2010-open	RPC Stairstep through 2012, RPC Freeze After 2012	Case 06-G-1185
NY	Niagara Mohawk	Gas	2009-open	RPC Freeze	Case 08-G-0609
NY	National Fuel Gas	Gas	2008-open	RPC Freeze	Case 07-G-0141
OH	AEP Ohio	Electric	2012-2015	RPC Freeze	Case 11-351-EL-AIR
OH	Duke Energy Ohio	Electric	2012-2014	RPC Freeze	Case 11-5905-EL-RDR
OR	Northwest Natural Gas	Gas	2012-open	RPC Freeze	Order No. 12-408
OR	Portland General Electric	Electric	2011-2013	RPC Freeze	Order No. 10-478
OR	Cascade Natural Gas	Gas	2007-2012	RPC Freeze	Order No. 06-191
RI	Narragansett Electric	Electric	2012-open	No RAM but broad-based capex tracker	Docket 4206
RI	Narragansett Electric	Gas	2012-open	RPC Freeze	Docket 4206
TN	Chattanooga Gas	Gas	2010-2013	RPC Freeze	Docket 09-0183
UT	Questar Gas	Gas	2010-open	RPC Freeze	Docket No. 09-057-16
VA	Washington Gas Light	Gas	2010-2013	RPC Freeze	Case No. PUE-2009-00064
VA	Columbia Gas of Virginia	Gas	2013-2015	RPC Freeze	Case No. PUE-2012-00013
WA	Avista	Gas	2013-2014	Stairstep	Docket UG-120437
WI	Wisconsin Public Service	Gas & Electric	2013-open	No RAM	Docket 6690-UR-121
WY	Questar Gas	Gas	2012-open	RPC Freeze	Docket 30010-113-GR-11
WY	SourceGas Distribution	Gas	2011-open	RPC Freeze	Docket 30022-148-GR-10
			Historic		
Canada					
BC	BC Hydro	Electric	2011	No RAM	Order G-180-10
BC	BC Hydro	Electric	2009-2010	Stairstep	Order G-16-09
BC	Terasen Gas	Gas	2010-2011	Stairstep	Order G-141-09
BC	Terasen Gas	Gas	2008-2009	Hybrid	Order G-33-07
BC	Terasen Gas	Gas	2004-2007	Hybrid	Order G-51-03
BC	BC Gas	Gas	2000-2001	Hybrid	Order G-48-00
BC	BC Gas	Gas	1998-2000	Hybrid	Order G-85-97
ON	Enbridge Gas Distribution	Gas	2008-2012	RPC Index	Docket EB-2007-0615
United States					
CA	Pacific Gas & Electric	Gas & Electric	2007-2010	Stairstep	Decision 07-03-044
CA	Pacific Gas & Electric	Gas & Electric	2004-2006	Indexing	Decision 04-05-055
CA	Pacific Gas & Electric	Gas & Electric	1993-1995	Hybrid	Decision 92-12-057
CA	Pacific Gas & Electric	Electric	1990-1992	Hybrid	Decision 89-12-057
CA	Pacific Gas & Electric	Electric	1986-1989	Hybrid	Decision 85-12-076
CA	Pacific Gas & Electric	Electric	1984-1985	Hybrid	Decision 83-12-068
CA	Pacific Gas & Electric	Gas & Electric	1982-1983	Hybrid	Decision 93887
CA	Pacific Gas & Electric	Gas	1978-1981	No RAM	Decisions 89316, 91107
CA	PacifiCorp	Electric	1984-1985	Stairstep	Decision 89-09-034
CA	San Diego Gas & Electric	Gas & Electric	2005-2007	Indexing	Decision 05-03-025
CA	San Diego Gas & Electric	Gas & Electric	1994-1999	Hybrid	Decision 94-08-023
CA	San Diego Gas & Electric	Electric	1989-1993	Hybrid	Decision 89-11-068
CA	San Diego Gas & Electric	Gas & Electric	1986-1988	Hybrid	Decision 85-12-108
CA	San Diego Gas & Electric	Gas & Electric	1982-1983	Hybrid	Decision 93892
CA	Southern California Edison	Electric	2009-2011	Stairstep	Decision 09-03-025
CA	Southern California Edison	Electric	2006-2008	Hybrid	Decision 06-05-016
CA	Southern California Edison	Electric	2004-2006	Hybrid	Decision 04-07-022
CA	Southern California Edison	Electric	2001-2003	Indexing	Decision 02-04-055
CA	Southern California Edison	Electric	1986-1991	Hybrid	Decision 85-12-076
CA	Southern California Edison	Electric	1983-1984	Hybrid	Decision 82-12-055
CA	Southern California Gas	Gas	2005-2007	Indexing	Decision 05-03-025
CA	Southern California Gas	Gas	1998-2002	Indexing	Decision 97-07-054
CA	Southern California Gas	Gas	1986-1989	Hybrid	Decision 85-12-076
CA	Southern California Gas	Gas	1990-1993	Hybrid	Decision 90-01-016
CA	Southern California Gas	Gas	1981-1982	Stairstep	Decision 92497
CA	Southern California Gas	Gas	1979-1980	Stairstep	Decision 89710

Table 4 (continued)
Decoupling True Up Plan Precedents

Jurisdiction	Company Name	Services	Plan Years	Revenue Adjustment Mechanism	Case Reference
CO	Public Service Company of Colorado	Gas	2008-2011	RPC Freeze	Decision C07-0568
FL	Florida Power Corporation	Electric	1995-1997	RPC Freeze	Docket 930444
ID	Idaho Power	Electric	2007-2009	RPC Freeze	Case No. IPC-E-04-15
ID	Idaho Power	Electric	2010-2012	RPC Freeze	Case No. IPC-E-09-28
IL	North Shore Gas	Gas	2008-2012	RPC Freeze	Case 07-0241
IL	Peoples Gas Light & Coke	Gas	2008-2012	RPC Freeze	Case 07-0242
IN	Vectren Energy	Gas	2007-2011	RPC Freeze	Cause No. 43046
IN	Vectren Southern Indiana	Gas	2007-2011	RPC Freeze	Cause No. 43046
IN	Citizens Gas	Gas	2007-2011	RPC Freeze	Cause No. 42767
ME	Central Maine Power	Electric	1991-1993	RPC Freeze	Docket No. 90-085
MI	Consumers Energy	Electric	2009-2011	RPC Freeze	Case No. U-15645
MI	Consumers Energy	Gas	2010-2012	RPC Freeze	Case No. U-15986
MI	Detroit Edison	Electric	2010-2011	RPC Freeze	Case No. U-15768
MI	Upper Peninsula Power	Electric	2010-2011	RPC Freeze	Case No. U-15988
MI	Michigan Consolidated Gas	Gas	2010-2012	RPC Freeze	Case No. U-15985
MT	Montana Power Company	Electric	1994-1998	RPC Freeze	Docket No. 93.6.24
NC	Piedmont Natural Gas	Gas	2005-2008	RPC Freeze	Docket G-44 Sub 15
NJ	New Jersey Gas Natural	Gas	2007-2010	RPC Freeze	Docket GR05121020
NJ	South Jersey Gas	Gas	2007-2010	RPC Freeze	Docket GR05121019
NY	Central Hudson G&E	Gas	2009-open	RPC Freeze	Case 08-E-0888
NY	Central Hudson G&E	Electric	2009-open	No RAM	Case 08-E-0887
NY	Consolidated Edison	Electric	2008-open	No RAM	Case 07-E-0523
NY	Consolidated Edison	Gas	2007-2010	Stairstep	Case 06-G-1332
NY	Consolidated Edison	Electric	1992-1995	Stairstep	Opinion No. 92-8
NY	Long Island Lighting Company	Electric	1992-1994	Stairstep	Opinion No. 92-8
NY	New York State Electric & Gas	Electric	1993-1995	Stairstep	Opinion No. 93-22
NY	Niagara Mohawk	Electric	1990-1992	Stairstep	Case 94-E-0098
NY	Orange & Rockland Utilities	Gas	2009-2012	RPC Stairstep	Case 08-G-1398
NY	Orange & Rockland Utilities	Electric	2011-2012	No RAM	Case 10-E-0362
NY	Orange & Rockland Utilities	Electric	2008-2011	Stairstep	Case 07-E-0949
NY	Orange & Rockland Utilities	Electric	1991-1993	Stairstep	Case 89-E-175
NY	Rochester Gas & Electric	Electric	1993-1996	Stairstep	Opinion No. 93-19
OH	Vectren Energy	Gas	2007-2009	RPC Freeze	Case 05-1444-GA-UNC
OR	Northwest Natural Gas	Gas	2009-2012	RPC Freeze	Order No. 07-426
OR	Northwest Natural Gas	Gas	2005-2009	RPC Freeze	Order No. 05-934
OR	Northwest Natural Gas	Gas	2002-2005	RPC Freeze	Order No. 02-634
OR	PacifiCorp	Electric	1998-2001	Indexing	Order No. 98-191
OR	Portland General Electric	Electric	2009-2010	RPC Freeze	Order No. 09-020
OR	Portland General Electric	Electric	1995-1996	Stairstep	Order No. 95-0322
UT	Questar Gas	Gas	2006-2010	RPC Freeze	Docket No. 05-057-T01
VA	Virginia Natural Gas	Gas	2009-2012	RPC Freeze	Case No. PUE-2008-00060
WA	Avista	Gas	2009-2012	RPC Freeze	Docket UG-060518
WA	Avista	Gas	2007-2009	RPC Freeze	Docket UG-060518
WA	Cascade Natural Gas	Gas	2005-2010	RPC Freeze	Docket UG-060256
WA	Puget Sound & Power	Electric	1991-1995	RPC Freeze	Docket UE-901184-P
WI	Wisconsin Public Service	Gas & Electric	2009-2012	RPC Freeze	D-6690-UR-119
WY	Questar Gas	Gas	2009-2012	RPC Freeze	Docket 30010-94-GR-08

B. Lost Revenue Adjustment Mechanisms

An LRAM explicitly compensates a utility for base rate revenues that are estimated to be lost due to its DSM programs, distributed generation ("DG"), or other specific causes. Compensation for lost margins is usually effected through a rate rider. Estimates of energy (and sometimes also peak load) savings are needed for LRAM calculations. The utility remains at risk for fluctuations in volumes and peak load due to weather, local economic activity, power market prices, and other volatile demand drivers. The utility is usually kept whole for the full revenue impact of its DSM (and possibly also DG) programs and not just for the incremental effort that causes average use to decline.[2] This is desirable because a program to promote DSM and DG increases the gap between cost and billing determinant growth and thereby increase potential attrition and the need for more frequent rate cases even if average use does not decline. Precedents for LRAMs are detailed in Table 5 and Figure 6 below.[3] It can be seen that, while LRAMs are less widely used than decoupling true up plans today, they have experienced a rebound in recent years and are more popular for electric than for gas utilities. For example, they are featured in Duke Energy's "Save a Watt" approach to DSM regulation and are also popular in the Intermountain West states. Some utilities have LRAMs and decoupling true up plans.

[2] For an example of an LRAM that covers DG as well as DSM programs, see Decision 73183 of the Arizona Corporation Commission in the 2012 rate case for Arizona Public Service. A multiyear rate plan was also approved in the decision.
[3] Some mechanisms similar to LRAMs are excluded from this survey.

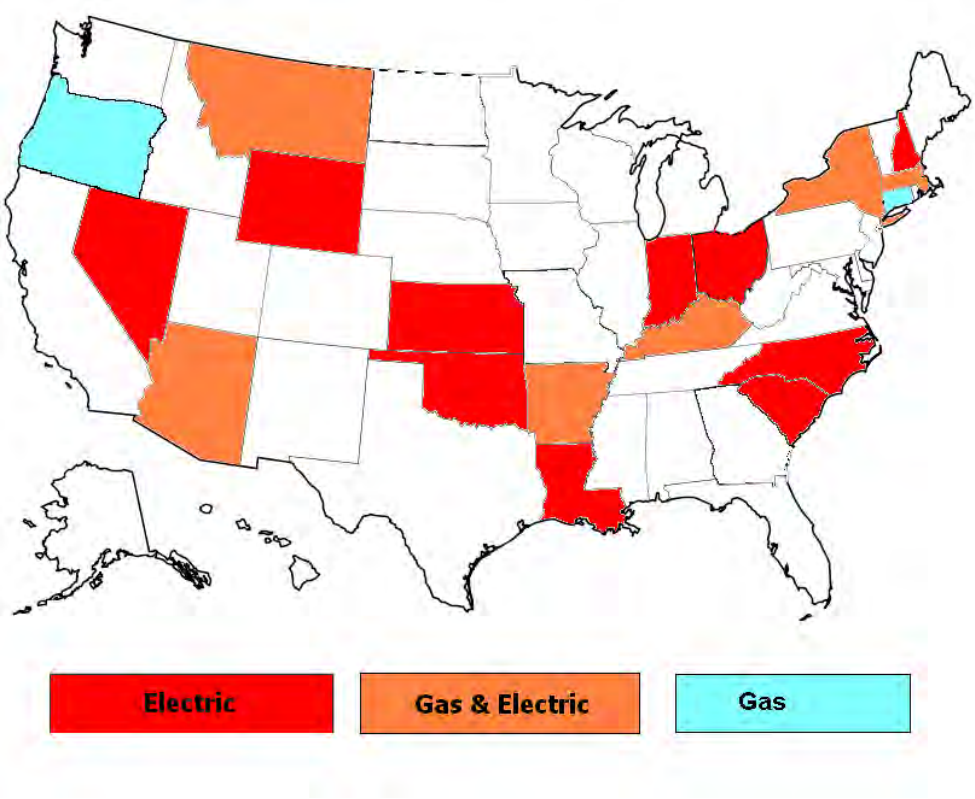
Table 5
Current LRAM Precedents

State	Company	Services	Approval Date	Case Reference
AR	Arkansas Oklahoma Gas	Gas	June 2011	Docket No. 07-077-TF, Order Number 30
AR	Centerpoint Energy Arkla	Gas	June 2011	Docket No. 07-081-TF, Order Number 31
AR	Entergy Arkansas	Electric	June 2011	Docket No. 07-085-TF, Order Number 40
AR	Oklahoma Gas & Electric	Electric	June 2011	Docket No. 07-075-TF, Order No. 26
AR	SourceGas Arkansas	Gas	June 2011	Docket No. 07-078-TF, Order No. 26
AR	Southwestern Electric Power	Electric	June 2011	Docket No. 07-082-TF, Order Nos. 35 and 36
AZ	Arizona Public Service	Electric	May 2012	Docket No. E-01345A-11-0224, Decision No. 73183
AZ	UNS Gas	Gas	May 2012	Docket No. G-04204A-11-0158 Decision No. 73142
CT	Connecticut Natural Gas	Gas	August 1995	Docket No. 93-02-04
CT	Southern Connecticut Gas	Gas	August 1995	Docket No. 93-03-09
CT	Yankee Gas Service	Gas	January 2012	Docket No. 11-10-03
IN	Duke Energy Indiana (PSI)	Electric	February 2010	Cause No. 43374
IN	Indiana-Michigan Power	Electric	September 2010	Cause 43827
IN	Northern Indiana Public Service	Electric	May 2011	Cause 43618
IN	Southern Indiana Gas & Electric	Electric	August 2011 (large commercial and industrials), June 2012 (residential and small commercial)	Cause Nos. 43938 and 43405 DSMA 9 S1
KS	Kansas Gas & Electric	Electric	January 2011	Docket No. 10-WSEE-775-TAR
KS	Westar Energy	Electric	January 2011	Docket No. 10-WSEE-775-TAR
KY	Atmos Energy	Gas	September 2009	Case No. 2008-00499
KY	Columbia Gas of Kentucky	Gas	October 2009	Case No. 2009-00141
KY	Delta Natural Gas	Gas	July 2008	Docket No. 2008-00062
KY	Duke Energy Kentucky	Electric	December 1995 and February 2005	Case Nos. 95-321 and 2004-00389
KY	Duke Energy Kentucky	Gas	February 2005	Case No. 2004-00389
KY	Louisville Gas & Electric	Electric & Gas	November 1993	Case No. 93-150
KY	Kentucky Power	Electric	December 1995	Case No. 95-427
KY	Kentucky Utilities	Electric	May 2001	Case No. 2000-0459
LA	Entergy New Orleans	Electric	April 2009	New Orleans Resolution R-09-136
MA	All Electric distributors	Electric	July 2012	D.P.U. 12-01A
MA	Berkshire Gas	Gas	October 1992	D.P.U. 91-154
MA	NSTAR Electric	Electric	April 1992, June 1994, and June 2010	D.P.U. 90-335, D.P.U. 94-2/3-CC, and D.P.U. 10-06
MA	Commonwealth Gas d/b/a NSTAR Gas	Gas	November 1994	D.P.U. 94-128
MT	Northwestern Energy	Gas	February 2009	Docket No. D2008.5.44
MT	Northwestern Energy	Electric	December 2005	Docket No. D2004.6.90
MT	Montana-Dakota Utilities	Gas	October 2006	Docket No. D2005.10.156; Order No. 6697c

Table 5 (continued)
Current LRAM Precedents

State	Company	Services	Approval Date	Case Reference
NY	Central Hudson Gas & Electric	Electric	July 2006	Case No. 05-E-0934
NY	Consolidated Edison of New York	Electric	March 2005	Case No. 04-E-0572
NY	Consolidated Edison of New York	Gas	April 2002	Case No.00-G-1456
NY	Keyspan Long Island	Gas	December 2009	Case No. 06-G-1186; Currently effective for all customers not in RDM
NY	Keyspan New York	Gas	December 2009	Case No. 06-G-1185; Currently effective for all customers not in RDM
NC	Duke Energy Carolinas	Electric	February 2010	Docket No. E-7, Sub 831
NC	Progress Energy Carolinas (Carolina Power & Light)	Electric	November 2009	Docket No. E-2, Sub 931
NC	Virginia Electric Power	Electric	October 2011	Docket No. E-22, Sub 464
NH	Unitil Energy Services	Electric	June 2010	DE 09-137, Order No. 25,111
NV	Nevada Energy	Electric	May 2011	Docket 10-10024
NV	Sierra Pacific Power	Electric	May 2011	Docket 10-10025
OH	Duke Energy Ohio (Cincinnati Gas & Electric)	Electric	July 2007	Docket No. 06-0091-EL-UNC
OH	First Energy Ohio (Cleveland Electric Illuminating, Toledo Edison, Ohio Edison)	Electric	March 2009	Docket No. 08-935-EL-SSO
OH	American Electric Power (Ohio Power, Columbus Southern Power)	Electric	May 2010	Docket No. 09-1089-EL-POR; Effective for classes not included in RDM
OH	Dayton Power & Light	Electric	June 2009	Docket No. 08-1094-EL-SSO
OK	Empire District Electric	Electric	November 2009	Cause No. 200900146 Order 571326
OK	Oklahoma Gas & Electric	Electric	July 2008	Cause No. 200800059 Order 556179
OK	Public Service of Oklahoma	Electric	January 2010	Cause No. PUD 200900196; Order 572836
ON	Union Gas	Gas	January 2008	EB-2007-0606
ON	Enbridge Gas Distribution	Gas	February 2008	EB-2007-0615
ON	Toronto Hydro-Electric	Electric	September 2007	EB-2007-0096
OR	Portland General Electric	Electric	September 2001	Order No. 01-836; UE 79 (Approved 2001 LRAM) Currently non-residential customers only
OR	Cascade Natural Gas	Gas	April 2006	Order No. 06-191; UG 167 excludes classes under RDM
OR	Avista Utilities	Gas	December 1993	Order 93-1881
SC	Progress Energy Carolinas	Electric	June 2009	Docket No. 2008-251-E Order 2009-373
SC	Duke Energy Carolinas	Electric	January 2010	Docket No. 2009-226-E Order No. 2010-79
SC	South Carolina Electric & Gas	Electric	July 2010	Docket No. 2009-261-E, Order No. 2010-472
WY	Cheyenne Light, Fuel, and Power	Electric & Gas	September 2011	Docket Nos. 20003-108-EA-10 and 30005-140-GA-10
WY	Montana-Dakota Utilities	Electric	January 2007	Docket No. 20004-65-ET-06

Figure 6: Current LRAMs by State



C. Fixed Variable Pricing

Fixed variable pricing is an approach to the design of base rates that uses fixed charges (charges that do not vary with the sales volume or peak demand) to recover a high percentage of fixed costs. A *straight* fixed variable ("SFV") rate design recovers *all* fixed costs through fixed charges. A rate design that recovers a substantial but smaller share of fixed costs through fixed charges is sometimes called *modified* fixed variable pricing. Most fixed variable rate designs implemented to date have involved the same fixed charge for all customers in a service class. However, "sliding scale" rate designs have been developed which assign lower fixed charges to customers who are likely to have lower volumes.

The lion's share of base rate revenue from residential and commercial customers is typically raised using customer charges under fixed variable pricing. Revenue thus tends to grow at the gradual pace of customer growth.

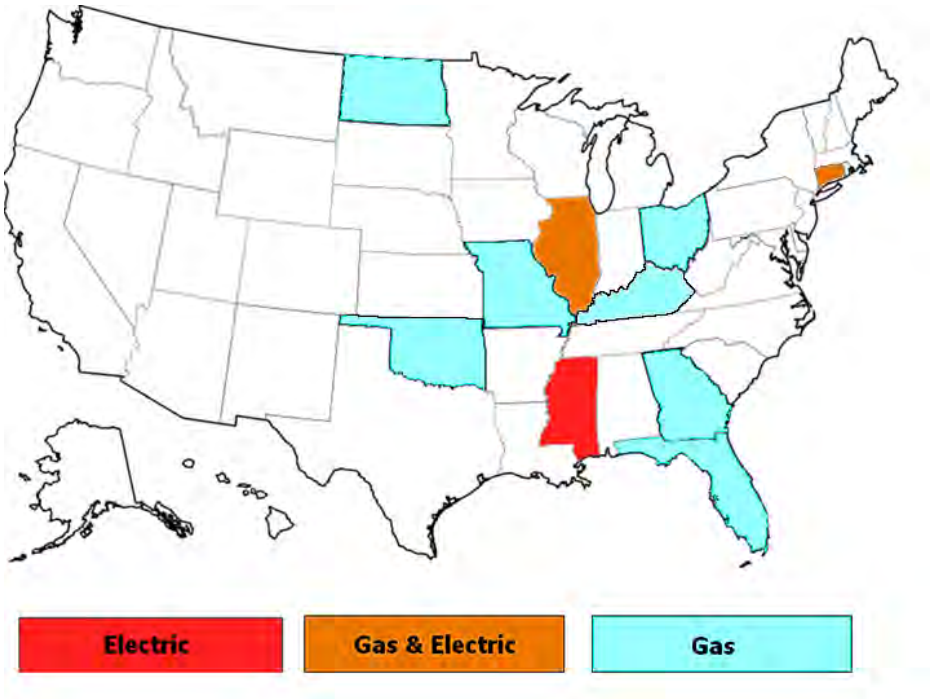
SFV pricing has been used on a large scale by interstate gas transmission companies since the early 1990s. Precedents for fixed variable pricing in retail ratemaking are listed below on Table 6 and Figure 7. It can be seen that fixed variable retail pricing has to date been more common for gas distributors than electric utilities. This again reflects the greater problem of declining average use that gas distributors have faced. Ohio is noteworthy for having recently switched from decoupling true up plans to fixed variable pricing for its gas distributors.

Table 6
Fixed Variable Retail Pricing Precedents

Jurisdiction	Company Name	Services	Years in Place	Case Reference
CT	Connecticut Light & Power	Electric	2007-open	Docket 07-07-01
CT	Yankee Gas System	Gas	2011-open	Docket 10-12-02
FL	Peoples Gas System	Gas	2009-open	Docket 080318-GU
GA	Altanta Gas Light	Gas	1998-open	Docket No. 8390-U
IL	Ameren CILCO	Gas	2008-2012	Case 07-0588
IL	Ameren CIPS	Gas	2008-2012	Case 07-0589
IL	Ameren IP	Gas	2008-2012	Case 07-0590
IL	Ameren Illinois	Gas	2012-open	Case 11-0282
IL	Commonwealth Edison	Electric	2011-open	Case 10-0467
IL	Nicor Gas	Gas	2009-open	Docket No. 08-0363
IL	North Shore Gas	Gas	2008-open	Case No. 07-0241
IL	Peoples Gas Light & Coke	Gas	2008-open	Case No. 07-0242
KY	Delta Natural Gas	Gas	2007-open	Case No. 2007-00089
KY	Duke Energy Kentucky	Gas	2010-open	Case No. 2009-00202
MO	AmerenUE	Gas	2007-open	Case No. GR-2007-0003
MO	Atmos Energy	Gas	2007-2010	Case GR-2006-0387
MO	Atmos Energy	Gas	2010-open	Case No. GR-2010-0192
MO	Empire District Gas	Gas	2010-open	Case GR-2009-0434
MO	Missouri Gas Energy	Gas	2007-open	Case GR-2006-0422
MO	Laclede Gas	Gas	2002-open	Case GR-2002-356
MS	Mississippi Power	Electric	Occurred over period of years	No specific case
ND	Xcel Energy	Gas	2005-open	Case PU-04-578
OH	Duke Energy Ohio (CG&E)	Gas	2008-open	Case 07-590-GA-ALT
OH	Dominion East Ohio	Gas	2008-2010	Case 07-830-GA-ALT
OH	Columbia Gas	Gas	2008-open	Case 08-0072-GA-AIR
OH	Vectren Energy Delivery of Ohio	Gas	2009-open	Case 07-1080-GA-AIR
OK	Oklahoma Natural Gas	Gas	2004-open	Cause Nos. PUD 200400610, PUD 201000048, PUD 200900110
OK	Centerpoint Energy	Gas	2010-open	Cause No. PUD 201000030

In addition to the precedents listed here, some other states have in recent years made sizable steps in the direction of fixed variable pricing by redesigning rates for small volume customers to raise customer charges and lower volumetric charges substantially. Investor-owned utilities in Canada are typically permitted to raise a much higher portion of their revenue through fixed charges than in the United States. Most fixed variable rate designs feature uniform fixed charges within service classes, but gas utilities in Florida, Georgia, and Oklahoma have fixed charges that vary in some fashion with long term consumption patterns.

Figure 7: Fixed Variable Pricing Precedents by State



IV. Forward Test Years

General rate cases involve "test years" in which revenue requirements and billing determinants are jointly considered in setting new rates. An historic test year ends before the rate case is filed. A fully-forecasted (a/k/a "forward") test year ("FTY") is a twelve month period that begins after the rate case is filed. An FTY typically begins about the time that the rate case is expected to end. Two-year forecasts are therefore required to span both the rate case year and the year that rates take effect.[4] In between FTYs and historic test years is the option of a "partially forecasted" test year in which some months of historic data on utility operations are combined with some months of forecasted data. Under this approach, actual data for all months usually become available during the course of the rate case.

Historic test years are chronically uncompensatory when cost grows materially faster than billing determinants. Annual rate cases can alleviate but not eliminate underearning. Where historic test years are used in rate cases there are thus added advantages to implementing other Altreg innovations discussed in this paper.

Forward test years can compensate utilities for a tendency of cost growth to exceed billing determinant growth.[5] If this tendency is chronic, however, it does not eliminate the problem of frequent rate cases. It is therefore not unusual for regulators to combine FTYs with other Altreg remedies, as is the case in California and New York.

Diverse approaches are used to forecast costs in FTY rate cases. Some companies rely on their budgeting process to make cost projections. Others normalized data for an historical reference period and adjust for known and measurable changes and then use indexing and other statistical methods to extend projections. Mixes of these two approaches are common.

Forward test years were adopted in many jurisdictions during the 1970s and 1980s when rapid price inflation and major plant additions coincided with slowing growth in average use. This approach to Altreg was therefore one of the earliest implemented. Several additional states have recently moved in the direction of FTYs. Many of these states are in the West, where comparatively rapid economic growth has required more rapid build out of utility infrastructure. FTYs were recently sanctioned legislatively in Pennsylvania.

Current state policies concerning test years are summarized below in Figure 8 and Table 7. The ranks of US jurisdictions that allow the use of alternatives to historic test years have swollen and now encompass well over half of the total. The "other" category in Figure 8 includes states where utilities can file FTYs but many do not (*e.g.* Illinois), states where FTYs may be approved on a case by case basis (*e.g.* New Mexico, Utah, and Wyoming), and states where partially forecasted test years are the norm (*e.g.* Ohio and New Jersey). Forward test years are the norm in Canada and several jurisdictions have permitted two forward test years.

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[4] A forward test year can be the rate case year, and thereby not require two-year forecasts, if rates are allowed to be changed as proposed on an interim basis shortly after the filing.

[5] The effect on credit metrics can be material. For evidence see "Forward Test Years for US Electric Utilities" by Mark Newton Lowry, David Hovde, Lullit Getachew, and Matt Makos, August 2010. Prepared for the Edison Electric Institute.

Figure 8: Test Year Policy by State

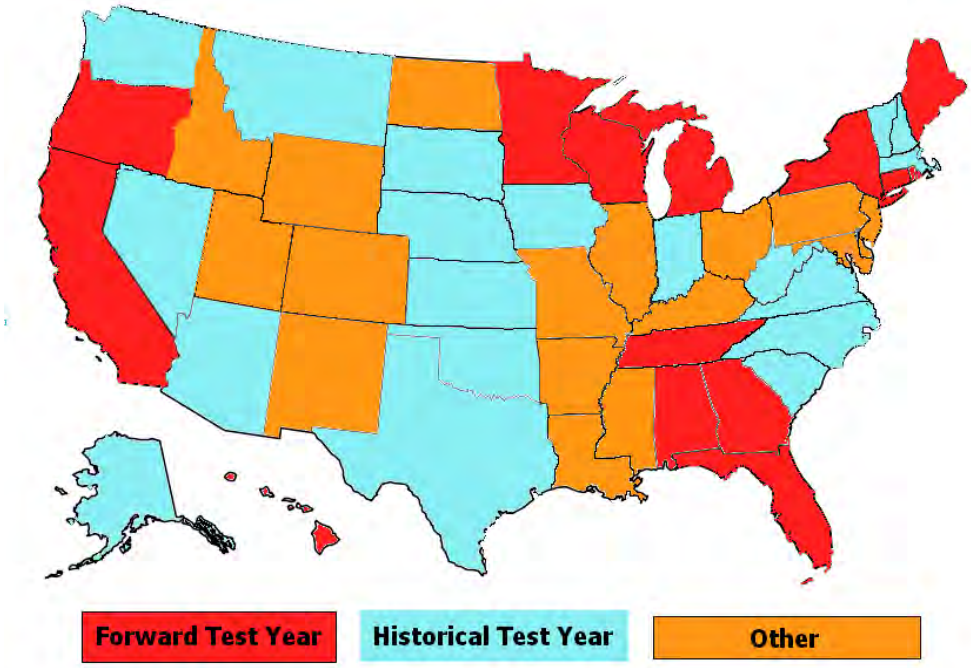


Table 7
Test Year Approaches of US Jurisdictions

Jurisdiction	Notes
Fully-Forecasted (15)	
Alabama	Utilities operate under forward-looking formula rate plans
California	
Connecticut	
FERC	Rate cases use forward test years but some formula rate plans use HTYs
Florida	
Georgia	
Hawaii	
Maine	
Michigan	
Minnesota	
New York	
Oregon	
Rhode Island	
Tennessee	
Wisconsin	
Partially-Forecasted (3)	
Arkansas	
Ohio	
New Jersey	
Transitional/Varying (14)	
District of Columbia	PEPCO has filed rate cases using both hybrid and historical test years recently
Delaware	Before restructuring FTY filings were common, but companies have used a mix of HTYs and partially-forecasted test years in recent filings
Idaho	
Illinois	Utilities use various test years including FTYs
Kentucky	Utilities use various test years including FTYs
Louisiana	Utilities use various test years including FTYs
Maryland	Utilities use various test years excluding FTYs
Mississippi	One electric utility operates under a forward-looking formula rate plan
Missouri	Utilities have the option to file partially-forecasted test years
New Mexico	A recently passed law allows for use of FTYs, but no rate increase based on FTY evidence has yet been approved
North Dakota	Utilities use various test years including FTYs
Pennsylvania	Partially-forecasted test years have been the norm. Law allowing fully-forecasted test years passed in 2012. First FTY case is pending.
Utah	Test year selection is part of the rate case and can be contested. Several recent rate cases have used FTYs.
Wyoming	Rocky Mountain Power has recently used FTYs
Historic (20)	
Alaska	
Arizona	
Colorado	Utilities can file FTY evidence. No FTY rates have yet been approved but a recent case made extraordinary HTY adjustments.
Indiana	
Iowa	
Kansas	
Massachusetts	
Montana	
Nebraska	Nebraska has no electric IOUs. Gas companies are legally authorized to use FTYs but commonly use HTYs.
Nevada	
New Hampshire	
North Carolina	
Oklahoma	
South Carolina	
South Dakota	
Texas	
Vermont	
Virginia	
Washington	
West Virginia	

V. Multiyear Rate Plans

Multiyear rate plans ("MRPs") are designed to compensate a utility for changing business conditions without frequent, full true ups to its actual cost of service. Rate cases are held infrequently, most often at three to five year intervals. Any rate escalations that are made between rate cases are based in whole or in part on automatic attrition relief mechanisms ("ARMs"). The rate adjustments provided by ARMs are largely "external" in the sense that they give a utility an *allowance* for cost growth rather than reimbursement for its *actual* growth. The "externalization" of ratemaking that these two features of MRPs achieve can strengthen utility performance incentives despite a reduction in regulatory cost. Benefits of better performance can be shared between the utility and its customers. Lower regulatory cost has special appeal in jurisdictions where numerous utilities must be regulated.

ARMs typically cap the growth in either rates (*e.g.* customer charges and cents per kWh) or allowed revenue. Rate caps are favored when and where utilities are encouraged to bolster system use since they strengthen incentives to promote use and facilitate marketing flexibility by reducing concerns about cross-subsidies. Revenue caps are usually combined with decoupling true ups, and are often favored where utilities must cope with declining average use and/or large-scale DSM programs.

Several approaches to the design of ARMs are well-established. These approaches include stairsteps, indexing, and hybrids. Stairsteps provide predetermined increases in rates (or revenue) which often reflect forecasts of cost growth. Indexing escalates rates (or revenue) automatically for inflation and sometimes also for growth in the number of customers served and/or industry productivity trends. Hybrid ARMs typically involve indexing of budgets for O&M expenses and stairsteps for capital cost budgets.

The indexing approach to ARM design is more common for distribution charges because distribution cost growth is relatively gradual and predictable. Hybrid and stairstep ARMs are more adaptable to the cost growth trajectories of VIEUs, which are more uneven due to occasional major plant additions. Some VIEUs operating under MRPs have separate ratemaking treatments for generation and distribution.

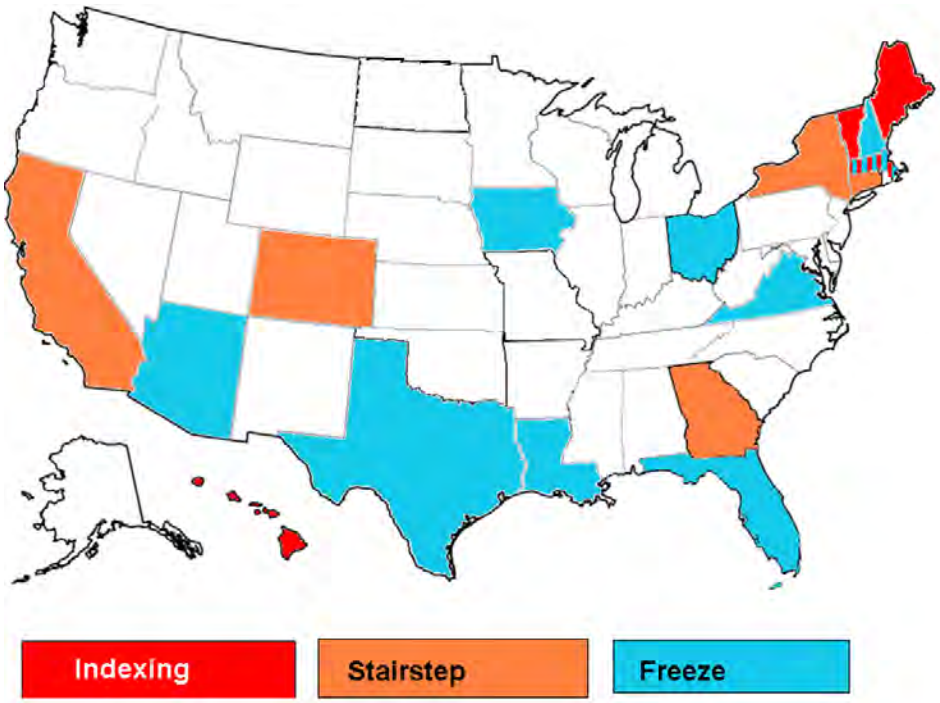
Supplemental rate adjustments are usually allowed for changes in business conditions that are especially difficult to address using ARMs. A tracker that recovers a large portion of a utility's capex cost can, for example, sometimes permit the company to operate under a multiyear freeze on rates for other non-energy costs. This is so because the value of the residual rate base is more likely to be static or decline. Trackers may also address *force majeure* events such as severe storms and changes in tax rates and other government policies that affect costs.

Some multiyear rate and revenue caps feature earnings sharing mechanisms ("ESMs") that automatically share earnings surpluses and/or deficits that result when the rate of return on equity ("ROE") deviates from its regulated target. Some feature "off-ramps" that permit plan suspension when earnings are unusually high or low. Plans often feature award and/or penalty mechanisms that are linked to the utility's service quality.

MRPs were first widely used in the railroad, telecommunications, and oil pipeline industries. A major attraction was the ability of price caps to afford utilities flexibility in serving markets with diverse competitive pressures from a consolidated set of assets. The use of MRPs in the regulation of gas and electric utilities has been chiefly motivated by other advantages such as stronger performance incentives and lower regulatory cost.

Current US and Canadian precedents for MRPs are indicated in Table 8 and Figures 9a and 9b.[6] In the US, multiyear rate plans are most common in California and the Northeast. MRPs with ARMs that escalate rate or revenue automatically are more common for energy distributors than for VIEUs. Canada is moving towards MRPs with index-based ARMs for pipe and wire utilities in all four populous provinces. MRPs with index-based ARMs are more the rule than the exception for pipe and wire utilities overseas. ARMs used in MRPs for VIEUs typically have a stairstep or hybrid form. Other VIEUs operate under a combination of a rate freeze and one or more trackers to compensate the utility for specific causes of potential attrition.

Figure 9a: Recent US Electric Multiyear Rate Cap Precedents by State



[6] The table considers only MRPs that weren't listed in Table 4 on decoupling true up precedents. Figures 9a and 9b cover all MRPs. Rate freezes without extensive supplemental funding from trackers are excluded from Table 8 and Figures 9a and 9b.

Table 8
Multiyear Price Cap Precedents[1,2]

Jurisdiction	Company Name	Plan Term	Services Covered	Rate Escalation Provisions	Case Reference
Current					
AZ	Arizona Public Service	2012-2016	Bundled power service	Rate freeze with an adjustment to account for purchase of SCE's share of Four Corners generating facility, additional capex and other cost trackers, LRAM	Decision No. 73183, May 2012
CA	PacifiCorp	2011-2013	Bundled power service	Price Cap Index: Rates escalated by Global Insight forecast of CPI, less 0.5% productivity factor; supplemental funding for major plant additions can be requested in annual filings.	Decision 10-09-010; September 2, 2010
CO	Public Service Company of Colorado	2012-2014	Bundled power service	Stairstep	Decision No. C12-0494
FL	Florida Power & Light	2013-2016	Bundled power service	Rate freeze with multiple capex and other cost trackers	Docket No. 120015-EI, December 2012
FL	Progress Energy Florida	2012-2016	Bundled power service	Rate Freeze with one step plus capex and other cost trackers	Docket No. 120022-EI
GA	Georgia Power	2011-2013	Bundled power service	Stairstep: Rate increases permitted for DSM and major generation plant additions	Docket 31958
IA	MidAmerican Energy	2001 - 2005, extended to 2013	Bundled power service	Rate Freeze with nuclear capex and other cost trackers	Dockets RPU-01-3 and RPU-2012-0001
LA	Cleco	2009-2014	Bundled power service	Rate freeze with capex tracker	Order No. U-30689
ME	Central Maine Power (III)	2009-2013	Power distribution	Price Cap Index: GDPPI - 1%, separate AMI tracker	Docket 2007-215
NH	Public Service Company of New Hampshire	2010-2015	Power distribution (generation regulated separately)	Stairstep: Rate increases allowed to account for distribution capital additions in 2010-2013	DE 09-035
NH	Unitil Energy Systems	2011-2016	Power distribution	Stairstep: Rate increases allowed to account for distribution capital additions in 2011-2013	DE 10-055
OH	AEP-OH	2012-2015	Power distribution	Rate Freeze supplemented by capex and other cost trackers	Case No. 11-346-EL-SSO, August 8, 2012
OH	First Energy Ohio	2011-2014, later extended to 2016	Power distribution	Rate Freeze with capex and other cost trackers	Case Nos. 11-388-EL-SSO, 12-1230-EL-SSO
VA	Virginia Electric Power	2010-2013	Bundled power service	Rate Freeze with capex and other cost trackers	Case No. PUE-2009-00019
VT	Green Mountain Power	2010-2013	Electric	Revenue cap index	Docket No. 7585
VT	Central Vermont Public Service	2011-2013	Electric	Revenue cap index	Docket No. 7627
VT	Vermont Gas Systems	2012-2015	Gas	Revenue cap hybrid	Docket No. 7803
Alberta	Enmax	2007-2013	Power distribution	Price Cap Index: Input Price Index -1.2%	Decision 2009-035
Alberta	Altagas Utilities	2013-2017	Gas	Revenue Per Customer Indexing: Input Price Index - 1.16%, separate capex trackers	Decision 2012-237
Alberta	ATCO Gas	2013-2017	Gas	Revenue Per Customer Indexing: Input Price Index - 1.16%, separate capex trackers	Decision 2012-237
Alberta	EPCOR, Fortis Alberta	2013-2017	Power distribution	Price Cap Index: Input Price Index - 1.16%, separate capex trackers	Decision 2012-237
Northwest Territories	Northland Utilities	2011-2013	Bundled power service	Stairstep	Decision 17-2011
Northwest Territories	Northland Utilities (Yellowknife)	2011-2013	Bundled power service	Stairstep	Decision 13-2011

Table 8 (continued)
Multiyear Price Cap Precedents[1,2]

Current

Jurisdiction	Company Name	Plan Term	Services Covered	Rate Escalation Provisions	Case Reference
Ontario	All Ontario distributors	2010-2013	Power distribution	Price Cap Index: GDP IPI for Final Domestic Demand - (0.92% to 1.32% depending on company's annual performance in benchmarking studies)	EB-2007-0673 (July 14, 2008, September 17, 2008, and January 28, 2009)
Prince Edward Island	Maritime Electric	2013-2016	Bundled power service	Stairstep: Bill defines rates for each year.	Bill 26 (2012) Electric Power (Energy Accord Continuation) Amendment Act

Historic

Jurisdiction	Company Name	Plan Term	Services Covered	Attrition Relief Mechanisms	Case Reference
CA	Sierra Pacific Power	2009-2011, extended to 2012	Bundled power service	Price Cap Index	Decision 09-10-041
CA	PacifiCorp	1994-1996, extended to 1999	Bundled power service	Price Cap Index	Decision 93-12-106; December 3, 1993
CA	PacifiCorp	2007-2009, extended to 2010	Bundled power service	Price Cap Index	Decisions 06-12-011 and 09-04-017
CA	San Diego Gas and Electric	1999-2002	Electric & Gas	Price Cap Index	Decision 99-05-030; May 13, 1999
CA	Southern California Edison	1997-2001	Electric	Price Cap Index	Decision 96-09-092; September 6, 1996
CT	United Illuminating	2006-2008	Power Distribution	Stairstep	Docket 05-06-04
FL	Florida Power & Light	2006-2009	Bundled power service	Rate Freeze with exception for new generating facilities after they are in service and multiple capex and other cost trackers	Docket 050045-EI
FL	Progress Energy Florida	2006-2009	Bundled power service	Rate freeze with 1 step to reflect generation brought in-service and multiple capex and other cost trackers	Docket No. 050078-EI
GA	Atlanta Gas Light	2005-2010	Gas distribution	Base rate freeze featuring a broad-based capex tracker	Docket No. 18638-U
MA	Bay State Gas	2006-2009	Gas distribution	Price Cap Index	Docket DTE 05-27
MA	Berkshire Gas	2002-2012	Gas distribution	No adjustment until September 2004, then Price Cap Index	Docket D.T.E. 01-56
MA	Boston Gas (I)	1997-2001	Gas distribution	Price Cap Index	Docket D.P.U. 96-50-C (Phase I) May 16, 1997
MA	Boston Gas (II)	2004-2010	Gas distribution	Price Cap Index	Docket DTE 03-40
MA	Blackstone Gas	November 1, 2004 - October 31, 2009	Gas distribution	Price Cap Index	Docket D.T.E. 04-79
MA	National Grid	2000-2010	Power distribution	Rate Freeze between 2000 and 2005, Price Cap Index: 2006-2010, inflation adjustment made based on index of regional power distribution charges.	Docket DTE 99-47 (November 29, 1999)
MA	Nstar	2006-2012	Power distribution	Price Cap Index	Docket D.T.E. 05-85
ME	Bangor Gas	2000-2009, extended to 2012	Gas Distribution	Price Cap Index	Docket 970795 (June 26, 1998)
ME	Bangor Hydro Electric (I)	1998-2000	Power distribution	Price Cap Index	Docket 97-116 (March 24, 1998)
ME	Bangor Hydro Electric (II)	2002-2007	Power Distribution	Stairstep	Docket No. 2001-410
ME	Central Maine Power (I)	1995-1999	Bundled power service	Price Cap Index	Docket 92-345 Phase II (January 10, 1995)
ME	Central Maine Power (II)	2001-2007	Power distribution	Price Cap Index	Docket 99-666 (November 16, 2000)

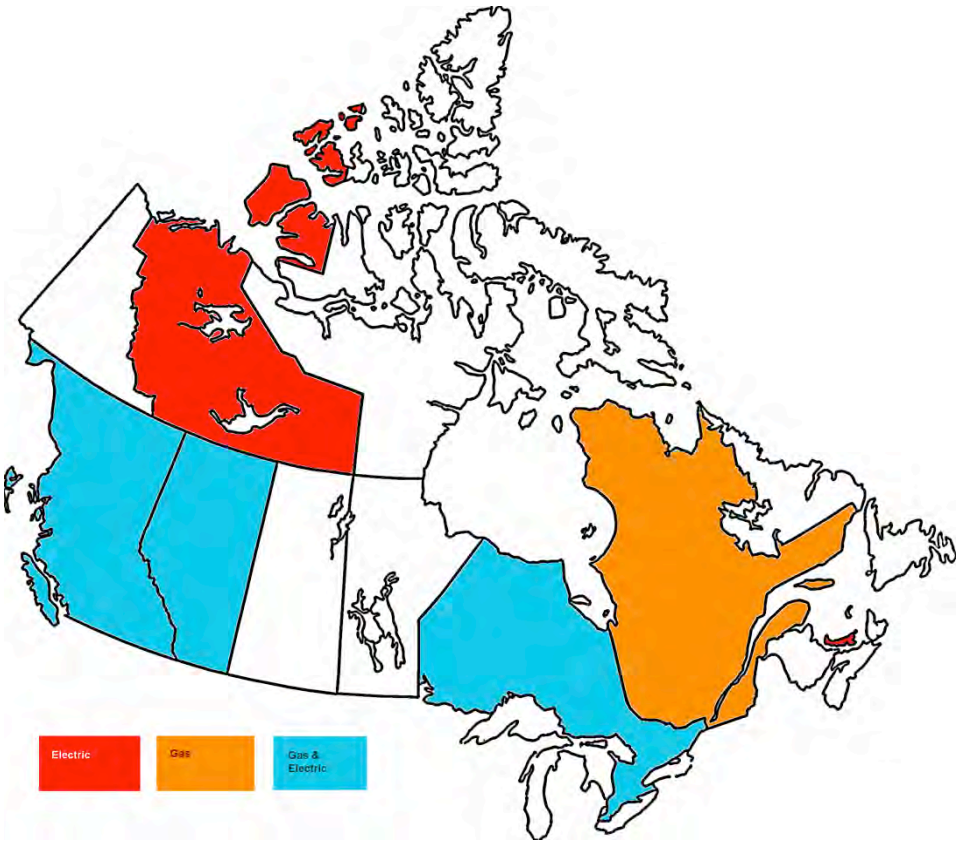
Table 8 (continued)
Multiyear Price Cap Precedents[1,2]

Historic

Jurisdiction	Company Name	Plan Term	Services Covered	Rate Escalation Provisions	Case Reference
NY	Brooklyn Union Gas	October 1, 1991 - September 30, 1994	Gas distribution	Stairstep	Case 90-G-0981, Opinion 91-21, October 9, 1991
NY	Brooklyn Union Gas	October 1, 1994 - September 30, 1997	Gas distribution	Stairstep	Case 93-G-0941, Opinion 94-22, October 18, 1994
NY	Central Hudson Gas & Electric	July 1, 2006 - June 30, 2009	Electric & Gas	Stairstep	Case 05-E-0934 & Case 05-G-0935; July 24, 2006
NY	Consolidated Edison	October 1, 1994 - September 30, 1997	Gas Distribution	Stairstep	Case 93-G-0996, Opinion 94-21, October 12, 1994
NY	Consolidated Edison	April 1, 2005 - March 31, 2008	Power distribution	Stairstep	Case 04-E-0572, March 24, 2005
NY	Long Island Lighting Company	December 1, 1993- November 30, 1996	Gas distribution	Stairstep	Case 93-G-0002, Opinion 93-23, December 23, 1993
NY	New York State Electric & Gas	December 1, 1993 - August 31, 1995	Gas	Stairstep	Case 92-G-1086, Opinion 93-22, November 9, 1993
NY	New York State Electric & Gas	August 1, 1995 - July 31, 1998, Years 2 and 3 not implemented due to restructuring	Electric	Stairstep	Case 94-M-0349, Opinion 95-27, September 27, 1995
NY	Niagara Mohawk	July 1, 1990 - December 31, 1992	Gas	Stairstep	Case 29327, Opinion 89-37, June 28, 1991
NY	Orange & Rockland Utilities	November 1, 2003- October 31, 2006	Gas	Stairstep	Case 02-G-1553, October 23, 2003
NY	Orange & Rockland Utilities	November 1, 2006 - October 31, 2009	Gas	Stairstep	Case 05-G-1494, October 20, 2006
NY	Rochester Gas & Electric	July 1, 1993 - June 30, 1996	Gas	Stairstep	Case 92-G-0741, Opinion No. 93-19; August 24, 1993
OH	Cincinnati Gas & Electric	2009-2011	Power generation	Stairstep	Case 08-920-EL-SSO
OH	Dayton Power & Light	2009-2012	Power Distribution	Rate freeze supplemented by capex and other cost trackers	Case No. 08-1094-EL-SSO (June 2009)
VT	Green Mountain Power	2007-2010	Electric	Stairstep	Docket No. 7176
VT	Vermont Gas Systems	2007-2012	Gas	Hybrid	Docket No. 7109
Alberta	Northwestern Utilities	1999-2002	Bundled power service	Stairstep	Decision U98060 (March 31, 1998)
Alberta	EPCOR	2002-2005, Terminated 12/31/2003	Power distribution	Price Cap Index	City of Edmonton Distribution Tariff Bylaw 12367 (August 18, 2000)
BC	Fortis BC	2006-2009, extended to 2011	Bundled power service	Revenue Cap Hybrid	Order G-58-06
Ontario	All Ontario distributors	2000-2003	Power distribution	Price Cap Index	RP-1999-0034
Ontario	All Ontario Distributors	2006-2009	Power Distribution	Price Cap Index	EB-2006-0089 (December 20, 2006)
Ontario	Union Gas	2001-2003	Gas distribution	Price Cap Index	RP-1999-0017 (July 21, 2001)

[1] Rate freezes without extensive supplemental funding from capex trackers are excluded from this table.
[2] MRPs with revenue decoupling and broad-based revenue cap escalators are detailed in Table 4.

Figure 9b: Recent Canadian Multiyear Rate Cap Precedents by Province



VI. Formula Rates

A cost of service formula rate plan ("FRP") is essentially a wide-scope cost tracker designed to help a utility's revenue track its pro forma cost of service. When revenue and cost are not balanced a utility's realized ROE deviates from the target set by regulators, and earnings surpluses or deficits occur. FRPs have earnings true up mechanisms that adjust rates so that earnings variances are substantially reduced or eliminated. Regulatory cost is reduced by limiting review of costs and revenues.

The earnings true up mechanism in an FRP calculates the revenue adjustment necessary to reduce or eliminate earnings variances. Some compare the earned ROE to the target (a/k/a benchmark) ROE and then calculate the rate adjustment needed to reduce the ROE variance. Another approach is to adjust rates for the difference between revenue and a pro forma cost of service that is calculated using a rate of return target. Both approaches often add interest on the variance to the revenue adjustment.

Earnings true up mechanisms in FRPs commonly move the ROE all, or almost all, of the way to its regulated target without sharing earnings variances. This is an important distinction between an FRP earnings true up mechanism and the earnings *sharing* mechanisms found in some multiyear rate plans. ESMs also frequently have sizable deadbands.

Expedited review of operating prudence does not always extend to major investment programs. In state-regulated FRPs for retail services, for instance, major investment programs are generally approved separately through such means as hearings on certificates of public convenience and necessity. The resultant cost is sometimes recovered through a separate tracker. Mechanisms are sometimes added to an FRP to encourage better operating performance in targeted areas. An example is a limit on the escalation of O&M expenses using an indexing formula.

Formula rates have been used at the FERC and its predecessor agency to regulate interstate services of gas and electric utilities since at least 1950. Use of FRPs was encouraged in the 1970s and early 1980s by rapid price inflation. Despite slower inflation in recent years, the FERC has made extensive use of formula rates for power transmission in an effort to simplify its daunting regulatory task and facilitate urgently needed investments.

Precedents for retail formula rates, which recover costs of generation and/or distribution, are listed in Table 9 and Figure 10[7]. It can be seen that FRPs for retail utility services are operative today in several Southeast and South Central states. Alabama was an early innovator, approving "Rate Stabilization and Equalization" plans for Alabama Power and Alabama Gas in the early 1980s.[8] Formula rates are, additionally, now used to regulate electric utilities in Mississippi, some gas and electric utilities in Louisiana, and some gas utilities in Oklahoma, Texas, and South Carolina. Utilities in other states have cost trackers that act like formula rates to recover their transmission costs from retail customers Most of the recent approvals of formula rates have been for gas distribution, as this is one means of avoiding the frequent rate cases that declining average use can trigger. However, formula rates were recently authorized for electric utilities in Illinois and two are now operating under FRPs there.

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[7] Some plans labeled as formula rates do not qualify for inclusion in this table and figure based on our definition.
[8] For further discussion of the Alabama FRP experience see Edison Electric Institute, *Case Study of Alabama Rate Stabilization and Equalization Mechanism*, June 2011.

Table 9
Retail Formula Rate Plan Precedents[1]

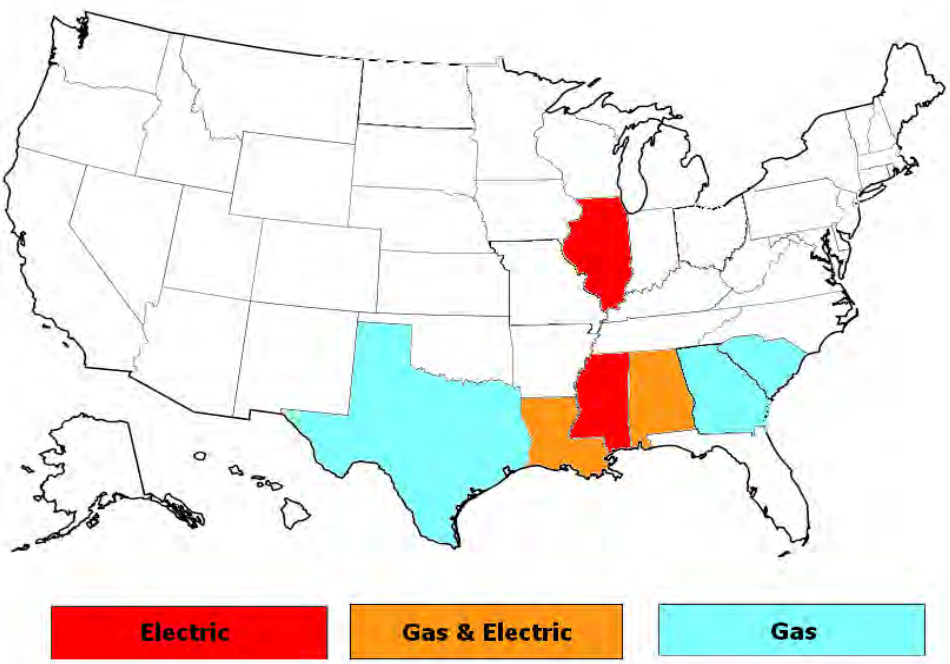
Jurisdiction	Company Name	Services	Plan Name	Plan Term	Case Reference
Current					
AL	Alabama Power	Bundled Power Service	Rate Stabilization & Equalization Factor (Rate RSE)	2006-open	Dockets No. 18117 and 18416 (October 2005)
AL	Alabama Gas	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	2008-2014	Dockets No. 18406 and 18328 (December 2007)
AL	Mobile Gas Service	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	2009-2013	Docket 28101 (December 2009)
GA	Atmos Energy	Gas	Georgia Rate Adjustment Mechanism (GRAM)	2012-open	Docket 34764 (December 2011)
IL	Ameren Illinois	Power Distribution	Rate Modernization Action Plan - Pricing (Rate MAP-P)	2011-2017	Case 12-0001 (September 2012)
IL	Commonwealth Edison	Power Distribution	Rate Delivery Service Pricing and Performance (Rate DSPP)	2011-2017	Case 11-0721 (May 2012)
LA	Atmos Energy - Louisiana Gas Service	Gas	Rate Stabilization Plan	2006-open	Docket No. U-21484 (May 2006)
LA	Atmos Energy - Trans Louisiana Gas	Gas	Rate Stabilization Plan	2006-open	Docket No. U-28814 and U-28588 and U-28587(May 2006)
LA	Entergy New Orleans	Electric and Gas	Formula Rate Plan	2010-2012	Docket No. UD-08-03 (April 2009)
MS	Atmos Energy Corp	Gas	Stable/Rate Rider	2009-present	Docket No. 05-UN-0503 (December 2009)
MS	Centerpoint Energy Entex	Gas	Rate Regulation Adjustment Rider	2008-open	Docket No. 07-UN-548 (December 2007)
MS	Entergy Mississippi	Bundled Power Service	Formula Rate Plan 5 (FRP 5)	2010-open	Docket No. 2009-UN-388 (March 2010)
MS	Mississippi Power	Bundled Power Service	Performance Evaluation Plan - 5 (PEP-5)	2010-open	Docket No. 2003-UN-0898 (November 2009)
OK	Centerpoint Energy Arkla	Gas	Performance Based Rate of Change Plan	2010-open	Docket No. 201000030 (July 2010)
OK	Oklahoma Natural Gas	Gas	Performance Based Rate of Change Plan	2010-2013	Docket No. 200800348 (April 2009)
SC	Piedmont Gas	Gas	NA	2005-present	Docket No. 2005-125-G (September 2005)
SC	South Carolina Electric and Gas	Gas	NA	2005-present	Docket No. 2005-113-G (October 2005)
TX	Centerpoint Energy-Texas Coast Division	Gas	Cost of Service Adjustment Clause	2008-open	Gas Utility Docket 9791 (October 2008)
TX	Atmos Energy-Mid Texas Division	Gas	Rate Review Mechanism	2008 - conclusion of rate case to be filed on or before June 1, 2013	Various Resolutions/Ordinances across cities in service territory, including City of Fort Worth Ordinance 17989-02-2008
TX	Atmos Energy West Texas Division	Gas	Rate Review Mechanism	2009 - conclusion of rate case to be filed on or before June 1, 2013	Various Resolutions/Ordinances across cities in service territory
TX	Texas Gas Service - North Service Area	Gas	Cost of Service Adjustment Tariff	2009-open	Various Resolutions/Ordinances in service territory and Gas Utility Docket 9839 (April 2009)
Historic					
AL	Alabama Power	Bundled Power Service	Rate Stabilization & Equalization Factor (Rate RSE)	2002-2006	Dockets No. 18117 and 18416 (March 2002)
AL	Alabama Power	Bundled Power Service	Rate Stabilization & Equalization Factor (Rate RSE)	1998-2002	Dockets No. 18117 and 18416 (March 1998)
AL	Alabama Power	Bundled Power Service	Rate Stabilization & Equalization Factor (Rate RSE)	1990-1998	Dockets No. 18117 and 18416 (March 1990)
AL	Alabama Power	Bundled Power Service	Rate Stabilization & Equalization Factor (Rate RSE)	1985-1990	Dockets No. 18117 and 18416 (June 1985)
AL	Alabama Power	Bundled Power Service	Rate Stabilization & Equalization Factor (Rate RSE)	1982-1985	Dockets No. 18117 and 18416 (November 1982)
AL	Alabama Gas	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	2002-2007	Dockets No. 18046 and 18328 (June 2002)

Table 9 (continued)
Retail Formula Rate Plan Precedents[1]

Jurisdiction	Company Name	Services	Plan Name	Plan Term	Case Reference
AL	Alabama Gas	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	1996-2001	Dockets No. 18046 and 18328 (October 1996)
AL	Alabama Gas	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	1991-1995	Dockets No. 18046 and 18328 (December 1990)
AL	Alabama Gas	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	1987-1990	Dockets No. 18046 and 18328 (September 1987)
AL	Alabama Gas	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	1985-1987	Dockets No. 18046 and 18328 (May 1985)
AL	Alabama Gas	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	1983-1985	Dockets No. 18046 and 18328 (January 1983)
AL	Mobile Gas Service	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	2005-2009	Docket 28101 (June 2005)
AL	Mobile Gas Service	Gas	Rate Stabilization & Equalization Factor (Rate RSE)	2001-2005	Docket 28101 (June 2002)
LA	Atmos Energy - Louisiana Gas Service	Gas	Rate Stabilization Plan	2001-2003	Docket No. U-21484 (January 2001)
LA	Entergy New Orleans	Electric only	Formula Rate Plan	2004-2006	Docket No. UD-01-04 (May 2003)
MS	Atmos Energy Corp	Gas	Stable/Rate Rider	2006-2009	Docket No. 05-UN-0503 (October 2005)
MS	Atmos Energy Corp	Gas	Stable/Rate Rider	1992-2006	Docket 92-UA-0230 (September 1992)
MS	Centerpoint Energy Entex	Gas	Rate Regulation Adjustment Rider	1996-2007	Docket No. 96-UN-0202 (September 1996)
MS	Entergy Mississippi	Bundled Power Service	Formula Rate Plan 1 (FRP 1)	1995	Docket No. 93-UA-0301 (March 1994)
MS	Mississippi Power	Bundled Power Service	Performance Evaluation Plan - 4A (PEP- 4A)	2009	Docket No. 06-UN-0511 (January 2009)
MS	Mississippi Power	Bundled Power Service	Performance Evaluation Plan - 4 (PEP-4)	2004-2009	Docket No. 03-UN-0898 (May 2004)
MS	Mississippi Power	Bundled Power Service	Performance Evaluation Plan - 3 (PEP-3)	2002-2004	Docket No. 01-UN-0826 (October 2002)
MS	Mississippi Power	Bundled Power Service	Performance Evaluation Plan - 2A (PEP-2A)	2001-2002	Docket No. 01-UN-0548 (December 2001)
MS	Mississippi Power	Bundled Power Service	Performance Evaluation Plan - 1A (PEP-1A)	1992-1993	Docket 92-UN-0059 (July 1992)
MS	Mississippi Power	Bundled Power Service	Performance Evaluation Plan - 1 (PEP-1)	1991-1992	Docket No. 90-UN-0287 (December 1990)
MS	Mississippi Power	Bundled Power Service	Performance Evaluation Plan	1986-1990	Docket No. U-4761 (August 1986)
OK	Centerpoint Energy Arkla	Gas	Performance Based Rate of Change Plan	2008-2010	Docket No. 200800062 (July 2008)
OK	Centerpoint Energy Arkla	Gas	Performance Based Rate of Change Plan	2004-2008	Docket No. 200400187 (November 2004)

[1] Table excludes some mechanisms that do not conform to our FRP definition. Some of these are called formula rate plans.

Figure 10: Current Retail Formula Rate Precedents by State



VII. Conclusions

Regulation of North American energy utilities is evolving to remedy the chronic underearning and frequent rate cases that traditional regulation tends to produce under modern operating conditions. Innovations continue, while some older forms of Altreg are again finding favor. This brief survey has not considered all noteworthy approaches to Altreg. Here are some of the other approaches that merit recognition:

- Regulatory assets can provide delayed compensation with interest for the annual cost of newly used and useful plant that doesn't automatically produce revenue.
- Attrition adjustments to rates can provide some compensation for an ongoing tendency of cost growth to exceed billing determinant growth. See, for example, a recent decision of the Washington Utilities and Transportation Commission in a rate case for Avista[9].
- Utilities can be permitted to file rate cases on a limited set of issues, such as additions to generation plant, that are salient causes of potential attrition.

The variety of Altreg approaches that have been established reflects the varied circumstances of individual utilities. Some are vertically integrated, while others are more specialized wire companies. Investment needs and trends in average use vary greatly. No single Altreg approach is right for every situation. The availability of multiple remedies for the underlying problems increases the chance that an approach has already been tried that fits the regulatory inclinations of a particular jurisdiction. Numerous precedents for an approach should raise confidence that it makes good sense under fairly common circumstances.

Taken together, the many innovations described in this survey can encourage utilities to make smart investments, reduce long run costs, and improve service quality without rate shock or unnecessarily frequent rate cases. Utilities can be encouraged to promote energy efficiency and peak load management aggressively. Regulators and stakeholders to regulation across the US should give priority attention to these options and consider which Altreg combinations work best in their situation.

[9] Washington Utilities and Transportation Commission, Dockets UE-120436/UG-120437, Order 09, December 26, 2012.

Calculation of GFC Cost of Equity - Staff Proxy Group

Merrill Lynch Cost of Market[1]:	10.75%	
	Implied	*Required*
Jul-16	10.90%	10.70%
Aug-16	10.80%	10.60%
Sep-16	10.80%	10.70%

Treasury Rates[2]:	*10 year*	*30 year*
Jul-16	1.50%	2.23%
Aug-16	1.56%	2.26%
Sep-16	1.63%	2.35%

Risk Free Rate (7/16 - 9/16)	1.92%
Market Risk Premium (MRP):	8.83%
Proxy Group Beta	0.70
Proxy Group DCF ROE	8.07%
Traditional CAPM ROE	8.10%
Zero Beta CAPM ROE	8.76%
Generic CAPM ROE	8.43%
2/3 DCF 1/3 CAPM Weighting Return on Equity	8.19%

Sources:

[1] *Merrill Lynch, Quantitative Profiles Reports - July 2016, August 2016 & September 2016; figure is average of Implied and Required Returns for S&P 500*

[2] *Federal Reserve Statistical Release,* FRB: Federal Reserve Statistical Release H.15 - Historical Data

Staff Proxy Group Companies at August 2016 : Credit Ratings; % Util Revenues (2015 10-K Data); Merger Activity

	Natural Gas Utilities (11 as of 9/2/16)						3 out of 11 qualify
1	Atmos Energy	A	A2	$3,134	$4,142	75.66%	
2	Chesapeake Utilities	NR	NR	$302	$459	65.74%	
3	New Jersey Resources *	A	Aa2	$782	$2,734	28.60%	* parent of NJ Natural Gas, which is the rated company
4	NiSource Inc *	BBB+	Ba1	$3,655	$4,652	78.57%	
5	Northwest Natural Gas	A+	A3	$702	$724	97.02%	
6	Piedmont Natural Gas	A	A2	$1,134	$1,372	82.63%	Being acquired by Duke Energy
7	South Jersey Industries	BBB+	A2	$529	$960	55.10%	parent of South Jersey Gas
8	Southwest Gas	BBB+	A3	$1,455	$2,464	59.04%	
9	Spire Inc *	A-	Baa2	$1,895	$1,976	95.87%	* formerly Laclede Group
10	UGI Corp *	NR	A2	$1,041	$6,691	15.55%	* Moody's rating is for UGI Utilities
11	WGL Holdings	A+	A3	$1,328	$2,660	49.94%	
	Sum and Weighted Average (ALL)			**$15,955**	**$28,833**	**55.34%**	

Staff Proxy Group Companies at August 2016 : Credit Ratings; % Util Revenues (2015 10-K Data); Merger Activity

		S&P	Moodys	2015 ($000) Reg Utility Rev.	Total Rev.	% Util.	
	COMPANY - Electric Utility Industry (East) August 19						**5 out of 11 qualify**
1.	Consolidated Edison	A-	A3	$11,170	$12,554	88.98%	
2.	Dominion Resources, Inc.	BBB+	Baa2	$7,700	$11,683	65.91%	
3.	Duke Energy Corp.	A-	Baa1	$21,915	$23,459	93.42%	Acquiring Piedmont Gas
4.	Exelon Corp.	BBB	Baa2	$11,052	$29,447	37.53%	
5.	FirstEnergy Corp.	BBB-	Baa3	$10,636	$15,026	70.78%	
6.	NextEra Energy, Inc.	A-	Baa1	$11,651	$17,486	66.63%	
7.	Eversource	A	Baa1	$7,405	$7,955	93.09%	
8.	PPL Corp. *	A-	Baa2	$7,649	$7,669	99.74%	* 31.4% of regulated rev. is from regulated U.K. utility operations
9.	Public Service Enterprise Group	BBB+	Baa2	$6,636	$10,415	63.72%	
10.	SCANA Corp.	BBB+	Baa3	$3,362	$4,380	76.76%	
11.	Southern Co.	A-	Baa2	$14,872	$17,489	85.04%	Mergered with AGL Resources July 27 2016, Value Line has updated estimates to reflect inclusion
	COMPANY - Electric Utility Industry (Central) June 17						**9 out of 17 qualify**
12.	Allete, Inc.	BBB+	A3	$991	$1,486	66.68%	
13.	Alliant Energy Corp.	A-	Baa1	$3,152	$3,254	96.87%	
14.	Ameren Corp.	BBB+	Baa1	$6,073	$6,098	99.59%	
15.	American Electric Power	BBB	Baa1	$13,462	$16,453	81.82%	
16.	CMS Energy Corp.	BBB+	Baa2	$6,165	$6,456	95.49%	
17.	CenterPoint Energy	A-	Baa1	$5,448	$7,386	73.76%	
18.	DTE Energy Co.	BBB+	A3	$6,238	$10,337	60.35%	
19.	Empire District Electric	BBB	Baa1	$597	$606	98.55%	Being acquired by Algonquin
20.	Entergy Corp.	BBB+	Baa3	$9,451	$11,513	82.09%	
21.	Great Plains Energy Inc.	BBB+	Baa2	$2,223	$2,502	88.84%	Merging with Westar
22.	ITC Holdings Corp.	A-	Baa2	$1,045	$1,045	100.00%	FERC Regulated-being purchased by Fortis
23.	MGE Energy, Inc. *	AA-	A1	$556	$564	98.63%	* Subsidiary Rating for S&P and Moody's
24.	OGE Energy Corp.	A-	A3	$1,622	$2,197	73.84%	
25.	Otter Tail Corp.	BBB	Baa2	$407	$780	52.21%	
26.	Vectren Corp.*	A-	A2	$1,394	$2,435	57.26%	*A2 Moody's rating for Indiana Gas and Southern Indiana G&E subs
27.	Westar Energy	BBB+	Baa1	$1,882	$2,459	76.52%	Merging with Great Plains Energy
28.	WEC Energy Group	A-	A3	$5,839	$5,926	98.53%	
	COMPANY - Electric Utility Industry (West) July 29						**13 out of 13 qualify**
29.	Avista Corp.	BBB	Baa1	$1,456	$1,485	98.07%	
30.	Black Hills Corp.	BBB	Baa1	$1,220	$1,305	93.48%	
31.	Edison International	BBB+	A3	$11,485	$11,524	99.66%	
32.	El Paso Electric	BBB	Baa1	$752	$850	88.50%	
33.	Hawaiian Electric Industries *	BBB-	Baa2	$2,335	$2,603	89.71%	* Moody's rating is for Hawaiian Electric Company
34.	IDACORP, Inc.	BBB	Baa1	$1,151	$1,270	90.61%	
35.	NorthWestern Corp.	BBB	A3	$1,214	$1,214	100.00%	
36.	PG&E Corp.	BBB	Baa1	$16,833	$16,833	100.00%	
37.	PNM Resources	BBB+	Baa3	$1,242	$1,439	86.30%	
38.	Pinnacle West Capital	A-	A3	$3,492	$3,495	99.91%	
39.	Portland General Electric	BBB	A3	$1,785	$1,898	94.05%	
40.	Sempra Energy	BBB+	Baa1	$9,254	$10,231	90.45%	* 14.94% of regulated rev. is from So Amer and Mexican utility operations
41.	Xcel Energy, Inc.	A-	A3	$10,948	$11,024	99.31%	
	Sum and Weighted Average (ALL)			**$243,760**	**$304,231**	**80.12%**	

In Thousands	2013										
	LTD (incl. curr portion)	L/T Debt %	STD	STD %	Preferred Stock	Preferred Stock %	Non-controlling Stock	Non-controlling Stock %	Common Equity	Common Equity %	Total Capital
Alliant Energy Corp.	$3,437,300	47.74%	$279,400	3.88%	$0	0.00%	$201,800	2.80%	$3,281,400	45.58%	$7,199,900
Ameren Corp.	$6,038,000	46.12%	$368,000	2.81%	$0	0.00%	$142,000	1.08%	$6,544,000	49.98%	$13,092,000
American Electric Power	$19,815,000	54.32%	$575,000	1.58%	$0	0.00%	$1,000	0.00%	$16,085,000	44.10%	$36,476,000
Avista Corp.	$1,388,168	48.24%	$171,000	5.94%	$0	0.00%	$20,001	0.70%	$1,298,266	45.12%	$2,877,435
CMS Energy Corp.	$7,801,000	68.06%	$170,000	1.48%	$0	0.00%	$37,000	0.32%	$3,454,000	30.13%	$11,462,000
CenterPoint Energy	$8,314,000	65.54%	$43,000	0.34%	$0	0.00%	$0	0.00%	$4,329,000	34.12%	$12,686,000
Consolidated Edison	$10,976,000	44.49%	$1,451,000	5.88%	$0	0.00%	$0	0.00%	$12,245,000	49.63%	$24,672,000
Edison International	$10,426,000	46.70%	$209,000	0.94%	$0	0.00%	$1,753,000	7.85%	$9,938,000	44.51%	$22,326,000
El Paso Electric	$1,013,972	51.79%	$0	0.00%	$0	0.00%	$0	0.00%	$943,833	48.21%	$1,957,805
Entergy Corp.	$12,630,785	53.97%	$1,046,887	4.47%	$0	0.00%	$94,000	0.40%	$9,632,466	41.16%	$23,404,138
Eversource	$8,320,923	43.74%	$1,093,000	5.74%	$0	0.00%	$0	0.00%	$9,611,528	50.52%	$19,025,451
FirstEnergy Corp.	$17,246,000	51.72%	$3,404,000	10.21%	$0	0.00%	$3,000	0.01%	$12,692,000	38.06%	$33,345,000
Great Plains Energy Inc.	$3,523,200	48.07%	$292,200	3.99%	$39,000	0.53%	$0	0.00%	$3,474,400	47.41%	$7,328,800
Hawaiian Electric	$1,541,400	43.39%	$250,000	7.04%	$0	0.00%	$34,300	0.97%	$1,727,100	48.61%	$3,552,800
IDACORP, Inc.	$1,616,322	45.84%	$54,750	1.55%	$0	0.00%	$4,090	0.12%	$1,850,650	52.49%	$3,525,812
MGE Energy, Inc.	$403,516	39.52%	$0	0.00%	$0	0.00%	$0	0.00%	$617,510	60.48%	$1,021,026
NorthWestern Corp.	$1,186,654	50.32%	$140,950	5.98%	$0	0.00%	$0	0.00%	$1,030,670	43.70%	$2,358,274
OGE Energy Corp.	$2,400,100	40.84%	$439,600	7.48%	$0	0.00%	$0	0.00%	$3,037,100	51.68%	$5,876,800
PG&E Corp.	$13,703,000	46.50%	$1,174,000	3.98%	$0	0.00%	$252,000	0.86%	$14,342,000	48.66%	$29,471,000
PNM Resources	$1,745,420	47.88%	$149,200	4.09%	$0	0.00%	$77,029	2.11%	$1,673,569	45.91%	$3,645,218
Pinnacle West Capital	$3,336,889	42.61%	$153,125	1.96%	$0	0.00%	$145,990	1.86%	$4,194,470	53.57%	$7,830,474
Portland General Electric	$1,916,000	51.28%	$0	0.00%	$0	0.00%	$1,000	0.03%	$1,819,000	48.69%	$3,736,000
PPL Corp.	$20,907,000	61.36%	$701,000	2.06%	$0	0.00%	$0	0.00%	$12,466,000	36.59%	$34,074,000
SCANA Corp.	$5,449,000	51.95%	$376,000	3.58%	$0	0.00%	$0	0.00%	$4,664,000	44.47%	$10,489,000
Sempra Energy	$12,400,000	50.01%	$545,000	2.20%	$0	0.00%	$842,000	3.40%	$11,008,000	44.40%	$24,795,000
Wisconsin Energy	$5,258,800	59.13%	$197,300	2.22%	$30,400	0.34%	$0	0.00%	$3,406,800	38.31%	$8,893,300
Xcel Energy, Inc.	$11,191,517	52.01%	$759,000	3.53%	$0	0.00%	$0	0.00%	$9,565,950	44.46%	$21,516,467

Source: SNL

Subtotal-Electric Universe	$193,985,966	51.50%	$14,042,412	3.73%	$69,400	0.02%	$3,608,210	0.96%	$164,931,712	43.79%	$376,637,700
Non-Weighted Average		50.12%		3.44%		0.03%		0.83%		45.58%	
Median		48.24%		3.53%		0.00%		0.01%		45.58%	
Atmos Energy	$2,456,295	46.14%	$287,100	5.39%	$0	0.00%	$0	0.00%	$2,580,409	48.47%	$5,323,804
Laclede Group	$912,912	44.90%	$74,000	3.64%	$0	0.00%	$0	0.00%	$1,046,282	51.46%	$2,033,194
Northwest Natural Gas	$742,452	44.13%	$188,200	11.19%	$0	0.00%	$0	0.00%	$751,872	44.69%	$1,682,524
Subtotal-Gas Universe	$4,111,659	45.49%	$549,300	6.08%	$0	0.00%	$0	0.00%	$4,378,563	48.44%	$9,039,522
Non-Weighted Average		45.06%		6.74%		0.00%		0.00%		48.21%	
Median		44.90%		5.39%		0.00%		0.00%		48.47%	

Source: SNL

Totals for All Companies	$198,097,625	51.36%	$14,591,712	3.78%	$69,400	0.02%	$3,608,210	0.94%	$169,310,275	43.90%	$385,677,222
Non-Weighted Average		49.61%		3.77%		0.03%		0.75%		45.84%	
Median		47.98%		3.61%		0.00%		0.00%		45.74%	

In Thousands	2014										
	LTD (incl. curr portion)	L/T Debt %	STD	STD %	Preferred Stock	Preferred Stock %	Non-controlling Stock	Non-controlling Stock %	Common Equity	Common Equity %	Total Capital
Alliant Energy Corp.	$3,864,300	50.54%	$141,300	1.85%	$0	0.00%	$201,800	2.64%	$3,438,700	44.97%	$7,646,100
Ameren Corp.	$6,205,000	45.05%	$714,000	5.18%	$0	0.00%	$142,000	1.03%	$6,713,000	48.74%	$13,774,000
American Electric Power	$19,064,200	51.20%	$1,346,000	3.61%	$0	0.00%	$4,300	0.01%	$16,820,200	45.17%	$37,234,700
Avista Corp.	$1,540,104	49.22%	$105,000	3.36%	$0	0.00%	$0	0.00%	$1,483,671	47.42%	$3,128,775
CMS Energy Corp.	$8,679,000	69.73%	$60,000	0.48%	$0	0.00%	$37,000	0.30%	$3,670,000	29.49%	$12,446,000
CenterPoint Energy	$8,804,000	65.68%	$53,000	0.40%	$0	0.00%	$0	0.00%	$4,548,000	33.93%	$13,405,000
Consolidated Edison	$12,107,000	47.49%	$800,000	3.14%	$0	0.00%	$9,000	0.04%	$12,576,000	49.33%	$25,492,000
Edison International	$10,738,000	42.93%	$1,291,000	5.16%	$0	0.00%	$2,022,000	8.08%	$10,960,000	43.82%	$25,011,000
El Paso Electric	$1,163,711	54.18%	$0	0.00%	$0	0.00%	$0	0.00%	$984,254	45.82%	$2,147,965
Entergy Corp.	$13,318,303	55.45%	$598,407	2.49%	$0	0.00%	$94,000	0.39%	$10,007,725	41.67%	$24,018,435
Eversource	$8,823,446	44.66%	$956,825	4.84%	$0	0.00%	$0	0.00%	$9,976,815	50.50%	$19,757,086
FirstEnergy Corp.	$19,980,000	58.42%	$1,799,000	5.26%	$0	0.00%	$2,000	0.01%	$12,420,000	36.31%	$34,201,000
Great Plains Energy Inc.	$3,486,800	45.61%	$533,300	6.98%	$39,000	0.51%	$0	0.00%	$3,586,100	46.91%	$7,645,200
Hawaiian Electric	$1,660,900	45.02%	$203,700	5.52%	$0	0.00%	$34,300	0.93%	$1,790,600	48.53%	$3,689,500
IDACORP, Inc.	$1,599,686	44.58%	$31,300	0.87%	$0	0.00%	$4,364	0.12%	$1,953,201	54.43%	$3,588,551
MGE Energy, Inc.	$399,438	37.48%	$7,000	0.66%	$0	0.00%	$0	0.00%	$659,401	61.87%	$1,065,839
NorthWestern Corp.	$1,691,991	49.22%	$267,840	7.79%	$0	0.00%	$0	0.00%	$1,477,783	42.99%	$3,437,614
OGE Energy Corp.	$2,755,300	45.19%	$98,000	1.61%	$0	0.00%	$0	0.00%	$3,244,400	53.21%	$6,097,700
PG&E Corp.	$15,124,000	47.62%	$633,000	1.99%	$0	0.00%	$252,000	0.79%	$15,748,000	49.59%	$31,757,000
PNM Resources	$1,962,385	50.80%	$105,600	2.73%	$0	0.00%	$73,546	1.90%	$1,721,546	44.56%	$3,863,077
Pinnacle West Capital	$3,390,143	42.08%	$147,400	1.83%	$0	0.00%	$151,609	1.88%	$4,367,493	54.21%	$8,056,645
Portland General Electric	$2,501,000	56.69%	$0	0.00%	$0	0.00%	$0	0.00%	$1,911,000	43.31%	$4,412,000
PPL Corp.	$18,054,000	55.52%	$836,000	2.57%	$0	0.00%	$0	0.00%	$13,628,000	41.91%	$32,518,000
SCANA Corp.	$5,663,000	48.95%	$918,000	7.94%	$0	0.00%	$0	0.00%	$4,987,000	43.11%	$11,568,000
Sempra Energy	$12,636,000	47.74%	$1,733,000	6.55%	$0	0.00%	$774,000	2.92%	$11,326,000	42.79%	$26,469,000
Wisconsin Energy	$5,230,800	58.10%	$329,200	3.66%	$30,400	0.34%	$0	0.00%	$3,412,800	37.91%	$9,003,200
Xcel Energy, Inc.	$11,757,360	51.14%	$1,019,500	4.43%	$0	0.00%	$0	0.00%	$10,214,482	44.43%	$22,991,342
Subtotal-Electric Universe	$202,199,867	51.26%	$14,727,372	3.73%	$69,400	0.02%	$3,801,919	0.96%	$173,626,171	44.02%	$394,424,729
Non-Weighted Average		50.38%		3.37%		0.03%		0.78%		45.44%	
Median		49.22%		3.14%		0.00%		0.01%		44.97%	

Source: SNL

Atmos Energy	$2,456,499	42.80%	$196,695	3.43%	$0	0.00%	$0	0.00%	$3,086,232	53.77%	$5,739,426
Laclede Group	$1,851,100	50.76%	$287,100	7.87%	$0	0.00%	$0	0.00%	$1,508,400	41.36%	$3,646,600
Northwest Natural Gas	$663,104	39.82%	$234,700	14.10%	$0	0.00%	$0	0.00%	$767,321	46.08%	$1,665,125
Subtotal-Gas Universe	$4,970,703	44.98%	$718,495	6.50%	$0	0.00%	$0	0.00%	$5,361,953	48.52%	$11,051,151
Non-Weighted Average		44.46%		8.47%		0.00%		0.00%		47.07%	
Median		42.80%		7.87%		0.00%		0.00%		46.08%	

Source: SNL

Totals for All Companies	$207,170,570	51.09%	$15,445,867	3.81%	$69,400	0.02%	$3,801,919	0.94%	$178,988,124	44.14%	$405,475,880
Non-Weighted Average		49.79%		3.88%		0.03%		0.70%		45.60%	
Median		49.09%		3.39%		0.00%		0.00%		45.07%	

In Thousands	LTD (incl. curr portion)	L/T Debt %	STD	STD %	Preferred Stock	Preferred Stock %	Non-controlling Stock	Non-controlling Stock %	Common Equity	Common Equity %	Total Capital
					2015						
Alliant Energy Corp.	$3,926,600	49.02%	$159,800	1.99%	$0	0.00%	$200,000	2.50%	$3,724,100	46.49%	$8,010,500
Ameren Corp.	$7,275,000	49.61%	$301,000	2.05%	$0	0.00%	$142,000	0.97%	$6,946,000	47.37%	$14,664,000
American Electric Power	$19,916,200	51.57%	$800,000	2.07%	$0	0.00%	$13,200	0.03%	$17,891,700	46.33%	$38,621,100
Avista Corp.	$1,624,825	49.86%	$105,000	3.22%	$0	0.00%	$0	0.00%	$1,528,626	46.91%	$3,258,451
Black Hills Corp.	$1,866,866	54.75%	$76,800	2.25%	$0	0.00%	$0	0.00%	$1,465,867	42.99%	$3,409,533
CMS Energy Corp.	$9,265,000	68.69%	$249,000	1.85%	$0	0.00%	$37,000	0.27%	$3,938,000	29.19%	$13,489,000
CenterPoint Energy	$8,774,000	71.48%	$40,000	0.33%	$0	0.00%	$0	0.00%	$3,461,000	28.20%	$12,275,000
Consolidated Edison	$12,747,000	46.63%	$1,529,000	5.59%	$0	0.00%	$9,000	0.03%	$13,052,000	47.74%	$27,337,000
Edison International	$11,259,000	44.43%	$695,000	2.74%	$0	0.00%	$2,020,000	7.97%	$11,368,000	44.86%	$25,342,000
El Paso Electric	$1,276,022	55.66%	$0	0.00%	$0	0.00%	$0	0.00%	$1,016,538	44.34%	$2,292,560
Entergy Corp.	$13,355,640	57.80%	$494,348	2.14%	$0	0.00%	$0	0.00%	$9,256,791	40.06%	$23,106,779
Eversource	$9,042,679	43.99%	$1,160,953	5.65%	$0	0.00%	$0	0.00%	$10,352,215	50.36%	$20,555,847
FirstEnergy Corp.	$20,358,000	59.03%	$1,708,000	4.95%	$0	0.00%	$1,000	0.00%	$12,421,000	36.02%	$34,488,000
Hawaiian Electric	$1,722,400	43.84%	$244,300	6.22%	$0	0.00%	$34,300	0.87%	$1,927,600	49.07%	$3,928,600
IDACORP, Inc.	$1,726,474	45.33%	$20,000	0.53%	$0	0.00%	$4,160	0.11%	$2,057,884	54.03%	$3,808,518
MGE Energy, Inc.	$395,280	36.41%	$0	0.00%	$0	0.00%	$0	0.00%	$690,458	63.59%	$1,085,738
NorthWestern Corp.	$1,810,290	49.73%	$229,874	6.31%	$0	0.00%	$0	0.00%	$1,600,174	43.96%	$3,640,338
OGE Energy Corp.	$2,755,600	45.31%	$0	0.00%	$0	0.00%	$0	0.00%	$3,326,000	54.69%	$6,081,600
PG&E Corp.	$16,244,000	47.65%	$1,019,000	2.99%	$0	0.00%	$252,000	0.74%	$16,576,000	48.62%	$34,091,000
PNM Resources	$2,091,948	51.41%	$250,600	6.16%	$0	0.00%	$71,407	1.76%	$1,654,813	40.67%	$4,068,768
Pinnacle West Capital	$3,819,971	44.73%	$0	0.00%	$0	0.00%	$135,540	1.59%	$4,583,917	53.68%	$8,539,428
Portland General Electric	$2,204,000	49.33%	$6,000	0.13%	$0	0.00%	$0	0.00%	$2,258,000	50.54%	$4,468,000
PPL Corp.	$19,048,000	63.74%	$916,000	3.07%	$0	0.00%	$0	0.00%	$9,919,000	33.19%	$29,883,000
SCANA Corp.	$5,998,000	50.10%	$531,000	4.44%	$0	0.00%	$0	0.00%	$5,443,000	45.46%	$11,972,000
Sempra Energy	$14,041,000	51.54%	$622,000	2.28%	$0	0.00%	$770,000	2.83%	$11,809,000	43.35%	$27,242,000
Wisconsin Energy	$5,474,900	59.30%	$163,600	1.77%	$30,400	0.33%	$0	0.00%	$3,564,000	38.60%	$9,232,900
Xcel Energy, Inc.	$13,147,740	53.46%	$846,000	3.44%	$0	0.00%	$0	0.00%	$10,600,920	43.10%	$24,594,660
Subtotal-Electric Universe	$211,166,435	52.86%	$12,167,275	3.05%	$30,400	0.01%	$3,689,607	0.92%	$172,432,603	43.16%	$399,486,320
Non-Weighted Average		51.64%		2.67%		0.01%		0.73%		44.94%	
Median		49.86%		2.25%		0.00%		0.00%		45.46%	

Source: Capital IQ

Atmos Energy	$2,455,388	40.20%	$457,927	7.50%	$0	0.00%	$0	0.00%	$3,194,797	52.30%	$6,108,112
Laclede Group	$1,851,500	49.20%	$338,000	8.98%	$0	0.00%	$0	0.00%	$1,573,600	41.82%	$3,763,100
Northwest Natural Gas	$602,423	36.43%	$270,035	16.33%	$0	0.00%	$0	0.00%	$780,972	47.23%	$1,653,430
Subtotal-Gas Universe	$4,909,311	42.60%	$1,065,962	9.25%	$0	0.00%	$0	0.00%	$5,549,369	48.15%	$11,524,642
Non-Weighted Average		41.95%		10.94%		0.00%		0.00%		47.12%	
Median		40.20%		8.98%		0.00%		0.00%		47.23%	

Source: SNL

Totals for All Companies	$216,075,746	52.57%	$13,233,237	3.22%	$30,400	0.01%	$3,689,607	0.90%	$177,981,972	43.30%	$411,010,962
Non-Weighted Average		50.67%		3.50%		0.01%		0.66%		45.16%	
Median		49.67%		2.51%		0.00%		0.00%		45.90%	

Calculation of Electric ROE - DCF Method
Case 16-G-0369

	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
			7/16-9/16	EPS	DPS	DPS	DPS	BPS	BPS	BPS	# of Shares	# of Shares
	Company[1]	Beta[2]	Price[3]	2020	2016	2017	2020	2016	2017	2020	2016	2020
1.	Alliant Energy Corp.	0.75	39.34	$ 2.45	$ 1.18	$ 1.25	$ 1.50	$ 18.05	$ 18.75	$ 20.00	230.00	230.00
2.	Ameren Corp.	0.70	51.16	3.25	1.72	1.78	2.05	29.50	30.50	34.00	242.63	242.63
3.	American Electric Power	0.65	67.26	4.25	2.27	2.39	2.75	38.05	39.65	44.25	493.00	500.00
4.	Avista Corp.	0.75	42.70	2.50	1.37	1.42	1.60	25.40	26.15	28.50	64.00	66.00
5.	Black Hills Corp.	0.90	61.20	4.25	1.68	1.84	2.20	30.45	32.60	39.25	53.00	61.00
6.	CMS Energy Corp.	0.65	43.82	2.50	1.24	1.32	1.60	15.00	16.00	19.25	280.00	288.00
7.	CenterPoint Energy	0.80	23.47	1.40	1.03	1.07	1.19	8.00	8.15	9.00	431.00	435.00
8.	Consolidated Edison	0.55	77.90	4.50	2.68	2.76	3.00	46.75	48.40	53.50	305.00	309.00
9.	Edison International	0.70	74.83	5.00	1.96	2.10	2.60	36.70	38.60	45.00	325.81	325.81
10.	El Paso Electric	0.70	46.63	2.50	1.23	1.29	1.50	25.75	26.60	29.50	40.55	41.00
11.	Entergy Corp.	0.65	79.68	6.25	3.42	3.52	4.00	55.50	57.40	64.00	179.00	179.00
12.	Eversource	0.70	56.72	3.75	1.78	1.90	2.20	33.75	35.05	39.50	317.19	317.19
13.	FirstEnergy Corp.	0.65	34.24	3.00	1.44	1.44	1.60	27.50	28.75	32.75	438.00	450.00
14.	Hawaiian Electric	0.75	30.81	2.00	1.24	1.24	1.30	18.85	19.45	21.75	108.75	113.00
15.	IDACORP, Inc.	0.75	79.42	4.50	2.08	2.24	2.70	42.60	44.35	49.75	50.45	50.75
16.	MGE Energy, Inc.	0.70	56.26	3.25	1.20	1.25	1.40	21.15	22.15	25.00	35.00	36.00
17.	NorthWestern Corp.	0.70	59.88	4.00	2.00	2.08	2.32	34.15	35.35	40.00	48.50	49.50
18.	OGE Energy Corp.	0.90	31.69	2.25	1.16	1.28	1.65	17.25	17.90	19.75	199.70	201.50
19.	PG&E Corp.	0.65	63.18	4.50	1.93	2.08	2.70	35.20	37.10	42.75	505.00	525.00
20.	PNM Resources	0.80	33.66	2.35	0.88	0.96	1.30	22.70	23.60	25.50	80.00	80.00
21.	Pinnacle West Capital	0.70	78.12	4.75	2.56	2.68	3.10	42.75	44.35	49.00	111.50	113.50
22.	Portland General Electric	0.75	43.33	2.75	1.26	1.34	1.60	26.25	27.25	30.50	89.00	89.80
23.	PPL Corp.	0.70	36.02	2.50	1.52	1.58	1.76	16.15	16.80	19.25	677.00	692.00
24.	SCANA Corp.	0.70	73.34	4.75	2.30	2.42	2.80	39.70	41.75	47.75	143.00	150.00
25.	Sempra Energy	0.80	109.02	7.50	3.02	3.28	4.00	48.30	50.05	55.25	251.00	242.00
26.	WEC Energy Group	0.65	62.76	3.50	1.98	2.08	2.40	28.20	29.25	32.75	315.65	315.65
27.	Xcel Energy, Inc.	0.65	42.96	2.75	1.36	1.44	1.70	21.70	22.60	25.50	508.00	508.00
28.	Atmos Energy	0.75	77.19	4.20	1.68	1.80	2.15	31.95	31.15	36.65	107.00	120.00
29.	Spire Inc.	0.70	66.36	4.20	1.93	1.97	2.20	36.45	38.00	42.70	46.00	48.00
30.	Northwest Natural Gas	0.65	62.61	3.15	1.87	1.88	2.05	28.70	29.55	32.85	27.75	28.00
	Median:	**0.70**										
	Average:	**0.72**										

Sources: Latest Value Line Investment Survey

- Electric Industry Central
- Electric Industry East
- Electric Industry West
- Natural Gas Utilities

Calculation of Electric ROE - DCF Method

Calculation of Electric ROE - DCF Method

	(B)	(N)	(O)	(P)	(Q)	(R)	(S)	(V)	(W)	(X)
		DPS Growth	Retention Rate	Return on Equity		S Increase in	V MBR -1		Sustainable	Long-Form
	Company[1]	2020	2020	2020	B x R	Shares	2016	S x V	Growth	ROE
1.	Alliant Energy Corp.	6.27	0.39	12.38	4.80	0.00	1.18	0.00	4.80	8.05%
2.	Ameren Corp.	4.82	0.37	9.73	3.59	0.00	0.73	0.00	3.59	7.15%
3.	American Electric Power	4.79	0.35	9.78	3.45	0.35	0.77	0.27	3.72	7.34%
4.	Avista Corp.	4.06	0.36	8.90	3.20	0.77	0.68	0.53	3.73	7.05%
5.	Black Hills Corp.	6.14	0.48	11.16	5.38	3.58	1.01	3.61	9.00	11.73%
6.	CMS Energy Corp.	6.62	0.36	13.39	4.82	0.71	1.92	1.36	6.18	9.17%
7.	CenterPoint Energy	3.61	0.15	15.81	2.37	0.23	1.93	0.45	2.82	7.44%
8.	Consolidated Edison	2.82	0.33	8.55	2.85	0.33	0.67	0.22	3.07	6.56%
9.	Edison International	7.38	0.48	11.40	5.47	0.00	1.04	0.00	5.47	8.36%
10.	El Paso Electric	5.16	0.40	8.62	3.45	0.28	0.81	0.22	3.67	6.51%
11.	Entergy Corp.	4.35	0.36	9.94	3.58	0.00	0.44	0.00	3.58	8.04%
12.	Eversource	5.01	0.41	9.68	4.00	0.00	0.68	0.00	4.00	7.40%
13.	FirstEnergy Corp.	3.57	0.47	9.36	4.37	0.68	0.25	0.17	4.53	8.60%
14.	Hawaiian Electric	1.59	0.35	9.37	3.28	0.96	0.63	0.61	3.89	7.65%
15.	IDACORP, Inc.	6.42	0.40	9.22	3.69	0.15	0.86	0.13	3.82	6.79%
16.	MGE Energy, Inc.	3.85	0.57	13.26	7.55	0.71	1.66	1.17	8.72	10.59%
17.	NorthWestern Corp.	3.71	0.42	10.21	4.29	0.51	0.75	0.39	4.67	8.02%
18.	OGE Energy Corp.	8.83	0.27	11.58	3.09	0.22	0.84	0.19	3.28	7.86%
19.	PG&E Corp.	9.09	0.40	10.77	4.31	0.98	0.79	0.78	5.09	8.67%
20.	PNM Resources	10.63	0.45	9.33	4.17	0.00	0.48	0.00	4.17	7.47%
21.	Pinnacle West Capital	4.97	0.35	9.85	3.42	0.45	0.83	0.37	3.79	7.29%
22.	Portland General Electric	6.09	0.42	9.19	3.84	0.22	0.65	0.15	3.99	7.21%
23.	PPL Corp.	3.66	0.30	13.28	3.93	0.55	1.23	0.68	4.61	8.85%
24.	SCANA Corp.	4.98	0.41	10.17	4.18	1.20	0.85	1.02	5.19	8.43%
25.	Sempra Energy	6.84	0.47	13.80	6.44	(0.91)	1.26	(1.14)	5.30	8.38%
26.	WEC Energy Group	4.89	0.31	10.89	3.42	0.00	1.23	0.00	3.42	6.83%
27.	Xcel Energy, Inc.	5.69	0.38	11.00	4.20	0.00	0.98	0.00	4.20	7.64%
28.	Atmos Energy	6.10	0.49	11.77	5.74	2.91	1.42	4.12	9.86	11.89%
29.	Spire Inc.	3.75	0.48	10.03	4.77	1.07	0.82	0.88	5.65	8.43%
30.	Northwest Natural Gas	2.93	0.35	9.76	3.41	0.22	1.18	0.27	3.67	6.58%
	Median:	**4.98**	**0.39**	**10.10**	**3.97**		**0.83**	Median Result:	**4.09**	**7.76%**
	Average:	**5.29**	**0.39**	**10.74**	**4.17**		**0.95**	**0.55**	**4.72**	**8.07%**

Staff Proxy Group

3 Month Average Price Data

Source: Yahoo finance

		7/16-9/16						
Electric Utility Industry		**3-month**	**Jul-16**		**Aug-16**		**Sep-16**	
	Symbol	**Price**	**High**	**Low**	**High**	**Low**	**High**	**Low**
Alliant Energy Corp.		39.34	40.99	39.07	40.58	37.69	40.60	37.09
Ameren Corp.		51.16	54.08	50.65	52.59	49.15	51.91	48.60
American Electric Power		67.26	71.32	68.25	69.48	64.07	66.87	63.56
Avista Corp.		42.70	45.22	42.87	43.71	40.30	43.74	40.38
Black Hills Corp.		61.20	64.58	61.17	63.87	56.86	63.21	57.51
CMS Energy Corp.		43.82	46.25	44.25	45.37	41.49	44.44	41.14
CenterPoint Energy		23.47	24.71	23.43	24.01	21.97	24.43	22.27
Consolidated Edison		77.90	81.88	78.34	80.61	74.09	79.54	72.93
Edison International		74.83	78.72	74.45	77.40	71.74	75.82	70.83
El Paso Electric		46.63	48.38	45.93	47.82	44.82	48.75	44.07
Entergy Corp.		79.68	82.09	79.55	82.00	76.60	81.83	75.99
Eversource		56.72	60.44	57.53	59.28	53.58	56.84	52.64
FirstEnergy Corp.		34.24	36.60	34.58	34.90	32.12	34.96	32.27
Hawaiian Electric		30.81	33.57	30.05	31.18	29.54	31.40	29.14
IDACORP, Inc.		79.42	83.40	79.21	81.71	75.50	81.55	75.14
MGE Energy, Inc.		56.26	57.37	55.20	57.48	54.21	59.49	53.78
NorthWestern Corp.		59.88	63.75	60.20	61.32	57.09	60.71	56.18
OGE Energy Corp.		31.69	32.96	31.30	32.29	29.91	33.10	30.59
PG&E Corp.		63.18	65.43	62.90	65.39	61.48	63.91	59.95
PNM Resources		33.66	36.15	33.61	34.51	31.56	34.91	31.20
Pinnacle West Capital		78.12	82.78	77.96	79.54	74.28	80.19	73.94
Portland General Electric		43.33	45.21	43.28	44.46	41.51	44.12	41.39
PPL Corp.		36.02	37.88	36.66	37.76	34.35	35.94	33.52
SCANA Corp.		73.34	76.41	73.05	75.80	69.83	75.92	69.04
Sempra Energy		109.02	114.66	111.32	111.96	103.62	111.14	101.40
WEC Energy Group		62.76	66.10	63.52	65.24	59.32	63.35	59.03
Xcel Energy, Inc.		42.96	45.42	43.33	44.13	41.07	43.49	40.34
Gas Companies								
Atmos Energy		77.19	81.97	78.39	80.18	73.25	77.72	71.61
Spire Inc.		66.36	71.21	67.67	66.45	64.40	66.47	61.96
Northwest Natural Gas		62.61	66.17	63.27	65.53	59.47	63.25	57.96

U.S. Utility Index Hits Record In Flight to Safety After Brexit

Mark Chediak **Jim Polson**
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June 24, 2016 — 12:23 PM EDT

The Standard & Poor's 500 Utilities Index touched a record high Friday as investors fled to less risky investments after voters in the United Kingdom decided in a referendum to leave the European Union.

The index rose as much as 0.9 percent to 258.15, its highest level ever. The sector was one of the few in positive territory Friday as global stocks tumbled and the broader S&P 500 Index fell as much as 2.9 percent.

"Utilities are bond proxies," Michael Underhill, who manages less than $1 billion including utility stocks at Capital Innovations LLC, said Friday by phone. "These are the kinds of things that are protective, defensive in this kind of market environment."

Utilities are typically viewed by investors as a safe haven in times of volatility because of their steady earnings and dividends. The sector also has looked attractive given historically low interest rates and U.S. treasury bond yields, with the S&P Utilities Index climbing 21 percent in the past 12 months. Utility stocks are especially sensitive to borrowing costs because of their high capital expenses and the time it takes for regulators to set their revenues.

"Pressure on U.S. interest rates, from the dollar strengthening and perceived Fed accommodation, is likely to boost utility valuations, at least on a relative basis," Kit Konolige, an analyst with Bloomberg Intelligence, wrote in a research note Friday.

One exception on Friday was PPL Corp., the U.S. utility owner that's gotten more than 60 percent of its profit from U.K. operations. The stock fell as much as 5.3 percent, the most in more than a year.

Long-Range Consensus U.S. Economic Projections

II. For comparison, this table includes a selection of the long-range consensus projections found on the preceding page, plus the latest long-range assumptions from the Obama Administration's Office of Management and Budget (OMB) and the Congressional Budget Office (CBO).

ECONOMIC VARIABLE		YEAR 2018	2019	2020	2021	2022	Five-Year Averages 2018-22	2023-27
		Percent Change, Full Year-Over-Prior Year						
1. Real GDP (chained, 2009 dollars)	**CONSENSUS**	**2.1**	**2.1**	**2.1**	**2.0**	**2.0**	**2.1**	**2.0**
	OMB[1]	2.4	2.3	2.2	2.2	2.2	2.3	2.2
	CBO[1]	2.3	1.8	1.9	2.1	2.1	2.0	2.0
2. GDP Chained Price Index	**CONSENSUS**	**2.1**	**2.1**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**
	OMB[1]	2.0	1.9	2.1	2.0	2.0	2.0	2.0
	CBO[1]	1.9	2.0	2.0	2.0	2.0	2.0	2.0
3. Nominal GDP (current dollars)	**CONSENSUS**	**4.2**	**4.2**	**4.1**	**4.1**	**4.0**	**4.1**	**4.1**
	OMB[1]	4.5	4.2	4.3	4.2	4.3	4.3	4.2
	CBO[1]	4.2	3.8	4.0	4.1	4.1	4.0	4.1
4. Consumer Price Index (for all urban consumers)	**CONSENSUS**	**2.3**	**2.3**	**2.3**	**2.3**	**2.2**	**2.3**	**2.2**
	OMB[1]	2.1	2.3	2.2	2.3	2.3	2.2	2.3
	CBO[1]	2.4	2.4	2.4	2.4	2.4	2.4	2.4
		Annual Average						
5. Treasury Bills, 3-Month (percent per annum)	**CONSENSUS**	**1.7**	**2.2**	**2.5**	**2.7**	**2.7**	**2.4**	**2.8**
	OMB[1]	2.1	2.7	3.1	3.2	3.1	2.8	3.0
	CBO[1]	2.5	3.2	3.2	3.2	3.2	3.2	3.2
6. Treasury Notes, 10-Year (yield per annum)	**CONSENSUS**	**2.8**	**3.1**	**3.4**	**3.6**	**3.5**	**3.3**	**3.7**
	OMB[1]	3.3	3.6	3.8	3.9	3.9	3.7	4.0
	CBO[1]	3.9	4.1	4.1	4.1	4.1	4.1	4.1
7. Unemployment Rate (% of civilian labor force)	**CONSENSUS**	**4.7**	**4.7**	**4.7**	**4.8**	**4.9**	**4.8**	**4.8**
	OMB[1]	4.6	4.6	4.7	4.7	4.8	4.7	4.8
	CBO[1]	4.6	4.8	5.0	5.0	5.0	4.9	5.0

III. In this table, we compare the results of our most recent survey with those of our survey in March 2016[2].

ECONOMIC VARIABLE		YEAR 2018	2019	2020	2021	2022	Five-Year Averages 2018-22	2023-27
		Percent Change, Full Year-Over-Prior Year						
1. Real GDP (chained, 2009 dollars)	**October Consensus**	**2.1**	**2.1**	**2.1**	**2.0**	**2.0**	**2.1**	**2.0**
	March Consensus	2.2	2.1	2.2	2.1	2.1	2.1	2.1
2. GDP Chained Price Index	**October Consensus**	**2.1**	**2.1**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**
	March Consensus	2.1	2.1	2.1	2.1	2.1	2.1	2.1
3. Nominal GDP (current dollars)	**October Consensus**	**4.2**	**4.2**	**4.1**	**4.1**	**4.0**	**4.1**	**4.1**
	March Consensus	4.3	4.2	4.2	4.2	4.1	4.2	4.2
4. Consumer Price Index (for all urban consumers)	**October Consensus**	**2.3**	**2.3**	**2.3**	**2.3**	**2.2**	**2.3**	**2.2**
	March Consensus	2.3	2.3	2.3	2.3	2.3	2.3	2.3
		Annual Average						
5. Treasury Bills, 3-Month (percent per annum)	**October Consensus**	**1.7**	**2.2**	**2.5**	**2.7**	**2.7**	**2.4**	**2.8**
	March Consensus	2.3	2.7	2.9	3.0	3.0	2.8	3.0
6. Treasury Notes, 10-Year (yield per annum)	**October Consensus**	**2.8**	**3.1**	**3.4**	**3.6**	**3.5**	**3.3**	**3.7**
	March Consensus	3.4	3.7	3.8	3.9	3.9	3.7	3.9
7. Unemployment Rate (% of civilian labor force)	**October Consensus**	**4.7**	**4.7**	**4.7**	**4.8**	**4.9**	**4.8**	**4.8**
	March Consensus	4.6	4.7	4.7	4.8	4.8	4.7	4.9

[1] *Mid-Session Review of the Budget, Fiscal Year 2017, Office of Management and Budget, July 2016.* CBO and OMB projections only extend through 2026, so averages f the 2023-2027 time-period are based on CBO and OMB projections for the four-year period 2023-2026. OMB and CBO projections were prepared prior to release of B reau of Economic Analysis annual revisions to the National Income and Product Account data on July 29th, 2016. [2] *Blue Chip Economic Indicators*, March 10, 2016.

Long-Range Consensus U.S. Economic Projections

I. The table below shows the latest U.S. Blue Chip Consensus projections by years for 2017 through 2021, an average for the five-year period 2018-2022, and an average for the next five-year period 2023-2027. There are also Top 10 and Bottom 10 averages for each variable. *Apply these projections cautiously. For the most part economic and political forces over such long time spans cannot be evaluated with accuracy.*

ECONOMIC VARIABLE		YEAR 2018	2019	2020	2021	2022	Five-Year Averages 2018-22	2023-27
		Percent Change, Full Year-Over-Prior Year						
1. Real GDP (chained, 2009 dollars)	CONSENSUS	2.1	2.1	2.1	2.0	2.0	2.1	2.0
	Top 10 Avg.	2.5	2.5	2.5	2.4	2.4	2.5	2.3
	Bottom 10 Avg.	1.5	1.6	1.6	1.6	1.5	1.6	1.7
2. GDP Chained Price Index	CONSENSUS	2.1	2.1	2.0	2.0	2.0	2.0	2.0
	Top 10 Avg.	2.4	2.3	2.3	2.3	2.2	2.3	2.2
	Bottom 10 Avg.	1.8	1.8	1.7	1.8	1.8	1.8	1.8
3. Nominal GDP (current dollars)	CONSENSUS	4.2	4.2	4.1	4.1	4.0	4.1	4.1
	Top 10 Avg.	4.8	4.8	4.7	4.5	4.5	4.7	4.4
	Bottom 10 Avg.	3.5	3.5	3.6	3.5	3.3	3.5	3.6
4. Consumer Price Index (for all urban consumers)	CONSENSUS	2.3	2.3	2.3	2.3	2.2	2.3	2.2
	Top 10 Avg.	2.6	2.7	2.7	2.7	2.6	2.7	2.6
	Bottom 10 Avg.	1.9	2.0	1.9	1.9	1.8	1.9	2.0
5. Industrial Production (total)	CONSENSUS	2.2	2.2	2.1	2.1	2.1	2.1	2.2
	Top 10 Avg.	2.9	2.9	2.8	2.7	2.8	2.8	2.8
	Bottom 10 Avg.	1.4	1.4	1.3	1.4	1.2	1.4	1.6
6. Disposable Personal Income (chained, 2009 dollars)	CONSENSUS	2.3	2.3	2.2	2.2	2.2	2.2	2.2
	Top 10 Avg.	2.8	2.8	2.7	2.7	2.8	2.8	2.7
	Bottom 10 Avg.	1.7	1.7	1.7	1.7	1.6	1.7	1.7
7. Personal Consumption Expenditures (chained, 2009 dollars)	CONSENSUS	2.2	2.2	2.1	2.1	2.1	2.2	2.1
	Top 10 Avg.	2.6	2.6	2.5	2.5	2.5	2.6	2.5
	Bottom 10 Avg.	1.7	1.7	1.6	1.7	1.6	1.7	1.7
8. Non-Residential Fixed Investment (chained, 2009 dollars)	CONSENSUS	3.4	3.4	3.2	3.1	3.1	3.2	3.4
	Top 10 Avg.	4.8	5.0	4.7	4.6	4.5	4.7	4.6
	Bottom 10 Avg.	2.0	1.9	1.6	1.9	1.6	1.8	2.3
9. Corporate Profits, Pretax (current dollars)	CONSENSUS	3.2	3.7	3.6	3.7	3.5	3.5	3.9
	Top 10 Avg.	4.7	5.6	5.6	5.4	5.3	5.3	5.2
	Bottom 10 Avg.	1.7	1.6	1.5	1.8	1.3	1.6	2.5
		Annual Average						
10. Treasury Bills, 3-Month (percent per annum)	CONSENSUS	1.7	2.2	2.5	2.7	2.7	2.4	2.8
	Top 10 Avg.	2.6	3.2	3.4	3.5	3.4	3.2	3.6
	Bottom 10 Avg.	1.0	1.2	1.6	1.8	1.8	1.5	2.0
11. Treasury Notes, 10-Year (yield per annum)	CONSENSUS	2.8	3.1	3.4	3.6	3.5	3.3	3.7
	Top 10 Avg.	3.7	4.0	4.4	4.3	4.3	4.1	4.4
	Bottom 10 Avg.	2.0	2.2	2.5	2.7	2.6	2.4	2.8
12. Unemployment Rate (% of civilian labor force)	CONSENSUS	4.7	4.7	4.7	4.8	4.9	4.8	4.8
	Top 10 Avg.	5.1	5.4	5.2	5.3	5.3	5.3	5.3
	Bottom 10 Avg.	4.3	4.2	4.3	4.3	4.3	4.3	4.4
		Total Units, Millions						
13. Housing Starts (millions of units)	CONSENSUS	1.37	1.43	1.47	1.48	1.48	1.44	1.52
	Top 10 Avg.	1.57	1.65	1.67	1.72	1.70	1.66	1.75
	Bottom 10 Avg.	1.20	1.24	1.28	1.27	1.25	1.25	1.30
14. Total Auto & Light Truck Sales (millions of units)	CONSENSUS	16.8	16.8	16.7	16.7	16.7	16.7	16.9
	Top 10 Avg.	17.5	17.5	17.4	17.4	17.5	17.5	18.0
	Bottom 10 Avg.	16.0	15.9	15.9	15.9	15.7	15.9	15.9
		Billions of Chained, 2009 Dollars						
15. Net Exports (billions of chained, 2009 dollars)	CONSENSUS	-544.5	-643.0	-650.6	-648.7	-655.6	-628.5	-676.2
	Top 10 Avg.	-291.1	-570.9	-559.7	-562.2	-561.3	-509.0	-558.1
	Bottom 10 Avg.	-699.5	-727.5	-750.4	-751.8	-776.8	-741.2	-831.5

Merrill Lynch Cost of Market[1]: **10.75%**

	Implied	*Required*
Jul-16	10.90%	10.70%
Aug-16	10.80%	10.60%
Sep-16	10.80%	10.70%

Sources:
[1] *Merrill Lynch, Quantitative Profiles Reports - July 2016, August 2016 & September 2016; figure is average of Implied and Required Returns for S&P 500*

A PM's guide to stock picking

Bank of America Merrill Lynch

12 July 2016

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Momentum and Dividend Yield led in June

Momentum factors were the best-performing group in June (+1.6%), extending their strength from May. Long-term measures of Momentum, such as 12-month Price Return, led the group. Momentum factors have lagged the benchmark year-to-date, however (+2.3%). Cash Deployment factors (+0.7% in June) were the next best performing group, but had mixed performance: Shares Repurchase (-1.6%) was weak, but High Dividend Yield (+3.5%) was second-best factor overall, helped by falling interest rates and a push-out in Fed hike expectations post-Brexit. Cash deployment has also outperformed year-to-date (+5.2%), led by High Dividend Yield (+19.4%, 2nd best of all factors).

Both Value and Growth lagged in June and YTD

Value was the weakest factor group last month (-1.4%), with most Value strategies underperforming the index. High Forward EPS Yield and Low Price to Book weighed most on the group, -4.2% and -4.7%, respectively. Growth factors (-1.1%) were also weak, with only High Upward EPS Revisions (+2.0%) outperforming the index. YTD, Value retains a 0.7ppt lead over Growth. Both styles, however, are trailing the index by a wide margin – all Growth factors and all Value factors, except DDM Alpha (+11.0%), have lagged the index.

Risk lagged in June; but leads YTD

High Beta (-4.2%) was weak in June, weighing on the Risk group's performance last month (-0.8%). YTD, Risk (+10.1%) leads other groups, helped by the risk-on market environment for much of the year pre-Brexit, buoyed by the best-performing High EPS Dispersion factor (+21.9%), which has over 70% of its weight in Energy, one of the best performing sectors YTD. Small stocks, which are typically higher risk names, also lagged in June (-2.6%), but were among the best performers in the 1H (+13.2%).

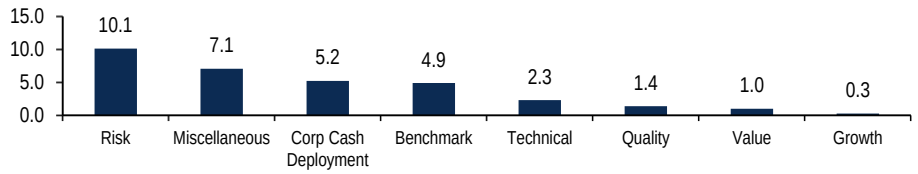
Positioning mattered in June and 1H

Neglected stocks, as measured by Institutional Neglect (+2.8% June /+10.3% YTD) and Low Analyst Converge (-0.1% June / +4.9% YTD) have proven to be resilient to market gyrations in the first half of the year. This is consistent with our mutual fund holdings work: the 10 most underowned stocks by fund managers outperformed the 10 most overowned names by 9.5ppt in June and 16.8ppt in 1H.

Narrow Market YTD – only one in five factors outperformed

It was a tough 1H of the year to outperform both for active managers and for factors: only 20% of factors cleared the index YTD, the lowest number in our data since '87.

Chart 1: Factor Performance in 1H16



Source: FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Top 5 screens in 1H 2016	Perf.
High EPS Estimate Dispersion	21.9%
Dividend Yield (Total Return)	19.4%
Low Price	17.1%
Small Size	13.2%
DDM Valuation	11.0%
S&P 500 (Equal weighted)	4.9%

Bottom 5 screens in 1H 2016	Perf.
Forward Earnings Yield	-6.2%
Price Returns (3-Month)	-3.3%
High Beta	-3.0%
EPS Momentum	-2.8%
High Free Cash Flow to EV	-2.5%
S&P 500 (Equal weighted)	4.9%

Disclaimer: The valuations and screens contained herein are useful in assessing comparative valuations and comparative earnings prospects and are not intended to recommend transactions relating to any specific security. These indicators should be used in investment decisions only with other factors including financial risk, investment risk, management strategies and operating and financial outlooks.

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Refer to important disclosures on page 64 to 65.

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Table 1: Quantitative Strategies Performance as of 6/30/2016

Strategies (Universe based on the S&P 500)		1 M	3 M	6 M	12 M	YTD	2 Yr Perf. Gross	2 Yr Perf. Anlzd	3 Yr Perf. Gross	3 Yr Perf. Anlzd	5 Yr Perf. Gross	5 Yr Perf. Anlzd	Inception Date
High EPS Estimate Dispersion	Risk	1.0	15.1	21.9	-10.1	21.9	-27.6	-14.9	-1.1	-0.4	17.7	3.3	12/31/1988
Dividend Yield (Total Return)	Corp Cash Deployment	3.5	6.5	19.4	18.2	19.4	18.8	9.0	48.3	14.0	108.3	15.8	12/31/1988
Low Price	Risk	-0.6	8.1	17.1	-1.6	17.1	-6.9	-3.5	22.7	7.1	51.6	8.7	12/31/1988
Dividend Yield (Price Return)	Corp Cash Deployment	3.0	5.3	16.5	12.4	16.5	8.0	3.9	28.9	8.8	63.5	10.3	12/31/1988
Small Size	Miscellaneous	-2.6	2.7	13.2	-2.0	13.2	-4.1	-2.1	26.5	8.2	60.8	10.0	12/31/1988
DDM Valuation	Value	3.5	4.8	11.0	12.1	11.0	14.9	7.2	48.0	14.0	99.0	14.8	12/31/1988
Institutional Neglect	Miscellaneous	2.8	4.1	10.3	11.9	10.3	10.3	5.0	33.2	10.0	57.2	9.5	12/31/1988
Alpha Surprise Model	GARP	0.0	4.2	8.3	5.0	8.3	12.7	6.2	41.0	12.1	81.4	12.7	12/31/1988
Most Active	Technical	-1.2	6.4	7.7	-2.0	7.7	-2.5	-1.3	22.5	7.0	48.3	8.2	8/31/2003
S&P 500 Equal Weighted (Total Return)	Benchmark	0.0	2.7	6.1	3.0	6.1	9.3	4.5	39.4	11.7	77.2	12.1	
Price Returns (12-Month plus 1-Month Reversal)	Technical	2.8	5.4	5.7	3.3	5.7	13.3	6.5	52.1	15.0	72.6	11.5	1/31/2010
Analyst Coverage Neglect	Miscellaneous	-0.1	2.2	4.9	5.0	4.9	9.0	4.4	41.2	12.2	70.3	11.2	6/30/1989
S&P 500 Equal Weighted (Price Return)	Benchmark	-0.2	2.2	4.9	0.4	4.9	4.5	2.2	30.7	9.3	59.3	9.8	
High Foreign Exposure	Miscellaneous	0.8	2.6	4.9	0.9	4.9	-5.3	-2.7	21.1	6.6	29.3	5.3	12/31/1988
High Variability of EPS	Risk	0.7	3.9	4.6	-3.3	4.6	-1.8	-0.9	28.2	8.6	41.8	7.2	12/31/1988
Forecast Positive Earnings Surprise	Growth	-2.0	3.5	4.6	-2.2	4.6	2.4	1.2	29.9	9.1	59.5	9.8	12/31/1988
Low EPS Torpedo	Growth (Negative)	0.8	2.2	4.3	-17.8	4.3	-27.3	-14.7	-5.9	-2.0	10.5	2.0	12/31/1988
Price Returns (12-Month)	Technical	3.0	5.0	3.6	5.3	3.6	15.7	7.6	57.1	16.3	95.4	14.3	1/31/2010
Price Returns (11-Month since 1 year ago)	Technical	3.3	5.3	3.5	2.2	3.5	9.5	4.7	45.8	13.4	75.5	11.9	1/31/2010
Relative Strength (30wk/75wk)	Technical	2.4	4.4	3.0	1.1	3.0	5.0	2.5	40.9	12.1	62.0	10.1	8/31/1995
Relative Strength (10wk/40wk)	Technical	2.5	2.3	3.0	3.7	3.0	13.0	6.3	48.0	14.0	76.4	12.0	1/31/2010
ROE (5-Yr Avg. Adj. by Debt)	Quality	-0.6	-2.5	2.9	1.6	2.9	11.9	5.8	40.3	12.0	60.0	9.9	4/30/1997
S&P 500 Index (Price Return)	Benchmark	0.1	1.9	2.7	1.7	2.7	7.1	3.5	30.7	9.3	58.9	9.7	
Low Price to Book Value	Value	-4.2	3.4	2.5	-12.9	2.5	-17.0	-8.9	7.5	2.4	39.8	6.9	12/31/1988
Low Price to Cash Flow	Value	-0.9	-4.1	2.3	-11.8	2.3	-21.5	-11.4	7.0	2.3	22.9	4.2	12/31/1988
Low EV/EBITDA	Value	-0.8	-3.3	2.3	-12.0	2.3	-23.3	-12.4	-1.3	-0.5	28.1	5.1	9/30/2001
ROE (1-Yr Average)	Quality	1.0	-1.8	2.1	-0.5	2.1	9.1	4.5	36.6	11.0	64.0	10.4	4/30/1997
Short Interest	Miscellaneous	0.8	1.6	2.0	2.3	2.0	0.5	0.3					10/31/2013
Low Price to Sales	Value	-0.1	-1.2	2.0	-10.1	2.0	-1.1	-0.6	30.1	9.2	75.2	11.9	12/31/1988
ROE (1-Yr Avg. Adj. by Debt)	Quality	-0.4	-3.0	1.9	-1.7	1.9	8.6	4.2	36.6	10.9	68.3	11.0	4/30/1997
ROE (5-Yr Average)	Quality	0.1	-2.8	1.4	0.5	1.4	7.1	3.5	31.0	9.4	60.0	9.9	4/30/1997
Price Returns (9-Month)	Technical	2.6	1.5	1.3	3.1	1.3	13.8	6.7	51.6	14.9	91.8	13.9	1/31/2010
Forecast Negative Earnings Surprise	Growth (Negative)	-0.5	-1.0	1.1	-2.0	1.1	2.3	1.1	33.0	10.0	54.9	9.2	12/31/1988
Relative Strength (5wk/30wk)	Technical	1.3	0.9	1.0	2.1	1.0	10.7	5.2	42.2	12.5	76.8	12.1	1/31/2010
High Projected 5-Yr Growth	Growth	-1.4	2.8	0.8	-0.7	0.8	5.3	2.6	46.3	13.5	77.2	12.1	12/31/1988
ROC	Quality	-0.4	-2.8	0.7	-1.6	0.7	12.9	6.3	37.6	11.2	63.9	10.4	4/30/1997
Price Returns (12-Month plus 1-Month)	Technical	0.5	1.6	0.1	3.3	0.1	8.1	4.0	30.6	9.3	67.6	10.9	1/31/2010
High Duration	Growth	-0.8	1.0	0.1	-2.4	0.1	5.4	2.7	33.6	10.1	53.4	8.9	12/31/1988
Relative Strength (Price/200-Day Moving Avg)	Technical	1.3	-0.6	0.0	0.4	0.0	9.3	4.5	42.8	12.6	70.7	11.3	1/31/2010
Earnings Yield	Value	-3.0	-0.5	0.0	-6.9	0.0	-6.7	-3.4	20.5	6.4	51.1	8.6	12/31/1988
Low PE to GROWTH	GARP	-3.4	-2.1	-0.3	-9.4	-0.3	-11.0	-5.6	10.9	3.5	30.1	5.4	12/30/1988
ROA	Quality	-0.9	-3.4	-0.6	-4.3	-0.6	8.0	3.9	32.8	9.9	63.0	10.3	4/30/1997
Upward Estimate Revisions	Growth	0.5	0.7	-1.3	-6.6	-1.3	-2.4	-1.2	30.0	9.1	58.6	9.7	12/31/1988
High Dividend Growth (Total Return)	Corp Cash Deployment	0.4	0.2	-1.4	-6.0	-1.4	-6.3	-3.2	22.7	7.1	61.5	10.1	12/31/2004
Share Repurchase	Corp Cash Deployment	-1.6	-5.1	-2.3	-12.0	-2.3	-7.4	-3.8	15.9	5.0	71.0	11.3	12/31/2004
Low Price to Free Cash Flow	Value	-1.0	-5.4	-2.4	-14.0	-2.4	-7.6	-3.9	22.7	7.1	57.2	9.5	7/30/2003
High Dividend Growth (Price Return)	Corp Cash Deployment	0.2	-0.3	-2.4	-8.1	-2.4	-10.4	-5.4	15.0	4.8	44.1	7.6	12/31/2004
High Free Cash Flow to EV	Value	-1.5	-5.5	-2.5	-10.4	-2.5	-2.6	-1.3	33.9	10.2	74.6	11.8	7/31/2010
EPS Momentum	Growth	-1.8	-1.2	-2.8	-5.5	-2.8	-0.9	-0.5	26.2	8.1	46.0	7.9	12/31/1988
High Beta	Risk	-4.2	-0.6	-3.0	-18.6	-3.0	-23.3	-12.4	3.3	1.1	13.4	2.6	12/31/1988
Price Returns (3-Month)	Technical	-1.4	-2.8	-3.3	-4.5	-3.3	-0.3	-0.2	26.7	8.2	63.1	10.3	1/31/2010
Forward Earnings Yield	Value	-4.7	-3.4	-6.2	-15.1	-6.2	-18.1	-9.5	5.5	1.8	32.7	5.8	12/31/1988

Source: BofA Merrill Lynch US Equity and US Quant Strategy

The performance does not reflect transaction costs or tax withholdings or any applicable advisory fees. Had these costs been reflected, the performance would have been lower. Performance is calculated on the basis of price return unless noted. Total return performance calculations assume that dividends paid on securities in a portfolio are deposited in a cash account on the ex-dividend date, and are not reinvested. Please see Performance Calculation methodology on page 60 for a full explanation.

†For screens that have less than 5 years history, the performance is since inception.

Past performance should not and cannot be viewed as an indicator of future performance. A complete performance record is available upon request.

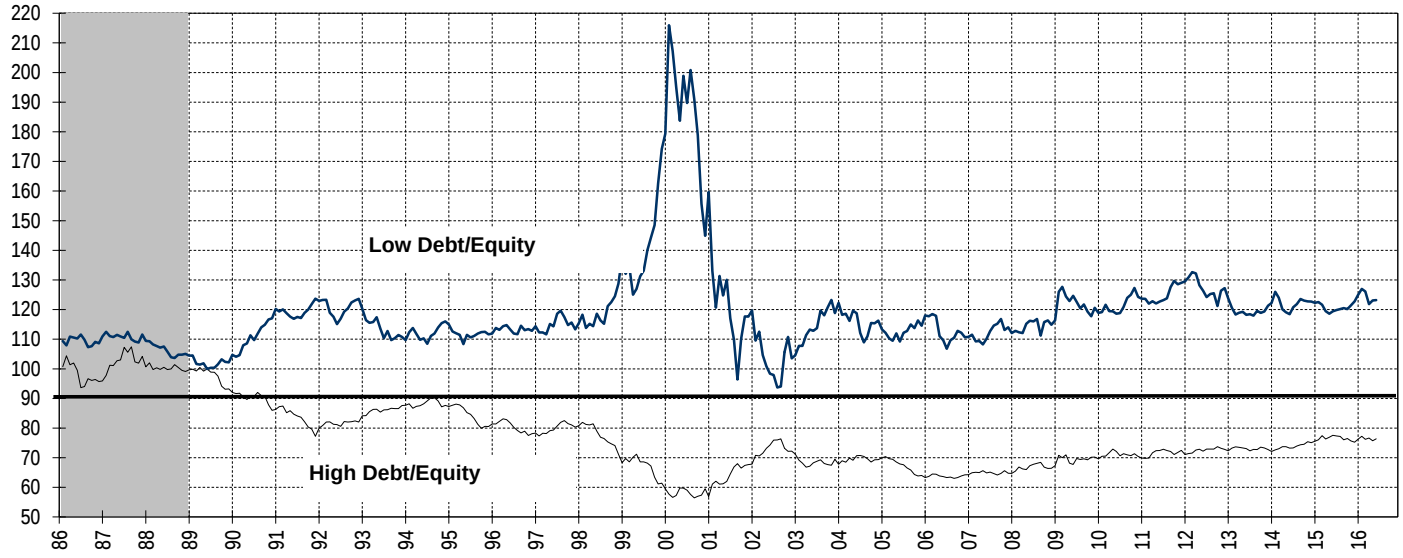
Table 2: Advances and Declines as of 6/30/2016

	1M		3M		6M		12M		YTD		2Yr		3Yr		5Yr	
Quantitative Strategies	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.
High EPS Estimate Dispersion	24	18	84	45	150	108	236	275	150	108	445	559	738	717	1371	1267
Low Price	18	31	84	65	169	130	281	316	169	130	552	642	951	840	1597	1384
Dividend Yield (Total Return)	35	15	93	57	201	99	343	256	201	99	640	559	1040	757	1797	1197
Most Active	19	30	81	68	159	140	289	308	159	140	606	590	990	805	1665	1323
Price Returns (12-Month plus 1-Month Reversal)	33	17	92	58	170	129	313	284	170	129	649	547	1045	750	1711	1282
Price Returns (11-Month since 1 year ago)	36	14	93	57	171	128	312	286	171	128	642	554	1029	764	1718	1273
Dividend Yield (Price Return)	33	17	88	62	192	107	332	266	192	107	611	587	986	810	1703	1289
Price Returns (12-Month)	36	14	94	56	176	123	328	270	176	123	656	540	1046	747	1731	1259
DDM Valuation	39	17	101	73	219	135	360	292	219	135	700	588	1181	848	2024	1434
Relative Strength (30wk/75wk)	34	16	90	60	170	130	306	293	170	130	628	569	1013	782	1679	1315
Alpha Surprise Model	17	16	69	43	155	100	278	238	155	100	633	526	1038	744	1675	1220
Institutional Neglect	34	15	86	63	187	111	330	267	187	111	615	581	1004	791	1702	1288
High Variability of EPS	31	28	105	75	216	154	388	354	216	154	796	715	1300	950	2163	1637
Forecast Positive Earnings Surprise	29	36	114	84	235	178	421	406	235	178	926	826	1527	1142	2443	1850
Low Price to Book Value	12	37	89	60	163	136	281	319	163	136	601	602	1017	791	1715	1302
High Projected 5-Yr Growth	21	29	86	64	162	140	299	303	162	140	624	580	1023	798	1701	1327
Small Size	12	38	75	75	165	135	280	318	165	135	569	626	960	833	1606	1383
High Foreign Exposure	26	24	80	70	163	136	293	306	163	136	564	633	965	831	1597	1396
Relative Strength (10wk/40wk)	32	18	79	70	168	130	319	277	168	130	645	550	1020	770	1710	1278
Analyst Coverage Neglect	22	20	75	49	152	104	301	249	152	104	604	543	977	707	1593	1211
Low EPS Torpedo	26	24	78	72	161	139	268	332	161	139	534	665	923	875	1552	1440
Price Returns (12-Month plus 1-Month)	26	24	86	64	169	130	329	269	169	130	643	554	1005	788	1708	1282
Short Interest	28	22	85	64	169	129	309	288	169	129	605	590	966	816	1596	1317
Price Returns (9-Month)	32	18	77	72	164	134	317	279	164	134	651	544	1033	756	1737	1247
High Duration	21	27	78	70	144	153	286	310	144	153	610	586	992	804	1668	1326
Relative Strength (5wk/30wk)	26	24	66	83	153	145	308	287	153	145	630	564	1005	784	1701	1281
Upward Estimate Revisions	28	22	76	74	161	139	299	299	161	139	613	585	1015	782	1705	1288
High Dividend Growth (Total Return)	29	21	87	63	164	136	299	301	164	136	607	593	1025	773	1738	1257
High Dividend Growth (Price Return)	26	24	81	69	155	144	287	312	155	144	589	610	999	798	1703	1293
Earnings Yield	15	35	78	72	159	141	281	319	159	141	606	592	1012	786	1704	1290
Relative Strength (Price/200-Day Moving Avg)	26	24	66	83	158	141	304	293	158	141	632	564	1013	778	1699	1286
High Beta	13	40	72	82	150	159	261	360	150	159	562	680	969	881	1619	1442
Forecast Negative Earnings Surprise	26	35	93	98	207	187	398	425	207	187	798	809	1336	1085	2230	1745
EPS Momentum	19	31	76	74	155	144	302	297	155	144	622	576	1002	795	1666	1328
Low Price to Sales	21	28	69	80	152	147	271	328	152	147	606	593	990	807	1654	1337
ROE (1-Yr Average)	27	23	70	80	167	132	303	296	167	132	626	571	1009	788	1693	1300
Low PE to GROWTH	15	35	79	71	166	134	277	323	166	134	587	613	973	824	1626	1369
ROE (5-Yr Avg. Adj. by Debt)	21	29	66	84	157	143	298	302	157	143	621	578	1008	791	1687	1312
ROE (5-Yr Average)	23	27	67	83	168	132	309	291	168	132	610	588	996	801	1669	1325
Price Returns (3-Month)	19	31	59	90	147	151	296	300	147	151	598	598	972	821	1654	1333
ROC	25	25	71	79	162	137	292	307	162	137	636	563	1012	786	1686	1311
ROE (1-Yr Avg. Adj. by Debt)	22	28	65	85	155	145	285	315	155	145	612	588	997	803	1696	1304
Low EV/EBITDA	18	32	58	91	149	150	264	335	149	150	533	665	923	872	1587	1406
ROA	22	28	70	80	159	140	286	313	159	140	618	581	985	814	1656	1343
Forward Earnings Yield	9	41	71	79	153	147	278	322	153	147	587	612	988	809	1648	1345
Low Price to Cash Flow	20	30	62	87	158	141	273	326	158	141	536	662	938	858	1563	1423
Share Repurchase	18	32	61	89	147	153	250	349	147	153	576	623	970	829	1698	1300
Low Price to Free Cash Flow	21	29	62	87	152	147	263	336	152	147	581	616	987	809	1675	1318
High Free Cash Flow to EV	15	26	53	70	127	119	220	271	127	119	498	496	837	652	1410	1093

Source: BofA Merrill Lynch US Quantitative Strategy.

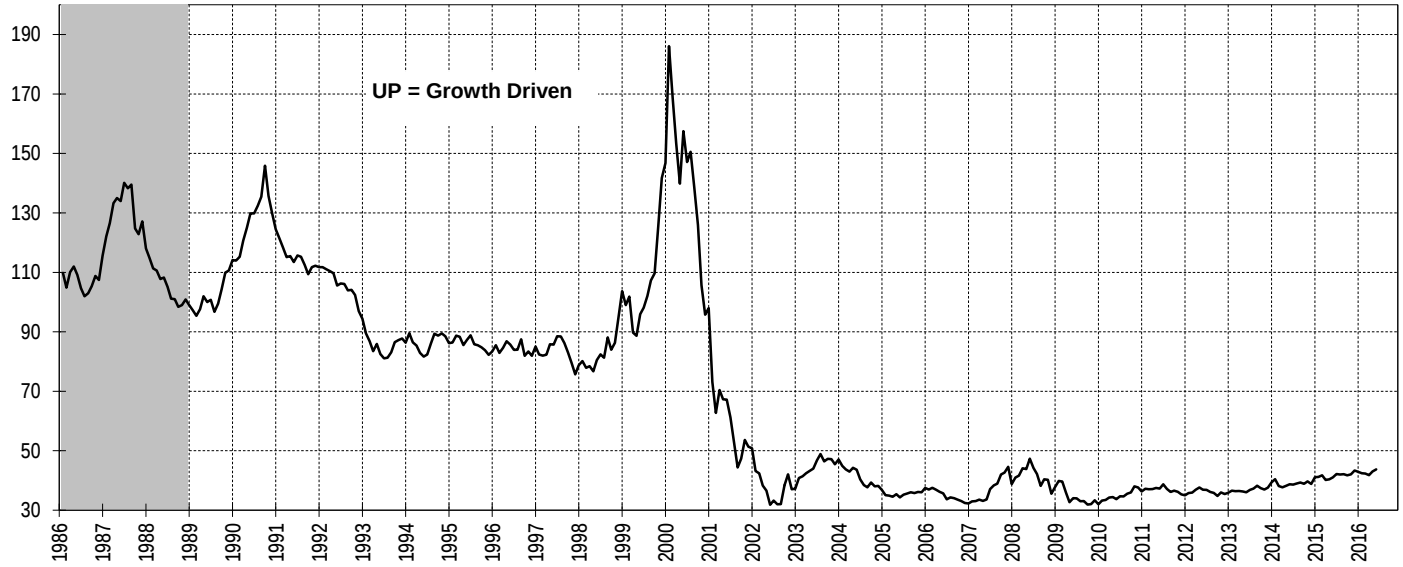
MLQS Financial Confidence & Thematic Indicator Financial Conditions

Financial Confidence



Source: BofA Merrill Lynch US Quantitative Strategy.
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance.

Thematic (High 5-Year Projected Growth vs. High EPS Yield)

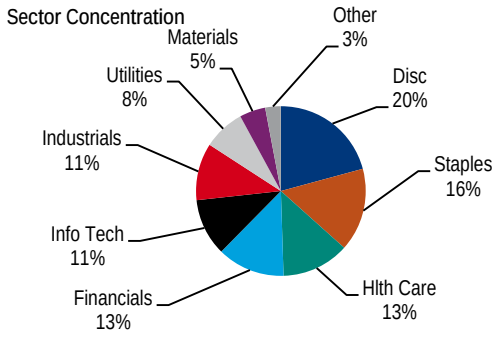


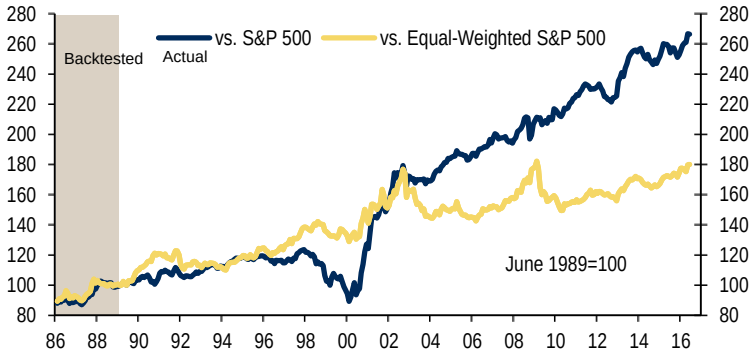
Source: BofA Merrill Lynch US Quantitative Strategy.
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance.

GARP STRATEGIES: Alpha Surprise Model

Top 50 S&P 500 Companies By Alpha Surprise Model

Alpha Surprise Model: a 25%/75% combination of the DDM "Alpha" and the Positive EPS "Surprise" Models.





Absolute Returns

Last 1 Month	-0.03%
Last 3 Months	4.22%
Last 6 Months	8.25%
Last 12 Months	4.95%
2016 YTD	8.25%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

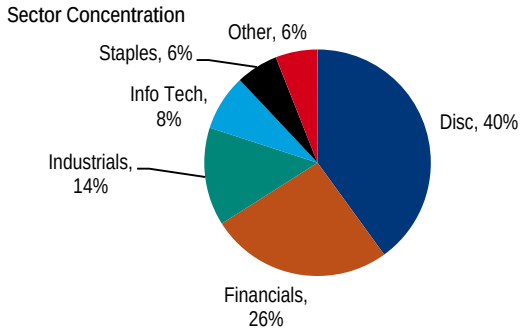
Mo. In Scrn	Company	Ticker	Alpha Surprise Score	Price 06/30/2016	S&P	Mo. In Scrn	Company	Ticker	Alpha Surprise Score	Price 06/30/2016	S&P
21	AMAZON.COM INC	AMZN	1.00	715.62	B-	3	LEGG MASON INC	LM	2.25	29.49	B
25	AUTOZONE INC	AZO	1.00	793.84	A-	3	PHILIP MORRIS INTERNATIONAL	PM	2.25	101.72	NA
2	DOMINION RESOURCES INC	D	1.00	77.93	B	8	SPECTRA ENERGY CORP	SE	2.25	36.63	NA
2	PPL CORP	PPL	1.00	37.75	B	New	EATON CORP PLC	ETN	2.50	59.73	NA
21	AUTONATION INC	AN	1.25	46.98	B	New	FEDERAL REALTY INVESTMENT TR	FRT	2.50	165.55	A-
6	ELECTRONIC ARTS INC	EA	1.50	75.76	B+	New	MARTIN MARIETTA MATERIALS	MLM	2.50	192.00	B
2	INTUIT INC	INTU	1.50	111.61	B+	New	REPUBLIC SERVICES INC	RSG	2.50	51.31	A-
5	YUM BRANDS INC	YUM	1.50	82.92	A+	2	REYNOLDS AMERICAN INC	RAI	2.50	53.93	B+
6	BRISTOL-MYERS SQUIBB CO	BMY	1.75	73.55	B	New	SEMPRA ENERGY	SRE	2.50	114.02	B+
2	DISCOVERY COMMUNICATIONS INC	DISCA	1.75	25.23	B-	New	ANTHEM INC	ANTM	2.75	131.34	B+
8	FACEBOOK INC	FB	1.75	114.28	NA	2	CME GROUP INC	CME	2.75	97.40	B+
2	BECTON DICKINSON & CO	BDX	2.00	169.59	A-	2	KOHL'S CORP	KSS	2.75	37.92	B+
3	C H ROBINSON WORLDWIDE INC	CHRW	2.00	74.25	A+	New	LYONDELLBASELL INDUSTRIES NV	LYB	2.75	74.42	NA
4	KIMBERLY-CLARK CORP	KMB	2.00	137.48	A-	3	MICROSOFT CORP	MSFT	2.75	51.17	A-
New	KROGER CO	KR	2.00	36.79	B+	New	MONSTER BEVERAGE CORP	MNST	2.75	160.71	B+
2	LABORATORY CP OF AMER HLDGS	LH	2.00	130.27	B+	New	NORFOLK SOUTHERN CORP	NSC	2.75	85.13	A
3	MCDONALD'S CORP	MCD	2.00	120.34	A	2	PFIZER INC	PFE	2.75	35.21	B+
3	PUBLIC STORAGE	PSA	2.00	255.59	B+	3	PULTEGROUP INC	PHM	2.75	19.49	B-
New	CVS HEALTH CORP	CVS	2.25	95.74	A+	New	WELLTOWER INC	HCN	2.75	76.17	A-

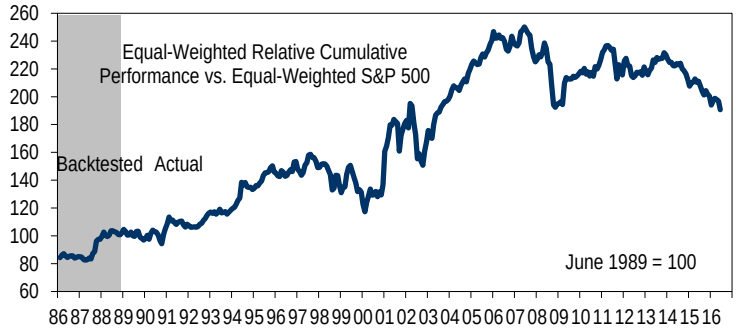
*Based on decile ranks of DDM Alpha and Positive EPS Surprise, weighted 25% / 75%, respectively.

P/E-to-Growth

Top 50 S&P 500 Companies By Low PE to GROWTH

P/E-to-Growth: Trailing twelve months P/E divided by the five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exists, then IBES Mean Long Term Growth Estimate is used.





Absolute Returns

Last 1 Month	-3.35%
Last 3 Months	-2.09%
Last 6 Months	-0.25%
Last 12 Months	-9.36%
2016 YTD	-0.25%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

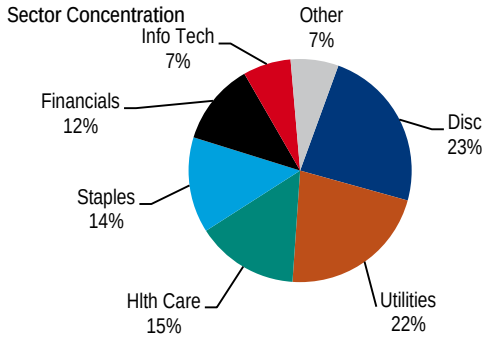
Screen for July

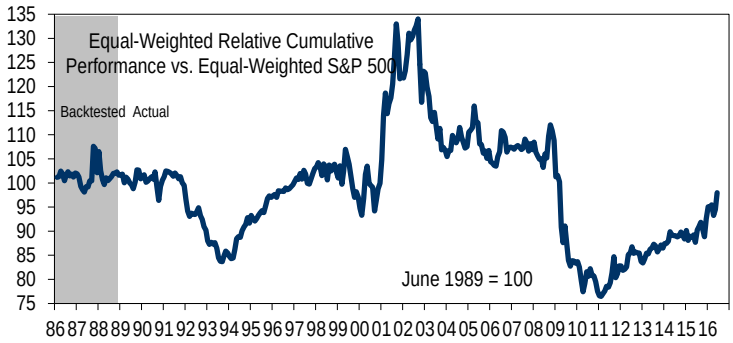
Mo. In Scrn.	Company	Ticker	PE/ Growth	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	PE/ Growth	Price 06/30/2016
5	DISCOVERY COMMUNICATIONS INC	DISCA	0.06	25.23	12	EATON CORP PLC	ETN	0.96	59.73
15	GENERAL MOTORS CO	GM	0.29	28.30	2	TYSON FOODS INC -CL A	TSN	0.97	66.79
63	FIFTH THIRD BANCORP	FITB	0.43	17.59	6	LYONDELLBASELL INDUSTRIES NV	LYB	0.98	74.42
12	DELTA AIR LINES INC	DAL	0.51	36.43	3	CARNIVAL CORP/PLC (USA)	CCL	0.98	44.20
12	SKYWORKS SOLUTIONS INC	SWKS	0.61	63.28	7	CARMAX INC	KMX	0.99	49.03
3	BAXTER INTERNATIONAL INC	BAX	0.62	45.22	3	HARMAN INTERNATIONAL INDS	HAR	0.99	71.82
32	CBS CORP	CBS	0.67	54.44	New	ROYAL CARIBBEAN CRUISES LTD	RCL	0.99	67.15
22	UNITED RENTALS INC	URI	0.68	67.10	5	UNUM GROUP	UNM	1.00	31.79
10	PULTEGROUP INC	PHM	0.68	19.49	2	HARLEY-DAVIDSON INC	HOG	1.04	45.30
4	METLIFE INC	MET	0.68	39.83	3	NORFOLK SOUTHERN CORP	NSC	1.04	85.13
8	PRUDENTIAL FINANCIAL INC	PRU	0.73	71.34	2	HCA HOLDINGS INC	HCA	1.08	77.01
5	MONDELEZ INTERNATIONAL INC	MDLZ	0.81	45.51	New	KEYCORP	KEY	1.08	11.05
54	AUTONATION INC	AN	0.81	46.98	9	BOEING CO	BA	1.09	129.87
18	AMERIPRISE FINANCIAL INC	AMP	0.82	89.85	5	D R HORTON INC	DHI	1.09	31.48
5	LINCOLN NATIONAL CORP	LNC	0.85	38.77	30	FORD MOTOR CO	F	1.09	12.57
14	URBAN OUTFITTERS INC	URBN	0.85	27.50	39	SOUTHWEST AIRLINES	LUV	1.10	39.21
48	WELLS FARGO & CO	WFC	0.86	47.33	New	E TRADE FINANCIAL CORP	ETFC	1.12	23.49
2	LKQ CORP	LKQ	0.86	31.70	30	MORGAN STANLEY	MS	1.15	25.98
5	SCRIPPS NETWORKS INTERACTIVE	SNI	0.87	62.27	40	WHIRLPOOL CORP	WHR	1.16	166.64
3	REYNOLDS AMERICAN INC	RAI	0.88	53.93	3	DISCOVER FINANCIAL SVCS INC	DFS	1.17	53.59
15	GAP INC	GPS	0.88	21.22	New	RYDER SYSTEM INC	R	1.18	61.14
4	MACY'S INC	M	0.90	33.61	2	MARRIOTT INTL INC	MAR	1.19	66.46
11	XL GROUP PLC	XL	0.90	33.31	3	FLIR SYSTEMS INC	FLIR	1.20	30.95
6	KLA-TENCOR CORP	KLAC	0.94	73.25	8	APPLIED MATERIALS INC	AMAT	1.20	23.97
21	TIME WARNER INC	TWX	0.94	73.54	New	SCHWAB (CHARLES) CORP	SCHW	1.21	25.31

VALUATION STRATEGIES: Dividend Discount Model Alpha

Top S&P 500 Companies By DDM ALPHA

Dividend Discount Model Alpha: The implied return from the BofAML Quantitative Strategy three-stage dividend discount model less the required return from a Capital Asset Pricing Model. Presented as a decile rank.





Absolute Returns

Last 1 Month	3.49%
Last 3 Months	4.84%
Last 6 Months	11.02%
Last 12 Months	12.14%
2016 YTD	11.02%

Source: BofA Merrill Lynch US Quantitative Strategy

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Screen for July

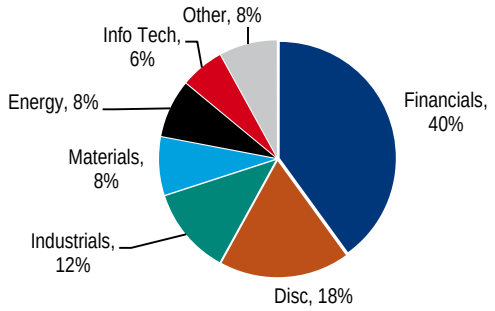
Mo. In Scrn	Company	Ticker	DDM Alpha	Price 06/30/2016	Mo. In Scrn	Company	Ticker	DDM Alpha	Price 06/30/2016
New	ALEXION PHARMACEUTICALS INC	ALXN	1	116.76	3	ASSURANT INC	AIZ	2	86.31
16	AMAZON.COM INC	AMZN	1	715.62	4	AUTONATION INC	AN	2	46.98
5	AMERICAN TOWER CORP	AMT	1	113.61	9	C H ROBINSON WORLDWIDE INC	CHRW	2	74.25
8	APPLIED MATERIALS INC	AMAT	1	23.97	New	CARDINAL HEALTH INC	CAH	2	78.01
55	AUTOZONE INC	AZO	1	793.84	New	CENTENE CORP	CNC	2	71.37
33	BRISTOL-MYERS SQUIBB CO	BMY	1	73.55	9	CONAGRA FOODS INC	CAG	2	47.81
15	CABOT OIL & GAS CORP	COG	1	25.74	17	DELTA AIR LINES INC	DAL	2	36.43
10	CARNIVAL CORP/PLC (USA)	CCL	1	44.20	New	DIGITAL REALTY TRUST INC	DLR	2	108.99
32	CONSOLIDATED EDISON INC	ED	1	80.44	10	DOLLAR GENERAL CORP	DG	2	94.00
9	DARDEN RESTAURANTS INC	DRI	1	63.34	3	DR PEPPER SNAPPLE GROUP INC	DPS	2	96.63
5	DISCOVERY COMMUNICATIONS INC	DISCA	1	25.23	20	DTE ENERGY CO	DTE	2	99.12
18	DOLLAR TREE INC	DLTR	1	94.24	9	EDISON INTERNATIONAL	EIX	2	77.67
29	DOMINION RESOURCES INC	D	1	77.93	12	ENTERGY CORP	ETR	2	81.35
4	DUKE ENERGY CORP	DUK	1	85.79	15	EQUINIX INC	EQIX	2	387.73
12	EXELON CORP	EXC	1	36.36	9	FIFTH THIRD BANCORP	FITB	2	17.59
8	FACEBOOK INC	FB	1	114.28	2	GAP INC	GPS	2	21.22
5	KRAFT HEINZ CO	KHC	1	88.48	90	GENERAL MILLS INC	GIS	2	71.32
12	LAM RESEARCH CORP	LRCX	1	84.06	5	KIMBERLY-CLARK CORP	KMB	2	137.48
11	LILLY (ELI) & CO	LLY	1	78.75	2	KOHL'S CORP	KSS	2	37.92
9	MACY'S INC	M	1	33.61	2	L BRANDS INC	LB	2	67.13
12	PPL CORP	PPL	1	37.75	5	MCDONALD'S CORP	MCD	2	120.34
13	REYNOLDS AMERICAN INC	RAI	1	53.93	New	MONSTER BEVERAGE CORP	MNST	2	160.71
37	SOUTHERN CO	SO	1	53.63	5	NEXTERA ENERGY INC	NEE	2	130.40
18	VERIZON COMMUNICATIONS INC	VZ	1	55.84	9	PERRIGO CO PLC	PRGO	2	90.67
New	VERTEX PHARMACEUTICALS INC	VRTX	1	86.02	3	PG&E CORP	PCG	2	63.92
11	WELLS FARGO & CO	WFC	1	47.33	8	SKYWORKS SOLUTIONS INC	SWKS	2	63.28
18	AMERICAN ELECTRIC POWER CO	AEP	2	70.09	2	TARGET CORP	TGT	2	69.82
New	AMERICAN WATER WORKS CO INC	AWK	2	84.51	9	UNITEDHEALTH GROUP INC	UNH	2	141.20
New	ANTHEM INC	ANTM	2	131.34	2	WAL-MART STORES INC	WMT	2	73.02
					7	WELLTOWER INC	HCN	2	76.17

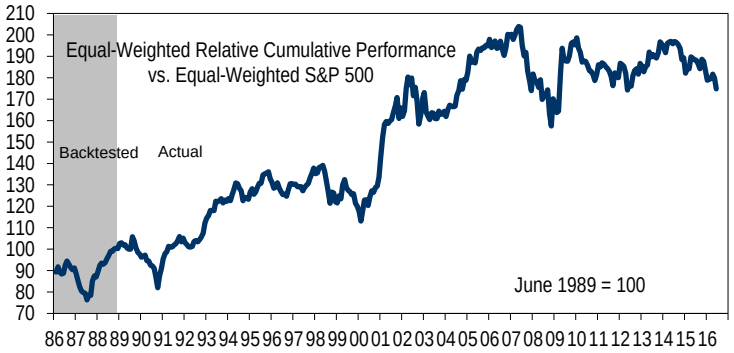
Earnings Yield

Top 50 S&P 500 Companies By EARNINGS YIELD

Earnings Yield: Trailing 12-month EPS divided by month-end price.

Sector Concentration





Absolute Returns

Last 1 Month	-2.97%
Last 3 Months	-0.53%
Last 6 Months	-0.04%
Last 12 Months	-6.88%
2016 YTD	-0.04%

Source: BofA Merrill Lynch US Quantitative Strategy

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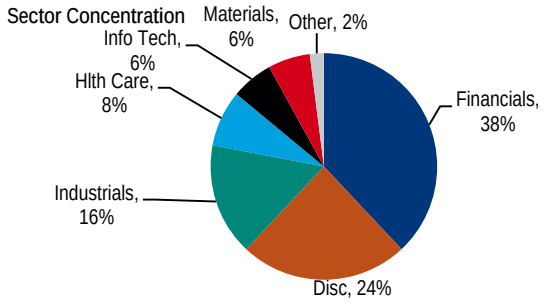
Screen for July

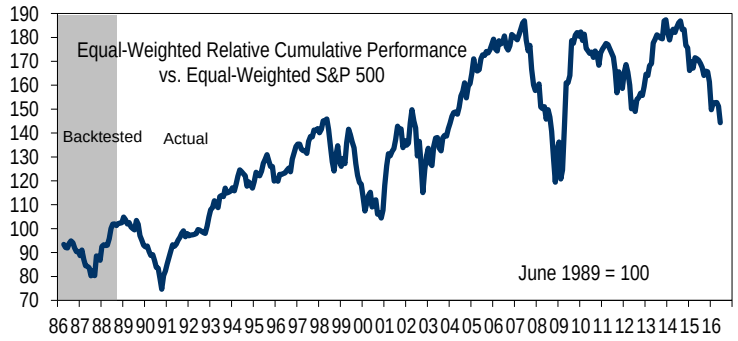
Mo. In Scrn	Company	Ticker	Earnings Yield	Price 06/30/2016	Mo. In Scrn	Company	Ticker	Earnings Yield	Price 06/30/2016
10	UNITED CONTINENTAL HLDGS INC	UAL	46.52%	41.04	41	LINCOLN NATIONAL CORP	LNC	11.07%	38.77
15	AMERICAN AIRLINES GROUP INC	AAL	40.34%	28.31	44	CAPITAL ONE FINANCIAL CORP	COF	10.94%	63.51
5	TRANSOCEAN LTD	RIG	34.82%	11.89	5	DOW CHEMICAL	DOW	10.92%	49.71
5	GENERAL MOTORS CO	GM	24.20%	28.30	12	PITNEY BOWES INC	PBI	10.79%	17.80
26	NAVIENT CORP	NAVI	20.50%	11.95	New	SYNCHRONY FINANCIAL	SYF	10.68%	25.28
5	LEVEL 3 COMMUNICATIONS INC	LVLT	18.72%	51.49	10	MOSAIC CO	MOS	10.31%	26.18
6	FORD MOTOR CO	F	17.42%	12.57	9	MONDELEZ INTERNATIONAL INC	MDLZ	10.24%	45.51
3	EQUITY RESIDENTIAL	EQR	17.03%	68.88	6	BANK OF AMERICA CORP	BAC	9.87%	13.27
6	DELTA AIR LINES INC	DAL	16.47%	36.43	16	DISCOVER FINANCIAL SVCS INC	DFS	9.72%	53.59
3	FIRST SOLAR INC	FSLR	15.84%	48.48	7	PRINCIPAL FINANCIAL GRP INC	PFG	9.66%	41.11
11	TESORO CORP	TSO	15.76%	74.92	2	BEST BUY CO INC	BBY	9.61%	30.60
8	HP INC	HPQ	15.54%	12.55	2	SCRIPPS NETWORKS INTERACTIVE	SNI	9.60%	62.27
8	PRUDENTIAL FINANCIAL INC	PRU	15.25%	71.34	21	JPMORGAN CHASE & CO	JPM	9.59%	62.14
3	BAXTER INTERNATIONAL INC	BAX	14.66%	45.22	21	MARATHON PETROLEUM CORP	MPC	9.59%	37.96
16	GILEAD SCIENCES INC	GILD	14.42%	83.42	New	AMERIPRISE FINANCIAL INC	AMP	9.56%	89.85
39	VALERO ENERGY CORP	VLO	13.98%	51.00	New	RYDER SYSTEM INC	R	9.50%	61.14
11	VIACOM INC	VIAB	13.50%	41.47	3	APPLE INC	AAPL	9.47%	95.60
21	LYONDELLBASELL INDUSTRIES NV	LYB	12.82%	74.42	3	GAP INC	GPS	9.43%	21.22
11	XL GROUP PLC	XL	12.28%	33.31	New	REGIONS FINANCIAL CORP	RF	9.40%	8.51
2	ALASKA AIR GROUP INC	ALK	11.91%	58.29	New	HUNTINGTON BANCSHARES	HBAN	9.28%	8.94
6	CITIGROUP INC	C	11.82%	42.39	2	MACY'S INC	M	9.28%	33.61
21	METLIFE INC	MET	11.80%	39.83	New	KEYCORP	KEY	9.23%	11.05
10	BED BATH & BEYOND INC	BBBY	11.71%	43.22	New	EASTMAN CHEMICAL CO	EMN	9.22%	67.90
6	FIFTH THIRD BANCORP	FITB	11.48%	17.59	New	PNC FINANCIAL SVCS GROUP INC	PNC	9.14%	81.39
5	UNUM GROUP	UNM	11.14%	31.79	2	MICHAEL KORS HOLDINGS LTD	KORS	9.09%	49.48

Forward Earnings Yield

Top 50 S&P 500 Companies By FORWARD EARNINGS YIELD

Earnings Yield: Rolling 12-month Forward EPS divided by month-end price.





Absolute Returns

Last 1 Month	-4.72%
Last 3 Months	-3.44%
Last 6 Months	-6.18%
Last 12 Months	-15.06%
2016 YTD	-6.18%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

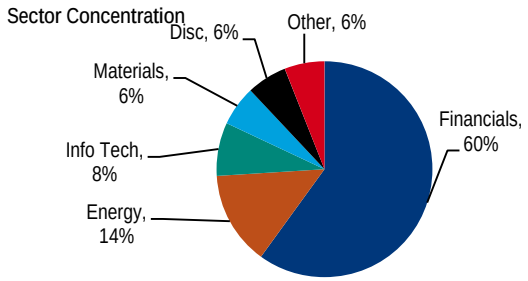
Screen for July

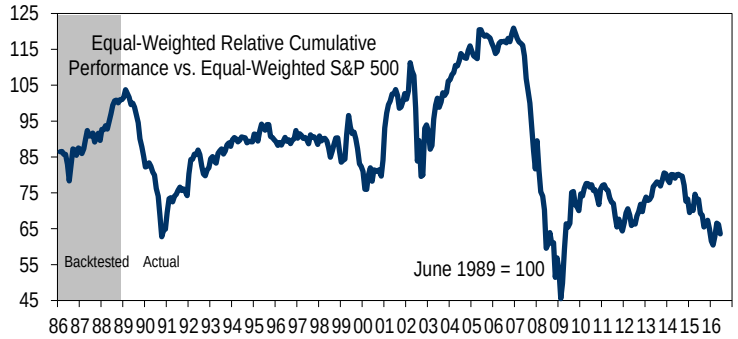
Mo. In Scrn	Company	Ticker	Forward Earnings Yield	Price 06/30/2016	Mo. In Scrn	Company	Ticker	Forward Earnings Yield	Price 06/30/2016
9	ENDO INTERNATIONAL PLC	ENDP	30.85%	15.59	64	VALERO ENERGY CORP	VLO	11.47%	51.00
37	GENERAL MOTORS CO	GM	20.25%	28.30	7	AMERIPRISE FINANCIAL INC	AMP	11.37%	89.85
10	UNITED CONTINENTAL HLDGS INC	UAL	19.76%	41.04	8	BED BATH & BEYOND INC	BBBY	11.37%	43.22
16	AMERICAN AIRLINES GROUP INC	AAL	19.65%	28.31	New	SYNCHRONY FINANCIAL	SYF	11.13%	25.28
25	DELTA AIR LINES INC	DAL	17.82%	36.43	19	DISCOVER FINANCIAL SVCS INC	DFS	10.99%	53.59
103	LINCOLN NATIONAL CORP	LNC	16.86%	38.77	2	PITNEY BOWES INC	PBI	10.94%	17.80
42	FORD MOTOR CO	F	16.66%	12.57	8	HEWLETT PACKARD ENTERPRISE	HPE	10.86%	18.27
26	NAVIENT CORP	NAVI	16.12%	11.95	New	KEYCORP	KEY	10.86%	11.05
59	GOODYEAR TIRE & RUBBER CO	GT	15.78%	25.66	6	BANK OF AMERICA CORP	BAC	10.83%	13.27
20	GILEAD SCIENCES INC	GILD	14.63%	83.42	4	SOUTHWEST AIRLINES	LUV	10.81%	39.21
11	MALLINCKRODT PLC	MNK	14.40%	60.78	7	PRINCIPAL FINANCIAL GRP INC	PFG	10.78%	41.11
81	METLIFE INC	MET	14.35%	39.83	24	EASTMAN CHEMICAL CO	EMN	10.77%	67.90
71	PRUDENTIAL FINANCIAL INC	PRU	13.96%	71.34	New	SIGNET JEWELERS LTD	SIG	10.67%	82.41
61	OWENS-ILLINOIS INC	OI	13.44%	18.01	2	STAPLES INC	SPLS	10.60%	8.62
21	LYONDELLBASELL INDUSTRIES NV	LYB	13.13%	74.42	30	GOLDMAN SACHS GROUP INC	GS	10.59%	148.58
8	HP INC	HPQ	12.91%	12.55	2	DELPHI AUTOMOTIVE PLC	DLPH	10.37%	62.60
5	MYLAN NV	MYL	12.50%	43.24	New	RYDER SYSTEM INC	R	10.35%	61.14
90	UNUM GROUP	UNM	12.48%	31.79	New	REGIONS FINANCIAL CORP	RF	10.33%	8.51
2	ALASKA AIR GROUP INC	ALK	12.48%	58.29	2	KOHL'S CORP	KSS	10.27%	37.92
47	CAPITAL ONE FINANCIAL CORP	COF	12.38%	63.51	New	AFFILIATED MANAGERS GRP INC	AMG	10.25%	140.77
62	CITIGROUP INC	C	11.89%	42.39	11	MORGAN STANLEY	MS	10.19%	25.98
18	VIACOM INC	VIAB	11.81%	41.47	New	ROYAL CARIBBEAN CRUISES LTD	RCL	10.02%	67.15
5	XEROX CORP	XRX	11.74%	9.49	New	HUNTINGTON BANCSHARES	HBAN	9.94%	8.94
3	BORGWARNER INC	BWA	11.59%	29.52	3	MACY'S INC	M	9.84%	33.61
18	UNITED RENTALS INC	URI	11.53%	67.10	New	INVESCO LTD	IVZ	9.81%	25.54

Price/Book Value

Top 50 S&P 500 Companies By LOW PRICE/BOOK

Price/Book Value: Month-end price divided by latest reported book value per share.





Absolute Returns

Last 1 Month	-4.20%
Last 3 Months	3.36%
Last 6 Months	2.48%
Last 12 Months	-12.87%
2016 YTD	2.48%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

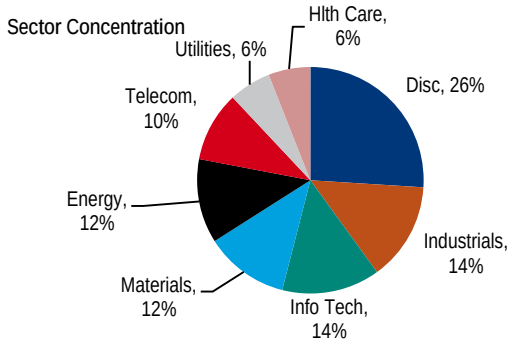
Screen for July

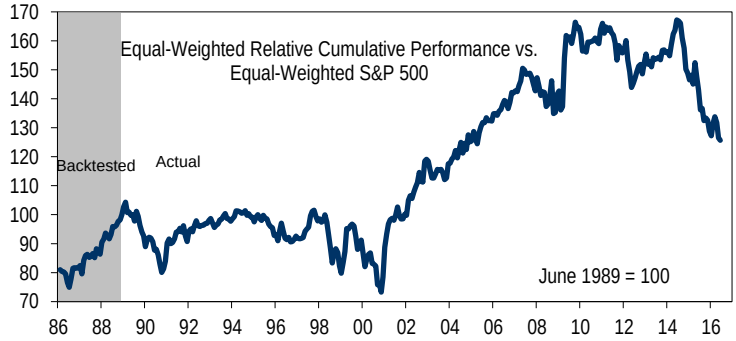
Mo. In Scrn	Company	Ticker	Price/ Book	Price 06/30/2016	Mo. In Scrn	Company	Ticker	Price/ Book	Price 06/30/2016
33	TRANSOCEAN LTD	RIG	0.29	11.89	9	FIFTH THIRD BANCORP	FITB	0.90	17.59
5	CITIZENS FINANCIAL GROUP INC	CFG	0.54	19.98	8	WESTROCK CO	WRK	0.90	38.87
92	BANK OF AMERICA CORP	BAC	0.57	13.27	90	SUNTRUST BANKS INC	STI	0.91	41.08
36	NEWS CORP	NWSA	0.57	11.35	23	HESS CORP	HES	0.92	60.10
81	METLIFE INC	MET	0.58	39.83	8	MOSAIC CO	MOS	0.92	26.18
62	CITIGROUP INC	C	0.59	42.39	77	PEOPLE'S UNITED FINL INC	PBCT	0.93	14.66
4	ENDO INTERNATIONAL PLC	ENDP	0.59	15.59	27	COMERICA INC	CMA	0.94	41.13
38	LEUCADIA NATIONAL CORP	LUK	0.62	17.33	94	HARTFORD FINANCIAL SERVICES	HIG	0.97	44.38
93	LINCOLN NATIONAL CORP	LNC	0.63	38.77	5	PNC FINANCIAL SVCS GROUP INC	PNC	0.97	81.39
30	PRUDENTIAL FINANCIAL INC	PRU	0.64	71.34	2	ALCOA INC	AA	1.00	9.27
21	MARATHON OIL CORP	MRO	0.66	15.01	7	HEWLETT PACKARD ENTERPRISE	HPE	1.00	18.27
116	REGIONS FINANCIAL CORP	RF	0.66	8.51	75	JPMORGAN CHASE & CO	JPM	1.01	62.14
66	AMERICAN INTERNATIONAL GROUP	AIG	0.68	52.89	2	STAPLES INC	SPLS	1.02	8.62
116	CAPITAL ONE FINANCIAL CORP	COF	0.68	63.51	4	GENERAL MOTORS CO	GM	1.04	28.30
78	MORGAN STANLEY	MS	0.74	25.98	8	NAVIENT CORP	NAVI	1.04	11.95
11	LEGG MASON INC	LM	0.75	29.49	22	MURPHY OIL CORP	MUR	1.05	31.75
91	ZIONS BANCORPORATION	ZION	0.76	25.13	3	XEROX CORP	XRX	1.05	9.49
86	LOEWS CORP	L	0.78	41.09	4	FRONTIER COMMUNICATIONS CORP	FTR	1.10	4.94
18	NATIONAL OILWELL VARCO INC	NOV	0.78	33.65	6	BB&T CORP	BBT	1.11	35.61
22	DIAMOND OFFSHRE DRILLING INC	DO	0.80	24.33	New	HUNTINGTON BANCSHARES	HBAN	1.12	8.94
72	XL GROUP PLC	XL	0.82	33.31	3	CENTURYLINK INC	CTL	1.13	29.01
86	UNUM GROUP	UNM	0.85	31.79	New	STATE STREET CORP	STT	1.13	53.92
3	FIRST SOLAR INC	FSLR	0.86	48.48	New	E TRADE FINANCIAL CORP	ETFC	1.14	23.49
11	GOLDMAN SACHS GROUP INC	GS	0.86	148.58	5	WESTERN DIGITAL CORP	WDC	1.15	47.26
9	KEYCORP	KEY	0.86	11.05	New	VALERO ENERGY CORP	VLO	1.16	51.00

Price/Cash Flow

Top 50 S&P 500 (ex. Financials) Companies By LOW PRICE/CASH FLOW

Price/Cash Flow: Month-end price divided by latest reported cash flow. Cash flow is defined as earnings post extraordinary items plus depreciation.





Absolute Returns

Last 1 Month	-0.88%
Last 3 Months	-4.06%
Last 6 Months	2.32%
Last 12 Months	-11.84%
2016 YTD	2.32%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

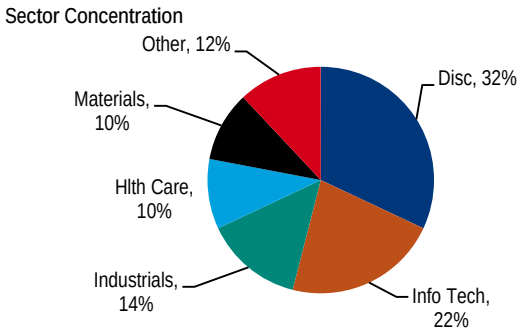
Screen for July

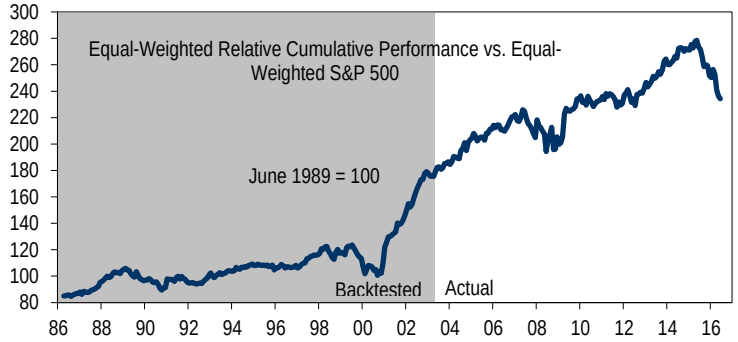
Mo. In Scrn.	Company	Ticker	Price / Cash Flow	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Price / Cash Flow	Price 06/30/2016
10	UNITED CONTINENTAL HLDGS INC	UAL	1.70	41.04	20	AES CORP	AES	5.91	12.48
5	TRANSOCEAN LTD	RIG	1.81	11.89	2	ALASKA AIR GROUP INC	ALK	6.10	58.29
15	AMERICAN AIRLINES GROUP INC	AAL	2.03	28.31	3	GAP INC	GPS	6.13	21.22
215	RYDER SYSTEM INC	R	2.20	61.14	9	WESTERN DIGITAL CORP	WDC	6.23	47.26
37	GENERAL MOTORS CO	GM	2.31	28.30	3	NORDSTROM INC	JWN	6.25	38.05
88	FORD MOTOR CO	F	2.96	12.57	8	BEST BUY CO INC	BBY	6.27	30.60
152	CENTURYLINK INC	CTL	3.15	29.01	5	PITNEY BOWES INC	PBI	6.30	17.80
22	UNITED RENTALS INC	URI	3.46	67.10	5	LYONDELLBASELL INDUSTRIES NV	LYB	6.30	74.42
5	LEVEL 3 COMMUNICATIONS INC	LVLT	3.98	51.49	2	DIAMOND OFFSHRE DRILLING INC	DO	6.31	24.33
8	HP INC	HPQ	4.00	12.55	4	BED BATH & BEYOND INC	BBBY	6.33	43.22
18	DISCOVERY COMMUNICATIONS INC	DISCA	4.01	25.23	5	FIRSTENERGY CORP	FE	6.48	34.91
11	TESORO CORP	TSO	4.08	74.92	18	SEAGATE TECHNOLOGY PLC	STX	6.50	24.36
6	DELTA AIR LINES INC	DAL	4.36	36.43	5	GILEAD SCIENCES INC	GILD	6.56	83.42
18	MICRON TECHNOLOGY INC	MU	4.41	13.76	5	DOW CHEMICAL	DOW	6.59	49.71
40	VALERO ENERGY CORP	VLO	4.63	51.00	6	VERIZON COMMUNICATIONS INC	VZ	6.69	55.84
3	FIRST SOLAR INC	FSLR	4.76	48.48	6	AT&T INC	T	6.70	43.21
11	KOHL'S CORP	KSS	4.78	37.92	6	EASTMAN CHEMICAL CO	EMN	6.71	67.90
New	OWENS-ILLINOIS INC	OI	4.97	18.01	3	VIACOM INC	VIAB	6.75	41.47
9	MACY'S INC	M	5.23	33.61	6	XEROX CORP	XRX	6.78	9.49
2	BAXTER INTERNATIONAL INC	BAX	5.30	45.22	3	STAPLES INC	SPLS	6.85	8.62
4	HEWLETT PACKARD ENTERPRISE	HPE	5.30	18.27	New	BORGWARNER INC	BWA	7.02	29.52
10	MOSAIC CO	MOS	5.38	26.18	66	FRONTIER COMMUNICATIONS CORP	FTR	7.11	4.94
4	CF INDUSTRIES HOLDINGS INC	CF	5.61	24.10	3	GOODYEAR TIRE & RUBBER CO	GT	7.19	25.66
15	MARATHON PETROLEUM CORP	MPC	5.67	37.96	2	HCA HOLDINGS INC	HCA	7.58	77.01
93	MARATHON OIL CORP	MRO	5.86	15.01	15	EXELON CORP	EXC	7.65	36.36

Price/Free Cash Flow

Top 50 S&P 500 (ex. Financials) Companies By LOW PRICE/FREE CASH FLOW

Price/Free Cash Flow: Month-end price divided by latest reported free cash flow. Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.





Absolute Returns

Last 1 Month	-1.01%
Last 3 Months	-5.40%
Last 6 Months	-2.36%
Last 12 Months	-14.01%
2016 YTD	-2.36%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end July 2003. The unshaded portion represents actual performance since August 2003. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

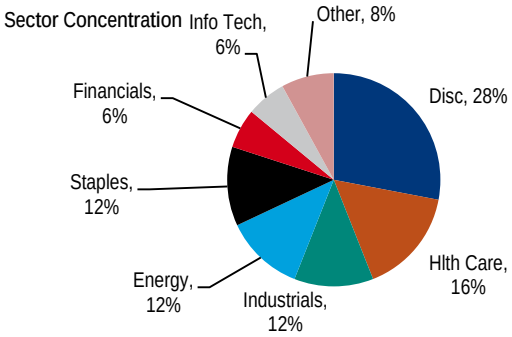
Screen for July

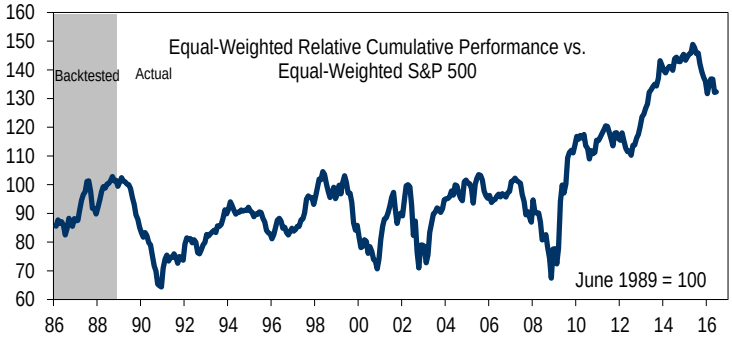
Mo. In Scrn.	Company	Ticker	Price / FCF	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Price / FCF	Price 06/30/2016
10	UNITED CONTINENTAL HLDGS INC	UAL	2.72	41.04	6	NETFLIX INC	NFLX	10.24	91.48
32	DISCOVERY COMMUNICATIONS INC	DISCA	4.14	25.23	11	FMC CORP	FMC	10.41	46.31
9	FORD MOTOR CO	F	5.01	12.57	9	BEST BUY CO INC	BBY	10.42	30.60
5	LEVEL 3 COMMUNICATIONS INC	LVLT	5.49	51.49	3	BLOCK H & R INC	HRB	10.52	23.00
9	FIRST SOLAR INC	FSLR	5.65	48.48	9	MONDELEZ INTERNATIONAL INC	MDLZ	10.53	45.51
2	BAXTER INTERNATIONAL INC	BAX	6.04	45.22	13	TEGNA INC	TGNA	10.53	23.17
8	HP INC	HPQ	6.39	12.55	9	APPLE INC	AAPL	10.57	95.60
29	VALERO ENERGY CORP	VLO	6.40	51.00	15	TE CONNECTIVITY LTD	TEL	10.63	57.11
6	AMERICAN AIRLINES GROUP INC	AAL	6.74	28.31	2	AMERISOURCEBERGEN CORP	ABC	10.97	79.32
17	GILEAD SCIENCES INC	GILD	6.86	83.42	2	PVH CORP	PVH	11.10	94.23
12	VIACOM INC	VIAB	7.13	41.47	3	REYNOLDS AMERICAN INC	RAI	11.22	53.93
9	TESORO CORP	TSO	7.25	74.92	37	INTL BUSINESS MACHINES CORP	IBM	11.27	151.78
20	CENTURYLINK INC	CTL	7.28	29.01	5	EXPRESS SCRIPTS HOLDING CO	ESRX	11.38	75.80
63	XEROX CORP	XRX	8.03	9.49	6	UNITED TECHNOLOGIES CORP	UTX	11.47	102.55
11	MACY'S INC	M	8.21	33.61	5	DOW CHEMICAL	DOW	11.52	49.71
6	DELTA AIR LINES INC	DAL	8.58	36.43	13	INTEL CORP	INTC	11.56	32.80
5	ALLERGAN PLC	AGN	8.70	231.09	22	DOVER CORP	DOV	11.63	69.32
15	KOHL'S CORP	KSS	8.86	37.92	3	EASTMAN CHEMICAL CO	EMN	11.65	67.90
21	PITNEY BOWES INC	PBI	8.89	17.80	New	DELPHI AUTOMOTIVE PLC	DLPH	11.72	62.60
21	LYONDELLBASELL INDUSTRIES NV	LYB	9.14	74.42	12	EATON CORP PLC	ETN	11.86	59.73
5	SCRIPPS NETWORKS INTERACTIVE	SNI	9.21	62.27	2	HEWLETT PACKARD ENTERPRISE	HPE	12.26	18.27
12	BED BATH & BEYOND INC	BBBY	9.28	43.22	3	GAP INC	GPS	12.51	21.22
51	WESTERN DIGITAL CORP	WDC	9.36	47.26	New	CA INC	CA	12.84	32.83
53	WESTERN UNION CO	WU	9.74	19.18	11	MOSAIC CO	MOS	12.92	26.18
5	TARGET CORP	TGT	10.23	69.82	5	PULTEGROUP INC	PHM	12.97	19.49

Price/Sales

Top 50 S&P 500 Companies By LOW PRICE/SALES

Price/Sales: Month-end market value divided by reported sales.





Absolute Returns

Last 1 Month	-0.09%
Last 3 Months	-1.24%
Last 6 Months	2.00%
Last 12 Months	-10.12%
2016 YTD	2.00%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

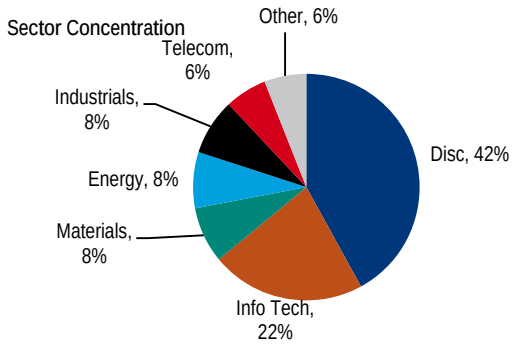
Screen for July

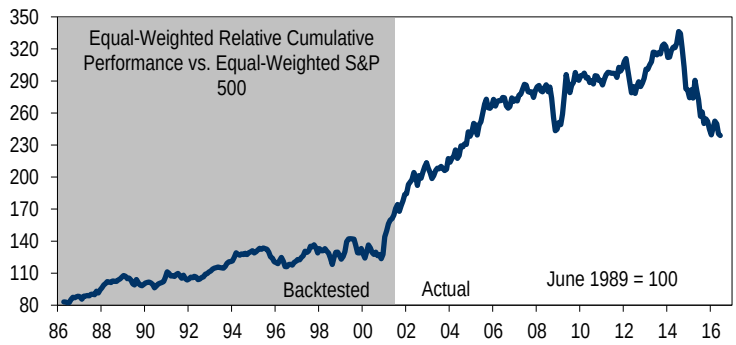
Mo. In Scrn.	Company	Ticker	Mkt Val / Sales	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Mkt Val / Sales	Price 06/30/2016
162	AMERISOURCEBERGEN CORP	ABC	0.10	79.32	19	ANTHEM INC	ANTM	0.43	131.34
161	AUTONATION INC	AN	0.16	46.98	24	OWENS-ILLINOIS INC	OI	0.46	18.01
144	CARDINAL HEALTH INC	CAH	0.22	78.01	47	PHILLIPS 66	PSX	0.46	79.34
23	CHESAPEAKE ENERGY CORP	CHK	0.22	4.28	11	QUANTA SERVICES INC	PWR	0.47	23.12
40	BEST BUY CO INC	BBY	0.22	30.60	40	EXPRESS SCRIPTS HOLDING CO	ESRX	0.47	75.80
207	MCKESSON CORP	MCK	0.22	186.65	89	HUMANA INC	HUM	0.49	179.88
48	WAL-MART STORES INC	WMT	0.23	73.02	11	RYDER SYSTEM INC	R	0.49	61.14
37	GENERAL MOTORS CO	GM	0.26	28.30	4	CENTENE CORP	CNC	0.49	71.37
51	STAPLES INC	SPLS	0.27	8.62	46	XEROX CORP	XRX	0.50	9.49
8	HP INC	HPQ	0.29	12.55	131	TYSON FOODS INC -CL A	TSN	0.52	66.79
147	VALERO ENERGY CORP	VLO	0.30	51.00	32	JACOBS ENGINEERING GROUP INC	JEC	0.52	49.81
4	GAP INC	GPS	0.31	21.22	5	NEWS CORP	NWSA	0.53	11.35
91	KROGER CO	KR	0.32	36.79	44	SYSCO CORP	SYY	0.54	50.74
191	FORD MOTOR CO	F	0.32	12.57	50	ASSURANT INC	AIZ	0.55	86.31
20	NRG ENERGY INC	NRG	0.34	14.99	20	LEUCADIA NATIONAL CORP	LUK	0.55	17.33
106	TESORO CORP	TSO	0.34	74.92	3	BED BATH & BEYOND INC	BBBY	0.55	43.22
59	MARATHON PETROLEUM CORP	MPC	0.34	37.96	New	PRUDENTIAL FINANCIAL INC	PRU	0.56	71.34
9	NORDSTROM INC	JWN	0.34	38.05	2	ALCOA INC	AA	0.56	9.27
15	KOHL'S CORP	KSS	0.37	37.92	2	TARGET CORP	TGT	0.56	69.82
10	UNITED CONTINENTAL HLDGS INC	UAL	0.37	41.04	46	AES CORP	AES	0.57	12.48
56	FLUOR CORP	FLR	0.38	49.28	4	HCA HOLDINGS INC	HCA	0.58	77.01
10	MACY'S INC	M	0.39	33.61	6	COSTCO WHOLESALE CORP	COST	0.58	157.04
29	ARCHER-DANIELS-MIDLAND CO	ADM	0.39	42.89	4	HEWLETT PACKARD ENTERPRISE	HPE	0.58	18.27
5	AMERICAN AIRLINES GROUP INC	AAL	0.40	28.31	7	TRANSOCEAN LTD	RIG	0.61	11.89
199	GOODYEAR TIRE & RUBBER CO	GT	0.42	25.66	New	CARMAX INC	KMX	0.61	49.03

EV / EBITDA

Top 50 S&P Industrials Companies By LOW EV/EBITDA

EV/EBITDA: Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents) divided by the latest 4-quarter EBITDA.





Absolute Returns

Last 1 Month	-0.82%
Last 3 Months	-3.31%
Last 6 Months	2.30%
Last 12 Months	-12.02%
2016 YTD	2.30%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end September 2001. The unshaded portion represents actual performance since October 2001. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

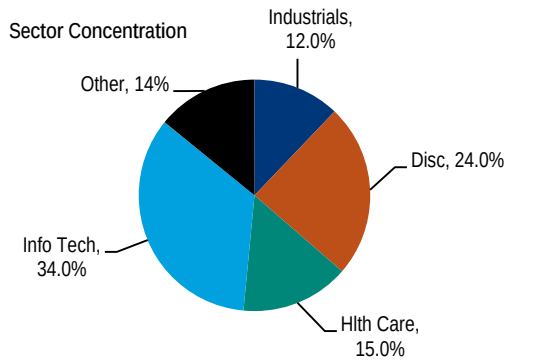
Screen for July

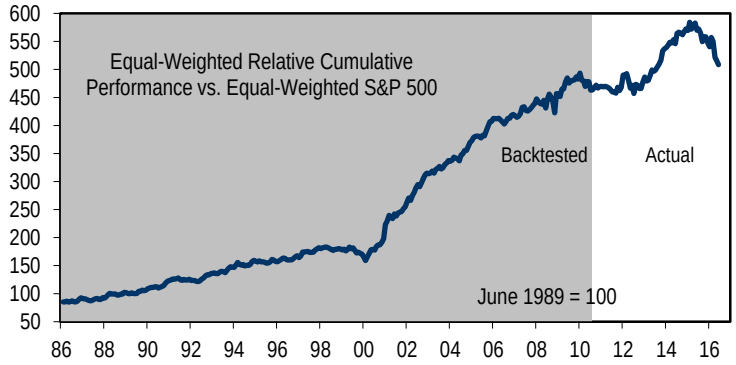
Mo. In Scrn	Company	Ticker	EV / EBITDA	Price 06/30/2016	Mo. In Scrn	Company	Ticker	EV / EBITDA	Price 06/30/2016
8	HP INC	HPQ	2.87	12.55	8	NORDSTROM INC	JWN	5.80	38.05
31	TRANSOCEAN LTD	RIG	3.17	11.89	3	FOOT LOCKER INC	FL	5.88	54.86
4	FIRST SOLAR INC	FSLR	3.33	48.48	4	MICHAEL KORS HOLDINGS LTD	KORS	5.92	49.48
29	NEWS CORP	NWSA	3.69	11.35	7	TERADATA CORP	TDC	6.02	25.07
32	BEST BUY CO INC	BBY	3.73	30.60	10	STAPLES INC	SPLS	6.04	8.62
42	VALERO ENERGY CORP	VLO	3.74	51.00	3	URBAN OUTFITTERS INC	URBN	6.10	27.50
16	WESTERN DIGITAL CORP	WDC	3.97	47.26	3	BORGWARNER INC	BWA	6.24	29.52
17	GAP INC	GPS	4.26	21.22	22	FLUOR CORP	FLR	6.32	49.28
11	TESORO CORP	TSO	4.30	74.92	12	MOSAIC CO	MOS	6.40	26.18
3	BED BATH & BEYOND INC	BBBY	4.50	43.22	2	MALLINCKRODT PLC	MNK	6.46	60.78
17	RALPH LAUREN CORP	RL	4.56	89.62	17	XEROX CORP	XRX	6.59	9.49
15	KOHL'S CORP	KSS	4.71	37.92	5	SEAGATE TECHNOLOGY PLC	STX	6.66	24.36
18	MICRON TECHNOLOGY INC	MU	4.72	13.76	5	VERIZON COMMUNICATIONS INC	VZ	6.79	55.84
33	GOODYEAR TIRE & RUBBER CO	GT	4.75	25.66	New	BLOCK H & R INC	HRB	6.91	23.00
18	UNITED RENTALS INC	URI	4.88	67.10	2	TARGET CORP	TGT	6.94	69.82
23	DIAMOND OFFSHRE DRILLING INC	DO	4.93	24.33	2	TWENTY-FIRST CENTURY FOX INC	FOXA	6.95	27.05
12	DISCOVERY COMMUNICATIONS INC	DISCA	4.98	25.23	3	APPLE INC	AAPL	7.03	95.60
8	HEWLETT PACKARD ENTERPRISE	HPE	5.07	18.27	3	PITNEY BOWES INC	PBI	7.04	17.80
38	CENTURYLINK INC	CTL	5.12	29.01	5	VIACOM INC	VIAB	7.05	41.47
17	GENERAL MOTORS CO	GM	5.23	28.30	2	WESTROCK CO	WRK	7.06	38.87
20	LYONDELLBASELL INDUSTRIES NV	LYB	5.51	74.42	2	SCRIPPS NETWORKS INTERACTIVE	SNI	7.07	62.27
6	GILEAD SCIENCES INC	GILD	5.57	83.42	6	INTEL CORP	INTC	7.17	32.80
8	NETAPP INC	NTAP	5.57	24.59	10	INTL PAPER CO	IP	7.19	42.38
14	FRONTIER COMMUNICATIONS CORP	FTR	5.69	4.94	New	WHOLE FOODS MARKET INC	WFM	7.45	32.02
10	MACY'S INC	M	5.79	33.61	New	ROBERT HALF INTL INC	RHI	7.48	38.16

Free Cash Flow / EV

Top Decile S&P 500 (ex. Financials) Companies By HIGH Free Cash Flow / EV

Free Cash Flow / EV: Free Cash Flow divided by Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents). Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.





Absolute Returns

Last 1 Month	-1.51%
Last 3 Months	-5.52%
Last 6 Months	-2.53%
Last 12 Months	-10.42%
2016 YTD	-2.53%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end July 2010. The unshaded portion represents actual performance since August 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

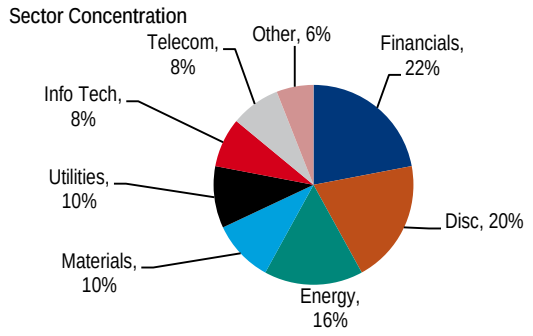
Screen for July

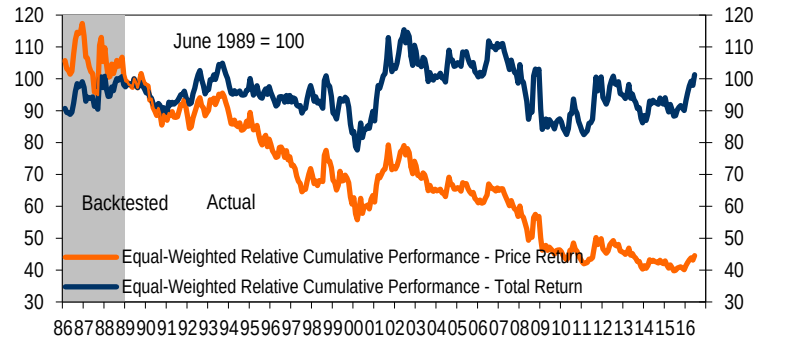
Mo. In Scrn.	Company	Ticker	FCF/EV	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	FCF/EV	Price 06/30/2016
2	SYMANTEC CORP	SYMC	0.29	20.54	29	NETAPP INC	NTAP	0.09	24.59
9	UNITED CONTINENTAL HLDGS INC	UAL	0.26	41.04	2	ALASKA AIR GROUP INC	ALK	0.09	58.29
11	FIRST SOLAR INC	FSLR	0.26	48.48	53	WESTERN UNION CO	WU	0.09	19.18
65	DISCOVERY COMMUNICATIONS INC	DISCA	0.26	25.23	5	VIACOM INC	VIAB	0.09	41.47
2	BAXTER INTERNATIONAL INC	BAX	0.16	45.22	6	TESORO CORP	TSO	0.08	74.92
9	HP INC	HPQ	0.15	12.55	62	CA INC	CA	0.08	32.83
17	GILEAD SCIENCES INC	GILD	0.14	83.42	5	MALLINCKRODT PLC	MNK	0.08	60.78
26	VALERO ENERGY CORP	VLO	0.14	51.00	4	TARGET CORP	TGT	0.08	69.82
76	WESTERN DIGITAL CORP	WDC	0.12	47.26	New	BROWN FORMAN CORP	BF.B	0.08	99.76
28	BEST BUY CO INC	BBY	0.12	30.60	3	MICHAEL KORS HOLDINGS LTD	KORS	0.08	49.48
5	LEVEL 3 COMMUNICATIONS INC	LVLT	0.12	51.49	6	INTEL CORP	INTC	0.08	32.80
8	BED BATH & BEYOND INC	BBBY	0.10	43.22	New	BLOCK H & R INC	HRB	0.08	23.00
55	CISCO SYSTEMS INC	CSCO	0.10	28.69	8	MONDELEZ INTERNATIONAL INC	MDLZ	0.08	45.51
5	DELTA AIR LINES INC	DAL	0.10	36.43	2	AMERISOURCEBERGEN CORP	ABC	0.08	79.32
21	LYONDELLBASELL INDUSTRIES NV	LYB	0.10	74.42	8	QUANTA SERVICES INC	PWR	0.08	23.12
6	NETFLIX INC	NFLX	0.10	91.48	2	ALLERGAN PLC	AGN	0.08	231.09
9	APPLE INC	AAPL	0.09	95.60	New	SKYWORKS SOLUTIONS INC	SWKS	0.08	63.28
8	TE CONNECTIVITY LTD	TEL	0.09	57.11	8	LAM RESEARCH CORP	LRCX	0.08	84.06
2	SCRIPPS NETWORKS INTERACTIVE	SNI	0.09	62.27	3	GAP INC	GPS	0.08	21.22
5	AMERICAN AIRLINES GROUP INC	AAL	0.09	28.31	5	XEROX CORP	XRX	0.08	9.49
					New	AMGEN INC	AMGN	0.08	152.15

CASH DEPLOYMENT STRATEGIES: Dividend Yield

Top 50 S&P 500 Companies By DIVIDEND YIELD

Dividend Yield: Indicated dividend divided by month-end price.





Absolute Returns

Last 1 Month	2.98%
Last 3 Months	5.29%
Last 6 Months	16.46%
Last 12 Months	12.39%
2016 YTD	16.46%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

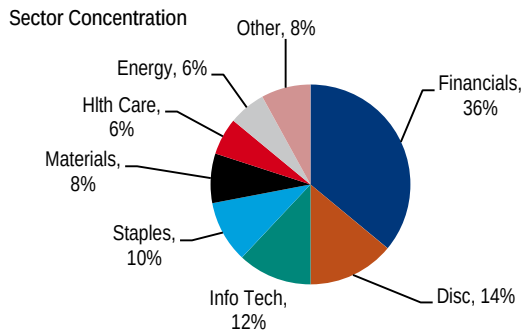
Screen for July

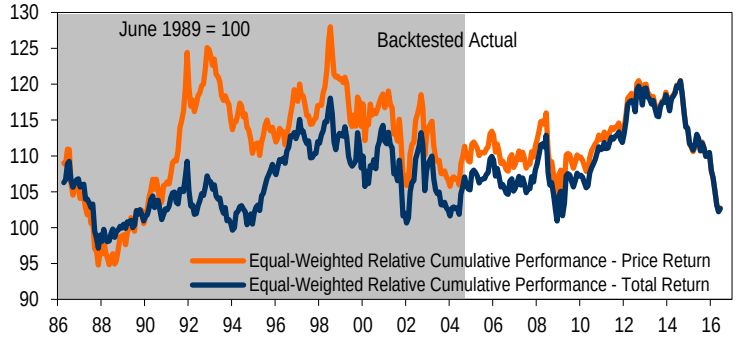
Mo. In Scrn	Company	Ticker	Yield	Price 06/30/2016	Mo. In Scrn	Company	Ticker	Yield	Price 06/30/2016
23	WILLIAMS COS INC	WMB	11.84%	21.63	3	GAP INC	GPS	4.34%	21.22
16	SEAGATE TECHNOLOGY PLC	STX	10.34%	24.36	30	CENTERPOINT ENERGY INC	CNP	4.29%	24.00
96	FRONTIER COMMUNICATIONS CORP	FTR	8.50%	4.94	5	WESTERN DIGITAL CORP	WDC	4.23%	47.26
96	CENTURYLINK INC	CTL	7.45%	29.01	2	PITNEY BOWES INC	PBI	4.21%	17.80
93	HCP INC	HCP	6.50%	35.38	6	MOSAIC CO	MOS	4.20%	26.18
8	STAPLES INC	SPLS	5.57%	8.62	70	ENTERGY CORP	ETR	4.18%	81.35
15	GENERAL MOTORS CO	GM	5.37%	28.30	87	SOUTHERN CO	SO	4.18%	53.63
12	NAVIENT CORP	NAVI	5.36%	11.95	14	HELMERICH & PAYNE	HP	4.17%	67.13
5	KOHL'S CORP	KSS	5.27%	37.92	7	WEYERHAEUSER CO	WY	4.17%	29.77
21	ONEOK INC	OKE	5.18%	47.45	10	INTL PAPER CO	IP	4.15%	42.38
2	CF INDUSTRIES HOLDINGS INC	CF	4.98%	24.10	17	FIRSTENERGY CORP	FE	4.12%	34.91
17	HOST HOTELS & RESORTS INC	HST	4.94%	16.21	20	CHEVRON CORP	CVX	4.08%	104.83
18	IRON MOUNTAIN INC	IRM	4.87%	39.83	12	CATERPILLAR INC	CAT	4.06%	75.81
30	MATTEL INC	MAT	4.86%	31.29	87	VERIZON COMMUNICATIONS INC	VZ	4.05%	55.84
19	GARMIN LTD	GRMN	4.81%	42.42	83	PPL CORP	PPL	4.03%	37.75
18	FORD MOTOR CO	F	4.77%	12.57	New	METLIFE INC	MET	4.02%	39.83
3	VALERO ENERGY CORP	VLO	4.71%	51.00	38	PHILIP MORRIS INTERNATIONAL	PM	4.01%	101.72
74	PEOPLE'S UNITED FINL INC	PBCT	4.64%	14.66	14	VENTAS INC	VTR	4.01%	72.82
2	LYONDELLBASELL INDUSTRIES NV	LYB	4.57%	74.42	12	OCCIDENTAL PETROLEUM CORP	OXY	3.97%	75.56
10	WELLTOWER INC	HCN	4.52%	76.17	3	QUALCOMM INC	QCOM	3.96%	53.57
2	MACY'S INC	M	4.49%	33.61	New	HP INC	HPQ	3.95%	12.55
88	AT&T INC	T	4.44%	43.21	New	PRUDENTIAL FINANCIAL INC	PRU	3.92%	71.34
20	SPECTRA ENERGY CORP	SE	4.42%	36.63	2	NORDSTROM INC	JWN	3.89%	38.05
12	MURPHY OIL CORP	MUR	4.41%	31.75	2	WESTROCK CO	WRK	3.86%	38.87
New	INVESCO LTD	IVZ	4.39%	25.54	New	VIACOM INC	VIAB	3.86%	41.47

Dividend Growth

Top 50 S&P 500 Companies By Dividend Growth

Dividend Growth: The growth between trailing 4-quarter total common dividends and year-ago trailing 4-quarter total common dividends.





Absolute Returns

Last 1 Month	0.23%
Last 3 Months	-0.28%
Last 6 Months	-2.42%
Last 12 Months	-8.07%
2016 YTD	-2.42%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end Mary 1986 to month end December 2004. The unshaded portion represents actual performance since January 2005. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

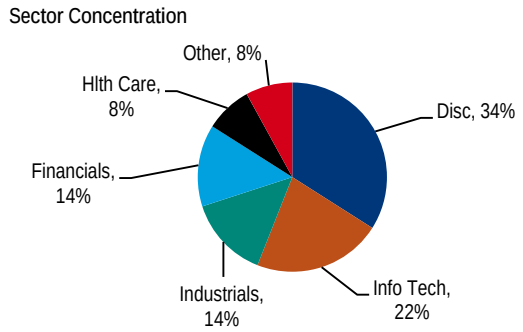
Screen for July

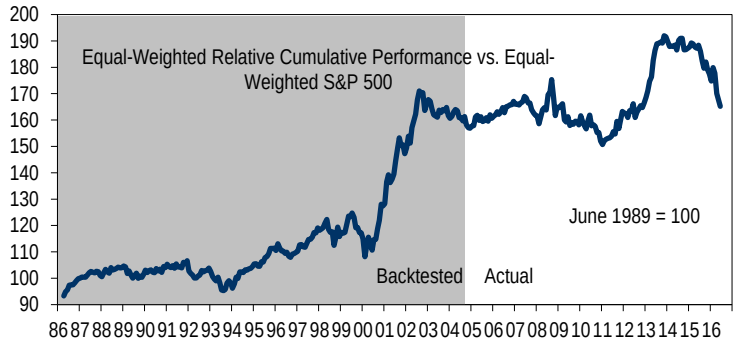
Mo. In Scrn	Company	Ticker	Dividend Growth	Price 06/30/2016	Mo. In Scrn	Company	Ticker	Dividend Growth	Price 06/30/2016
2	SYMANTEC CORP	SYMC	590.0%	20.54	5	WEC ENERGY GROUP INC	WEC	59.6%	65.30
26	CF INDUSTRIES HOLDINGS INC	CF	421.8%	24.10	5	BROADCOM LTD	AVGO	58.0%	155.40
3	EQUITY RESIDENTIAL	EQR	398.6%	68.88	14	AES CORP	AES	54.9%	12.48
12	CITIGROUP INC	C	390.0%	42.39	6	ZIONS BANCORPORATION	ZION	54.3%	25.13
8	NORDSTROM INC	JWN	351.2%	38.05	21	MORGAN STANLEY	MS	48.2%	25.98
New	CONSTELLATION BRANDS	STZ	337.1%	165.40	9	VALERO ENERGY CORP	VLO	46.6%	51.00
2	DOLLAR GENERAL CORP	DG	302.4%	94.00	15	CROWN CASTLE INTL CORP	CCI	46.1%	101.43
11	WESTROCK CO	WRK	174.4%	38.87	2	ALASKA AIR GROUP INC	ALK	44.2%	58.29
5	MACERICH CO	MAC	170.7%	85.39	5	EXPEDIA INC	EXPE	44.2%	106.30
9	REYNOLDS AMERICAN INC	RAI	162.2%	53.93	11	TESORO CORP	TSO	44.1%	74.92
11	MARATHON PETROLEUM CORP	MPC	141.8%	37.96	3	GLOBAL PAYMENTS INC	GPN	44.0%	71.38
7	KROGER CO	KR	130.4%	36.79	18	TYSON FOODS INC -CL A	TSN	42.5%	66.79
11	ROSS STORES INC	ROST	126.8%	56.69	New	NIKE INC	NKE	41.8%	55.20
12	PRICE (T. ROWE) GROUP	TROW	117.1%	72.97	21	DELTA AIR LINES INC	DAL	41.4%	36.43
9	PPG INDUSTRIES INC	PPG	110.8%	104.15	3	ASSURANT INC	AIZ	38.2%	86.31
5	EQUINIX INC	EQIX	109.9%	387.73	7	AMERICAN TOWER CORP	AMT	38.2%	113.61
5	CITIZENS FINANCIAL GROUP INC	CFG	94.0%	19.98	3	XL GROUP PLC	XL	35.0%	33.31
12	SKYWORKS SOLUTIONS INC	SWKS	90.2%	63.28	3	EXTRA SPACE STORAGE INC	EXR	33.8%	92.54
26	VULCAN MATERIALS CO	VMC	87.0%	120.36	42	MASTERCARD INC	MA	32.8%	88.06
5	HORMEL FOODS CORP	HRL	85.0%	36.60	4	UNITEDHEALTH GROUP INC	UNH	32.3%	141.20
5	AMERICAN INTERNATIONAL GROUP	AIG	74.1%	52.89	3	CINCINNATI FINANCIAL CORP	CINF	30.5%	74.89
12	LAM RESEARCH CORP	LRCX	65.4%	84.06	3	BRISTOL-MYERS SQUIBB CO	BMY	29.6%	73.55
3	FORD MOTOR CO	F	64.1%	12.57	3	PROGRESSIVE CORP-OHIO	PGR	28.5%	33.50
9	NASDAQ INC	NDAQ	63.5%	64.67	3	CME GROUP INC	CME	28.5%	97.40
8	MEDTRONIC PLC	MDT	59.8%	86.77	15	D R HORTON INC	DHI	28.0%	31.48

Share Repurchase

Top 50 S&P 500 Companies By Large Share Repurchase

Share Repurchase: The year-to-year change in shares outstanding.





Absolute Returns

Last 1 Month	-1.65%
Last 3 Months	-5.08%
Last 6 Months	-2.32%
Last 12 Months	-11.97%
2016 YTD	-2.32%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 2004. The unshaded portion represents actual performance since January 2005. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

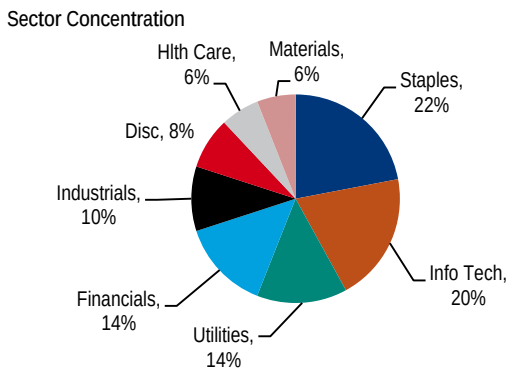
Screen for July

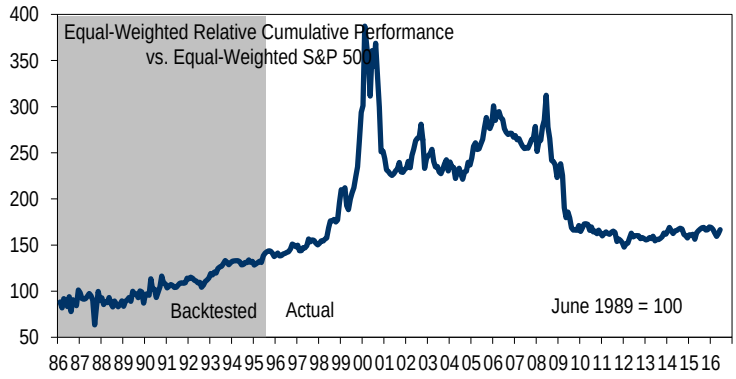
Mo. In Scrn	Company	Ticker	Share Repurchase	Price 06/30/2016	Mo. In Scrn	Company	Ticker	Share Repurchase	Price 06/30/2016
8	QUANTA SERVICES INC	PWR	-22.1%	23.12	4	BEST BUY CO INC	BBY	-8.3%	30.60
7	BLOCK H & R INC	HRB	-19.9%	23.00	New	NETAPP INC	NTAP	-8.2%	24.59
20	MOTOROLA SOLUTIONS INC	MSI	-15.6%	65.97	6	MEAD JOHNSON NUTRITION CO	MJN	-7.9%	90.75
4	QORVO INC	QRVO	-14.8%	55.26	New	CARMAX INC	KMX	-7.8%	49.03
12	AMERICAN AIRLINES GROUP INC	AAL	-13.7%	28.31	5	LOEWS CORP	L	-7.3%	41.09
15	AMERICAN INTERNATIONAL GROUP	AIG	-13.5%	52.89	9	GRAINGER (W W) INC	GWW	-7.1%	227.25
9	CORNING INC	GLW	-12.7%	20.48	12	QUALCOMM INC	QCOM	-7.0%	53.57
8	HARLEY-DAVIDSON INC	HOG	-12.1%	45.30	2	TARGET CORP	TGT	-7.0%	69.82
18	NAVIENT CORP	NAVI	-11.6%	11.95	2	INTUIT INC	INTU	-7.0%	111.61
7	APPLIED MATERIALS INC	AMAT	-11.6%	23.97	7	BIOGEN INC	BIIB	-6.9%	241.82
6	TE CONNECTIVITY LTD	TEL	-11.5%	57.11	New	MALLINCKRODT PLC	MNK	-6.8%	60.78
11	URBAN OUTFITTERS INC	URBN	-11.0%	27.50	2	MCDONALD'S CORP	MCD	-6.8%	120.34
2	SYMANTEC CORP	SYMC	-10.5%	20.54	8	ALLSTATE CORP	ALL	-6.7%	69.95
3	UNITED CONTINENTAL HLDGS INC	UAL	-10.4%	41.04	6	AMERIPRISE FINANCIAL INC	AMP	-6.7%	89.85
5	WHOLE FOODS MARKET INC	WFM	-9.4%	32.02	14	TWENTY-FIRST CENTURY FOX INC	FOXA	-6.6%	27.05
5	NORDSTROM INC	JWN	-9.2%	38.05	6	MONSANTO CO	MON	-6.6%	103.41
3	AUTONATION INC	AN	-9.0%	46.98	2	ASSURANT INC	AIZ	-6.5%	86.31
4	BED BATH & BEYOND INC	BBBY	-8.9%	43.22	12	EXPRESS SCRIPTS HOLDING CO	ESRX	-6.4%	75.80
5	GENERAL ELECTRIC CO	GE	-8.9%	31.48	3	UNITED RENTALS INC	URI	-6.3%	67.10
11	MICHAEL KORS HOLDINGS LTD	KORS	-8.8%	49.48	New	GENERAL MOTORS CO	GM	-6.3%	28.30
8	MACY'S INC	M	-8.6%	33.61	New	HANESBRANDS INC	HBI	-6.2%	25.13
16	TERADATA CORP	TDC	-8.6%	25.07	2	CBS CORP	CBS	-6.2%	54.44
27	LYONDELLBASELL INDUSTRIES NV	LYB	-8.5%	74.42	New	EBAY INC	EBAY	-6.2%	23.41
3	GILEAD SCIENCES INC	GILD	-8.5%	83.42	3	BOEING CO	BA	-6.1%	129.87
4	KOHL'S CORP	KSS	-8.4%	37.92	30	TRAVELERS COS INC	TRV	-6.0%	119.04

TECHNICAL STRATEGIES: Relative Strength – 30wk/75wk Moving Average

Top 50 S&P 500 Companies By RELATIVE STRENGTH

Relative Strength: The ratio of the 30-week moving average of price to the 75-week moving average.





Absolute Returns

Last 1 Month	2.42%
Last 3 Months	4.35%
Last 6 Months	3.03%
Last 12 Months	1.06%
2016 YTD	3.03%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end August 1995. The unshaded portion represents actual performance since September 1995. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

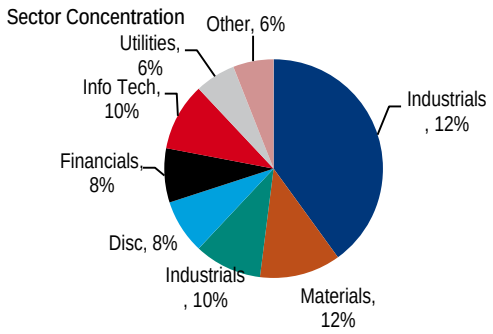
Mo. In Scrn.	Company	Ticker	Relative Strength	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Relative Strength	Price 06/30/2016
7	NVIDIA CORP	NVDA	1.27	47.01	2	REALTY INCOME CORP	O	1.12	69.36
5	TYSON FOODS INC -CL A	TSN	1.23	66.79	5	AGL RESOURCES INC	GAS	1.12	65.97
11	AMAZON.COM INC	AMZN	1.18	715.62	7	ALPHABET INC	GOOGL	1.12	703.53
7	HORMEL FOODS CORP	HRL	1.17	36.60	2	SCANA CORP	SCG	1.11	75.66
9	ACTIVISION BLIZZARD INC	ATVI	1.16	39.63	5	NASDAQ INC	NDAQ	1.11	64.67
21	EDWARDS LIFESCIENCES CORP	EW	1.15	99.73	2	KLA-TENCOR CORP	KLAC	1.11	73.25
2	DIGITAL REALTY TRUST INC	DLR	1.15	108.99	6	NORTHROP GRUMMAN CORP	NOC	1.11	222.28
4	AMERICAN WATER WORKS CO INC	AWK	1.15	84.51	4	CINCINNATI FINANCIAL CORP	CINF	1.10	74.89
7	TECO ENERGY INC	TE	1.14	27.64	8	MASCO CORP	MAS	1.10	30.94
New	NEWMONT MINING CORP	NEM	1.14	39.12	3	RAYTHEON CO	RTN	1.10	135.95
4	NISOURCE INC	NI	1.14	26.52	8	AVERY DENNISON CORP	AVY	1.10	74.75
7	FACEBOOK INC	FB	1.14	114.28	2	MCCORMICK & CO INC	MKC	1.10	106.67
2	ACUITY BRANDS INC	AYI	1.13	247.96	New	INTUITIVE SURGICAL INC	ISRG	1.09	661.41
4	CAMPBELL SOUP CO	CPB	1.13	66.53	New	SYSCO CORP	SYY	1.09	50.74
6	PUBLIC STORAGE	PSA	1.13	255.59	2	KIMBERLY-CLARK CORP	KMB	1.09	137.48
7	VERISIGN INC	VRSN	1.13	86.46	9	FISERV INC	FISV	1.09	108.73
3	ULTA SALON COSMETCS & FRAG	ULTA	1.13	243.64	New	CMS ENERGY CORP	CMS	1.09	45.86
6	EXTRA SPACE STORAGE INC	EXR	1.13	92.54	4	FIRST SOLAR INC	FSLR	1.09	48.48
9	EQUINIX INC	EQIX	1.13	387.73	5	DR PEPPER SNAPPLE GROUP INC	DPS	1.09	96.63
10	REYNOLDS AMERICAN INC	RAI	1.13	53.93	New	SCHEIN (HENRY) INC	HSIC	1.09	176.80
4	MCDONALD'S CORP	MCD	1.13	120.34	12	VULCAN MATERIALS CO	VMC	1.09	120.36
3	GLOBAL PAYMENTS INC	GPN	1.13	71.38	New	BROADCOM LTD	AVGO	1.09	155.40
2	MATTEL INC	MAT	1.12	31.29	New	ALTRIA GROUP INC	MO	1.09	68.96
4	MOLSON COORS BREWING CO	TAP	1.12	101.13	11	EQUIFAX INC	EFX	1.09	128.40
16	CONSTELLATION BRANDS	STZ	1.12	165.40	New	WEC ENERGY GROUP INC	WEC	1.08	65.30

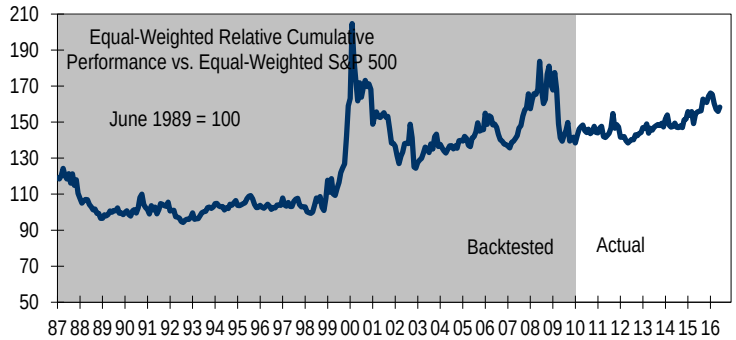
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Relative Strength – 5wk/30wk Moving Average

Top 50 S&P 500 Companies By 5W/30W Price Moving Average

Relative Strength: The ratio of the 5-week moving average of price to the 30-week moving average.





Absolute Returns	
Last 1 Month	1.28%
Last 3 Months	0.86%
Last 6 Months	0.98%
Last 12 Months	2.07%
2016 YTD	0.98%

Source: BofA Merrill Lynch US Quantitative Strategy
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

Mo. In Scrn.	Company	Ticker	5W/30W	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	5W/30W	Price 06/30/2016
3	ONEOK INC	OKE	1.5	47.45	2	JACOBS ENGINEERING GROUP INC	JEC	1.2	49.81
2	SOUTHWESTERN ENERGY CO	SWN	1.4	12.58	3	CABOT OIL & GAS CORP	COG	1.2	25.74
3	RANGE RESOURCES CORP	RRC	1.3	43.14	3	APACHE CORP	APA	1.2	55.67
5	NEWMONT MINING CORP	NEM	1.3	39.12	2	FMC CORP	FMC	1.2	46.31
4	NVIDIA CORP	NVDA	1.3	47.01	3	COLUMBIA PIPELINE GROUP INC	CPGX	1.2	25.49
4	FREEPORT-MCMORAN INC	FCX	1.3	11.14	2	CIMAREX ENERGY CO	XEC	1.2	119.32
2	ST JUDE MEDICAL INC	STJ	1.2	78.00	4	CENTERPOINT ENERGY INC	CNP	1.2	24.00
3	ULTA SALON COSMETCS & FRAG	ULTA	1.2	243.64	New	EQUINIX INC	EQIX	1.2	387.73
3	MURPHY OIL CORP	MUR	1.2	31.75	New	SPECTRA ENERGY CORP	SE	1.2	36.63
2	NEWFIELD EXPLORATION CO	NFX	1.2	44.18	New	DOLLAR GENERAL CORP	DG	1.2	94.00
2	NRG ENERGY INC	NRG	1.2	14.99	4	AMERICAN WATER WORKS CO INC	AWK	1.1	84.51
New	DEVON ENERGY CORP	DVN	1.2	36.25	2	VENTAS INC	VTR	1.1	72.82
2	EQT CORP	EQT	1.2	77.43	New	L-3 COMMUNICATIONS HLDGS INC	LLL	1.1	146.69
4	WYNN RESORTS LTD	WYNN	1.2	90.64	New	ARCHER-DANIELS-MIDLAND CO	ADM	1.1	42.89
New	APPLIED MATERIALS INC	AMAT	1.2	23.97	2	DIAMOND OFFSHRE DRILLING INC	DO	1.1	24.33
2	HALLIBURTON CO	HAL	1.2	45.29	3	XYLEM INC	XYL	1.1	44.65
2	MARTIN MARIETTA MATERIALS	MLM	1.2	192.00	New	ANADARKO PETROLEUM CORP	APC	1.1	53.25
3	IRON MOUNTAIN INC	IRM	1.2	39.83	2	HESS CORP	HES	1.1	60.10
2	DIGITAL REALTY TRUST INC	DLR	1.2	108.99	2	FIDELITY NATIONAL INFO SVCS	FIS	1.1	73.68
New	HEWLETT PACKARD ENTERPRISE	HPE	1.2	18.27	New	F5 NETWORKS INC	FFIV	1.1	113.84
2	CONCHO RESOURCES INC	CXO	1.2	119.27	New	AMAZON.COM INC	AMZN	1.1	715.62
2	TYCO INTERNATIONAL PLC	TYC	1.2	42.60	New	HELMERICH & PAYNE	HP	1.1	67.13
New	MARATHON OIL CORP	MRO	1.2	15.01	New	OWENS-ILLINOIS INC	OI	1.1	18.01
2	BOSTON SCIENTIFIC CORP	BSX	1.2	23.37	New	MONSANTO CO	MON	1.1	103.41
2	DUN & BRADSTREET CORP	DNB	1.2	121.84	3	PIONEER NATURAL RESOURCES CO	PXD	1.1	151.21

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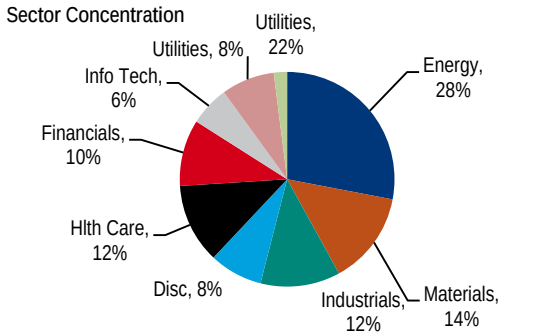
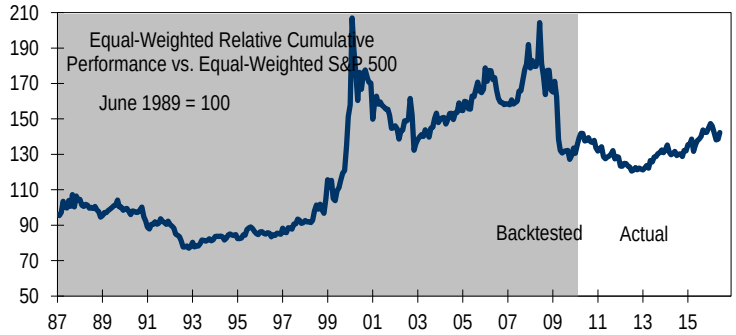
Relative Strength – 10wk/40wk Moving Average

Top 50 S&P 500 Companies By 10W/40W Price Moving Average

Relative Strength: The ratio of the 10-week moving average of price to the 40-week moving average.





Absolute Returns

Last 1 Month	2.51%
Last 3 Months	2.30%
Last 6 Months	2.98%
Last 12 Months	3.67%
2016 YTD	2.98%

Source: BofA Merrill Lynch US Quantitative Strategy
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

Mo. In Scrn.	Company	Ticker	10W/40W	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	10W/40W	Price 06/30/2016
4	NEWMONT MINING CORP	NEM	1.4	39.12	New	NEWFIELD EXPLORATION CO	NFX	1.1	44.18
2	ONEOK INC	OKE	1.3	47.45	3	DOLLAR GENERAL CORP	DG	1.1	94.00
2	RANGE RESOURCES CORP	RRC	1.3	43.14	New	DIAMOND OFFSHRE DRILLING INC	DO	1.1	24.33
9	NVIDIA CORP	NVDA	1.3	47.01	New	CONCHO RESOURCES INC	CXO	1.1	119.27
New	SOUTHWESTERN ENERGY CO	SWN	1.3	12.58	2	VENTAS INC	VTR	1.1	72.82
3	WYNN RESORTS LTD	WYNN	1.2	90.64	2	VULCAN MATERIALS CO	VMC	1.1	120.36
2	FREEPORT-MCMORAN INC	FCX	1.2	11.14	New	EQUINIX INC	EQIX	1.1	387.73
2	MURPHY OIL CORP	MUR	1.2	31.75	New	HALLIBURTON CO	HAL	1.1	45.29
New	ST JUDE MEDICAL INC	STJ	1.2	78.00	5	INTUITIVE SURGICAL INC	ISRG	1.1	661.41
2	ULTA SALON COSMETCS & FRAG	ULTA	1.2	243.64	New	TYCO INTERNATIONAL PLC	TYC	1.1	42.60
2	COLUMBIA PIPELINE GROUP INC	CPGX	1.2	25.49	7	TYSON FOODS INC -CL A	TSN	1.1	66.79
2	IRON MOUNTAIN INC	IRM	1.2	39.83	3	NISOURCE INC	NI	1.1	26.52
2	DIGITAL REALTY TRUST INC	DLR	1.2	108.99	New	L-3 COMMUNICATIONS HLDGS INC	LLL	1.1	146.69
2	BOSTON SCIENTIFIC CORP	BSX	1.2	23.37	New	EQT CORP	EQT	1.1	77.43
3	APPLIED MATERIALS INC	AMAT	1.2	23.97	2	NUCOR CORP	NUE	1.1	49.41
6	EDWARDS LIFESCIENCES CORP	EW	1.2	99.73	New	CABOT OIL & GAS CORP	COG	1.1	25.74
2	APACHE CORP	APA	1.2	55.67	2	BAXTER INTERNATIONAL INC	BAX	1.1	45.22
2	MARTIN MARIETTA MATERIALS	MLM	1.2	192.00	2	ACUITY BRANDS INC	AYI	1.1	247.96
New	NRG ENERGY INC	NRG	1.2	14.99	New	SPECTRA ENERGY CORP	SE	1.1	36.63
4	AMERICAN WATER WORKS CO INC	AWK	1.2	84.51	New	ZIMMER BIOMET HOLDINGS INC	ZBH	1.1	120.38
New	FMC CORP	FMC	1.2	46.31	New	AMAZON.COM INC	AMZN	1.1	715.62
2	PIONEER NATURAL RESOURCES CO	PXD	1.2	151.21	6	REALTY INCOME CORP	O	1.1	69.36
New	JACOBS ENGINEERING GROUP INC	JEC	1.2	49.81	3	AVERY DENNISON CORP	AVY	1.1	74.75
2	CENTERPOINT ENERGY INC	CNP	1.1	24.00	New	DUN & BRADSTREET CORP	DNB	1.1	121.84
3	XYLEM INC	XYL	1.1	44.65	2	GLOBAL PAYMENTS INC	GPN	1.1	71.38

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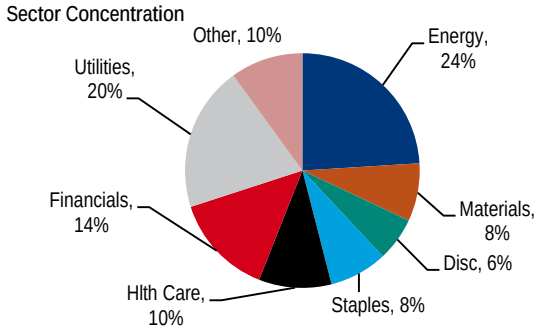
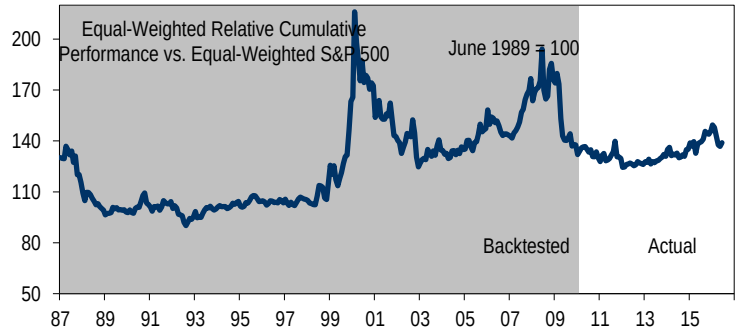
Price to Moving Average (200-Day)

Top 50 S&P 500 Companies By Price to 200-Day Moving Average





Absolute Returns

Last 1 Month	1.32%
Last 3 Months	-0.59%
Last 6 Months	-0.03%
Last 12 Months	0.36%
2016 YTD	-0.03%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

Mo. In Scrn.	Company	Ticker	Price/200D	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Price/200D	Price 06/30/2016
5	NEWMONT MINING CORP	NEM	1.6	39.12	New	SMUCKER (JM) CO	SJM	1.2	152.41
3	ONEOK INC	OKE	1.5	47.45	New	CINCINNATI FINANCIAL CORP	CINF	1.2	74.89
10	NVIDIA CORP	NVDA	1.4	47.01	New	EQT CORP	EQT	1.2	77.43
2	DIGITAL REALTY TRUST INC	DLR	1.3	108.99	2	L-3 COMMUNICATIONS HLDGS INC	LLL	1.2	146.69
3	RANGE RESOURCES CORP	RRC	1.3	43.14	New	AES CORP	AES	1.2	12.48
3	ULTA SALON COSMETCS & FRAG	ULTA	1.3	243.64	3	FREEPORT-MCMORAN INC	FCX	1.2	11.14
4	AMERICAN WATER WORKS CO INC	AWK	1.3	84.51	New	CABOT OIL & GAS CORP	COG	1.2	25.74
2	NEWFIELD EXPLORATION CO	NFX	1.3	44.18	New	GENERAL MILLS INC	GIS	1.2	71.32
New	SPECTRA ENERGY CORP	SE	1.3	36.63	New	HELMERICH & PAYNE	HP	1.2	67.13
4	IRON MOUNTAIN INC	IRM	1.3	39.83	New	BARD (C.R.) INC	BCR	1.2	235.16
4	APPLIED MATERIALS INC	AMAT	1.3	23.97	New	AT&T INC	T	1.2	43.21
New	HERSHEY CO	HSY	1.2	113.49	2	VULCAN MATERIALS CO	VMC	1.2	120.36
3	SOUTHWESTERN ENERGY CO	SWN	1.2	12.58	New	CMS ENERGY CORP	CMS	1.2	45.86
3	NISOURCE INC	NI	1.2	26.52	New	SCANA CORP	SCG	1.2	75.66
New	REALTY INCOME CORP	O	1.2	69.36	New	WASTE MANAGEMENT INC	WM	1.2	66.27
New	VENTAS INC	VTR	1.2	72.82	3	COLUMBIA PIPELINE GROUP INC	CPGX	1.2	25.49
2	EQUINIX INC	EQIX	1.2	387.73	New	PINNACLE WEST CAPITAL CORP	PNW	1.2	81.06
3	BOSTON SCIENTIFIC CORP	BSX	1.2	23.37	New	MCCORMICK & CO INC	MKC	1.2	106.67
3	ST JUDE MEDICAL INC	STJ	1.2	78.00	New	EDISON INTERNATIONAL	EIX	1.2	77.67
2	DOLLAR GENERAL CORP	DG	1.2	94.00	3	APACHE CORP	APA	1.2	55.67
3	CENTERPOINT ENERGY INC	CNP	1.2	24.00	New	NEXTERA ENERGY INC	NEE	1.2	130.40
3	MURPHY OIL CORP	MUR	1.2	31.75	New	CENTENE CORP	CNC	1.2	71.37
2	MARTIN MARIETTA MATERIALS	MLM	1.2	192.00	New	WEC ENERGY GROUP INC	WEC	1.2	65.30
2	DOLLAR TREE INC	DLTR	1.2	94.24	5	INTUITIVE SURGICAL INC	ISRG	1.2	661.41
New	HALLIBURTON CO	HAL	1.2	45.29	2	MARSH & MCLENNAN COS	MMC	1.2	68.46

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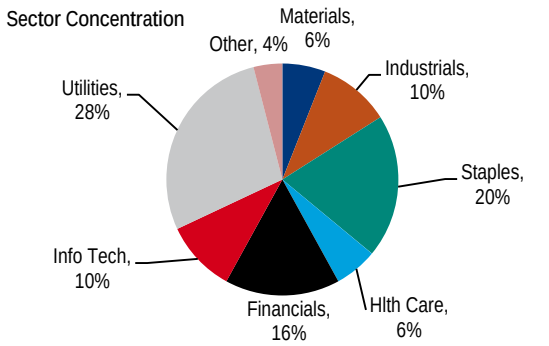
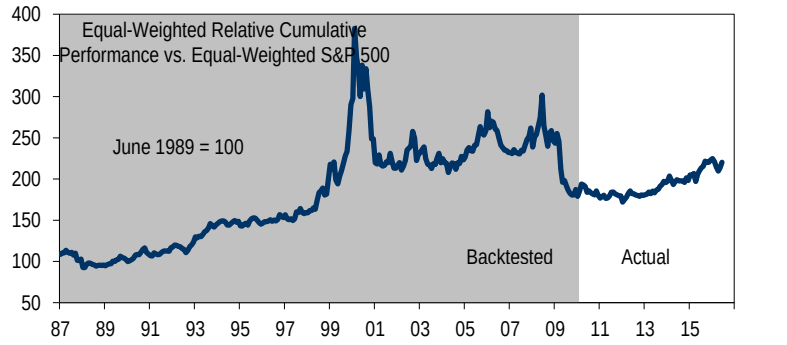
Price Return – 12-Month Performance

Top 50 S&P 500 Companies By 12-month price return





Absolute Returns

Last 1 Month	2.99%
Last 3 Months	4.96%
Last 6 Months	3.57%
Last 12 Months	5.25%
2016 YTD	3.57%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

Mo. In Scrn.	Company	Ticker	Price Return	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 06/30/2016
10	NVIDIA CORP	NVDA	133.8%	47.01	4	ALTRIA GROUP INC	MO	41.0%	68.96
4	AMERICAN WATER WORKS CO INC	AWK	73.8%	84.51	New	SMUCKER (JM) CO	SJM	40.6%	152.41
New	NEWMONT MINING CORP	NEM	67.5%	39.12	4	SYSCO CORP	SYY	40.6%	50.74
12	AMAZON.COM INC	AMZN	64.9%	715.62	3	NORTHROP GRUMMAN CORP	NOC	40.1%	222.28
10	ACTIVISION BLIZZARD INC	ATVI	63.7%	39.63	9	VERISIGN INC	VRSN	40.1%	86.46
2	DIGITAL REALTY TRUST INC	DLR	63.5%	108.99	7	EDWARDS LIFESCIENCES CORP	EW	40.0%	99.73
3	ULTA SALON COSMETCS & FRAG	ULTA	57.7%	243.64	New	EDISON INTERNATIONAL	EIX	39.7%	77.67
7	TYSON FOODS INC -CL A	TSN	56.7%	66.79	6	CAMPBELL SOUP CO	CPB	39.6%	66.53
10	TECO Energy Inc	TE	56.5%	27.64	New	KIMCO REALTY CORP	KIM	39.2%	31.38
3	REALTY INCOME CORP	O	56.3%	69.36	New	XCEL ENERGY INC	XEL	39.2%	44.78
9	EQUINIX INC	EQIX	52.6%	387.73	New	CONSOLIDATED EDISON INC	ED	39.0%	80.44
4	SCANA CORP	SCG	49.4%	75.66	8	PUBLIC STORAGE	PSA	38.6%	255.59
3	CINCINNATI FINANCIAL CORP	CINF	49.2%	74.89	3	GLOBAL PAYMENTS INC	GPN	38.0%	71.38
2	WEC ENERGY GROUP INC	WEC	45.2%	65.30	2	ACUITY BRANDS INC	AYI	37.8%	247.96
4	MOLSON COORS BREWING CO	TAP	44.9%	101.13	3	BARD (C.R.) INC	BCR	37.8%	235.16
12	REYNOLDS AMERICAN INC	RAI	44.5%	53.93	3	INTUITIVE SURGICAL INC	ISRG	36.5%	661.41
New	CMS ENERGY CORP	CMS	44.0%	45.86	2	MARTIN MARIETTA MATERIALS	MLM	35.7%	192.00
12	VULCAN MATERIALS CO	VMC	43.4%	120.36	3	LOCKHEED MARTIN CORP	LMT	33.5%	248.17
New	WASTE MANAGEMENT INC	WM	43.0%	66.27	9	FACEBOOK INC	FB	33.2%	114.28
12	CONSTELLATION BRANDS	STZ	42.6%	165.40	New	CLOROX CO/DE	CLX	33.0%	138.39
New	PINNACLE WEST CAPITAL CORP	PNW	42.5%	81.06	New	NEXTERA ENERGY INC	NEE	33.0%	130.40
2	AMEREN CORP	AEE	42.2%	53.58	New	DTE ENERGY CO	DTE	32.8%	99.12
2	RAYTHEON CO	RTN	42.1%	135.95	New	DR PEPPER SNAPPLE GROUP INC	DPS	32.6%	96.63
6	EXTRA SPACE STORAGE INC	EXR	41.9%	92.54	6	NASDAQ INC	NDAQ	32.5%	64.67
5	AGL RESOURCES INC	GAS	41.7%	65.97	New	AMERICAN ELECTRIC POWER CO	AEP	32.3%	70.09

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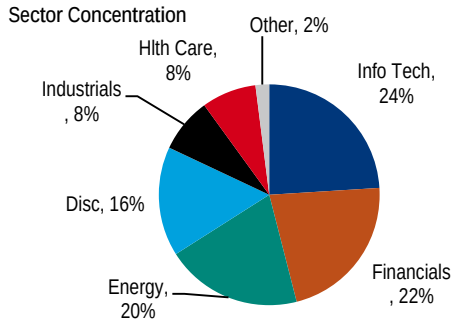
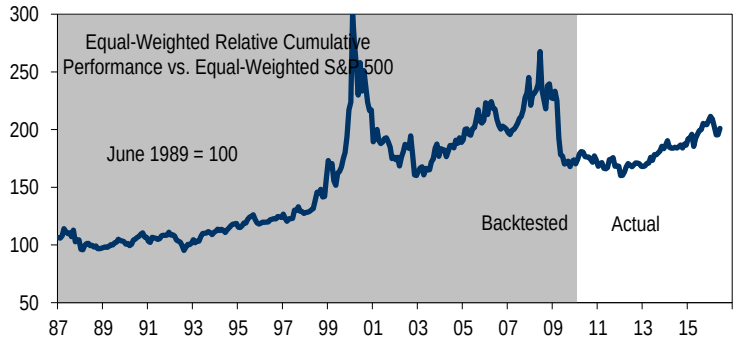
Price Return – 9-Month Performance

Top 50 S&P 500 Companies By 9-month price return.





Absolute Returns

Last 1 Month	2.58%
Last 3 Months	1.48%
Last 6 Months	1.29%
Last 12 Months	3.06%
2016 YTD	1.29%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

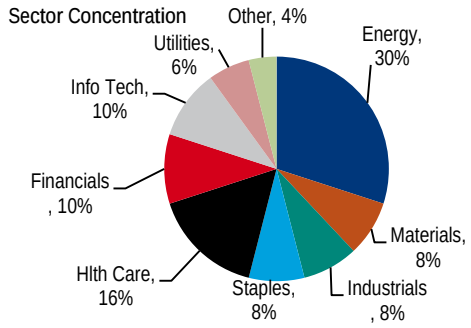
Screen for July

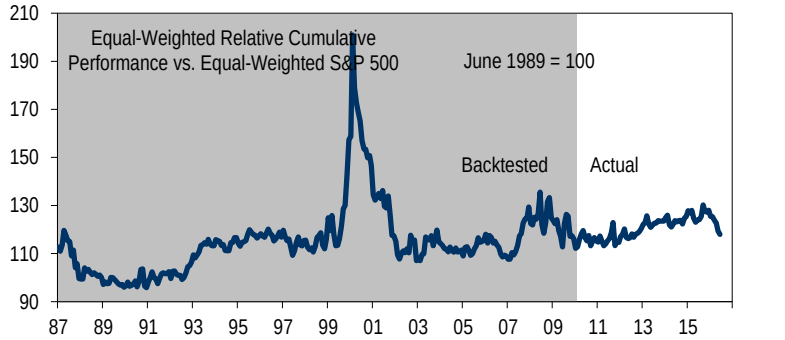
Mo. In Scrn.	Company	Ticker	Price Return	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 06/30/2016
3	NEWMONT MINING CORP	NEM	143.4%	39.12	New	SPECTRA ENERGY CORP	SE	39.4%	36.63
10	NVIDIA CORP	NVDA	90.7%	47.01	New	COLUMBIA PIPELINE GROUP INC	CPGX	39.4%	25.49
2	WYNN RESORTS LTD	WYNN	70.6%	90.64	5	CINCINNATI FINANCIAL CORP	CINF	39.2%	74.89
2	DIGITAL REALTY TRUST INC	DLR	66.9%	108.99	New	BAXTER INTERNATIONAL INC	BAX	37.7%	45.22
2	APPLIED MATERIALS INC	AMAT	63.2%	23.97	New	FMC CORP	FMC	36.6%	46.31
8	TYSON FOODS INC -CL A	TSN	55.0%	66.79	New	CBS CORP	CBS	36.4%	54.44
4	AMERICAN WATER WORKS CO INC	AWK	53.4%	84.51	3	XYLEM INC	XYL	35.9%	44.65
3	ULTA SALON COSMETCS & FRAG	ULTA	49.2%	243.64	New	VULCAN MATERIALS CO	VMC	34.9%	120.36
5	MATTEL INC	MAT	48.6%	31.29	6	SCANA CORP	SCG	34.5%	75.66
New	ONEOK INC	OKE	47.4%	47.45	2	DU PONT (E I) DE NEMOURS	DD	34.4%	64.80
4	KLA-TENCOR CORP	KLAC	46.5%	73.25	New	RANGE RESOURCES CORP	RRC	34.3%	43.14
6	REALTY INCOME CORP	O	46.4%	69.36	New	NEWFIELD EXPLORATION CO	NFX	34.3%	44.18
New	INTUITIVE SURGICAL INC	ISRG	43.9%	661.41	3	NORTHROP GRUMMAN CORP	NOC	33.9%	222.28
3	NISOURCE INC	NI	43.0%	26.52	New	NEXTERA ENERGY INC	NEE	33.7%	130.40
3	BOSTON SCIENTIFIC CORP	BSX	42.4%	23.37	New	SMUCKER (JM) CO	SJM	33.6%	152.41
3	APACHE CORP	APA	42.2%	55.67	2	SCHEIN (HENRY) INC	HSIC	33.2%	176.80
New	HELMERICH & PAYNE	HP	42.0%	67.13	New	JACOBS ENGINEERING GROUP INC	JEC	33.1%	49.81
4	EQUINIX INC	EQIX	41.8%	387.73	New	WASTE MANAGEMENT INC	WM	33.0%	66.27
New	DOLLAR TREE INC	DLTR	41.4%	94.24	New	CENTERPOINT ENERGY INC	CNP	33.0%	24.00
2	ACUITY BRANDS INC	AYI	41.2%	247.96	New	CHEVRON CORP	CVX	32.9%	104.83
3	COACH INC	COH	40.8%	40.74	New	AT&T INC	T	32.6%	43.21
New	DIAMOND OFFSHRE DRILLING INC	DO	40.6%	24.33	New	QUEST DIAGNOSTICS INC	DGX	32.4%	81.41
2	L-3 COMMUNICATIONS HLDGS INC	LLL	40.3%	146.69	3	AVERY DENNISON CORP	AVY	32.1%	74.75
3	EDWARDS LIFESCIENCES CORP	EW	40.3%	99.73	2	EQUIFAX INC	EFX	32.1%	128.40
13	AMAZON.COM INC	AMZN	39.8%	715.62	New	CONSTELLATION BRANDS	STZ	32.1%	165.40

BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Price Return – 3-Month Performance

Top 50 S&P 500 Companies By 3-month price return.





Absolute Returns

Last 1 Month	-1.36%
Last 3 Months	-2.76%
Last 6 Months	-3.33%
Last 12 Months	-4.46%
2016 YTD	-3.33%

Source: BofA Merrill Lynch US Quantitative Strategy

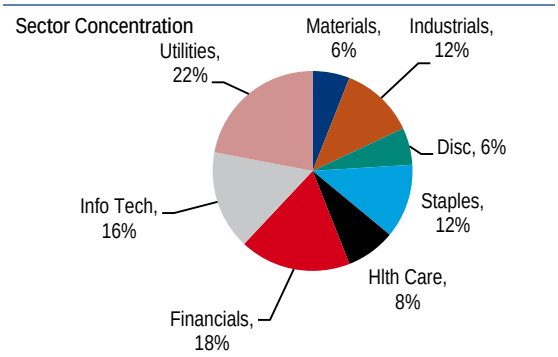
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

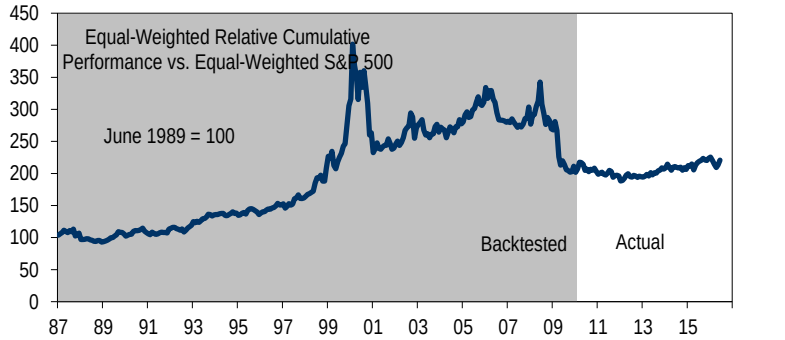
Screen for July

Mo. In Scrn.	Company	Ticker	Price Return	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 06/30/2016
4	ONEOK INC	OKE	58.9%	47.45	New	TRANSDIGM GROUP INC	TDG	19.7%	263.69
3	SOUTHWESTERN ENERGY CO	SWN	55.9%	12.58	New	PFIZER INC	PFE	18.8%	35.21
5	NEWMONT MINING CORP	NEM	47.2%	39.12	New	MCKESSON CORP	MCK	18.7%	186.65
3	ST JUDE MEDICAL INC	STJ	41.8%	78.00	2	DUN & BRADSTREET CORP	DNB	18.2%	121.84
3	MARATHON OIL CORP	MRO	34.7%	15.01	New	ARCHER-DANIELS-MIDLAND CO	ADM	18.1%	42.89
2	Williams Cos Inc	WMB	34.6%	21.63	2	CONCHO RESOURCES INC	CXO	18.0%	119.27
4	RANGE RESOURCES CORP	RRC	33.2%	43.14	New	MONSANTO CO	MON	17.9%	103.41
2	NEWFIELD EXPLORATION CO	NFX	32.9%	44.18	New	IRON MOUNTAIN INC	IRM	17.5%	39.83
2	DEVON ENERGY CORP	DVN	32.1%	36.25	New	SMUCKER (JM) CO	SJM	17.4%	152.41
2	NVIDIA CORP	NVDA	31.9%	47.01	New	CROWN CASTLE INTL CORP	CCI	17.3%	101.43
New	MICRON TECHNOLOGY INC	MU	31.4%	13.76	New	EQUINIX INC	EQIX	17.2%	387.73
New	TRANSOCEAN LTD	RIG	30.1%	11.89	New	ACTIVISION BLIZZARD INC	ATVI	17.1%	39.63
3	HALLIBURTON CO	HAL	26.8%	45.29	2	FIDELITY NATIONAL INFO SVCS	FIS	16.4%	73.68
3	MURPHY OIL CORP	MUR	26.0%	31.75	New	TYCO INTERNATIONAL PLC	TYC	16.0%	42.60
2	ULTA SALON COSMETCS & FRAG	ULTA	25.8%	243.64	New	BARD (C.R.) INC	BCR	16.0%	235.16
2	BOSTON SCIENTIFIC CORP	BSX	24.2%	23.37	New	CENTENE CORP	CNC	15.9%	71.37
New	L-3 COMMUNICATIONS HLDGS INC	LLL	23.8%	146.69	New	MEDTRONIC PLC	MDT	15.7%	86.77
New	HERSHEY CO	HSY	23.2%	113.49	New	VENTAS INC	VTR	15.7%	72.82
New	DIGITAL REALTY TRUST INC	DLR	23.2%	108.99	3	NRG ENERGY INC	NRG	15.2%	14.99
2	CIMAREX ENERGY CO	XEC	22.7%	119.32	New	BRISTOL-MYERS SQUIBB CO	BMY	15.1%	73.55
New	AMERICAN WATER WORKS CO INC	AWK	22.6%	84.51	2	EQT CORP	EQT	15.1%	77.43
2	AMAZON.COM INC	AMZN	20.5%	715.62	2	EOG RESOURCES INC	EOG	14.9%	83.42
New	MONSTER BEVERAGE CORP	MNST	20.5%	160.71	New	CENTERPOINT ENERGY INC	CNP	14.7%	24.00
4	MARTIN MARIETTA MATERIALS	MLM	20.4%	192.00	2	FMC CORP	FMC	14.7%	46.31
New	SPECTRA ENERGY CORP	SE	19.7%	36.63	New	ELECTRONIC ARTS INC	EA	14.6%	75.76

Price Return – 11-Month Performance

Top 50 S&P 500 Companies By 11-month price return.





Absolute Returns

Last 1 Month	3.33%
Last 3 Months	5.30%
Last 6 Months	3.47%
Last 12 Months	2.20%
2016 YTD	3.47%

Source: BofA Merrill Lynch US Quantitative Strategy

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Screen for July

Mo. In Scrn.	Company	Ticker	Price Return	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 06/30/2016
9	NVIDIA CORP	NVDA	132.3%	47.01	New	NASDAQ INC	NDAQ	35.2%	64.67
12	AMAZON.COM INC	AMZN	66.5%	715.62	4	NORTHROP GRUMMAN CORP	NOC	34.1%	222.28
10	ACTIVISION BLIZZARD INC	ATVI	62.2%	39.63	2	WEC ENERGY GROUP INC	WEC	33.7%	65.30
5	TECO Energy Inc	TE	55.9%	27.64	New	MARTIN MARIETTA MATERIALS	MLM	33.6%	192.00
4	AMERICAN WATER WORKS CO INC	AWK	52.4%	84.51	4	SYSCO CORP	SYY	33.3%	50.74
3	ULTA SALON COSMETCS & FRAG	ULTA	50.9%	243.64	11	REYNOLDS AMERICAN INC	RAI	33.1%	53.93
3	GLOBAL PAYMENTS INC	GPN	50.2%	71.38	12	CONSTELLATION BRANDS	STZ	32.0%	165.40
6	TYSON FOODS INC -CL A	TSN	49.6%	66.79	New	AMEREN CORP	AEE	31.5%	53.58
2	ACUITY BRANDS INC	AYI	43.9%	247.96	New	WASTE MANAGEMENT INC	WM	31.5%	66.27
2	DIGITAL REALTY TRUST INC	DLR	43.1%	108.99	New	CMS ENERGY CORP	CMS	31.3%	45.86
6	EXTRA SPACE STORAGE INC	EXR	42.5%	92.54	2	INTUITIVE SURGICAL INC	ISRG	31.0%	661.41
9	EQUINIX INC	EQIX	42.5%	387.73	New	PPL CORP	PPL	30.8%	37.75
3	MOLSON COORS BREWING CO	TAP	42.1%	101.13	3	ASSURANT INC	AIZ	30.4%	86.31
5	AGL RESOURCES INC	GAS	41.3%	65.97	4	ALTRIA GROUP INC	MO	30.1%	68.96
4	VULCAN MATERIALS CO	VMC	39.1%	120.36	New	KLA-TENCOR CORP	KLAC	29.7%	73.25
2	NEWMONT MINING CORP	NEM	38.7%	39.12	2	EQUIFAX INC	EFX	29.5%	128.40
8	ALPHABET INC	GOOGL	38.7%	703.53	New	PINNACLE WEST CAPITAL CORP	PNW	29.4%	81.06
8	FACEBOOK INC	FB	38.5%	114.28	New	EDISON INTERNATIONAL	EIX	28.9%	77.67
8	VERISIGN INC	VRSN	38.5%	86.46	2	TOTAL SYSTEM SERVICES INC	TSS	28.6%	53.11
5	EDWARDS LIFESCIENCES CORP	EW	38.3%	99.73	New	XCEL ENERGY INC	XEL	28.6%	44.78
4	SCANA CORP	SCG	38.0%	75.66	6	MCDONALD'S CORP	MCD	28.4%	120.34
4	CINCINNATI FINANCIAL CORP	CINF	37.7%	74.89	2	SOUTHWEST AIRLINES	LUV	28.4%	39.21
5	PUBLIC STORAGE	PSA	37.6%	255.59	2	BARD (C.R.) INC	BCR	28.3%	235.16
2	RAYTHEON CO	RTN	35.5%	135.95	2	BOSTON SCIENTIFIC CORP	BSX	28.3%	23.37
3	REALTY INCOME CORP	O	35.4%	69.36	New	PROLOGIS INC	PLD	28.1%	49.04

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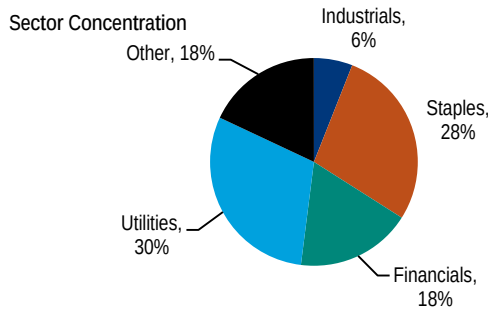
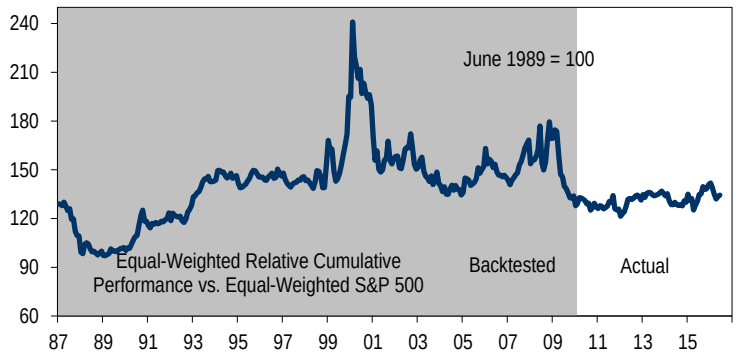
Price Return – 12-Month and 1-Month Performance

Top 50 S&P 500 Companies By average rank of 12-month and 1-month price return.





Absolute Returns

Last 1 Month	0.49%
Last 3 Months	1.61%
Last 6 Months	0.14%
Last 12 Months	3.26%
2016 YTD	0.14%

Source: BofA Merrill Lynch US Quantitative Strategy

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Screen for July

Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 06/30/2016
New	NEWMONT MINING CORP	NEM	1.3	39.12	New	XCEL ENERGY INC	XEL	9.6	44.78
New	AMERICAN WATER WORKS CO INC	AWK	2.4	84.51	New	NEXTERA ENERGY INC	NEE	10.1	130.40
New	REALTY INCOME CORP	O	2.5	69.36	New	CROWN CASTLE INTL CORP	CCI	10.6	101.43
2	DIGITAL REALTY TRUST INC	DLR	3.0	108.99	New	EVERSOURCE ENERGY	ES	10.6	59.90
New	SMUCKER (JM) CO	SJM	4.0	152.41	New	AMERICAN ELECTRIC POWER CO	AEP	11.1	70.09
New	PINNACLE WEST CAPITAL CORP	PNW	5.6	81.06	New	PAYCHEX INC	PAYX	11.6	59.50
New	WEC ENERGY GROUP INC	WEC	6.1	65.30	New	CLOROX CO/DE	CLX	11.6	138.39
New	KIMCO REALTY CORP	KIM	6.1	31.38	New	BARD (C.R.) INC	BCR	12.1	235.16
New	CMS ENERGY CORP	CMS	6.6	45.86	New	TYSON FOODS INC -CL A	TSN	12.5	66.79
New	WASTE MANAGEMENT INC	WM	6.6	66.27	New	AT&T INC	T	12.6	43.21
3	CINCINNATI FINANCIAL CORP	CINF	7.1	74.89	New	SIMON PROPERTY GROUP INC	SPG	12.6	216.90
New	REYNOLDS AMERICAN INC	RAI	7.1	53.93	New	SOUTHERN CO	SO	12.6	53.63
New	CAMPBELL SOUP CO	CPB	7.1	66.53	New	IRON MOUNTAIN INC	IRM	12.6	39.83
New	SCANA CORP	SCG	7.6	75.66	New	KIMBERLY-CLARK CORP	KMB	12.6	137.48
New	CONSOLIDATED EDISON INC	ED	7.6	80.44	3	ULTA SALON COSMETCS & FRAG	ULTA	13.0	243.64
New	HERSHEY CO	HSY	8.3	113.49	New	FEDERAL REALTY INVESTMENT TR	FRT	13.1	165.55
New	CONSTELLATION BRANDS	STZ	8.6	165.40	New	MICHAEL KORS HOLDINGS LTD	KORS	13.5	49.48
New	ALTRIA GROUP INC	MO	8.6	68.96	2	SYSCO CORP	SYY	13.6	50.74
New	MCCORMICK & CO INC	MKC	8.6	106.67	New	DUKE ENERGY CORP	DUK	13.6	85.79
New	EDISON INTERNATIONAL	EIX	8.6	77.67	New	RAYTHEON CO	RTN	14.1	135.95
New	GENERAL MILLS INC	GIS	9.1	71.32	2	ONEOK INC	OKE	14.1	47.45
New	AMEREN CORP	AEE	9.1	53.58	New	VERIZON COMMUNICATIONS INC	VZ	14.6	55.84
2	EQUINIX INC	EQIX	9.6	387.73	2	NEWFIELD EXPLORATION CO	NFX	14.6	44.18
New	Kellogg Co	K	9.6	81.65	New	DR PEPPER SNAPPLE GROUP INC	DPS	15.1	96.63
New	DTE ENERGY CO	DTE	9.6	99.12	New	REPUBLIC SERVICES INC	RSG	15.1	51.31

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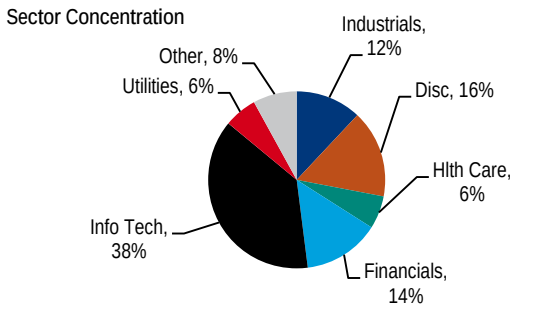
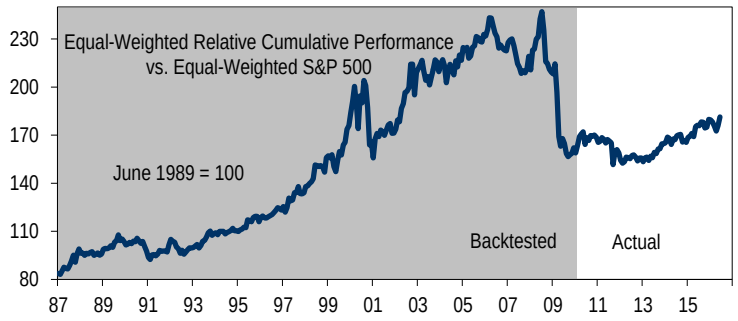
Price Return – 12-Month and 1-Month Reversal

Top 50 S&P 500 Companies By avg. rank of 12-m and reversal 1-m price return.





Absolute Returns

Last 1 Month	2.84%
Last 3 Months	5.43%
Last 6 Months	5.74%
Last 12 Months	3.30%
2016 YTD	5.74%

Source: BofA Merrill Lynch US Quantitative Strategy

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Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 06/30/2016
New	GLOBAL PAYMENTS INC	GPN	9.3	71.38	2	MCDONALD'S CORP*	MCD	28.7	120.34
New	ALPHABET INC	GOOGL	14.3	703.53	New	JACOBS ENGINEERING GROUP INC	JEC	28.7	49.81
New	ACUITY BRANDS INC	AYI	16.3	247.96	New	MICROSOFT CORP	MSFT	28.7	51.17
2	SOUTHWEST AIRLINES	LUV	17.3	39.21	New	NVIDIA CORP	NVDA	28.8	47.01
2	FACEBOOK INC	FB	17.8	114.28	2	PAYPAL HOLDINGS INC	PYPL	28.9	36.51
2	CSRA INC	CSRA	18.9	23.43	2	AGL RESOURCES INC	GAS	29.1	65.97
New	AMAZON.COM INC	AMZN	23.5	715.62	New	ACTIVISION BLIZZARD INC	ATVI	29.5	39.63
New	NASDAQ INC	NDAQ	23.7	64.67	New	TOTAL SYSTEM SERVICES INC	TSS	29.7	53.11
New	ACCENTURE PLC	ACN	23.7	113.29	2	HOME DEPOT INC	HD	29.7	127.69
New	MASCO CORP	MAS	23.7	30.94	New	NETFLIX INC	NFLX	29.7	91.48
New	INTERCONTINENTAL EXCHANGE	ICE	24.2	255.96	New	FORTUNE BRANDS HOME & SECUR	FBHS	30.2	57.97
New	CITRIX SYSTEMS INC	CTXS	24.7	80.09	New	OMNICOM GROUP	OMC	30.2	81.49
New	PPL CORP	PPL	25.2	37.75	New	NIELSEN HOLDINGS NV	NLSN	30.2	51.97
New	INTERPUBLIC GROUP OF COS	IPG	25.2	23.10	New	AGILENT TECHNOLOGIES INC	A	30.2	44.36
New	ADOBE SYSTEMS INC	ADBE	25.2	95.79	New	HASBRO INC	HAS	30.2	83.99
New	SALESFORCE.COM INC	CRM	25.7	79.41	New	INTL FLAVORS & FRAGRANCES	IFF	32.2	126.07
2	AUTODESK INC	ADSK	25.7	54.14	New	MONSANTO CO	MON	32.2	103.41
2	MOTOROLA SOLUTIONS INC	MSI	26.2	65.97	4	VERISIGN INC	VRSN	32.6	86.46
New	EXTRA SPACE STORAGE INC	EXR	26.6	92.54	New	PUBLIC STORAGE	PSA	32.6	255.59
New	VISA INC	V	26.7	74.17	New	THERMO FISHER SCIENTIFIC INC	TMO	32.7	147.76
New	APPLIED MATERIALS INC	AMAT	27.7	23.97	New	S&P GLOBAL INC	SPGI	32.7	107.26
2	PIONEER NATURAL RESOURCES CO	PXD	27.7	151.21	2	EDWARDS LIFESCIENCES CORP	EW	33.1	99.73
New	MATTEL INC	MAT	28.2	31.29	New	BLACKROCK INC	BLK	33.2	342.53
2	TECO Energy Inc	TE	28.6	27.64	New	MOLSON COORS BREWING CO	TAP	33.6	101.13
New	ASSURANT INC	AIZ	28.7	86.31	New	KLA-TENCOR CORP	KLAC	33.6	73.25

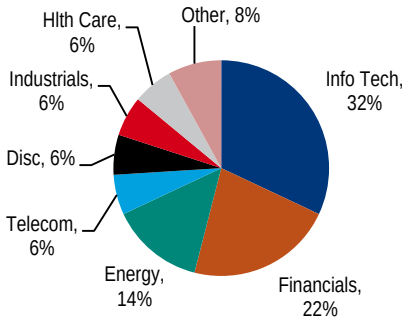
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

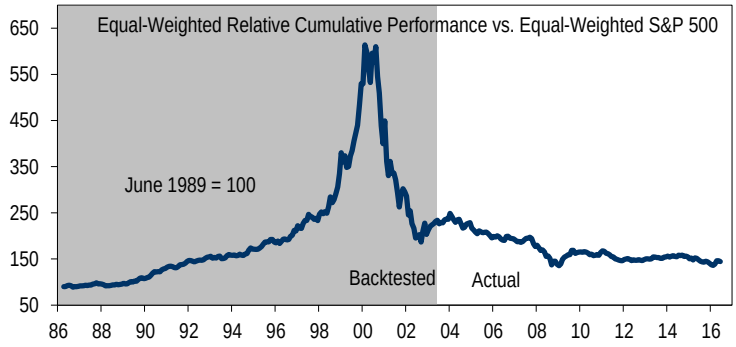
Most Active

Top 50 S&P 500 Companies By Most Actively Traded Stocks.

Most Actively Traded Stocks: Stocks have the highest monthly share trading volume.

Sector Concentration





Absolute Returns

Last 1 Month	-1.22%
Last 3 Months	6.37%
Last 6 Months	7.67%
Last 12 Months	-2.03%
2016 YTD	7.67%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end August 2003. The unshaded portion represents actual performance since September 2003. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

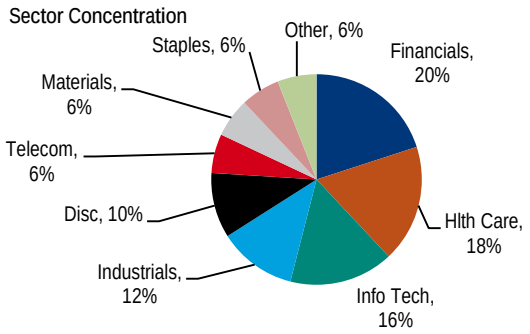
Screen for July

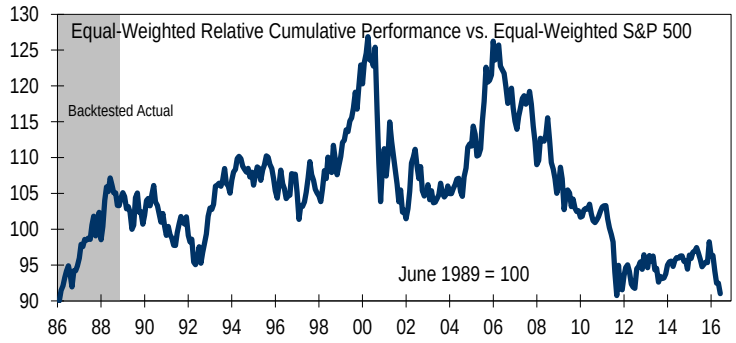
Mo. In Scrn	Company	Ticker	Trading Volume (In Mils)	Price 06/30/2016	Mo. In Scrn	Company	Ticker	Trading Volume (In Mils)	Price 06/30/2016
143	BANK OF AMERICA CORP	BAC	2383	13.27	82	VERIZON COMMUNICATIONS INC	VZ	346	55.84
155	GENERAL ELECTRIC CO	GE	897	31.48	9	KEYCORP	KEY	345	11.05
22	FREEPORT-MCMORAN INC	FCX	872	11.14	50	APPLIED MATERIALS INC	AMAT	332	23.97
155	MICROSOFT CORP	MSFT	862	51.17	New	NIKE INC	NKE	331	55.20
53	APPLE INC	AAPL	823	95.60	New	SYMANTEC CORP	SYMC	324	20.54
21	CHESAPEAKE ENERGY CORP	CHK	813	4.28	37	GENERAL MOTORS CO	GM	315	28.30
138	FORD MOTOR CO	F	804	12.57	2	HEWLETT PACKARD ENTERPRISE	HPE	314	18.27
87	MICRON TECHNOLOGY INC	MU	747	13.76	New	SYNCHRONY FINANCIAL	SYF	314	25.28
155	PFIZER INC	PFE	608	35.21	New	HUNTINGTON BANCSHARES	HBAN	312	8.94
62	CITIGROUP INC	C	600	42.39	New	BOSTON SCIENTIFIC CORP	BSX	306	23.37
128	AT&T INC	T	550	43.21	8	HP INC	HPQ	303	12.55
155	CISCO SYSTEMS INC	CSCO	527	28.69	New	SCHWAB (CHARLES) CORP	SCHW	296	25.31
155	INTEL CORP	INTC	508	32.80	3	DELTA AIR LINES INC	DAL	296	36.43
108	WELLS FARGO & CO	WFC	481	47.33	47	COCA-COLA CO	KO	284	45.33
31	FACEBOOK INC	FB	475	114.28	3	AMERICAN AIRLINES GROUP INC	AAL	284	28.31
87	REGIONS FINANCIAL CORP	RF	474	8.51	3	EMC CORP/MA	EMC	282	27.17
12	MARATHON OIL CORP	MRO	465	15.01	7	WILLIAMS COS INC	WMB	272	21.63
93	ALCOA INC	AA	457	9.27	155	YAHOO INC	YHOO	270	37.56
155	ORACLE CORP	ORCL	446	40.93	155	EXXON MOBIL CORP	XOM	265	93.74
10	SOUTHWESTERN ENERGY CO	SWN	421	12.58	New	ACTIVISION BLIZZARD INC	ATVI	246	39.63
117	JPMORGAN CHASE & CO	JPM	411	62.14	New	VISA INC	V	242	74.17
12	MORGAN STANLEY	MS	373	25.98	2	ABBOTT LABORATORIES	ABT	241	39.31
14	FRONTIER COMMUNICATIONS CORP	FTR	359	4.94	New	HOST HOTELS & RESORTS INC	HST	238	16.21
13	KINDER MORGAN INC	KMI	356	18.72	New	KROGER CO	KR	234	36.79
5	TRANSOCEAN LTD	RIG	354	11.89	New	EBAY INC	EBAY	233	23.41

GROWTH STRATEGIES: Earnings Momentum

Top 50 S&P 500 Companies By EPS MOMENTUM

Earnings Momentum: The difference between 12-month trailing EPS and year-ago12-month trailing EPS divided by year-ago 12-month trailing EPS.





Absolute Returns

Last 1 Month	-1.78%
Last 3 Months	-1.23%
Last 6 Months	-2.81%
Last 12 Months	-5.51%
2016 YTD	-2.81%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

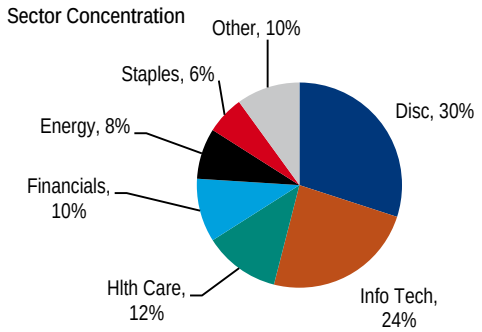
Screen for July

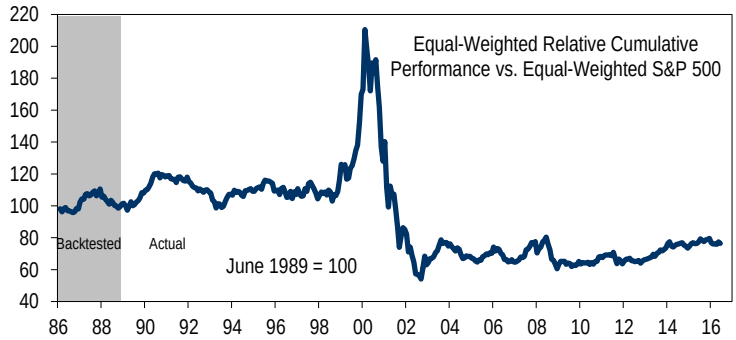
Mo. In Scrn.	Company	Ticker	EPS Momentum	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	EPS Momentum	Price 06/30/2016
11	XL GROUP PLC	XL	5212.5	33.31	5	EQUINIX INC	EQIX	134.4	387.73
3	BAXTER INTERNATIONAL INC	BAX	4320.0	45.22	5	UNUM GROUP	UNM	132.9	31.79
5	LEVEL 3 COMMUNICATIONS INC	LVLT	745.6	51.49	3	GENERAL ELECTRIC CO	GE	128.6	31.48
3	S&P GLOBAL INC	SPGI	594.2	107.26	New	TRANSDIGM GROUP INC	TDG	126.3	263.69
2	DIAMOND OFFSHRE DRILLING INC	DO	554.5	24.33	5	PRUDENTIAL FINANCIAL INC	PRU	118.0	71.34
3	EQUITY RESIDENTIAL	EQR	483.6	68.88	5	FIRSTENERGY CORP	FE	117.3	34.91
9	AMAZON.COM INC	AMZN	383.0	715.62	5	REGENERON PHARMACEUTICALS	REGN	105.0	349.23
5	AMERISOURCEBERGEN CORP	ABC	340.3	79.32	6	AT&T INC	T	103.4	43.21
6	DELTA AIR LINES INC	DAL	319.6	36.43	6	CITIGROUP INC	C	101.2	42.39
6	JUNIPER NETWORKS INC	JNPR	285.7	22.49	New	OWENS-ILLINOIS INC	OI	100.0	18.01
4	STAPLES INC	SPLS	273.3	8.62	9	BANK OF AMERICA CORP	BAC	95.5	13.27
12	REYNOLDS AMERICAN INC	RAI	245.6	53.93	9	SALESFORCE.COM INC	CRM	92.0	79.41
3	FIRST SOLAR INC	FSLR	244.4	48.48	3	BOSTON SCIENTIFIC CORP	BSX	85.0	23.37
9	MONDELEZ INTERNATIONAL INC	MDLZ	232.9	45.51	8	AGILENT TECHNOLOGIES INC	A	84.4	44.36
10	UNITED CONTINENTAL HLDGS INC	UAL	217.6	41.04	6	VERIZON COMMUNICATIONS INC	VZ	83.8	55.84
8	MALLINCKRODT PLC	MNK	205.4	60.78	10	DARDEN RESTAURANTS INC	DRI	83.1	63.34
5	GENERAL MOTORS CO	GM	204.4	28.30	17	VORNADO REALTY TRUST	VNO	80.9	100.12
5	MOTOROLA SOLUTIONS INC	MSI	199.7	65.97	New	FEDEX CORP	FDX	75.9	151.78
6	ABBVIE INC	ABBV	193.0	61.91	3	NASDAQ INC	NDAQ	74.7	64.67
6	FORD MOTOR CO	F	157.6	12.57	4	HOLOGIC INC	HOLX	73.8	34.60
5	TRANSOCEAN LTD	RIG	152.8	11.89	3	CITRIX SYSTEMS INC	CTXS	73.7	80.09
2	VULCAN MATERIALS CO	VMC	149.4	120.36	New	SMUCKER (JM) CO	SJM	73.3	152.41
9	STRYKER CORP	SYK	143.5	119.83	3	KLA-TENCOR CORP	KLAC	71.2	73.25
16	AMERICAN AIRLINES GROUP INC	AAL	143.5	28.31	2	INTUIT INC	INTU	64.2	111.61
10	ADOBE SYSTEMS INC	ADBE	143.2	95.79	5	DOW CHEMICAL	DOW	63.6	49.71

Projected Five-Year EPS Growth

Top 50 S&P 500 Companies By PROJ. 5-YR EPS GROWTH

Projected 5-Year EPS Growth: The five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exist, then the IBES Mean Long Term Growth Estimate is used.





Absolute Returns

Last 1 Month	-1.38%
Last 3 Months	2.77%
Last 6 Months	0.82%
Last 12 Months	-0.69%
2016 YTD	0.82%

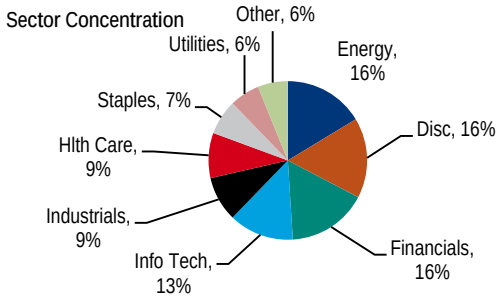
Source: BofA Merrill Lynch US Quantitative Strategy
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

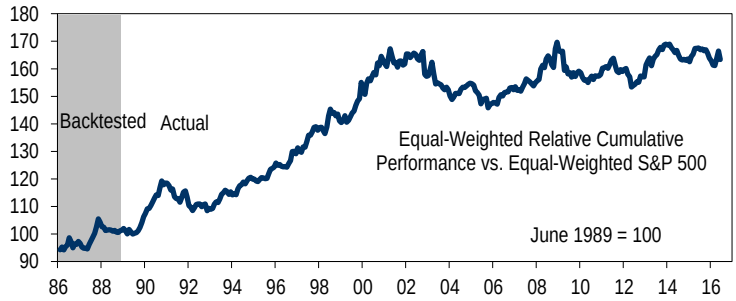
Screen for July

Mo. In Scrn	Company	Ticker	EPS Gr Next 5Yr	Price 06/30/2016	Mo. In Scrn	Company	Ticker	EPS Gr Next 5Yr	Price 06/30/2016
5	DISCOVERY COMMUNICATIONS INC	DISCA	265.1	25.23	13	MONSTER BEVERAGE CORP	MNST	22.1	160.71
4	NRG ENERGY INC	NRG	133.7	14.99	12	KLA-TENCOR CORP	KLAC	21.2	73.25
2	WILLIAMS COS INC	WMB	70.8	21.63	2	WYNN RESORTS LTD	WYNN	21.0	90.64
15	VERTEX PHARMACEUTICALS INC	VRTX	67.6	86.02	New	ROYAL CARIBBEAN CRUISES LTD	RCL	20.5	67.15
21	AMAZON.COM INC	AMZN	59.7	715.62	42	FIFTH THIRD BANCORP	FITB	20.2	17.59
15	CABOT OIL & GAS CORP	COG	51.6	25.74	14	BRISTOL-MYERS SQUIBB CO	BMY	20.0	73.55
2	HARRIS CORP	HRS	41.8	83.44	18	DOLLAR TREE INC	DLTR	20.0	94.24
31	FACEBOOK INC	FB	40.3	114.28	12	PAYPAL HOLDINGS INC	PYPL	20.0	36.51
16	EQUINIX INC	EQIX	37.2	387.73	18	PRICELINE GROUP INC	PCLN	20.0	1248.41
21	VULCAN MATERIALS CO	VMC	34.7	120.36	18	RED HAT INC	RHT	20.0	72.60
2	EQT CORP	EQT	32.3	77.43	18	STARBUCKS CORP	SBUX	20.0	57.12
5	AMERICAN TOWER CORP	AMT	31.0	113.61	8	MASCO CORP	MAS	19.9	30.94
60	NETFLIX INC	NFLX	30.0	91.48	16	SKYWORKS SOLUTIONS INC	SWKS	19.9	63.28
5	KRAFT HEINZ CO	KHC	28.2	88.48	27	CELGENE CORP	CELG	19.8	98.63
5	NEWFIELD EXPLORATION CO	NFX	27.5	44.18	3	ULTA SALON COSMETCS & FRAG	ULTA	19.7	243.64
2	LKQ CORP	LKQ	26.8	31.70	2	ACUITY BRANDS INC	AYI	19.5	247.96
32	CBS CORP	CBS	26.0	54.44	4	PULTEGROUP INC	PHM	19.3	19.49
11	INTUIT INC	INTU	25.7	111.61	41	SCHWAB (CHARLES) CORP	SCHW	18.6	25.31
2	AUTODESK INC	ADSK	25.2	54.14	3	FLIR SYSTEMS INC	FLIR	18.5	30.95
94	SALESFORCE.COM INC	CRM	25.0	79.41	2	APPLIED MATERIALS INC	AMAT	18.3	23.97
21	MARTIN MARIETTA MATERIALS	MLM	24.8	192.00	2	TYSON FOODS INC -CL A	TSN	18.2	66.79
3	GLOBAL PAYMENTS INC	GPN	23.7	71.38	7	EDWARDS LIFESCIENCES CORP	EW	18.0	99.73
4	CENTENE CORP	CNC	22.9	71.37	5	LEUCADIA NATIONAL CORP	LUK	18.0	17.33
50	ALEXION PHARMACEUTICALS INC	ALXN	22.6	116.76	7	URBAN OUTFITTERS INC	URBN	18.0	27.50
26	UNDER ARMOUR INC	UA	22.5	40.13	2	LOWE'S COMPANIES INC	LOW	17.6	79.17

Forecast Positive Earnings Surprise

Top S&P 500 Companies By POSITIVE EPS SURPRISE





Absolute Returns

Last 1 Month	-2.04%
Last 3 Months	3.52%
Last 6 Months	4.57%
Last 12 Months	-2.15%
2016 YTD	4.57%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

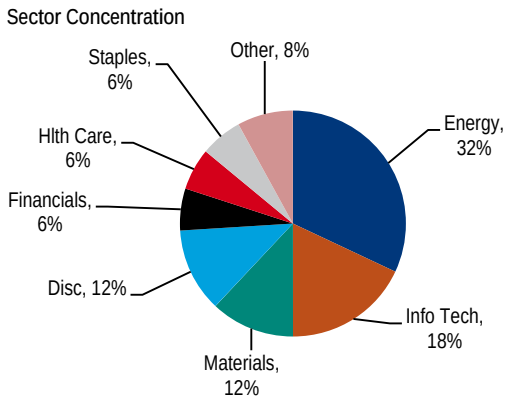
Screen for July

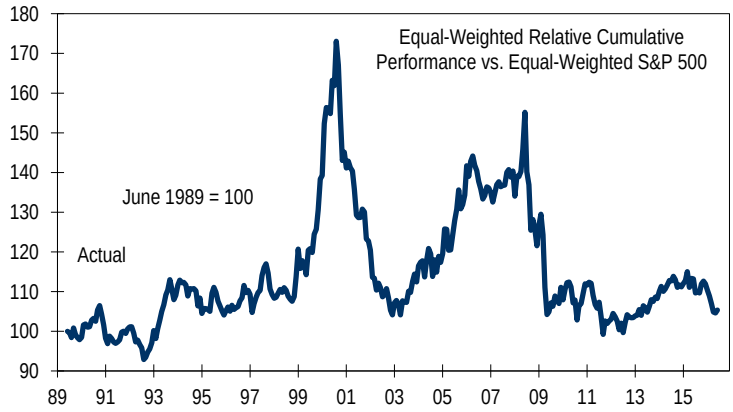
Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 06/30/2016
30	AMAZON.COM INC	AMZN	1	715.62
2	AMERICAN INTERNATIONAL GROUP	AIG	1	52.89
21	AUTONATION INC	AN	1	46.98
25	AUTOZONE INC	AZO	1	793.84
2	BECTON DICKINSON & CO	BDX	1	169.59
6	CHEVRON CORP	CVX	1	104.83
2	DOMINION RESOURCES INC	D	1	77.93
3	EATON CORP PLC	ETN	1	59.73
6	ELECTRONIC ARTS INC	EA	1	75.76
New	EXXON MOBIL CORP	XOM	1	93.74
2	INGERSOLL-RAND PLC	IR	1	63.68
2	INTUIT INC	INTU	1	111.61
New	KROGER CO	KR	1	36.79
2	LABORATORY CP OF AMER HLDGS	LH	1	130.27
4	LENNAR CORP	LEN	1	46.10
2	LEVEL 3 COMMUNICATIONS INC	LVLT	1	51.49
3	LYONDELLBASELL INDUSTRIES NV	LYB	1	74.42
3	LEGG MASON INC	LM	1	29.49
3	MARATHON PETROLEUM CORP	MPC	1	37.96
6	MARTIN MARIETTA MATERIALS	MLM	1	192.00
14	NETFLIX INC	NFLX	1	91.48
25	NVIDIA CORP	NVDA	1	47.01
4	PHILIP MORRIS INTERNATIONAL	PM	1	101.72
2	PPL CORP	PPL	1	37.75
3	PUBLIC STORAGE	PSA	1	255.59
3	PULTEGROUP INC	PHM	1	19.49
3	RANGE RESOURCES CORP	RRC	1	43.14
New	SALESFORCE.COM INC	CRM	1	79.41
9	SPECTRA ENERGY CORP	SE	1	36.63
7	TESORO CORP	TSO	1	74.92
5	YUM BRANDS INC	YUM	1	82.92
2	ABBVIE INC	ABBV	2	61.91
2	AUTODESK INC	ADSK	2	54.14
6	BRISTOL-MYERS SQUIBB CO	BMY	2	73.55
2	C H ROBINSON WORLDWIDE INC	CHRW	2	74.25
New	CATERPILLAR INC	CAT	2	75.81
New	CBS CORP	CBS	2	54.44
2	CENTURYLINK INC	CTL	2	29.01
2	CIMAREX ENERGY CO	XEC	2	119.32
2	CME GROUP INC	CME	2	97.40
2	COGNIZANT TECH SOLUTIONS	CTSH	2	57.24
New	CVS HEALTH CORP	CVS	2	95.74
6	DEVON ENERGY CORP	DVN	2	36.25
2	DISCOVERY COMMUNICATIONS INC	DISCA	2	25.23
4	EOG RESOURCES INC	EOG	2	83.42
2	EXPEDIA INC	EXPE	2	106.30
New	EXTRA SPACE STORAGE INC	EXR	2	92.54
New	FACEBOOK INC	FB	2	114.28
New	FEDERAL REALTY INVESTMENT TR	FRT	2	165.55
New	GILEAD SCIENCES INC	GILD	2	83.42
3	HUNTINGTON BANCSHARES	HBAN	2	8.94
5	JUNIPER NETWORKS INC	JNPR	2	22.49
2	KIMBERLY-CLARK CORP	KMB	2	137.48
New	MCDONALD'S CORP	MCD	2	120.34
3	MICROSOFT CORP	MSFT	2	51.17
3	MORGAN STANLEY	MS	2	25.98
6	NOBLE ENERGY INC	NBL	2	35.87
New	NORFOLK SOUTHERN CORP	NSC	2	85.13
3	NORTHERN TRUST CORP	NTRS	2	66.26
2	PFIZER INC	PFE	2	35.21
3	PHILLIPS 66	PSX	2	79.34
New	PRINCIPAL FINANCIAL GRP INC	PFG	2	41.11
New	PUBLIC SERVICE ENTRP GRP INC	PEG	2	46.61
New	REPUBLIC SERVICES INC	RSG	2	51.31
New	SEMPRA ENERGY	SRE	2	114.02
2	TORCHMARK CORP	TMK	2	61.82
New	WALGREENS BOOTS ALLIANCE INC	WBA	2	83.27

Earnings Estimate Revision

Top 50 S&P 500 Companies By UPWARD EPS EST. REVISION

EPS Estimate Revision: The difference between the I/B/E/S FY1 estimate and that of three months ago divided by the absolute value of the I/B/E/S FY1 estimate of three months ago.





Source: BofA Merrill Lynch US Quantitative Strategy
The performance chart represents actual returns since July 1989. There are no back tested results.

Absolute Returns

Last 1 Month	0.49%
Last 3 Months	0.67%
Last 6 Months	-1.29%
Last 12 Months	-6.60%
2016 YTD	-1.29%

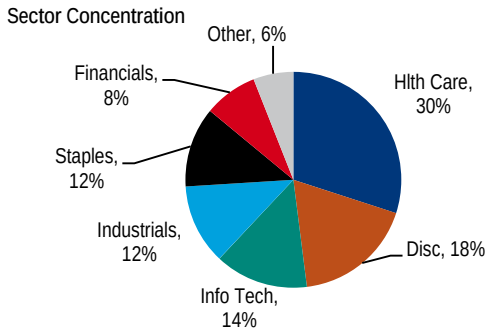
Screen for July

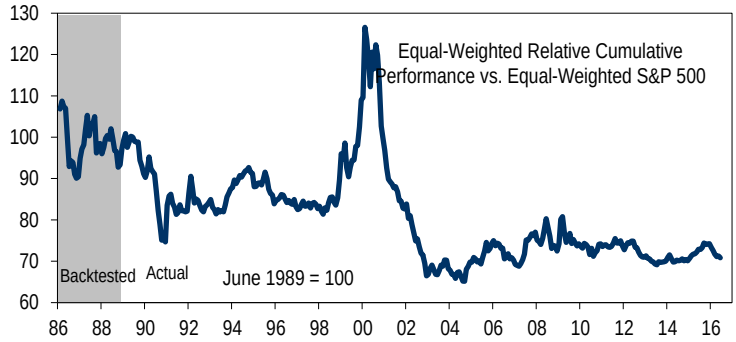
Mo. In Scrn.	Company	Ticker	EPS Est. Revision	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	EPS Est. Revision	Price 06/30/2016
2	TRANSOCEAN LTD	RIG	2.250	11.89	11	NVIDIA CORP	NVDA	0.117	47.01
4	NEWMONT MINING CORP	NEM	0.828	39.12	2	LKQ CORP	LKQ	0.116	31.70
2	CIMAREX ENERGY CO	XEC	0.647	119.32	2	MARTIN MARIETTA MATERIALS	MLM	0.112	192.00
2	SOUTHWESTERN ENERGY CO	SWN	0.604	12.58	3	CHESAPEAKE ENERGY CORP	CHK	0.108	4.28
2	APACHE CORP	APA	0.539	55.67	New	EQT CORP	EQT	0.091	77.43
2	PIONEER NATURAL RESOURCES CO	PXD	0.407	151.21	5	BAXTER INTERNATIONAL INC	BAX	0.085	45.22
12	DIAMOND OFFSHRE DRILLING INC	DO	0.398	24.33	New	ALCOA INC	AA	0.082	9.27
New	NUCOR CORP	NUE	0.390	49.41	5	TYSON FOODS INC -CL A	TSN	0.082	66.79
4	NRG ENERGY INC	NRG	0.301	14.99	11	CINCINNATI FINANCIAL CORP	CINF	0.080	74.89
New	LEUCADIA NATIONAL CORP	LUK	0.300	17.33	3	TOTAL SYSTEM SERVICES INC	TSS	0.079	53.11
3	NEWELL BRANDS INC	NWL	0.264	48.57	New	STARWOOD HOTELS&RESORTS WRLD	HOT	0.077	73.95
3	MURPHY OIL CORP	MUR	0.261	31.75	6	BRISTOL-MYERS SQUIBB CO	BMY	0.075	73.55
2	DEVON ENERGY CORP	DVN	0.233	36.25	2	OWENS-ILLINOIS INC	OI	0.073	18.01
New	SMUCKER (JM) CO	SJM	0.213	152.41	2	PFIZER INC	PFE	0.066	35.21
2	MARATHON OIL CORP	MRO	0.211	15.01	2	ACUITY BRANDS INC	AYI	0.065	247.96
New	CONCHO RESOURCES INC	CXO	0.193	119.27	2	MICROCHIP TECHNOLOGY INC	MCHP	0.065	50.76
2	AMAZON.COM INC	AMZN	0.173	715.62	New	CABOT OIL & GAS CORP	COG	0.064	25.74
2	SL GREEN REALTY CORP	SLG	0.167	106.47	8	FRONTIER COMMUNICATIONS CORP	FTR	0.060	4.94
5	APPLIED MATERIALS INC	AMAT	0.158	23.97	2	VULCAN MATERIALS CO	VMC	0.059	120.36
2	RANGE RESOURCES CORP	RRC	0.155	43.14	2	INTUIT INC	INTU	0.057	111.61
2	EXXON MOBIL CORP	XOM	0.138	93.74	9	CITRIX SYSTEMS INC	CTXS	0.057	80.09
2	WYNN RESORTS LTD	WYNN	0.134	90.64	3	FORD MOTOR CO	F	0.057	12.57
8	FACEBOOK INC	FB	0.133	114.28	2	MONDELEZ INTERNATIONAL INC	MDLZ	0.051	45.51
8	KLA-TENCOR CORP	KLAC	0.127	73.25	New	INGERSOLL-RAND PLC	IR	0.050	63.68
2	HESS CORP	HES	0.119	60.10	New	QORVO INC	QRVO	0.050	55.26

Equity Duration

Top 50 S&P 500 Companies By HIGH DURATION

Equity Duration: An adaptation of our Dividend Discount Model that measures the interest-rate sensitivity of a stock. Longer duration (higher numbers) suggests more interest-rate sensitivity.





Absolute Returns

Last 1 Month	-0.80%
Last 3 Months	0.95%
Last 6 Months	0.11%
Last 12 Months	-2.42%
2016 YTD	0.11%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988.The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

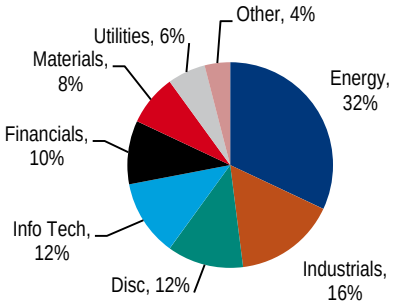
Mo. In Scrn.	Company	Ticker	Equity Duration	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Equity Duration	Price 06/30/2016
6	PENTAIR PLC	PNR	80.0	58.29	2	WILLIS TOWERS WATSON PLC	WLTW	42.5	124.31
7	CHIPOTLE MEXICAN GRILL INC	CMG	52.0	402.76	5	PVH CORP	PVH	42.4	94.23
6	INTUITIVE SURGICAL INC	ISRG	51.4	661.41	2	ADVANCE AUTO PARTS INC	AAP	42.3	161.63
34	ADOBE SYSTEMS INC	ADBE	51.2	95.79	18	BIOGEN INC	BIIB	42.3	241.82
8	TRIPADVISOR INC	TRIP	51.0	64.30	5	FEDERAL REALTY INVESTMENT TR	FRT	42.2	165.55
18	AMETEK INC	AME	48.3	46.23	17	BOSTON PROPERTIES INC	BXP	42.0	131.90
22	UNIVERSAL HEALTH SVCS INC	UHS	46.6	134.10	New	TRANSDIGM GROUP INC	TDG	42.0	263.69
18	AMPHENOL CORP	APH	45.8	57.33	10	COLGATE-PALMOLIVE CO	CL	42.0	73.20
4	ACTIVISION BLIZZARD INC	ATVI	45.5	39.63	4	TEXTRON INC	TXT	42.0	36.56
12	NETFLIX INC	NFLX	45.3	91.48	5	AETNA INC	AET	41.9	122.13
5	ILLUMINA INC	ILMN	45.0	140.38	10	BARD (C.R.) INC	BCR	41.8	235.16
30	DAVITA HEALTHCARE PARTNERS	DVA	44.5	77.32	18	PERKINELMER INC	PKI	41.8	52.42
30	BROWN FORMAN CORP	BF.B	44.3	99.76	3	CLOROX CO/DE	CLX	41.5	138.39
5	EXPEDIA INC	EXPE	44.1	106.30	New	UNDER ARMOUR INC	UA	41.3	40.13
30	PERRIGO CO PLC	PRGO	44.1	90.67	3	ALLERGAN PLC	AGN	41.2	231.09
8	REGENERON PHARMACEUTICALS	REGN	44.0	349.23	3	NEWS CORP	NWSA	41.0	11.35
7	CHURCH & DWIGHT INC	CHD	43.8	102.89	7	BED BATH & BEYOND INC	BBBY	40.9	43.22
18	BOSTON SCIENTIFIC CORP	BSX	43.7	23.37	New	AMERICAN WATER WORKS CO INC	AWK	40.8	84.51
2	SYMANTEC CORP	SYMC	43.7	20.54	3	VORNADO REALTY TRUST	VNO	40.5	100.12
3	JACOBS ENGINEERING GROUP INC	JEC	43.5	49.81	2	STRYKER CORP	SYK	40.4	119.83
2	NVIDIA CORP	NVDA	43.3	47.01	5	SEALED AIR CORP	SEE	40.3	45.97
9	VERISK ANALYTICS INC	VRSK	43.3	81.08	4	HOLOGIC INC	HOLX	40.2	34.60
38	WATERS CORP	WAT	42.7	140.65	2	LINEAR TECHNOLOGY CORP	LLTC	39.8	46.53
22	COSTCO WHOLESALE CORP	COST	42.7	157.04	New	CAMPBELL SOUP CO	CPB	39.7	66.53
74	SALESFORCE.COM INC	CRM	42.6	79.41	6	ALCOA INC	AA	39.7	9.27

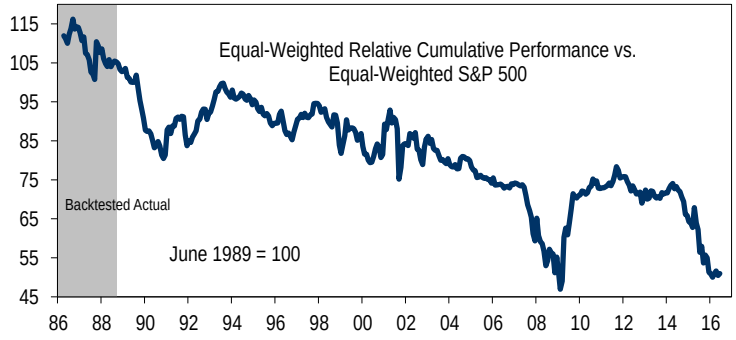
GROWTH (NEGATIVE) STRATEGIES: Earnings Torpedo

Top S&P 500 Companies By LOW EPS TORPEDO

Earnings Torpedo: I/B/E/S FY2 estimate less latest actual annual EPS divided by month-end price.

Sector Concentration





Absolute Returns

Last 1 Month	0.77%
Last 3 Months	2.17%
Last 6 Months	4.29%
Last 12 Months	-17.80%
2016 YTD	4.29%

Source: BofA Merrill Lynch US Quantitative Strategy

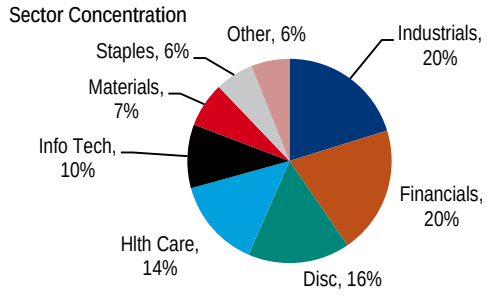
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988.The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

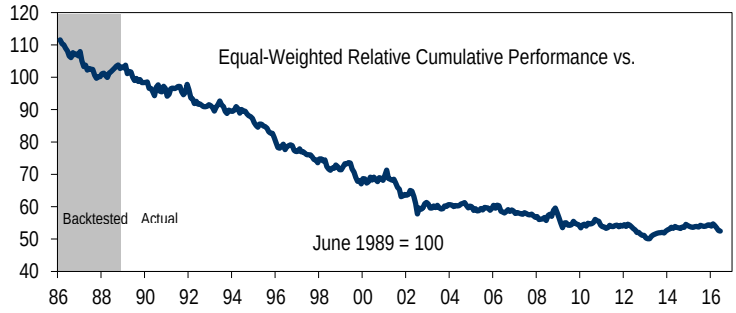
Screen for July

Mo. In Scrn.	Company	Ticker	EPS Torpedo	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	EPS Torpedo	Price 06/30/2016
27	TRANSOCEAN LTD	RIG	-0.356	11.89	19	RANGE RESOURCES CORP	RRC	-0.017	43.14
13	MICRON TECHNOLOGY INC	MU	-0.127	13.76	5	FRANKLIN RESOURCES INC	BEN	-0.016	33.37
6	AMERICAN AIRLINES GROUP INC	AAL	-0.121	28.31	5	CATERPILLAR INC	CAT	-0.014	75.81
6	SEAGATE TECHNOLOGY PLC	STX	-0.107	24.36	5	PACCAR INC	PCAR	-0.014	51.87
17	NATIONAL OILWELL VARCO INC	NOV	-0.095	33.65	11	AUTODESK INC	ADSK	-0.014	54.14
5	TESORO CORP	TSO	-0.092	74.92	4	HALLIBURTON CO	HAL	-0.014	45.29
6	UNITED CONTINENTAL HLDGS INC	UAL	-0.091	41.04	2	NORDSTROM INC	JWN	-0.012	38.05
27	DIAMOND OFFSHRE DRILLING INC	DO	-0.090	24.33	2	MACY'S INC	M	-0.012	33.61
6	WESTERN DIGITAL CORP	WDC	-0.073	47.26	6	FLUOR CORP	FLR	-0.011	49.28
5	CF INDUSTRIES HOLDINGS INC	CF	-0.067	24.10	2	PHILLIPS 66	PSX	-0.011	79.34
19	HELMERICH & PAYNE	HP	-0.064	67.13	New	VIACOM INC	VIAB	-0.011	41.47
6	VALERO ENERGY CORP	VLO	-0.054	51.00	5	HCP INC	HCP	-0.010	35.38
5	MOSAIC CO	MOS	-0.051	26.18	5	ENTERGY CORP	ETR	-0.010	81.35
5	MARATHON PETROLEUM CORP	MPC	-0.050	37.96	5	CUMMINS INC	CMI	-0.009	112.44
17	FMC TECHNOLOGIES INC	FTI	-0.046	26.67	5	CENTURYLINK INC	CTL	-0.009	29.01
14	FRONTIER COMMUNICATIONS CORP	FTR	-0.046	4.94	3	CHIPOTLE MEXICAN GRILL INC	CMG	-0.009	402.76
5	FIRST SOLAR INC	FSLR	-0.045	48.48	5	TRAVELERS COS INC	TRV	-0.008	119.04
18	DEVON ENERGY CORP	DVN	-0.044	36.25	6	FLOWSERVE CORP	FLS	-0.008	45.17
21	NOBLE ENERGY INC	NBL	-0.035	35.87	5	LYONDELLBASELL INDUSTRIES NV	LYB	-0.008	74.42
5	WESTROCK CO	WRK	-0.029	38.87	6	AES CORP	AES	-0.007	12.48
6	DEERE & CO	DE	-0.026	81.04	5	COLUMBIA PIPELINE GROUP INC	CPGX	-0.007	25.49
2	GAP INC	GPS	-0.020	21.22	5	CINCINNATI FINANCIAL CORP	CINF	-0.007	74.89
5	FIFTH THIRD BANCORP	FITB	-0.017	17.59	3	FIRSTENERGY CORP	FE	-0.006	34.91
5	SCHLUMBERGER LTD	SLB	-0.017	79.08	4	INTL BUSINESS MACHINES CORP	IBM	-0.005	151.78
5	CONCHO RESOURCES INC	CXO	-0.017	119.27	New	RALPH LAUREN CORP	RL	-0.005	89.62

Forecast Negative Earnings Surprise

Top S&P 500 Companies By NEGATIVE EPS SURPRISE





Absolute Returns	
Last 1 Month	-0.54%
Last 3 Months	-1.04%
Last 6 Months	1.10%
Last 12 Months	-1.98%
2016 YTD	1.10%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Table 3: Screen for July

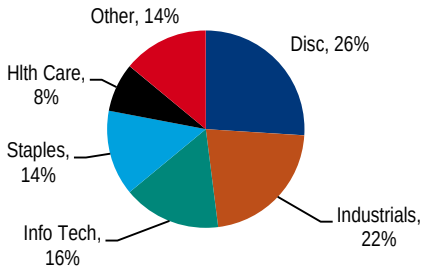
Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 06/30/2016
New	AFFILIATED MANAGERS GRP INC	AMG	10	140.77	New	BOEING CO	BA	9	129.87
3	ASSURANT INC	AIZ	10	86.31	6	CAMPBELL SOUP CO	CPB	9	66.53
8	CF INDUSTRIES HOLDINGS INC	CF	10	24.10	3	DAVITA HEALTHCARE PARTNERS	DVA	9	77.32
New	CITIZENS FINANCIAL GROUP INC	CFG	10	19.98	2	DEERE & CO	DE	9	81.04
15	COACH INC	COH	10	40.74	New	DELTA AIR LINES INC	DAL	9	36.43
3	COMERICA INC	CMA	10	41.13	New	DISCOVER FINANCIAL SVCS INC	DFS	9	53.59
10	CONAGRA FOODS INC	CAG	10	47.81	3	DOW CHEMICAL	DOW	9	49.71
3	DOVER CORP	DOV	10	69.32	15	DR PEPPER SNAPPLE GROUP INC	DPS	9	96.63
3	EDISON INTERNATIONAL	EIX	10	77.67	2	DU PONT (E I) DE NEMOURS	DD	9	64.80
7	EQUINIX INC	EQIX	10	387.73	New	EMERSON ELECTRIC CO	EMR	9	52.16
4	FIFTH THIRD BANCORP	FITB	10	17.59	2	FLOWSERVE CORP	FLS	9	45.17
2	FIRST SOLAR INC	FSLR	10	48.48	9	FLUOR CORP	FLR	9	49.28
8	GAP INC	GPS	10	21.22	3	GENUINE PARTS CO	GPC	9	101.25
10	GENERAL DYNAMICS CORP	GD	10	139.24	New	HELMERICH & PAYNE	HP	9	67.13
24	INTUITIVE SURGICAL INC	ISRG	10	661.41	2	HEWLETT PACKARD ENTERPRISE	HPE	9	18.27
2	L BRANDS INC	LB	10	67.13	New	HP INC	HPQ	9	12.55
2	MALLINCKRODT PLC	MNK	10	60.78	New	L-3 COMMUNICATIONS HLDGS INC	LLL	9	146.69
New	MEDTRONIC PLC	MDT	10	86.77	New	LILLY (ELI) & CO	LLY	9	78.75
9	MERCK & CO	MRK	10	57.61	2	MARRIOTT INTL INC	MAR	9	66.46
New	MICHAEL KORS HOLDINGS LTD	KORS	10	49.48	11	MARSH & MCLENNAN COS	MMC	9	68.46
9	MICRON TECHNOLOGY INC	MU	10	13.76	3	MOSAIC CO	MOS	9	26.18
3	NASDAQ INC	NDAQ	10	64.67	2	MYLAN NV	MYL	9	43.24
5	NORTHROP GRUMMAN CORP	NOC	10	222.28	4	NIKE INC	NKE	9	55.20
5	OWENS-ILLINOIS INC	OI	10	18.01	3	NRG ENERGY INC	NRG	9	14.99
New	PRICE (T. ROWE) GROUP	TROW	10	72.97	5	REGENERON PHARMACEUTICALS	REGN	9	349.23
3	RAYTHEON CO	RTN	10	135.95	New	REGIONS FINANCIAL CORP	RF	9	8.51
2	SOUTHERN CO	SO	10	53.63	4	ROCKWELL COLLINS INC	COL	9	85.14
8	SYNCHRONY FINANCIAL	SYF	10	25.28	11	ROSS STORES INC	ROST	9	56.69
15	UNITED TECHNOLOGIES CORP	UTX	10	102.55	New	TEXAS INSTRUMENTS INC	TXN	9	62.65
3	VISA INC	V	10	74.17	22	TJX COMPANIES INC	TJX	9	77.23
2	WESTERN DIGITAL CORP	WDC	10	47.26	3	UNITED PARCEL SERVICE INC	UPS	9	107.72
2	ARTHUR J GALLAGHER & CO	AJG	9	47.60	2	UNIVERSAL HEALTH SVCS INC	UHS	9	134.10
2	AVALONBAY COMMUNITIES INC	AVB	9	180.39	2	WAL-MART STORES INC	WMT	9	73.02
3	BED BATH & BEYOND INC	BBBY	9	43.22	2	WYNN RESORTS LTD	WYNN	9	90.64
					New	ZIMMER BIOMET HOLDINGS INC	ZBH	9	120.38

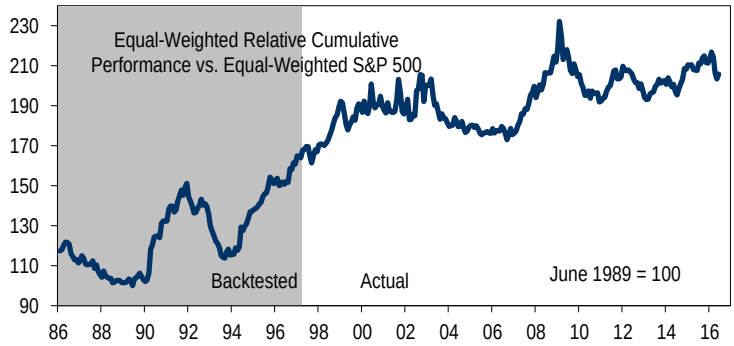
QUALITY STRATEGIES: One-Year Return on Equity

Top 50 S&P 500 Companies By ROE (1-Yr Average)

Return on Equity One-Year Average: Net income divided by average equity provided.

Sector Concentration





Absolute Returns

Last 1 Month	0.97%
Last 3 Months	-1.82%
Last 6 Months	2.14%
Last 12 Months	-0.51%
2016 YTD	2.14%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance.

Screen for July

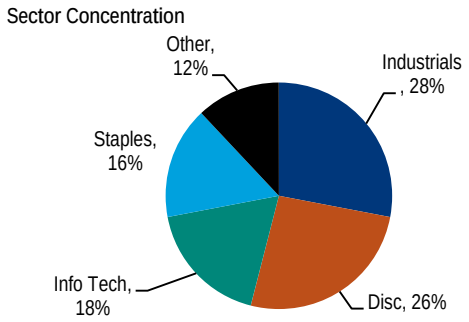
Mo. In Scrn.	Company	Ticker	ROE	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	ROE	Price 06/30/2016
6	KIMBERLY-CLARK CORP	KMB	721.9	137.48	84	WESTERN UNION CO	WU	63.3	19.18
3	ALLEGION PLC	ALLE	617.4	69.43	2	MCDONALD'S CORP	MCD	63.1	120.34
39	PITNEY BOWES INC	PBI	426.8	17.80	24	LYONDELLBASELL INDUSTRIES NV	LYB	62.8	74.42
3	S&P GLOBAL INC	SPGI	301.4	107.26	12	BROWN FORMAN CORP	BF.B	61.6	99.76
29	CLOROX CO/DE	CLX	239.6	138.39	17	WYNDHAM WORLDWIDE CORP	WYN	61.1	71.23
2	UNITED PARCEL SERVICE INC	UPS	230.9	107.72	5	MOTOROLA SOLUTIONS INC	MSI	58.8	65.97
87	ALTRIA GROUP INC	MO	206.1	68.96	60	ACCENTURE PLC	ACN	58.0	113.29
15	AMERICAN AIRLINES GROUP INC	AAL	197.4	28.31	43	DELPHI AUTOMOTIVE PLC	DLPH	55.2	62.60
2	ABBVIE INC	ABBV	181.9	61.91	101	TJX COMPANIES INC	TJX	52.4	77.23
17	SHERWIN-WILLIAMS CO	SHW	145.5	293.67	6	SCRIPPS NETWORKS INTERACTIVE	SNI	51.2	62.27
167	YUM BRANDS INC	YUM	141.9	82.92	3	REYNOLDS AMERICAN INC	RAI	50.1	53.93
5	UNITED CONTINENTAL HLDGS INC	UAL	131.7	41.04	21	O'REILLY AUTOMOTIVE INC	ORLY	47.7	271.10
27	VERIZON COMMUNICATIONS INC	VZ	128.4	55.84	56	HERSHEY CO	HSY	47.5	113.49
33	MASCO CORP	MAS	126.0	30.94	6	DELTA AIR LINES INC	DAL	46.6	36.43
6	KLA-TENCOR CORP	KLAC	118.5	73.25	21	C H ROBINSON WORLDWIDE INC	CHRW	46.4	74.25
26	GILEAD SCIENCES INC	GILD	113.4	83.42	2	OMNICOM GROUP	OMC	46.3	81.49
111	LOCKHEED MARTIN CORP	LMT	105.2	248.17	21	STARBUCKS CORP	SBUX	45.8	57.12
108	INTL BUSINESS MACHINES CORP	IBM	95.8	151.78	2	BAXTER INTERNATIONAL INC	BAX	44.8	45.22
30	HOME DEPOT INC	HD	93.1	127.69	161	CAMPBELL SOUP CO	CPB	43.5	66.53
78	BOEING CO	BA	84.7	129.87	40	ROSS STORES INC	ROST	42.2	56.69
2	AMERISOURCEBERGEN CORP	ABC	73.7	79.32	2	INTUIT INC	INTU	41.7	111.61
32	VIACOM INC	VIAB	71.9	41.47	7	BLOCK H & R INC	HRB	41.3	23.00
14	ONEOK INC	OKE	67.2	47.45	New	PAYCHEX INC	PAYX	40.9	59.50
9	VERISK ANALYTICS INC	VRSK	63.9	81.08	5	LEVEL 3 COMMUNICATIONS INC	LVLT	40.3	51.49
51	MASTERCARD INC	MA	63.6	88.06	3	EQUITY RESIDENTIAL	EQR	40.0	68.88

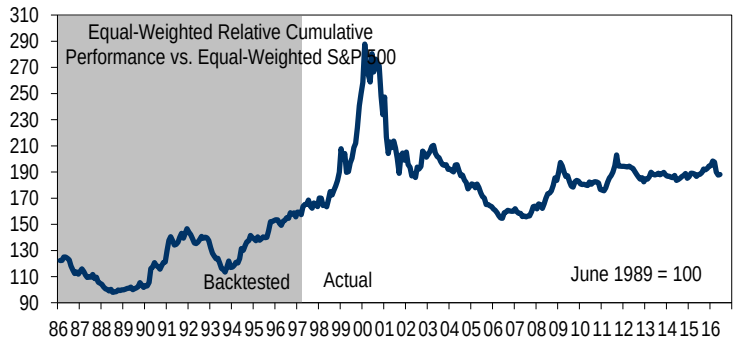
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Five-Year Return on Equity

Top 50 S&P 500 Companies By ROE (5-Yr Average)

Return on Equity Five-year Average: Five-year average return on equity.





Absolute Returns

Last 1 Month	0.07%
Last 3 Months	-2.75%
Last 6 Months	1.43%
Last 12 Months	0.45%
2016 YTD	1.43%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

Mo. In Scrn	Company	Ticker	5-Yr Avg ROE	Price 06/30/2016	Mo. In Scrn	Company	Ticker	5-Yr Avg ROE	Price 06/30/2016
41	MOODY'S CORP	MCO	728.8	93.71	60	ACCENTURE PLC	ACN	62.0	113.29
5	ALLEGION PLC	ALLE	501.6	69.43	64	GILEAD SCIENCES INC	GILD	60.6	83.42
109	PITNEY BOWES INC	PBI	489.8	17.80	112	HERSHEY CO	HSY	60.2	113.49
100	PHILIP MORRIS INTERNATIONAL	PM	460.0	101.72	17	SHERWIN-WILLIAMS CO	SHW	56.8	293.67
29	MEAD JOHNSON NUTRITION CO	MJN	292.3	90.75	23	SEAGATE TECHNOLOGY PLC	STX	55.5	24.36
5	AMERICAN AIRLINES GROUP INC	AAL	198.8	28.31	182	TJX COMPANIES INC	TJX	52.5	77.23
77	LOCKHEED MARTIN CORP	LMT	191.6	248.17	17	GOODYEAR TIRE & RUBBER CO	GT	50.6	25.66
9	VERISK ANALYTICS INC	VRSK	166.5	81.08	17	MARRIOTT INTL INC	MAR	49.3	66.46
162	COLGATE-PALMOLIVE CO	CL	151.6	73.20	5	VERISIGN INC	VRSN	47.1	86.46
76	ALTRIA GROUP INC	MO	128.6	68.96	32	MICHAEL KORS HOLDINGS LTD	KORS	46.5	49.48
31	ALLIANCE DATA SYSTEMS CORP	ADS	112.7	195.92	29	MASTERCARD INC	MA	46.2	88.06
40	L BRANDS INC	LB	105.4	67.13	29	DELPHI AUTOMOTIVE PLC	DLPH	46.1	62.60
76	KIMBERLY-CLARK CORP	KMB	104.8	137.48	4	HOME DEPOT INC	HD	46.0	127.69
3	S&P GLOBAL INC	SPGI	97.8	107.26	64	ROSS STORES INC	ROST	45.1	56.69
29	WESTERN UNION CO	WU	96.1	19.18	109	KELLOGG CO	K	42.9	81.65
17	DELTA AIR LINES INC	DAL	91.4	36.43	142	COACH INC	COH	42.0	40.74
40	ABBVIE INC	ABBV	87.0	61.91	5	WYNN RESORTS LTD	WYNN	41.6	90.64
88	INTL BUSINESS MACHINES CORP	IBM	86.2	151.78	5	MASCO CORP	MAS	41.6	30.94
40	UNITED PARCEL SERVICE INC	UPS	84.7	107.72	64	C H ROBINSON WORLDWIDE INC	CHRW	40.8	74.25
83	LINEAR TECHNOLOGY CORP	LLTC	80.0	46.53	New	TRANSDIGM GROUP INC	TDG	40.8	263.69
41	FORD MOTOR CO	F	78.4	12.57	5	VERIZON COMMUNICATIONS INC	VZ	40.6	55.84
89	BOEING CO	BA	74.1	129.87	109	ROCKWELL COLLINS INC	COL	40.2	85.14
109	YUM BRANDS INC	YUM	74.1	82.92	8	VIACOM INC	VIAB	39.6	41.47
22	UNITED RENTALS INC	URI	68.1	67.10	12	HUNT (JB) TRANSPRT SVCS INC	JBHT	39.3	80.93
109	CAMPBELL SOUP CO	CPB	64.2	66.53	44	APPLE INC	AAPL	39.0	95.60

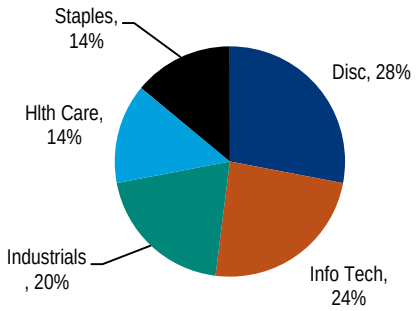
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

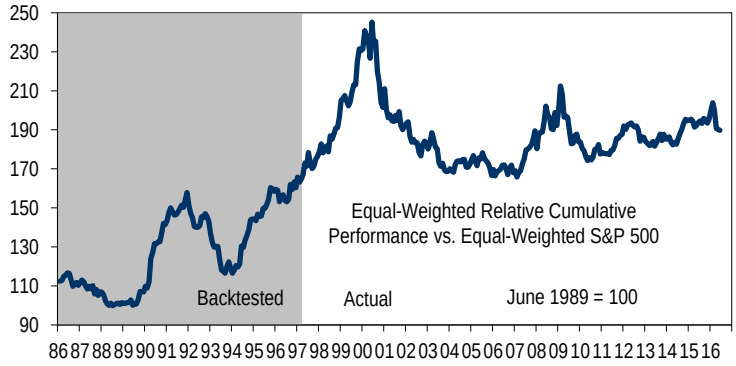
One-Year Return on Equity (Adjusted for Debt)

Top 50 S&P 500 Companies By ROE (1-Yr Avg. Adj. for Debt)

Return on Equity One-Year Average (Adjusted for Debt): The ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

Sector Concentration





Absolute Returns

Last 1 Month	-0.42%
Last 3 Months	-3.02%
Last 6 Months	1.87%
Last 12 Months	-1.68%
2016 YTD	1.87%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

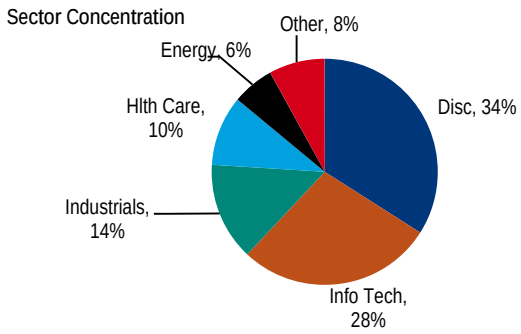
Screen for July

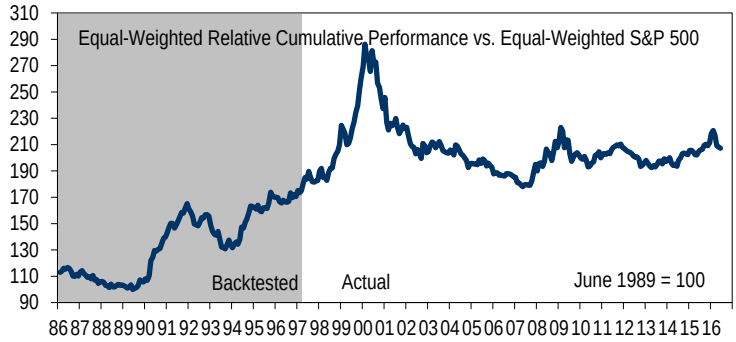
Mo. In Scrn.	Company	Ticker	Debt Adj ROE	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Debt Adj ROE	Price 06/30/2016
34	ACCENTURE PLC	ACN	57.8	113.29	6	DELTA AIR LINES INC	DAL	17.9	36.43
8	MICHAEL KORS HOLDINGS LTD	KORS	39.6	49.48	29	CHIPOTLE MEXICAN GRILL INC	CMG	17.8	402.76
54	ROBERT HALF INTL INC	RHI	35.8	38.16	59	LAUDER (ESTEE) COS INC -CL A	EL	17.7	91.02
40	ROSS STORES INC	ROST	35.6	56.69	12	VF CORP	VFC	17.5	61.49
2	BAXTER INTERNATIONAL INC	BAX	34.5	45.22	17	COGNIZANT TECH SOLUTIONS	CTSH	17.2	57.24
211	TJX COMPANIES INC	TJX	33.7	77.23	24	EDWARDS LIFESCIENCES CORP	EW	16.8	99.73
2	ALASKA AIR GROUP INC	ALK	29.9	58.29	101	AUTOMATIC DATA PROCESSING	ADP	16.8	91.87
32	C H ROBINSON WORLDWIDE INC	CHRW	26.9	74.25	4	URBAN OUTFITTERS INC	URBN	16.2	27.50
18	ELECTRONIC ARTS INC	EA	25.5	75.76	2	JOHNSON & JOHNSON	JNJ	15.8	121.30
30	TRACTOR SUPPLY CO	TSCO	25.4	91.18	5	NVIDIA CORP	NVDA	15.3	47.01
111	NIKE INC	NKE	25.2	55.20	5	SNAP-ON INC	SNA	15.2	157.82
2	INTUIT INC	INTU	25.0	111.61	2	BEST BUY CO INC	BBY	15.0	30.60
84	MASTERCARD INC	MA	24.9	88.06	9	ALPHABET INC	GOOGL	14.4	703.53
21	STARBUCKS CORP	SBUX	23.8	57.12	9	MONDELEZ INTERNATIONAL INC	MDLZ	14.4	45.51
12	FASTENAL CO	FAST	22.4	44.39	2	ACUITY BRANDS INC	AYI	14.4	247.96
12	SOUTHWEST AIRLINES	LUV	21.3	39.21	13	GAP INC	GPS	14.3	21.22
18	TEXAS INSTRUMENTS INC	TXN	21.0	62.65	3	FIRST SOLAR INC	FSLR	14.0	48.48
57	GENUINE PARTS CO	GPC	20.2	101.25	26	CUMMINS INC	CMI	14.0	112.44
New	FOOT LOCKER INC	FL	19.9	54.86	2	COSTCO WHOLESALE CORP	COST	13.9	157.04
15	GENERAL DYNAMICS CORP	GD	19.6	139.24	2	CHURCH & DWIGHT INC	CHD	13.8	102.89
11	REGENERON PHARMACEUTICALS	REGN	19.5	349.23	7	SCHEIN (HENRY) INC	HSIC	13.4	176.80
33	VARIAN MEDICAL SYSTEMS INC	VAR	19.3	82.23	6	DISNEY (WALT) CO	DIS	13.2	97.82
3	REYNOLDS AMERICAN INC	RAI	18.8	53.93	New	BROWN FORMAN CORP	BF.B	13.1	99.76
36	APPLE INC	AAPL	18.3	95.60	5	XILINX INC	XLNX	13.0	46.13
24	HORMEL FOODS CORP	HRL	18.1	36.60	3	CERNER CORP	CERN	13.0	58.60

Five-Year Return on Equity (Adjusted by Debt)

Top 50 S&P 500 Companies By ROE (5-Yr Avg. Adj. for Debt)

Return on Equity Five-year Average (Adjusted for Debt): The average five year ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.





Absolute Returns

Last 1 Month	-0.61%
Last 3 Months	-2.49%
Last 6 Months	2.87%
Last 12 Months	1.57%
2016 YTD	2.87%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

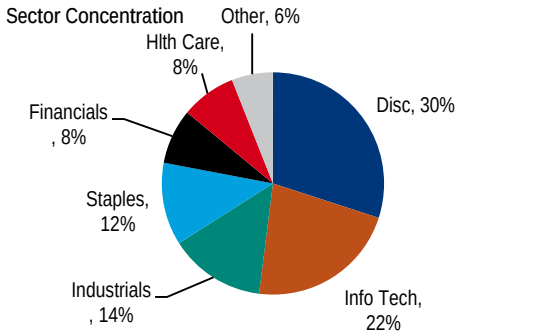
Screen for July

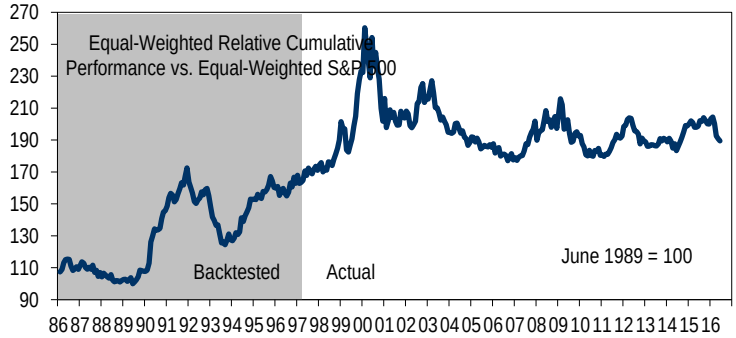
Mo. In Scrn.	Company	Ticker	Debt Adj 5Yr ROE	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Debt Adj 5Yr ROE	Price 06/30/2016
34	ACCENTURE PLC	ACN	61.8	113.29	38	GAP INC	GPS	17.4	21.22
8	MICHAEL KORS HOLDINGS LTD	KORS	46.4	49.48	3	FOOT LOCKER INC	FL	17.3	54.86
79	ROSS STORES INC	ROST	38.0	56.69	149	EXXON MOBIL CORP	XOM	17.0	93.74
12	DELTA AIR LINES INC	DAL	35.2	36.43	32	HORMEL FOODS CORP	HRL	16.9	36.60
116	TJX COMPANIES INC	TJX	33.8	77.23	8	ADVANCE AUTO PARTS INC	AAP	16.8	161.63
37	ROBERT HALF INTL INC	RHI	28.1	38.16	11	URBAN OUTFITTERS INC	URBN	16.2	27.50
15	COACH INC	COH	28.1	40.74	14	TEXAS INSTRUMENTS INC	TXN	15.9	62.65
48	TRIPADVISOR INC	TRIP	26.8	64.30	20	STARBUCKS CORP	SBUX	15.8	57.12
29	CHIPOTLE MEXICAN GRILL INC	CMG	23.8	402.76	9	ALPHABET INC	GOOGL	15.7	703.53
32	C H ROBINSON WORLDWIDE INC	CHRW	23.7	74.25	11	VF CORP	VFC	15.1	61.49
33	VARIAN MEDICAL SYSTEMS INC	VAR	22.8	82.23	229	JOHNSON & JOHNSON	JNJ	14.3	121.30
30	TRACTOR SUPPLY CO	TSCO	22.4	91.18	2	INTUIT INC	INTU	14.3	111.61
2	ALASKA AIR GROUP INC	ALK	22.2	58.29	29	INTEL CORP	INTC	13.8	32.80
12	FASTENAL CO	FAST	21.7	44.39	7	DARDEN RESTAURANTS INC	DRI	13.8	63.34
17	COGNIZANT TECH SOLUTIONS	CTSH	19.9	57.24	6	WESTERN DIGITAL CORP	WDC	13.8	47.26
160	NIKE INC	NKE	19.9	55.20	3	SNAP-ON INC	SNA	13.7	157.82
41	GENUINE PARTS CO	GPC	19.8	101.25	29	RALPH LAUREN CORP	RL	13.5	89.62
107	CUMMINS INC	CMI	19.1	112.44	11	FMC TECHNOLOGIES INC	FTI	13.3	26.67
5	REGENERON PHARMACEUTICALS	REGN	19.1	349.23	9	AFLAC INC	AFL	13.2	72.16
17	EDWARDS LIFESCIENCES CORP	EW	19.0	99.73	4	NVIDIA CORP	NVDA	13.2	47.01
8	BAXTER INTERNATIONAL INC	BAX	18.9	45.22	5	MICROSOFT CORP	MSFT	13.0	51.17
35	LAUDER (ESTEE) COS INC -CL A	EL	18.4	91.02	11	XILINX INC	XLNX	13.0	46.13
36	APPLE INC	AAPL	18.3	95.60	5	HELMERICH & PAYNE	HP	12.9	67.13
77	MASTERCARD INC	MA	18.1	88.06	3	AUTOMATIC DATA PROCESSING	ADP	12.7	91.87
29	FRANKLIN RESOURCES INC	BEN	17.5	33.37	5	FLIR SYSTEMS INC	FLIR	12.6	30.95

Return on Assets

Top 50 S&P 500 Companies by ROA

Return on Assets: Net income plus interest and taxes as a percent of average total assets.





Absolute Returns

Last 1 Month	-0.87%
Last 3 Months	-3.37%
Last 6 Months	-0.63%
Last 12 Months	-4.29%
2016 YTD	-0.63%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

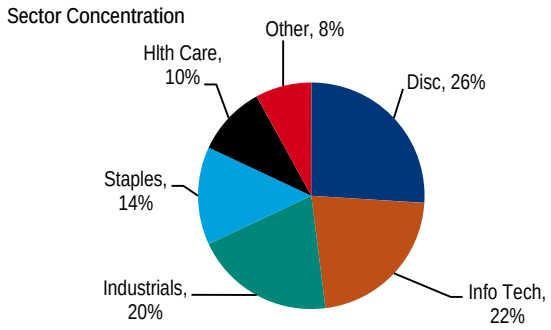
Mo. In Scrn.	Company	Ticker	ROA	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	ROA	Price 06/30/2016
27	GILEAD SCIENCES INC	GILD	40.3	83.42	43	NIKE INC	NKE	17.5	55.20
32	MICHAEL KORS HOLDINGS LTD	KORS	31.9	49.48	2	BAXTER INTERNATIONAL INC	BAX	17.3	45.22
16	SKYWORKS SOLUTIONS INC	SWKS	27.5	63.28	30	TRACTOR SUPPLY CO	TSCO	17.2	91.18
153	LINEAR TECHNOLOGY CORP	LLTC	26.0	46.53	3	S&P GLOBAL INC	SPGI	16.7	107.26
47	BROWN FORMAN CORP	BF.B	25.5	99.76	17	HOME DEPOT INC	HD	16.6	127.69
80	MASTERCARD INC	MA	24.5	88.06	New	L BRANDS INC	LB	16.4	67.13
42	ROBERT HALF INTL INC	RHI	21.5	38.16	17	C H ROBINSON WORLDWIDE INC	CHRW	16.1	74.25
60	ACCENTURE PLC	ACN	20.7	113.29	3	ULTA SALON COSMETCS & FRAG	ULTA	16.1	243.64
39	BIOGEN INC	BIIB	20.6	241.82	12	VERISIGN INC	VRSN	16.0	86.46
21	STARBUCKS CORP	SBUX	20.6	57.12	5	YUM BRANDS INC	YUM	16.0	82.92
40	ROSS STORES INC	ROST	20.5	56.69	12	ALTRIA GROUP INC	MO	15.9	68.96
94	FASTENAL CO	FAST	20.3	44.39	18	F5 NETWORKS INC	FFIV	15.9	113.84
87	TJX COMPANIES INC	TJX	20.0	77.23	11	EXPEDITORS INTL WASH INC	EXPD	15.9	49.04
78	PRICE (T. ROWE) GROUP	TROW	19.9	72.97	11	CLOROX CO/DE	CLX	15.8	138.39
89	PHILIP MORRIS INTERNATIONAL	PM	19.5	101.72	21	3M CO	MMM	15.4	175.12
3	EQUITY RESIDENTIAL	EQR	19.3	68.88	6	AMERICAN AIRLINES GROUP INC	AAL	15.3	28.31
3	REYNOLDS AMERICAN INC	RAI	18.3	53.93	3	FOOT LOCKER INC	FL	14.8	54.86
30	LYONDELLBASELL INDUSTRIES NV	LYB	18.3	74.42	5	LEVEL 3 COMMUNICATIONS INC	LVLT	14.8	51.49
18	TEXAS INSTRUMENTS INC	TXN	18.2	62.65	14	AUTOZONE INC	AZO	14.7	793.84
5	UNITED CONTINENTAL HLDGS INC	UAL	18.0	41.04	80	PRICELINE GROUP INC	PCLN	14.7	1248.41
14	SHERWIN-WILLIAMS CO	SHW	18.0	293.67	12	VISA INC	V	14.7	74.17
78	APPLE INC	AAPL	17.9	95.60	2	SCRIPPS NETWORKS INTERACTIVE	SNI	14.6	62.27
179	MOODY'S CORP	MCO	17.8	93.71	2	MCDONALD'S CORP	MCD	14.6	120.34
8	MONSTER BEVERAGE CORP	MNST	17.7	160.71	2	INTUIT INC	INTU	14.5	111.61
2	ELECTRONIC ARTS INC	EA	17.5	75.76	2	REGENERON PHARMACEUTICALS	REGN	14.4	349.23

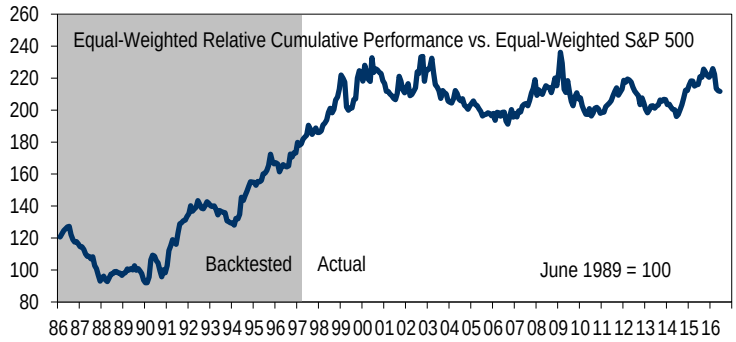
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Return on Capital

Top 50 S&P 500 Companies By ROC

Return on Capital: The sum of net income, interest expense and minority interest, as a percent of average total invested capital which is inclusive of long-term debt, preferred stock, common equity, and minority interest.





Absolute Returns

Last 1 Month	-0.37%
Last 3 Months	-2.76%
Last 6 Months	0.71%
Last 12 Months	-1.63%
2016 YTD	0.71%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

Mo. In Scrn.	Company	Ticker	Ret on Cap	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Ret on Cap	Price 06/30/2016
3	VERISIGN INC	VRSN	236%	86.46	5	INTUIT INC	INTU	33%	111.61
45	MARRIOTT INTL INC	MAR	154%	66.46	21	STARBUCKS CORP	SBUX	33%	57.12
32	DUN & BRADSTREET CORP	DNB	62%	121.84	113	C H ROBINSON WORLDWIDE INC	CHRW	32%	74.25
60	ACCENTURE PLC	ACN	59%	113.29	16	HOME DEPOT INC	HD	32%	127.69
100	PHILIP MORRIS INTERNATIONAL	PM	59%	101.72	3	REYNOLDS AMERICAN INC	RAI	32%	53.93
24	GILEAD SCIENCES INC	GILD	56%	83.42	2	ALASKA AIR GROUP INC	ALK	31%	58.29
3	S&P GLOBAL INC	SPGI	52%	107.26	2	ELECTRONIC ARTS INC	EA	31%	75.76
29	SHERWIN-WILLIAMS CO	SHW	50%	293.67	24	LYONDELLBASELL INDUSTRIES NV	LYB	31%	74.42
9	UNITED CONTINENTAL HLDGS INC	UAL	49%	41.04	12	SKYWORKS SOLUTIONS INC	SWKS	31%	63.28
93	AUTOZONE INC	AZO	45%	793.84	96	LINEAR TECHNOLOGY CORP	LLTC	30%	46.53
84	MASTERCARD INC	MA	45%	88.06	2	BAXTER INTERNATIONAL INC	BAX	29%	45.22
14	UNITED PARCEL SERVICE INC	UPS	41%	107.72	6	DELTA AIR LINES INC	DAL	29%	36.43
51	ALTRIA GROUP INC	MO	40%	68.96	81	APPLE INC	AAPL	28%	95.60
7	BROWN FORMAN CORP	BF.B	40%	99.76	12	F5 NETWORKS INC	FFIV	28%	113.84
107	PAYCHEX INC	PAYX	40%	59.50	12	O'REILLY AUTOMOTIVE INC	ORLY	28%	271.10
32	MICHAEL KORS HOLDINGS LTD	KORS	39%	49.48	30	TRACTOR SUPPLY CO	TSCO	28%	91.18
96	TJX COMPANIES INC	TJX	39%	77.23	5	ABBVIE INC	ABBV	27%	61.91
5	YUM BRANDS INC	YUM	39%	82.92	97	INTL BUSINESS MACHINES CORP	IBM	27%	151.78
12	AMERICAN AIRLINES GROUP INC	AAL	37%	28.31	92	LOCKHEED MARTIN CORP	LMT	27%	248.17
29	BOEING CO	BA	37%	129.87	2	AMERISOURCEBERGEN CORP	ABC	26%	79.32
79	ROSS STORES INC	ROST	37%	56.69	18	BIOGEN INC	BIIB	26%	241.82
53	CLOROX CO/DE	CLX	36%	138.39	3	COLGATE-PALMOLIVE CO	CL	26%	73.20
72	MOODY'S CORP	MCO	36%	93.71	76	MEAD JOHNSON NUTRITION CO	MJN	26%	90.75
36	ROBERT HALF INTL INC	RHI	35%	38.16	11	NIKE INC	NKE	26%	55.20
40	L BRANDS INC	LB	34%	67.13	New	ULTA SALON COSMETCS & FRAG	ULTA	26%	243.64

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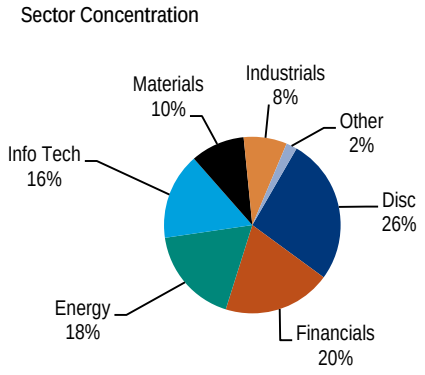
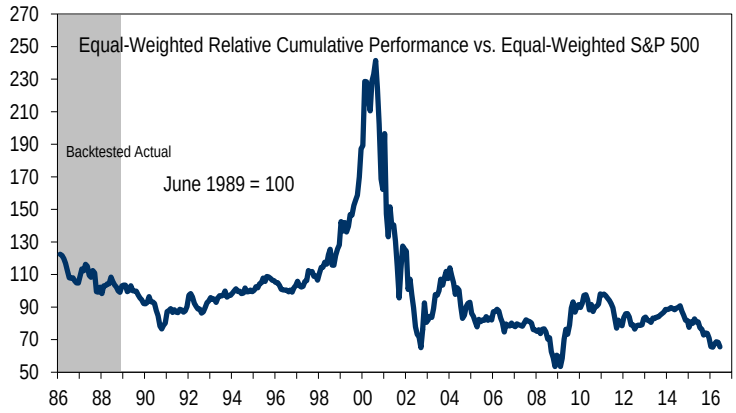
RISK STRATEGIES: Beta

Top 50 S&P 500 Companies By BETA

Beta: A measure of non-diversifiable risk. It is calculated using a regression incorporating 60 months of price performance versus that of the S&P 500.





Absolute Returns

Last 1 Month	-4.17%
Last 3 Months	-0.60%
Last 6 Months	-3.04%
Last 12 Months	-18.62%
2016 YTD	-3.04%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

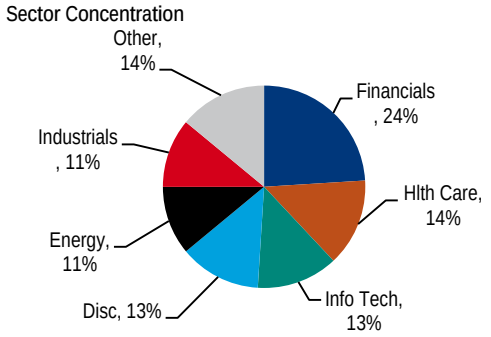
Screen for July

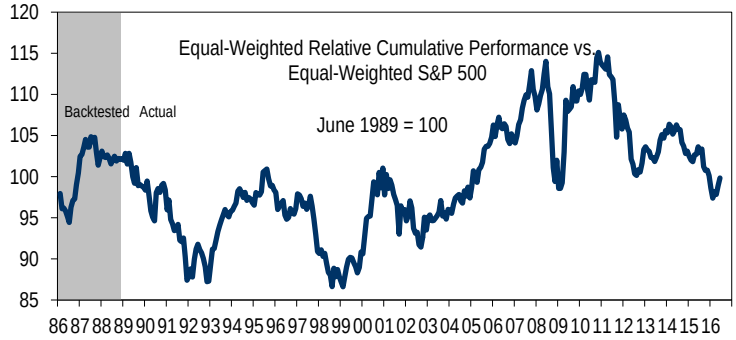
Mo. In Scrn.	Company	Ticker	Beta	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Beta	Price 06/30/2016
29	FREEPORT-MCMORAN INC	FCX	2.06	11.14	29	JUNIPER NETWORKS INC	JNPR	1.63	22.49
22	UNITED RENTALS INC	URI	2.01	67.10	73	E TRADE FINANCIAL CORP	ETFC	1.62	23.49
48	SEAGATE TECHNOLOGY PLC	STX	1.96	24.36	105	GOODYEAR TIRE & RUBBER CO	GT	1.62	25.66
18	TRIPADVISOR INC	TRIP	1.87	64.30	29	INTERPUBLIC GROUP OF COS	IPG	1.62	23.10
29	MORGAN STANLEY	MS	1.83	25.98	27	CITRIX SYSTEMS INC	CTXS	1.61	80.09
93	LINCOLN NATIONAL CORP	LNC	1.81	38.77	59	METLIFE INC	MET	1.61	39.83
37	MARATHON PETROLEUM CORP	MPC	1.81	37.96	24	FIRST SOLAR INC	FSLR	1.59	48.48
13	MURPHY OIL CORP	MUR	1.77	31.75	84	CBS CORP	CBS	1.58	54.44
27	AUTODESK INC	ADSK	1.76	54.14	2	LEVEL 3 COMMUNICATIONS INC	LVLT	1.57	51.49
57	CBRE GROUP INC	CBG	1.76	26.48	9	TRANSOCEAN LTD	RIG	1.57	11.89
9	MARATHON OIL CORP	MRO	1.76	15.01	6	WESTROCK CO	WRK	1.57	38.87
New	NAVIENT CORP	NAVI	1.76	11.95	12	CIMAREX ENERGY CO	XEC	1.56	119.32
11	HARMAN INTERNATIONAL INDS	HAR	1.75	71.82	27	PULTEGROUP INC	PHM	1.56	19.49
87	OWENS-ILLINOIS INC	OI	1.75	18.01	8	HESS CORP	HES	1.55	60.10
77	STARWOOD HOTELS&RESORTS WRLD	HOT	1.71	73.95	6	NETFLIX INC	NFLX	1.55	91.48
13	MICRON TECHNOLOGY INC	MU	1.69	13.76	New	ROYAL CARIBBEAN CRUISES LTD	RCL	1.55	67.15
7	DEVON ENERGY CORP	DVN	1.66	36.25	3	BORGWARNER INC	BWA	1.54	29.52
29	INVESCO LTD	IVZ	1.66	25.54	27	REGIONS FINANCIAL CORP	RF	1.54	8.51
12	MASCO CORP	MAS	1.66	30.94	11	LYONDELLBASELL INDUSTRIES NV	LYB	1.53	74.42
20	VALERO ENERGY CORP	VLO	1.66	51.00	10	WYNN RESORTS LTD	WYNN	1.53	90.64
62	CITIGROUP INC	C	1.65	42.39	14	APPLIED MATERIALS INC	AMAT	1.52	23.97
24	F5 NETWORKS INC	FFIV	1.65	113.84	6	BANK OF AMERICA CORP	BAC	1.52	13.27
27	TESORO CORP	TSO	1.65	74.92	9	DU PONT (E I) DE NEMOURS	DD	1.50	64.80
21	TIFFANY & CO	TIF	1.65	60.64	9	FLOWSERVE CORP	FLS	1.50	45.17
9	NEWS CORP	NWSA	1.64	11.35	3	FLUOR CORP	FLR	1.50	49.28
					7	GENERAL MOTORS CO	GM	1.50	28.30

Variability of Earnings

Top S&P 500 Companies By HIGH VARIABILITY OF EPS

Variability of EPS: The degree of variability in quarterly EPS over the past 5 yrs, ranked from 10 (high) to 1(low).





Absolute Returns

Last 1 Month	0.70%
Last 3 Months	3.86%
Last 6 Months	4.60%
Last 12 Months	-3.30%
2016 YTD	4.60%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

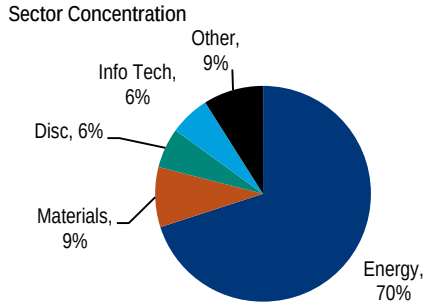
Screen for July

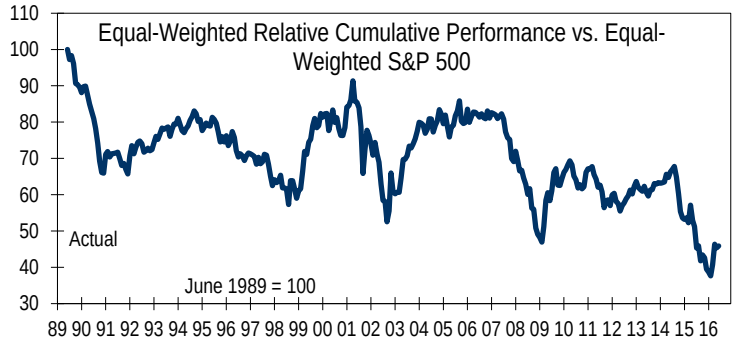
Mo. In Scrn	Company	Ticker	EPS Risk	Price 06/30/2016	Mo. In Scrn	Company	Ticker	EPS Risk	Price 06/30/2016
17	AES CORP	AES	10	12.48	New	ALEXION PHARMACEUTICALS INC	ALXN	9	116.76
18	AMERISOURCEBERGEN CORP	ABC	10	79.32	30	AT&T INC	T	9	43.21
20	APPLIED MATERIALS INC	AMAT	10	23.97	30	AVALONBAY COMMUNITIES INC	AVB	9	180.39
6	BANK OF AMERICA CORP	BAC	10	13.27	15	BARD (C.R.) INC	BCR	9	235.16
3	BAXTER INTERNATIONAL INC	BAX	10	45.22	New	BROADCOM LTD	AVGO	9	155.40
4	CENTENE CORP	CNC	10	71.37	15	CABOT OIL & GAS CORP	COG	9	25.74
6	CONAGRA FOODS INC	CAG	10	47.81	13	CARDINAL HEALTH INC	CAH	9	78.01
27	D R HORTON INC	DHI	10	31.48	3	CHEVRON CORP	CVX	9	104.83
27	DELTA AIR LINES INC	DAL	10	36.43	5	CONCHO RESOURCES INC	CXO	9	119.27
2	ELECTRONIC ARTS INC	EA	10	75.76	30	CONSTELLATION BRANDS	STZ	9	165.40
20	FACEBOOK INC	FB	10	114.28	12	CROWN CASTLE INTL CORP	CCI	9	101.43
5	GOODYEAR TIRE & RUBBER CO	GT	10	25.66	20	FIRSTENERGY CORP	FE	9	34.91
24	HARTFORD FINANCIAL SERVICES	HIG	10	44.38	9	FMC CORP	FMC	9	46.31
6	KINDER MORGAN INC	KMI	10	18.72	6	GENERAL ELECTRIC CO	GE	9	31.48
49	LAM RESEARCH CORP	LRCX	10	84.06	9	HALLIBURTON CO	HAL	9	45.29
28	LEUCADIA NATIONAL CORP	LUK	10	17.33	25	LENNAR CORP	LEN	9	46.10
38	MACERICH CO	MAC	10	85.39	29	LINCOLN NATIONAL CORP	LNC	9	38.77
27	MORGAN STANLEY	MS	10	25.98	84	METLIFE INC	MET	9	39.83
42	NETFLIX INC	NFLX	10	91.48	3	MONDELEZ INTERNATIONAL INC	MDLZ	9	45.51
8	NOBLE ENERGY INC	NBL	10	35.87	23	PRUDENTIAL FINANCIAL INC	PRU	9	71.34
53	PERKINELMER INC	PKI	10	52.42	New	QUANTA SERVICES INC	PWR	9	23.12
19	ROYAL CARIBBEAN CRUISES LTD	RCL	10	67.15	New	REGIONS FINANCIAL CORP	RF	9	8.51
16	SL GREEN REALTY CORP	SLG	10	106.47	48	SEAGATE TECHNOLOGY PLC	STX	9	24.36
44	STAPLES INC	SPLS	10	8.62	2	SYMANTEC CORP	SYMC	9	20.54
32	STARBUCKS CORP	SBUX	10	57.12	New	TRANSDIGM GROUP INC	TDG	9	263.69
30	VERIZON COMMUNICATIONS INC	VZ	10	55.84	2	TWENTY-FIRST CENTURY FOX INC	FOXA	9	27.05
27	WASTE MANAGEMENT INC	WM	10	66.27	102	UNITED PARCEL SERVICE INC	UPS	9	107.72
6	WESTROCK CO	WRK	10	38.87	15	UNITED RENTALS INC	URI	9	67.10
24	XL GROUP PLC	XL	10	33.31	18	UNUM GROUP	UNM	9	31.79
83	YAHOO INC	YHOO	10	37.56	10	WELLTOWER INC	HCN	9	76.17
27	ABBOTT LABORATORIES	ABT	9	39.31	18	WILLIAMS COS INC	WMB	9	21.63
					3	ZIMMER BIOMET HOLDINGS INC	ZBH	9	120.38

Estimate Dispersion

Top S&P 500 Companies By EPS ESTIMATE DISPERSION

EPS Estimate Dispersion: The coefficient of variation among I/B/E/S FY2 ESTIMATES. Presented as a decile rank.





Source: BofA Merrill Lynch US Quantitative Strategy
The performance chart represents actual returns since July 1989. There are no back tested results.

Absolute Returns

Last 1 Month	0.97%
Last 3 Months	15.11%
Last 6 Months	21.89%
Last 12 Months	-10.11%
2016 YTD	21.89%

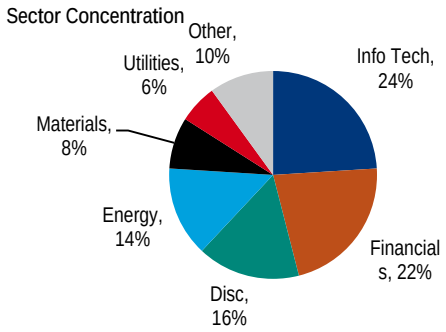
Screen for July

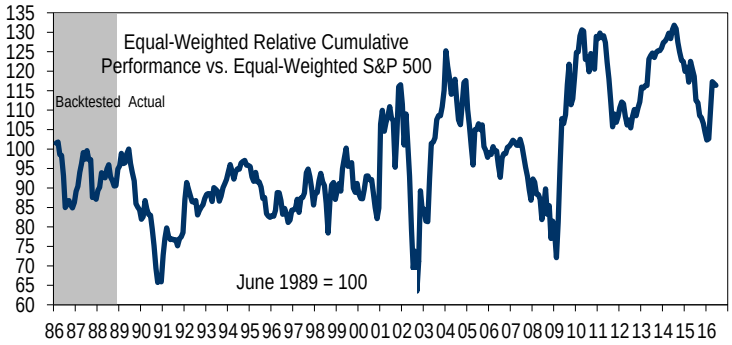
Mo. In Scrn	Company	Ticker	EPS Est. Dispers.	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	EPS Est. Dispers.	Price 06/30/2016
21	ANADARKO PETROLEUM CORP	APC	10	53.25	20	SOUTHWESTERN ENERGY CO	SWN	10	12.58
23	APACHE CORP	APA	10	55.67	28	TRANSOCEAN LTD	RIG	10	11.89
17	AUTODESK INC	ADSK	10	54.14	New	ALCOA INC	AA	9	9.27
19	BAKER HUGHES INC	BHI	10	45.13	2	AMAZON.COM INC	AMZN	9	715.62
29	CABOT OIL & GAS CORP	COG	10	25.74	New	CF INDUSTRIES HOLDINGS INC	CF	9	24.10
22	CHESAPEAKE ENERGY CORP	CHK	10	4.28	12	CHEVRON CORP	CVX	9	104.83
22	CIMAREX ENERGY CO	XEC	10	119.32	New	COLUMBIA PIPELINE GROUP INC	CPGX	9	25.49
5	CONCHO RESOURCES INC	CXO	10	119.27	New	EXXON MOBIL CORP	XOM	9	93.74
20	CONOCOPHILLIPS	COP	10	43.60	27	FREEPORT-MCMORAN INC	FCX	9	11.14
19	DEVON ENERGY CORP	DVN	10	36.25	4	HALLIBURTON CO	HAL	9	45.29
18	DIAMOND OFFSHRE DRILLING INC	DO	10	24.33	19	HELMERICH & PAYNE	HP	9	67.13
21	EOG RESOURCES INC	EOG	10	83.42	31	HESS CORP	HES	9	60.10
19	EQT CORP	EQT	10	77.43	5	MARATHON PETROLEUM CORP	MPC	9	37.96
29	FRONTIER COMMUNICATIONS CORP	FTR	10	4.94	7	MICRON TECHNOLOGY INC	MU	9	13.76
25	MARATHON OIL CORP	MRO	10	15.01	3	MOSAIC CO	MOS	9	26.18
21	MURPHY OIL CORP	MUR	10	31.75	57	NETFLIX INC	NFLX	9	91.48
9	NATIONAL OILWELL VARCO INC	NOV	10	33.65	2	ONEOK INC	OKE	9	47.45
62	NEWFIELD EXPLORATION CO	NFX	10	44.18	3	REGENERON PHARMACEUTICALS	REGN	9	349.23
24	NOBLE ENERGY INC	NBL	10	35.87	3	SCHLUMBERGER LTD	SLB	9	79.08
31	NRG ENERGY INC	NRG	10	14.99	New	TESORO CORP	TSO	9	74.92
20	OCCIDENTAL PETROLEUM CORP	OXY	10	75.56	3	VERTEX PHARMACEUTICALS INC	VRTX	9	86.02
21	PIONEER NATURAL RESOURCES CO	PXD	10	151.21	15	WYNN RESORTS LTD	WYNN	9	90.64
88	RANGE RESOURCES CORP	RRC	10	43.14	18	WILLIAMS COS INC	WMB	9	21.63
					2	YAHOO INC	YHOO	9	37.56

Price

Top 50 S&P 500 Companies By LOW PRICE

Low Price: Absolute price level of the stock at month-end.





Absolute Returns

Last 1 Month	-0.60%
Last 3 Months	8.06%
Last 6 Months	17.05%
Last 12 Months	-1.60%
2016 YTD	17.05%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

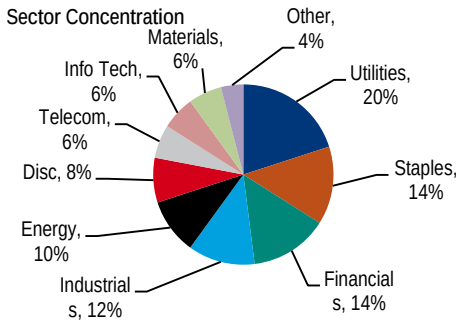
Screen for July

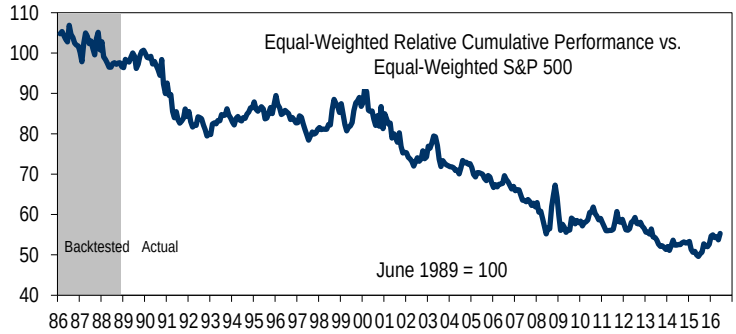
Mo. In Scrn.	Company	Ticker	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Price 06/30/2016
24	CHESAPEAKE ENERGY CORP	CHK	4.28	25	PITNEY BOWES INC	PBI	17.80
87	FRONTIER COMMUNICATIONS CORP	FTR	4.94	22	OWENS-ILLINOIS INC	OI	18.01
91	REGIONS FINANCIAL CORP	RF	8.51	8	HEWLETT PACKARD ENTERPRISE	HPE	18.27
57	STAPLES INC	SPLS	8.62	8	KINDER MORGAN INC	KMI	18.72
91	HUNTINGTON BANCSHARES	HBAN	8.94	45	WESTERN UNION CO	WU	19.18
63	ALCOA INC	AA	9.27	37	PULTEGROUP INC	PHM	19.49
95	XEROX CORP	XRX	9.49	5	CITIZENS FINANCIAL GROUP INC	CFG	19.98
87	KEYCORP	KEY	11.05	58	CORNING INC	GLW	20.48
20	FREEPORT-MCMORAN INC	FCX	11.14	33	SYMANTEC CORP	SYMC	20.54
36	NEWS CORP	NWSA	11.35	3	GAP INC	GPS	21.22
20	TRANSOCEAN LTD	RIG	11.89	6	WILLIAMS COS INC	WMB	21.63
26	NAVIENT CORP	NAVI	11.95	4	JUNIPER NETWORKS INC	JNPR	22.49
79	AES CORP	AES	12.48	3	BLOCK H & R INC	HRB	23.00
8	HP INC	HPQ	12.55	146	INTERPUBLIC GROUP OF COS	IPG	23.10
66	FORD MOTOR CO	F	12.57	11	QUANTA SERVICES INC	PWR	23.12
18	SOUTHWESTERN ENERGY CO	SWN	12.58	4	TEGNA INC	TGNA	23.17
69	BANK OF AMERICA CORP	BAC	13.27	84	BOSTON SCIENTIFIC CORP	BSX	23.37
13	MICRON TECHNOLOGY INC	MU	13.76	4	EBAY INC	EBAY	23.41
69	PEOPLE'S UNITED FINL INC	PBCT	14.66	2	CSRA INC	CSRA	23.43
19	NRG ENERGY INC	NRG	14.99	New	E TRADE FINANCIAL CORP	ETFC	23.49
14	MARATHON OIL CORP	MRO	15.01	78	APPLIED MATERIALS INC	AMAT	23.97
2	ENDO INTERNATIONAL PLC	ENDP	15.59	31	CENTERPOINT ENERGY INC	CNP	24.00
45	HOST HOTELS & RESORTS INC	HST	16.21	New	CF INDUSTRIES HOLDINGS INC	CF	24.10
27	LEUCADIA NATIONAL CORP	LUK	17.33	New	DIAMOND OFFSHRE DRILLING INC	DO	24.33
72	FIFTH THIRD BANCORP	FITB	17.59	3	SEAGATE TECHNOLOGY PLC	STX	24.36

MISCELLANEOUS STRATEGIES: Neglect-Institutional Ownership

Top 50 S&P 500 Companies By Low Institutional holdings

Neglect: Those companies with the lowest proportions of float-adjusted shares held by institutional owners are considered more neglected.





Absolute Returns

Last 1 Month	2.78%
Last 3 Months	4.08%
Last 6 Months	10.33%
Last 12 Months	11.91%
2016 YTD	10.33%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

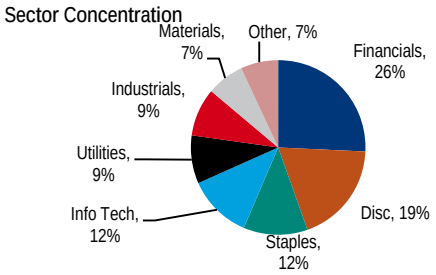
Mo. In Scrn.	Company	Ticker	% Held By Inst	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	% Held By Inst	Price 06/30/2016
4	BERKSHIRE HATHAWAY	BRK.B	45.7%	144.79	136	AGL RESOURCES INC	GAS	67.1%	65.97
113	SOUTHERN CO	SO	50.6%	53.63	4	AFLAC INC	AFL	67.3%	72.16
73	EXXON MOBIL CORP	XOM	52.0%	93.74	17	KINDER MORGAN INC	KMI	67.5%	18.72
59	CONSOLIDATED EDISON INC	ED	54.6%	80.44	23	PRUDENTIAL FINANCIAL INC	PRU	67.7%	71.34
53	AT&T INC	T	55.3%	43.21	4	3M CO	MMM	67.8%	175.12
39	BROWN FORMAN CORP	BF.B	56.1%	99.76	4	INTEL CORP	INTC	68.0%	32.80
68	DUKE ENERGY CORP	DUK	57.6%	85.79	4	JOHNSON & JOHNSON	JNJ	68.1%	121.30
77	GENERAL ELECTRIC CO	GE	58.1%	31.48	4	PUBLIC SERVICE ENTRP GRP INC	PEG	68.8%	46.61
48	APPLE INC	AAPL	59.6%	95.60	4	FRONTIER COMMUNICATIONS CORP	FTR	68.9%	4.94
62	FORD MOTOR CO	F	60.2%	12.57	4	NORFOLK SOUTHERN CORP	NSC	68.9%	85.13
107	PROCTER & GAMBLE CO	PG	61.3%	84.67	35	HORMEL FOODS CORP	HRL	69.1%	36.60
46	ALTRIA GROUP INC	MO	62.4%	68.96	2	FREEPORT-MCMORAN INC	FCX	69.5%	11.14
184	WAL-MART STORES INC	WMT	62.7%	73.02	4	AMERICAN ELECTRIC POWER CO	AEP	69.5%	70.09
30	DOMINION RESOURCES INC	D	62.8%	77.93	4	UNITED PARCEL SERVICE INC	UPS	69.9%	107.72
13	GARMIN LTD	GRMN	63.2%	42.42	4	AMEREN CORP	AEE	70.1%	53.58
32	BANK OF AMERICA CORP	BAC	64.1%	13.27	2	ABBVIE INC	ABBV	70.4%	61.91
36	CHEVRON CORP	CVX	64.3%	104.83	2	CINCINNATI FINANCIAL CORP	CINF	70.5%	74.89
21	CONOCOPHILLIPS	COP	64.8%	43.60	2	CATERPILLAR INC	CAT	70.7%	75.81
48	PACCAR INC	PCAR	65.2%	51.87	New	SPECTRA ENERGY CORP	SE	70.8%	36.63
35	INTL BUSINESS MACHINES CORP	IBM	65.8%	151.78	New	REALTY INCOME CORP	O	70.8%	69.36
17	DISNEY (WALT) CO	DIS	65.9%	97.82	4	KIMBERLY-CLARK CORP	KMB	70.8%	137.48
27	VERIZON COMMUNICATIONS INC	VZ	66.1%	55.84	5	WALGREENS BOOTS ALLIANCE INC	WBA	70.9%	83.27
104	BB&T CORP	BBT	66.1%	35.61	2	LEGGETT & PLATT INC	LEG	71.1%	51.11
136	DTE ENERGY CO	DTE	67.1%	99.12	4	ALCOA INC	AA	71.2%	9.27
99	SCANA CORP	SCG	67.1%	75.66	4	DOW CHEMICAL	DOW	71.2%	49.71

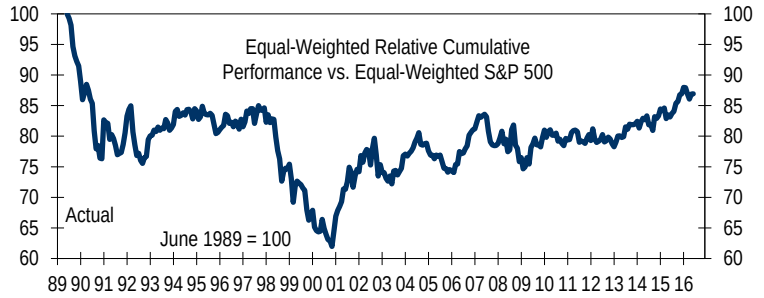
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Neglect-Analyst Coverage

Top 50 S&P 500 Companies By Low Analyst Coverage

Neglect: Those companies with the lowest number of analysts submitting ratings to FirstCall.





Source: BofA Merrill Lynch US Quantitative Strategy
The performance chart represents actual returns since July 1989. There are no back tested results.

Absolute Returns

Last 1 Month	-0.13%
Last 3 Months	2.19%
Last 6 Months	4.90%
Last 12 Months	4.95%
2016 YTD	4.90%

Screen for July

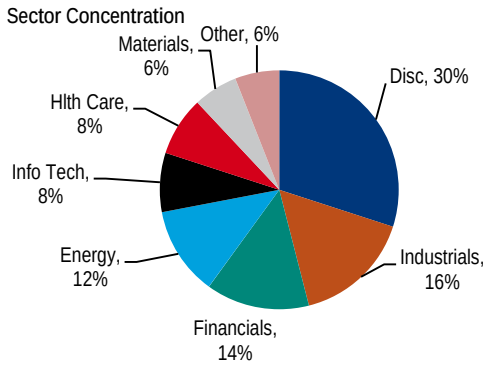
Mo. In Scrn.	Company	Ticker	No. of Analyst Coverage	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	No. of Analyst Coverage	Price 06/30/2016
7	LEUCADIA NATIONAL CORP	LUK	1	17.33	43	HARRIS CORP	HRS	9	83.44
55	AGL RESOURCES INC	GAS	3	65.97	51	HORMEL FOODS CORP	HRL	9	36.60
165	LOEWS CORP	L	4	41.09	43	SCANA CORP	SCG	9	75.66
106	CINCINNATI FINANCIAL CORP	CINF	5	74.89	27	ALTRIA GROUP INC	MO	10	68.96
18	IRON MOUNTAIN INC	IRM	5	39.83	81	BLOCK H & R INC	HRB	10	23.00
148	PITNEY BOWES INC	PBI	6	17.80	12	COLUMBIA PIPELINE GROUP INC	CPGX	10	25.49
32	VERISIGN INC	VRSN	6	86.46	48	INTL FLAVORS & FRAGRANCES	IFF	10	126.07
29	ASSURANT INC	AIZ	7	86.31	New	PEOPLE'S UNITED FINL INC	PBCT	10	14.66
57	CBRE GROUP INC	CBG	7	26.48	29	REYNOLDS AMERICAN INC	RAI	10	53.93
8	CSRA INC	CSRA	7	23.43	25	WYNDHAM WORLDWIDE CORP	WYN	10	71.23
26	NAVIENT CORP	NAVI	7	11.95	31	ALLEGION PLC	ALLE	11	69.43
17	BALL CORP	BLL	8	72.29	32	AMEREN CORP	AEE	11	53.58
18	FLIR SYSTEMS INC	FLIR	8	30.95	New	LKQ CORP	LKQ	11	31.70
127	LEGGETT & PLATT INC	LEG	8	51.11	2	LEGG MASON INC	LM	11	29.49
58	MOLSON COORS BREWING CO	TAP	8	101.13	26	MCCORMICK & CO INC	MKC	11	106.67
165	SNAP-ON INC	SNA	8	157.82	3	NEWS CORP	NWSA	11	11.35
24	AFFILIATED MANAGERS GRP INC	AMG	9	140.77	3	PATTERSON COMPANIES INC	PDCO	11	47.89
9	AMERIPRISE FINANCIAL INC	AMP	9	89.85	9	TE CONNECTIVITY LTD	TEL	11	57.11
84	AVERY DENNISON CORP	AVY	9	74.75	3	TECO ENERGY INC	TE	11	27.64
67	DUN & BRADSTREET CORP	DNB	9	121.84	13	TEGNA INC	TGNA	11	23.17
67	GOODYEAR TIRE & RUBBER CO	GT	9	25.66	New	WHIRLPOOL CORP	WHR	11	166.64
					12	WILLIAMS COS INC	WMB	11	21.63

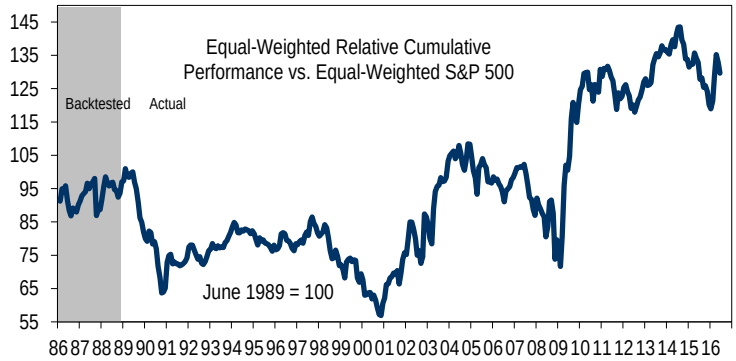
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Size

Top 50 S&P 500 Companies By SMALL SIZE

Firm Size: Month-end market value.





Absolute Returns

Last 1 Month	-2.59%
Last 3 Months	2.68%
Last 6 Months	13.19%
Last 12 Months	-2.02%
2016 YTD	13.19%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

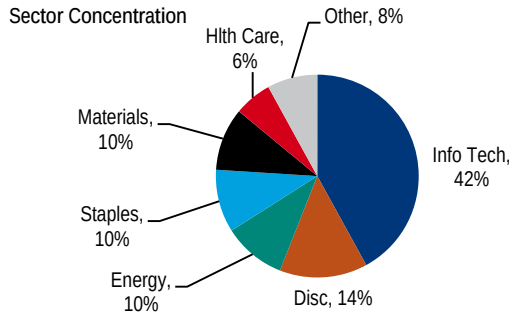
Screen for July

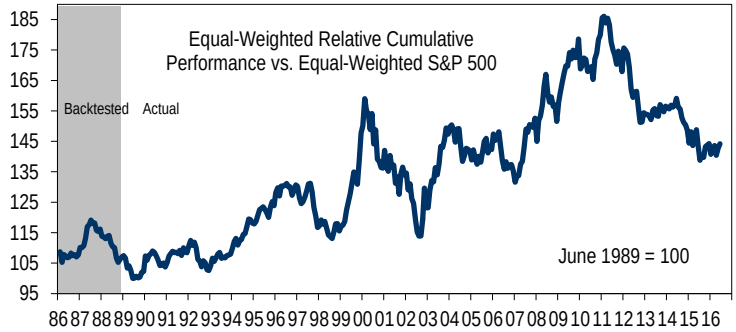
Mo. In Scrn.	Company	Ticker	Market Value	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Market Value	Price 06/30/2016
36	DIAMOND OFFSHRE DRILLING INC	DO	1569	24.33	7	TEGNA INC	TGNA	5042	23.17
40	URBAN OUTFITTERS INC	URBN	2383	27.50	6	HARMAN INTERNATIONAL INDS	HAR	5067	71.82
13	CHESAPEAKE ENERGY CORP	CHK	2503	4.28	5	RALPH LAUREN CORP	RL	5110	89.62
30	OWENS-ILLINOIS INC	OI	2916	18.01	12	MURPHY OIL CORP	MUR	5139	31.75
56	LEGG MASON INC	LM	3108	29.49	34	ZIONS BANCORPORATION	ZION	5142	25.13
4	ENDO INTERNATIONAL PLC	ENDP	3194	15.59	4	BLOCK H & R INC	HRB	5161	23.00
8	CSRA INC	CSRA	3214	23.43	52	ASSURANT INC	AIZ	5346	86.31
17	TERADATA CORP	TDC	3259	25.07	3	STAPLES INC	SPLS	5571	8.62
89	RYDER SYSTEM INC	R	3283	61.14	2	CF INDUSTRIES HOLDINGS INC	CF	5618	24.10
48	AUTONATION INC	AN	3342	46.98	88	PERKINELMER INC	PKI	5715	52.42
54	PITNEY BOWES INC	PBI	3357	17.80	8	LEUCADIA NATIONAL CORP	LUK	5777	17.33
20	QUANTA SERVICES INC	PWR	3492	23.12	3	FRONTIER COMMUNICATIONS CORP	FTR	5795	4.94
4	FIRST SOLAR INC	FSLR	3718	48.48	12	FLOWSERVE CORP	FLS	5889	45.17
12	NAVIENT CORP	NAVI	3950	11.95	5	SCRIPPS NETWORKS INTERACTIVE	SNI	5917	62.27
70	PATTERSON COMPANIES INC	PDCO	3986	47.89	6	UNITED RENTALS INC	URI	5938	67.10
19	TRANSOCEAN LTD	RIG	4082	11.89	10	SOUTHWESTERN ENERGY CO	SWN	5954	12.58
51	FLIR SYSTEMS INC	FLIR	4260	30.95	2	FMC TECHNOLOGIES INC	FTI	6037	26.67
10	NEWS CORP	NWSA	4320	11.35	22	JACOBS ENGINEERING GROUP INC	JEC	6073	49.81
47	DUN & BRADSTREET CORP	DNB	4418	121.84	7	PULTEGROUP INC	PHM	6137	19.49
35	PEOPLE'S UNITED FINL INC	PBCT	4557	14.66	12	FMC CORP	FMC	6194	46.31
10	NRG ENERGY INC	NRG	4721	14.99	New	BORGWARNER INC	BWA	6424	29.52
3	GAP INC	GPS	4814	21.22	New	SIGNET JEWELERS LTD	SIG	6428	82.41
3	NORDSTROM INC	JWN	4883	38.05	4	TECO ENERGY INC	TE	6511	27.64
4	GARMIN LTD	GRMN	4976	42.42	New	E TRADE FINANCIAL CORP	ETFC	6547	23.49
5	ROBERT HALF INTL INC	RHI	5011	38.16	New	MALLINCKRODT PLC	MNK	6645	60.78

Foreign Exposure

Top 50 S&P 500 Companies By FOREIGN EXPOSURE

Foreign Exposure: The ratio of foreign sales to total sales.





Absolute Returns

Last 1 Month	0.82%
Last 3 Months	2.57%
Last 6 Months	4.87%
Last 12 Months	0.92%
2016 YTD	4.87%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

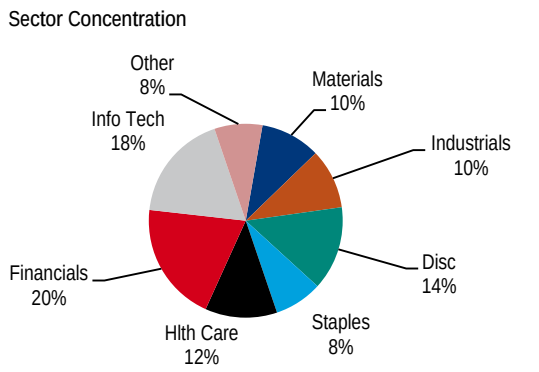
Mo. In Scrn.	Company	Ticker	Foreign Exposure	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Foreign Exposure	Price 06/30/2016
2	ACUITY BRANDS INC	AYI	100.0%	247.96	55	BORGWARNER INC	BWA	75.3%	29.52
2	LKQ CORP	LKQ	100.0%	31.70	33	TRANSOCEAN LTD	RIG	74.4%	11.89
49	PHILIP MORRIS INTERNATIONAL	PM	100.0%	101.72	49	COLGATE-PALMOLIVE CO	CL	74.3%	73.20
176	QUALCOMM INC	QCOM	99.0%	53.57	3	NEWMONT MINING CORP	NEM	74.1%	39.12
16	SKYWORKS SOLUTIONS INC	SWKS	97.9%	63.28	52	AVERY DENNISON CORP	AVY	74.1%	74.75
88	MOLSON COORS BREWING CO	TAP	97.4%	101.13	3	FMC CORP	FMC	74.0%	46.31
3	BROADCOM LTD	AVGO	88.9%	155.40	59	XILINX INC	XLNX	73.7%	46.13
208	TEXAS INSTRUMENTS INC	TXN	87.6%	62.65	28	MEAD JOHNSON NUTRITION CO	MJN	73.4%	90.75
176	NVIDIA CORP	NVDA	87.2%	47.01	48	EXPEDITORS INTL WASH INC	EXPD	73.3%	49.04
29	PRICELINE GROUP INC	PCLN	85.0%	1248.41	48	SEAGATE TECHNOLOGY PLC	STX	73.2%	24.36
128	MICRON TECHNOLOGY INC	MU	84.2%	13.76	85	FMC TECHNOLOGIES INC	FTI	72.9%	26.67
106	MICROCHIP TECHNOLOGY INC	MCHP	84.0%	50.76	70	LINEAR TECHNOLOGY CORP	LLTC	72.3%	46.53
194	APPLIED MATERIALS INC	AMAT	83.1%	23.97	3	SCHLUMBERGER LTD	SLB	72.0%	79.08
49	LAM RESEARCH CORP	LRCX	83.1%	84.06	79	WESTERN UNION CO	WU	71.1%	19.18
194	INTL FLAVORS & FRAGRANCES	IFF	82.8%	126.07	88	CORNING INC	GLW	70.2%	20.48
40	STARWOOD HOTELS&RESORTS WRLD	HOT	82.6%	73.95	3	AGILENT TECHNOLOGIES INC	A	70.1%	44.36
13	QORVO INC	QRVO	82.0%	55.26	137	AFLAC INC	AFL	69.6%	72.16
232	INTEL CORP	INTC	79.9%	32.80	3	AMPHENOL CORP	APH	69.5%	57.33
40	MONDELEZ INTERNATIONAL INC	MDLZ	79.7%	45.51	29	ABBOTT LABORATORIES	ABT	69.3%	39.31
84	WESTERN DIGITAL CORP	WDC	79.0%	47.26	31	TE CONNECTIVITY LTD	TEL	68.8%	57.11
63	DIAMOND OFFSHRE DRILLING INC	DO	78.8%	24.33	125	HARMAN INTERNATIONAL INDS	HAR	68.6%	71.82
40	YUM BRANDS INC	YUM	76.3%	82.92	33	AUTODESK INC	ADSK	67.9%	54.14
213	AES CORP	AES	76.0%	12.48	27	WATERS CORP	WAT	67.9%	140.65
23	KLA-TENCOR CORP	KLAC	75.4%	73.25	90	OWENS-ILLINOIS INC	OI	66.6%	18.01
16	NATIONAL OILWELL VARCO INC	NOV	75.3%	33.65	3	MCDONALD'S CORP	MCD	66.3%	120.34

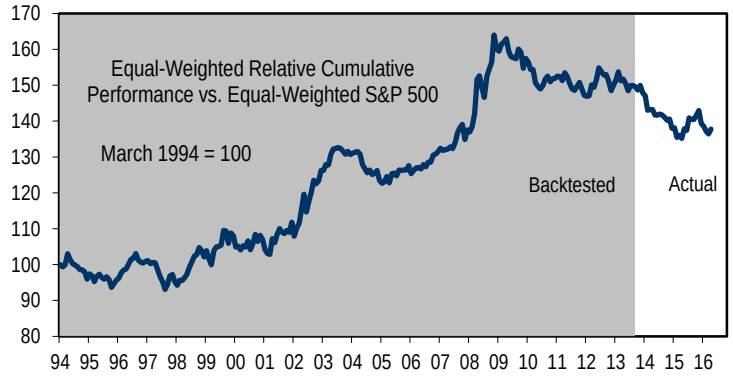
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Short Interest

Top 50 S&P 500 Companies By DECLINING SHORT INTEREST

Declining Short Interest: The Z-Score of the most recent number of shorted shares vs. its 12 month history.





Absolute Returns

Last 1 Month	0.81%
Last 3 Months	1.56%
Last 6 Months	2.03%
Last 12 Months	2.32%
2016 YTD	2.03%

Source: BofA Merrill Lynch US Quantitative Strategy

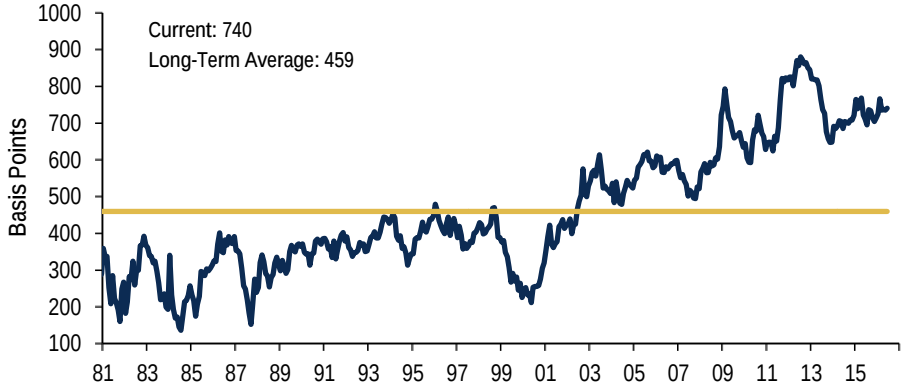
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end September 2013. The unshaded portion represents actual performance since October 2013. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for July

Mo. In Scrn.	Company	Ticker	Short. Interest Z-Score	Price 06/30/2016	Mo. In Scrn.	Company	Ticker	Short. Interest Z-Score	Price 06/30/2016
New	MARTIN MARIETTA MATERIALS	MLM	-3.01	192.00	New	MCCORMICK & CO INC	MKC	-1.41	106.67
3	LENNAR CORP	LEN	-2.17	46.10	New	TEXTRON INC	TXT	-1.40	36.56
3	INTUIT INC	INTU	-2.15	111.61	7	Pitney Bowes Inc	PBI	-1.39	17.80
New	ANALOG DEVICES	ADI	-1.92	56.64	New	ALPHABET INC	GOOGL	-1.37	703.53
2	CME GROUP INC	CME	-1.89	97.40	4	TYSON FOODS INC -CL A	TSN	-1.37	66.79
3	WASTE MANAGEMENT INC	WM	-1.85	66.27	2	BRISTOL-MYERS SQUIBB CO	BMY	-1.36	73.55
New	HOLOGIC INC	HOLX	-1.81	34.60	New	SEALED AIR CORP	SEE	-1.34	45.97
4	FEDERAL REALTY INVESTMENT TR	FRT	-1.71	165.55	5	KOHL'S CORP	KSS	-1.34	37.92
5	HASBRO INC	HAS	-1.68	83.99	New	NEWS CORP	NWSA	-1.33	11.35
5	BECTON DICKINSON & CO	BDX	-1.67	169.59	New	PRAXAIR INC	PX	-1.32	112.39
2	MASTERCARD INC	MA	-1.66	88.06	3	GOLDMAN SACHS GROUP INC	GS	-1.29	148.58
3	VULCAN MATERIALS CO	VMC	-1.64	120.36	4	JPMORGAN CHASE & CO	JPM	-1.27	62.14
3	CONOCOPHILLIPS	COP	-1.63	43.60	4	DU PONT (E I) DE NEMOURS	DD	-1.27	64.80
New	REALTY INCOME CORP	O	-1.62	69.36	New	INTEL CORP	INTC	-1.26	32.80
New	SCHWAB (CHARLES) CORP	SCHW	-1.61	25.31	4	Wells Fargo & Co	WFC	-1.26	47.33
3	EVERSOURCE ENERGY	ES	-1.61	59.90	2	COACH INC	COH	-1.25	40.74
8	M & T BANK CORP	MTB	-1.57	118.23	4	LILLY (ELI) & CO	LLY	-1.23	78.75
4	SYSCO CORP	SYY	-1.57	50.74	New	CONSOLIDATED EDISON INC	ED	-1.23	80.44
2	AMGEN INC	AMGN	-1.53	152.15	New	LOCKHEED MARTIN CORP	LMT	-1.23	248.17
3	CELGENE CORP	CELG	-1.51	98.63	New	AMAZON.COM INC	AMZN	-1.21	715.62
New	MICROSOFT CORP	MSFT	-1.49	51.17	2	MARATHON PETROLEUM CORP	MPC	-1.20	37.96
9	TWENTY-FIRST CENTURY FOX INC	FOXA	-1.47	27.05	2	VISA INC	V	-1.20	74.17
2	PROGRESSIVE CORP-OHIO	PGR	-1.47	33.50	3	INTL BUSINESS MACHINES CORP	IBM	-1.19	151.78
New	BB&T CORP	BBT	-1.47	35.61	New	INGERSOLL-RAND PLC	IR	-1.16	63.68
3	CONAGRA FOODS INC	CAG	-1.43	47.81	2	VERISIGN INC	VRSN	-1.16	86.46

Valuation Backdrop

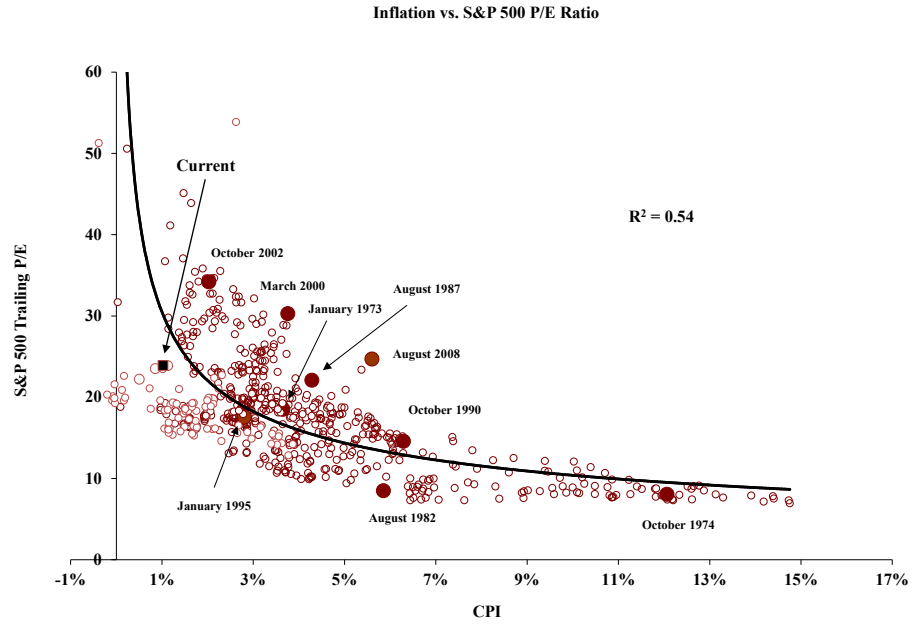
S&P 500 Risk Premium (DDM Expected Return less AAA Corporate Bond Rate)



Source: BofA Merrill Lynch US Quantitative Strategy

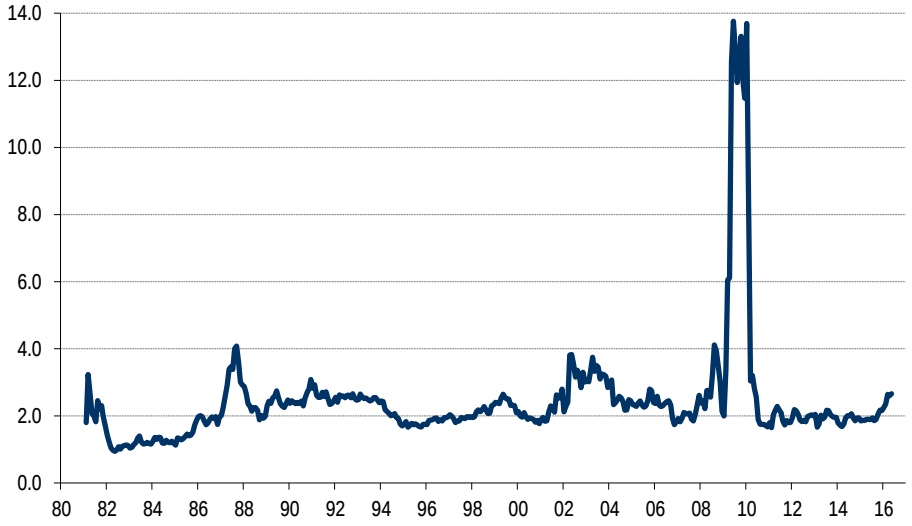
Note: In the Chart 2 below we exclude deflationary points from trend line calculation. Historically, the relationship between inflation and valuation breaks down during deflationary periods. For example, from 1949 to1950 S&P 500 valuation was below average, and from 1954 to 1955, valuation was well above average.

Chart 2: Inflation vs. P/E Model (1965 to Present)



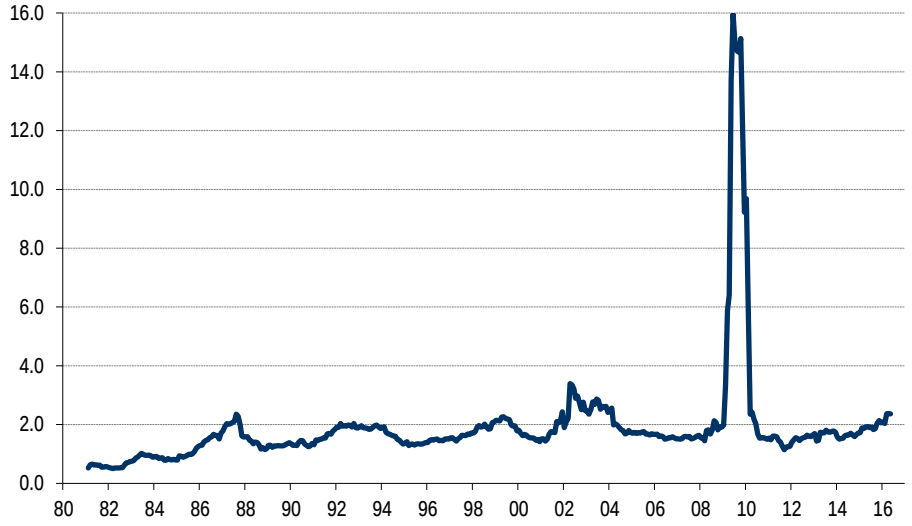
Source: BofA Merrill Lynch US Quantitative Strategy

S&P 500 Real PE-to-Growth Ratio (Trailing P/E Divided by Proj. 5-Yr EPS Growth less Inflation)



Source: BofA Merrill Lynch US Quantitative Strategy

Chart 3: S&P 500 PE-to-Growth Ratio (Trailing P/E Divided by Proj. 5-Yr EPS Growth)



Source: BofA Merrill Lynch US Quantitative Strategy

BofAML Universe Sector/Industry Factor Evaluation

			Valuation Analysis								Expectation Analysis							
												Earnings (Decile)				PR 5yr	EPS Growth	
	# of Comp	% Univ BOFAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	Growth	2016E	2017E
Economic Sectors																		
Energy	132	8.49	10.9	12.3	-1.4	32.10	1.14	30.4	1.77	3.4	3	7	4	9	6	2.3	-28	109
Materials	55	3.07	10.9	13.2	-2.3	32.60	1.23	17.2	3.30	2.1	6	5	5	6	4	9.1	1	17
Industrials	125	9.43	10.8	11.8	-1	31.70	1.08	16.1	3.55	2.2	6	5	5	4	5	9.0	1	6
Consumer Discretionary	181	12.20	11.5	11.4	0.1	31.30	1.04	17.4	4.40	1.6	5	4	6	5	5	20.3	14	14
Consumer Staples	48	9.79	9.7	8.4	1.3	34.90	0.74	21.3	4.55	2.5	5	4	4	2	5	8.6	4	11
Health Care	164	14.64	10.6	9.8	0.8	33.90	0.89	16.3	3.68	1.6	6	5	6	3	5	10.1	9	11
Financials	269	14.92	11.3	12.0	-0.7	29.70	1.11	12.8	1.35	2.8	6	5	5	4	6	8.2	2	10
Information Technology	157	21.27	11.6	11.3	0.3	31.20	1.04	16.1	4.10	1.4	4	4	5	5	6	14.0	4	13
Telecommunication Services	14	3.02	9.7	7.0	2.7	32.10	0.60	16	2.83	3.8	5	9	4	4	6	3.3	-2	7
Utilities	48	3.15	9.3	6.1	3.2	34.30	0.51	19.4	2.00	3.3	5	5	3	2	6	5.6	28	5
Capitalization Sectors ($ Million)																		
10 To 1286	238	0.79	12.7	13.1	-0.4	28.60	1.21	24.7	1.47	2.9	5	7	6	7	6	24.5	23	53
1293 To 3007	239	2.52	11.3	13.1	-1.8	31.90	1.22	19.1	1.75	2.2	5	6	6	6	5	12.6	36	19
3046 To 6598	239	5.51	11.0	11.8	-0.8	33.60	1.09	16.6	1.95	2.0	6	6	5	5	5	10.9	9	13
6628 To 18004	239	13.15	10.6	11.7	-1.1	34.90	1.07	17.7	2.37	2.1	6	5	5	5	6	11.7	-3	13
18111 To 523641	238	78.03	11.0	10.5	0.5	31.60	0.96	16.6	2.98	2.2	5	5	5	4	6	10.2	4	14
Risk Sectors																		
-1.29 To 0.78	189	23.16	9.9	7.2	2.7	34.50	0.63	19.1	3.49	2.7	6	5	4	3	5	8.4	5	9
0.79 To 0.98	194	28.18	11.3	10.0	1.3	31.60	0.90	17.4	3.36	1.9	5	4	5	4	5	11.4	8	14
0.99 To 1.17	190	23.26	11.0	11.5	-0.5	31.10	1.06	16	3.29	2.1	4	5	5	5	6	11.5	3	15
1.18 To 1.40	186	13.72	11.6	13.7	-2.1	30.80	1.28	16.3	2.26	2.1	5	5	6	5	6	9.6	1	18
1.41 To 3.72	192	8.33	11.8	16.5	-4.7	29.80	1.56	13.2	1.26	2.2	5	6	5	6	6	10.3	-7	20
Uncoded	242	3.35	11.1			34.10		18.1	1.90	1.7	6	5	6	6	6	17.9	19	15
DDM Alpha																		
Most Undervalued	136	15.37	12.1	8.2	3.9	28.70	0.72	18.4	3.27	2.2	5	6	5	4	5	21.0	11	13
Undervalued	137	21.41	10.7	9.4	1.3	32.40	0.85	17.3	4.11	2.1	6	4	5	3	6	10.4	6	11
Fair Value	136	21.87	10.7	10.6	0.1	32.20	0.97	15.3	3.60	2.0	5	4	5	4	6	9.5	4	11
Overvalued	137	12.33	11.0	12.6	-1.6	32.30	1.17	14.5	2.58	2.0	5	4	5	4	5	10.2	4	10
Most Overvalued	136	8.83	10.0	14.5	-4.5	34.90	1.36	15.6	1.86	2.2	5	6	6	5	5	8.4	3	15
Uncoded	511	20.18	11.1	11.9	-0.8	34.10	1.10	19.7	1.85	2.6	4	7	5	7	6	5.0	-5	28

Source: BofA Merrill Lynch US Equity and US Quant Strategy

BofAML Universe Sector/Industry Factor Evaluation (cont'd)

			Valuation Analysis								Expectation Analysis							
												Earnings (Decile)				PR 5yr	EPS Growth	
	# of Comp	% Univ BOFAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	Growth	2016E	2017E
Duration																		
9.06 To 26.19	153	12.46	13.9	11.7	2.2	22.60	1.08	13	2.38	2.8	5	6	6	6	6	16.9	4	12
26.20 To 30.36	153	18.48	11.4	10.9	0.5	28.60	0.99	15.4	2.98	2.5	5	4	6	3	5	11.3	6	11
30.38 To 34.41	154	23.74	10.6	10.5	0.1	32.50	0.95	15.2	3.09	2.0	5	4	5	4	6	9.4	6	12
34.42 To 38.88	153	16.10	9.6	9.5	0.1	36.50	0.85	18.5	3.36	2.1	6	4	4	3	5	7.5	5	9
38.93 To 81.26	153	9.16	9.2	10.4	-1.2	43.00	0.95	22.1	3.73	0.8	6	5	5	4	5	9.8	4	15
Uncoded	427	20.07		11.9			1.09	21.3	1.99	2.5	4	7	5	7	5	10.3	-4	nm
Growth Sectors																		
Growth	433	29.84	11.5	11.3	0.2	32.60	1.04	19.2	3.37	1.2	4	4	6	5	6	15.6	6	17
Growth Cyclical	280	19.80	11.0	11.9	-0.9	31.40	1.09	14.9	2.81	2.2	6	4	5	4	6	10.6	6	11
Growth Defensive	132	13.60	10.3	9.7	0.6	32.90	0.87	17.9	3.13	2.8	5	5	5	3	5	9.0	10	10
Cyclical	214	14.94	11.5	12.7	-1.2	30.10	1.18	14.1	1.73	2.2	6	5	5	5	6	8.4	-6	17
Defensive	134	21.83	10.1	8.6	1.5	32.90	0.76	17.6	2.87	3.1	5	6	5	4	5	6.5	4	15
EPS Surprise																		
Most Optimistic	209	21.10	11.8	11.0	0.8	29.40	1.00	18.5	3.04	2.2	2	6	5	6	5	15.0	7	23
Optimistic	210	20.72	10.8	11.0	-0.2	32.70	1.00	15.7	2.69	2.0	4	4	5	4	6	9.8	5	13
Neutral	209	23.61	10.9	10.4	0.5	31.80	0.95	16.9	2.86	2.2	5	5	5	4	6	9.6	4	14
Less Optimistic	210	17.04	10.6	10.9	-0.3	33.00	1.00	15.3	2.24	2.3	7	4	5	4	5	8.0	0	11
Not Optimistic	209	12.94	10.5	10.5	0	33.20	0.95	17.2	2.90	2.2	9	5	5	4	5	8.8	3	9
Uncoded	146	4.59	11.0	11.6	-0.6	36.50	1.07	21.2	3.10	2.2		5	6	6	6	13.8	2	18
Quality Rank																		
A+	20	5.70	10.7	10.1	0.6	32.20	0.91	16.5	4.90	2.2	6	2	5	3	5	9.9	4	10
A	44	11.90	9.8	9.1	0.7	34.90	0.81	19.6	4.88	2.4	6	3	4	2	5	7.8	4	9
A-	71	17.60	11.4	10.3	1.1	30.20	0.94	16.9	3.37	2.0	4	4	5	5	6	10.4	5	14
B+	184	25.07	10.7	10.9	-0.2	32.10	0.99	14.7	2.71	2.4	5	5	5	4	6	7.9	3	11
B	181	12.92	10.6	10.8	-0.2	32.80	0.98	16	2.26	2.5	5	7	5	5	6	8.4	4	15
B-	151	8.47	11.3	13.3	-2	32.10	1.24	20.1	1.72	1.4	4	8	6	7	5	16.9	-7	29
C & D	59	1.44	10.8	13.7	-2.9	38.50	1.28	57.9	4.30	0.0	4	8	6	8	6	26.3	nm	183
Not Rated	483	16.91	12.1	11.2	0.9	30.30	1.03	17.2	2.25	2.3	5	6	6	5	5	14.6	7	16
B+ or Better	319	60.26	10.7	10.3	0.4	32.20	0.93	16.3	3.33	2.3	5	4	5	4	6	8.8	4	12
B or Worse	874	39.74	11.4	11.6	-0.2	31.80	1.07	17.8	2.14	2.1	5	7	6	6	5	13.4	4	19
BofAML Universe	1193	100.00	10.9	10.8	0.1	32.10	0.99	18.1	2.74	2.2						10.5	4	14
S&P 500	505	93.41	10.9	10.7	0.2	31.90	0.98	17.6	2.74	2.1						9.8	3	14

Source: BofA Merrill Lynch US Equity and US Quant Strategy

BofAML Universe Sector/Industry Factor Evaluation (cont'd)

			Valuation Analysis								Expectation Analysis							
	# of Comp	% Univ BofAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Earnings (Decile) Risk	Torp	Disp	Est. Rev.	PR 5yr Growth	EPS Growth 2016E	2017E
ENERGY	132	8.49	10.9	12.3	-1.4	32.10	1.14	30.4	1.77	3.4	3	7	4	9	6	2.2	-28	109
ENERGY EQUIP & SVS	19	1.09	10.5	14.4	-3.9	35.80	1.35	128.1	1.50	1.9	6	7	1	9	9	1.2	-82	158
OIL & GAS	113	7.40	11.0	12.0	-1	31.20	1.11	27.3	1.82	3.6	3	7	5	9	5	2.3	-17	108
MATERIALS	55	3.07	10.9	13.2	-2.3	32.60	1.23	17.2	3.30	2.1	6	5	5	6	4	8.8	1	17
CHEMICALS	17	1.83	10.9	13.3	-2.4	31.00	1.24	16.6	4.23	2.5	7	5	5	5	5	9.5	-5	11
CONSTR MATERIALS	3	0.15	13.8	13.2	0.6	27.80	1.23	24.4	3.23	0.7	3	5	9	6	2	29.5	56	40
CONTAINERS & PCKG	16	0.49	10.2	13.3	-3.1	37.40	1.24	15.2	3.67	2.2	7	6	4	6	5	5.8	-1	6
METALS & MINING	15	0.56	9.8	12.6	-2.8	37.80	1.17	20.2	1.93	1.2	6	5	7	8	2	4.2	34	55
PAPER & FOREST PROD	4	0.03	14.6	14.9	-0.3	24.50	1.40	16.5	1.32	2.1	7	9	6	9	5	3.2	6	24
INDUSTRIALS	125	9.43	10.8	11.8	-1	31.70	1.08	16.1	3.55	2.2	6	5	5	4	5	8.9	1	6
AEROSPACE & DEF	21	2.58	10.6	10.7	-0.1	32.60	0.98	16.6	5.08	2.2	8	3	5	3	4	9.4	6	5
BLDGS PRODUCTS	4	0.13	11.6	15.1	-3.5	33.30	1.41	17.8	3.19	1.0	6	8	7	5	4	15.9	17	17
CONSTR. & ENGR	4	0.10	10.2	15.8	-5.6	38.30	1.49	12.6	1.63	0.8	6	5	3	5	6	1.5	-4	4
ELECTRICAL EQUIP	9	0.49	11.1	13.4	-2.3	31.80	1.25	20.4	3.02	2.8	6	4	3	3	5	5.9	-9	6
IND CONGLOMERATES	3	2.29	9.8	12.0	-2.2	32.80	1.11	20.0	3.68	2.5	6	6	6	4	6	8.4	13	9
MACHINERY	28	1.10	11.5	14.2	-2.7	30.00	1.33	17.7	2.65	2.5	5	6	3	6	6	7.6	-14	6
TRADING COMPANIES	11	0.15	14.4	16.1	-1.7	24.60	1.52	9.5	1.54	0.9	6	7	6	7	6	22.0	-1	4
COMMERCIAL SVS	8	0.35	10.1	9.0	1.1	34.70	0.81	21.3	3.95	1.8	4	6	5	3	5	9.3	9	11
PROFESSIONAL SVS	10	0.27	10.9	11.3	-0.4	33.30	1.04	16.6	4.11	1.4	5	5	6	3	5	11.8	12	11
AIR FREIGHT & LOGIS	3	0.62	11.4	11.0	0.4	29.50	1.01	15.9	7.47	2.3	7	8	5	2	6	11.5	9	9
AIRLINES	10	0.53	12.2	9.9	2.3	31.00	0.90	7.0	2.65	1.0	7	8	6	7	9	0.9	-12	-2
MARINE	1	0.02	12.8	11.6	1.2	28.50	1.07	18.5	1.46	0.0	1	4	1	7	9	15.0	-23	11
ROAD & RAIL	11	0.77	11.9	11.8	0.1	28.10	1.08	15.7	2.75	2.3	6	2	4	5	7	11.7	-5	11
TRANSPORT INFRA	2	0.04	12.2	11.1	1.1	29.90	1.02	34.0	1.89	5.3	1	9	9	7	9	2.2	nm	64
CONSUMER DISCR	181	12.20	11.5	11.4	0.1	31.30	1.04	17.4	4.40	1.6	5	4	6	5	5	20.0	14	14
AUTO COMP	9	0.25	11.4	13.6	-2.2	31.50	1.27	9.8	3.03	1.7	8	4	8	5	4	8.3	9	14
AUTOMOBILES	3	0.60	15.2	14.3	0.9	20.10	1.34	7.2	1.76	3.7	7	8	8	7	4	16.0	12	9
HOUSEHOLD DURABLES	14	0.46	12.8	13.5	-0.7	27.80	1.26	12.4	2.34	1.5	5	8	8	5	4	15.3	22	13
TEXTILES, APPAREL	13	0.78	10.2	9.1	1.1	36.40	0.81	20.4	4.94	1.3	8	3	5	3	7	11.7	7	13
HOTELS, RESTAURANTS & LEISURE	41	2.17	11.3	10.4	0.9	29.90	0.95	21.4	6.05	2.4	5	5	6	4	5	13.7	16	16
DIV CONSUMER SVS	9	0.10	11.0	9.4	1.6	35.60	0.85	17.8	3.74	0.7	8	5	6	5	5	13.2	8	15
MEDIA	23	2.58	11.4	12.8	-1.4	32.80	1.18	15.3	3.12	1.5	4	3	6	4	6	18.5	13	11
DISTRIBUTORS	1	0.08	8.8	10.1	-1.3	38.00	0.92	20.7	4.69	2.6	9	1	3	2	5	4.4	2	9
INTERNET & CATALOG RETAIL	11	2.04	11.3	12.3	-1	36.40	1.14	41.2	13.75	0.0	2	6	6	8	3	47.3	48	40
MULTILINE RETAIL	9	0.59	11.5	8.1	3.4	30.00	0.72	15.0	3.29	2.3	5	3	6	4	6	11.8	12	10
SPECIALTY RETAIL	48	2.55	11.4	10.4	1	30.40	0.94	17.0	6.24	1.7	6	2	6	3	5	13.0	9	12

Source: BofA Merrill Lynch US Equity and US Quant Strategy

BofAML Universe Sector/Industry Factor Evaluation (cont'd)

					Valuation Analysis						Expectation Analysis							
	# of	% Univ	Impl.	Reqd	DDM	Eqty.	BofAML	P/E	Price/			Earnings (Decile)				PR 5yr	EPS Growth	
	Comp	BofAML	Return	Return	Alpha	Duration	Adj ßeta	Ratio	Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	Growth	2016E	2017E
CONSUMER STAPLES	48	9.79	9.7	8.4	1.3	34.90	0.74	21.3	4.55	2.5	5	4	4	2	5	8.5	4	11
FOOD & STAPLES RETAILING	11	2.24	10.2	8.9	1.3	34.80	0.79	17.9	3.56	1.8	4	2	5	2	5	9.6	3	10
BEVERAGES	8	2.23	9.0	8.0	1	37.70	0.70	24.0	7.90	2.6	8	3	3	2	5	6.7	1	10
FOOD PRODUCTS	14	1.56	10.8	8.5	2.3	33.10	0.75	22.0	2.95	2.1	6	6	5	3	4	12.7	9	14
TOBACCO	3	1.69	10.1	9.0	1.1	29.40	0.80	21.5	11.96	3.6	4	3	4	2	4	8.6	7	10
HOUSEHOLD PRODUCTS	7	1.92	9.0	7.4	1.6	38.00	0.64	22.3	4.16	2.8	4	4	3	2	5	5.7	3	9
PERSONAL PRODUCTS	5	0.16	9.7	10.9	-1.2	37.60	1.00	23.6	5.89	1.2	6	3	5	3	4	10.5	11	17
HEALTH CARE	164	14.64	10.6	9.8	0.8	33.90	0.89	16.3	3.68	1.6	6	5	6	3	5	10.0	9	11
HEALTH CARE EQUIP	34	2.54	10.1	10.3	-0.2	35.20	0.94	20.6	3.30	1.2	7	6	5	3	4	11.3	10	12
HEALTH CARE PROV	44	2.86	11.1	9.9	1.2	34.40	0.89	14.8	2.89	0.9	6	4	7	3	4	11.8	14	11
HEALTH CARE TECH	3	0.03	10.3	9.2	1.1	39.10	0.82	37.7	4.82	0.0	5	7	5	4	5	19.4	9	23
BIOTECH	45	3.05	11.8	11.2	0.6	30.30	1.03	14.2	6.98	1.5	4	5	6	5	7	10.4	7	13
PHARMACEUTICALS	26	5.41	10.1	8.7	1.4	34.00	0.77	16.4	3.42	2.4	6	5	6	3	4	8.0	7	10
LIFE SCIENCES	12	0.75	9.7	11.1	-1.4	41.70	1.01	19.9	3.54	0.3	5	4	5	2	4	10.7	9	12
FINANCIALS	269	14.92	11.3	12.0	-0.7	29.70	1.11	12.8	1.35	2.8	6	5	5	4	6	8.1	2	10
BANKS	40	4.47	11.9	13.1	-1.2	27.10	1.21	10.9	1.00	2.5	6	4	4	4	7	6.6	-1	10
THRIFTS & MORTGAGE FINANCE	6	0.07	11.6	11.1	0.5	29.80	1.02	11.8	1.25	2.6	4	3	6	5	8	10.5	26	9
DIV FINANCIALS	10	0.49	10.7	10.1	0.6	32.80	0.91	17.9	1.66	1.7	4	6	6	4	7	11.4	11	15
CONSUMER FINANCE	9	0.73	12.0	12.5	-0.5	27.30	1.16	9.2	1.30	1.5	8	2	6	4	6	9.2	7	5
CAPITAL MARKETS	43	1.92	12.2	15.0	-2.8	28.00	1.41	12.4	1.33	2.8	5	5	7	6	6	11.3	-1	17
INSURANCE	32	2.61	11.0	12.5	-1.5	31.70	1.16	11.1	1.09	2.4	5	6	6	4	7	9.1	7	13
REITS	124	4.54	10.2	9.3	0.9	31.80	0.84	18.4	2.55	3.8	6	7	4	3	6	7.1	2	6
REAL ESTATE MGMT & DEV	5	0.10	13.0	15.6	-2.6	28.70	1.47	13.4	2.11	0.5		3			8	14.4	2	12
INFO TECH	157	21.27	11.6	11.3	0.3	31.20	1.04	16.1	4.10	1.4	4	4	5	5	6	14.0	4	13
INTERNET SOFTWARE	25	6.08	12.7	10.5	2.2	31.40	0.95	21.3	4.91	0.0	4	3	7	6	6	20.9	19	19
IT SERVICES	24	3.15	10.5	10.3	0.2	34.30	0.94	17.5	6.99	1.7	6	3	5	3	6	10.4	2	11
SOFTWARE	37	4.27	11.2	11.8	-0.6	31.60	1.08	19.6	5.26	1.6	3	6	6	5	7	15.6	8	13
COMMUNICA. EQUIP	11	0.98	11.6	13.4	-1.8	29.40	1.25	12.7	2.58	2.8	5	4	5	4	4	11.2	6	7
COMPUTERS & PERIPH	10	3.31	11.0	11.6	-0.6	30.40	1.06	10.4	3.18	2.4	4	4	3	6	9	5.5	-5	12
ELECTR EQUIP & INSTR	14	0.49	11.2	13.5	-2.3	33.20	1.25	12.9	2.00	1.5	4	5	6	5	6	10.1	6	11
SEMICONDUCTORS	36	2.98	11.9	12.2	-0.3	27.50	1.13	14.9	2.89	2.3	6	5	5	6	5	12.6	-1	11
TELECOMMUNICATION SERVICES	14	3.02	9.7	7.0	2.7	32.10	0.60	16.0	2.83	3.8	5	9	4	4	6	3.2	-2	7
DIVERSIFIED TELECOM SVS	12	2.76	9.7	6.7	3	32.10	0.57	15.1	3.13	4.2	5	9	3	3	6	4.6	-6	7
WIRELESS TELECOM SVS	2	0.27		10.0			0.91	45.6	1.45	0.0	6		9	9	8	-11.1	363	19
UTILITIES	48	3.15	9.3	6.1	3.2	34.30	0.51	19.4	2.00	3.3	5	5	3	2	6	5.5	28	5
ELECTRIC UTILITIES	14	1.88	9.4	5.7	3.7	33.60	0.47	17.9	1.86	3.4	6	5	3	2	6	4.4	5	3
GAS UTILITIES	14	0.30	9.0	7.1	1.9	37.70	0.61	21.9	2.51	3.5	6	5	3	4	6	5.3	1	10
MULTI-UTILITIES	8	0.76	9.2	5.9	3.3	34.60	0.49	19.7	2.32	3.3	3	5	3	2	7	4.0	2	2
WATER UTILITIES	1	0.08	8.8	5.5	3.3	40.80	0.45	28.8	3.02	1.8	6	1	3	1	5	8.2	6	8
INDEP POWER PROD & ENERGY TRAD	11	0.13	10.3	11.7	-1.4	32.70	1.08	63.0	1.52	2.8	8	10	5	7	7	29.3	108	207
BofAML UNIVERSE	1193	100.0	10.9	10.8	0.1	32.10	0.99	18.1	2.74	2.2						10.5	4	14
S&P 500	505	93.41	10.9	10.7	0.2	31.90	0.98	17.6	2.74	2.1						9.8	3	14

Source: BofA Merrill Lynch US Equity and US Quant Strategy

Performance Calculation Methodology

For each of the strategies represented in this report, rebalancing and performance calculations are conducted each month, using data and closing prices corresponding to the market's close on the last business day of each month. The performance of each index is computed on the basis of price return. The performance is presented relative to the benchmark which consists of the equal weighted price performance of stocks in the S&P 500 as of the last business day of each month. For Alpha Surprise model, the performance is also represented as relative to the market capitalization-weighted S&P 500 benchmark.

The results of quantitative strategies presented here may differ from the S&P 500 in that they are significantly less diversified, and, as such, their performance is more exposed to specific stock or sector results. Therefore investors following these strategies may experience greater volatility in their returns.

The performance results do not reflect transaction costs, tax withholdings or any investment advisory fees. Had these costs been reflected, the performance would have been lower. The performance results of individuals following the strategies presented here will differ from the performance contained in this report for a variety of reasons, including differences related to incurring transaction costs and/or investment advisory fees, as well as differences in the time and price that securities were acquired and disposed of, and differences in the weighting of such securities. The performance results of individuals following these strategies will also differ based on differences in treatment of dividends received, including the amount received and whether and when such dividends were reinvested.

Dividend Yield and Dividend Growth Strategies

We also provide total returns for dividend oriented strategies (high dividend yield strategy and high dividend growth strategy). The total return performance calculation assumes that dividends paid on securities in a portfolio are deposited in a cash account on the ex-dividend date, and are not reinvested. The performance is presented relative to the equal weighted total returns index of stocks in the S&P 500 as of the last business day of each month.

This report includes strategies for informational or descriptive purposes, and inclusion here is not equivalent to a recommendation of the strategy or portfolio.

Past performance should not and cannot be viewed as an indicator of future performance. A complete performance record is available upon request.

Advances & Declines

Advances and declines are based on the price returns of each stock for each relevant period. The portfolio rebalancing done each month constitutes the start of a new period for each stock in the portfolio. The performance period for the stock being removed will end when the stock is removed from the portfolio. For the stock being added, the performance period will begin when it is added to the portfolio.

Definitions

Absolute return: Absolute return is calculated based on monthly returns and reflects simple price appreciation (depreciation) over the stated period. Stocks in each screen are equally weighted. Returns do not reflect dividend or transaction costs.

Alpha Surprise Model: A 25%/75% combination of the Dividend Discount Model "Alpha" and the Positive EPS "Surprise" Models.

P/E-to-Growth: Trailing twelve months P/E divided by the five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exists, then the IBES Mean Long Term Growth Estimate is used.

Dividend Discount Model Alpha: The implied return from the BofAML Quantitative Strategy three-stage dividend discount model less the required return from a Capital Asset Pricing Model. Presented as a decile rank.

Earnings Yield: Trailing 12-month EPS divided by month-end price

Forward Earnings Yield: Rolling 12-month forward EPS divided by month-end price

Price/Book Value: Month-end price divided by the most recently reported book value per share.

Price/Cash Flow: Month-end price divided by the most recently reported cash flow. Cash flow is defined as earnings post extraordinary items plus depreciation.

Price/Free Cash Flow: Month-end price divided by most recently reported free cash flow. Free Cash flow is defined as earnings post extraordinary items plus depreciation minus capital expenditures.

Price/Sales: Month-end market value divided by most recently reported sales.

EV/EBITDA: Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents) divided by EBITDA (Reported Net Income + Special Items – Minority Interest + Interest Expense + Income Tax Expense + Depreciation and Amortization) – most recently reported.

Free Cash Flow/EV: Free Cash Flow divided by Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents). Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.

Dividend Yield: Indicated dividend divided by month-end price.

Dividend Growth: The growth between trailing 4-quarter total common dividends and year-ago trailing 4-quarter total common dividends.

Share Repurchase: The year-to-year change in shares outstanding

Rel Str – 30Wk/75Wk MA: The ratio of the 30-week moving average of price to the 75-week moving average.

Rel Str – 5Wk/30Wk MA: The ratio of the 5-week moving average of price to the 30-week moving average.

Rel Str – 10Wk/40Wk MA: The ratio of the 10-week moving average of price to the 40-week moving average.

Price/200-Day Moving Average: A ratio between month-end closing price and average closing price over the last 200 days.

Price Return – 12-Month Performance: Absolute price return over the last twelve months.

Price Return – 9-Month Performance: Absolute price return over the last nine months.

Price Return – 3-Month Performance: Absolute price return over the last three months.

Price Return – 11-Month Performance: Absolute price return from one year ago, ignoring the most recent month.

Price Return – 12-Month and 1-Month Performance: Equal weighted rank of stocks by (1) highest price return over the last twelve months and (2) highest price return over the most recently ended month.

Price Return – 12-Month and 1-Month Reversal: Equal weighted rank of stocks by (1) highest price return over the last twelve months and (2) lowest price return over the last one month.

Most Active: Stocks have the highest monthly share trading volume.

Earnings Momentum: The difference between 12-month trailing EPS and year-ago 12-month trailing EPS divided by year-ago 12-month trailing EPS.

Projected 5-Year EPS Growth: The five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exist, then I/B/E/S Mean Long Term Growth Estimate is used.

Forecast Earnings Surprise: A forecast earnings surprise variable which compares BofAML estimates to those of the consensus after adjusting for the range of estimates. Stocks are ranked from 1 to 10, with 1 being among the most optimistic, relative to the consensus, 10 being among the most pessimistic. Consensus estimated earnings data are courtesy of I/B/E/S.

Positive (Negative) Forecast Earnings Surprise: The companies ranked 1 or 2 (9 or 10) by Forecast Earnings Surprise.

EPS Estimate Revision: The difference between the I/B/E/S FY1 estimate and that of three months ago divided by the absolute value of I/B/E/S FY1 estimate of three months ago.

Equity Duration: An adaptation of our Dividend Discount Model which measures the interest-rate sensitivity of a stock. Longer durations (higher numbers) suggest more interest-rate sensitivity.

Earnings Torpedo: I/B/E/S FY2 estimate less latest actual annual EPS divided by month-end price.

Return on Equity One-Year Average: Net income divided by average equity provided.

Return on Equity Five-Year Average: Five-year average return on equity.

Return on Equity One-Year Average (Adjusted for Debt): The ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

Return on Equity Five-Year Average (Adjusted for Debt): The average five year ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

Return on Assets: Net income plus interest and taxes as a percent of average total assets.

Return on Capital: The sum of net income, interest expense and minority interest, as a percent of average total invested capital which is inclusive of long-term debt, preferred stock, common equity, and minority interest.

Beta: A measure of non-diversifiable risk. It is calculated using regression Strategy incorporating 60 months of price performance versus that of the S&P 500.

Variability of EPS: The degree of variability in quarterly EPS over the past 5 years. Stocks are ranked from 10 to 1 with 10 being the most variable.

EPS Estimate Dispersion: The coefficient of variation among I/B/E/S FY2 estimates. Presented as a decile rank.

Price: Absolute price level of the stock at month-end.

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A PM's guide to stock picking

Bank of America Merrill Lynch

03 August 2016

"Brelief" rally: Value, Foreign Exposure led in July

Factor performance in July signaled a relief from risks of a Europe, US or global slowdown. Value factors, which ranked among the weakest in the first half, posted the strongest results in July (+5.9%), led by Forward P/E (+8.2% July / +1.6% YTD). Other Value factors also fared well, with most gaining 5-7% last month. On a year-to-date basis, Value factors on average (+6.9%) are still short of the benchmark's 9.4% return. Foreign Exposure also enjoyed an upsurge, gaining 6.3% in July.

Risk factors in the lead year-to-date

The 1H saw Risk factors turn in the best performance, and that strength continued into July, with Low Price (which generally signals distress) and High Beta gaining 7.8% and 6.5% in July. One risk factor which lagged in July was Energy-heavy High EPS Dispersion (analyst disagreement), as Energy suffered a 2% decline on the back of falling oil prices. So far in 2016, Risk factors remain the best performers (+15.6% on average). Small Size also fared well, finishing among the top five factors for the month (+7.3% Jul / +21.5% YTD).

Cash return factors outperformed

Share Repurchase, one of the weakest factors in the 1H, outperformed in July (+7.1%), though it still trails the benchmark YTD (+4.6%). High Dividend Yield was also strong in July (+6.2%) despite the rise in interest rates, and is now the best-performing factor so far this year (+26.8%).

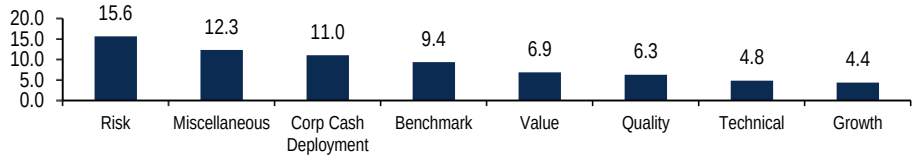
Growth and Momentum ailed in July and lag YTD

Growth factors as a group (+4.1%) fell short of the index in July, and remain the weakest factor group YTD (+4.4%). Long Duration (+5.3%) and High Projected EPS Growth (4.6%) fared best last month, while Positive EPS Surprise (+2.4%) lagged most. YTD all of our growth factors lag with 1% to 7% gains. Momentum factors, which were the strongest performers in June, reversed course and finished last in July, claiming four of the bottom five spots.

Quality outperformed in July

Return-based Quality factors (High ROE, ROA and ROC) generally beat the index in July. So far this year, however, Quality trails the index with a 6.3% return. Quality factors, which are historically a good hedge against volatility, are likely to continue to outperform, in our view, particularly given today's surprisingly depressed levels of volatility despite the multitude of potential triggers (uncertainty around the US presidential election, the Fed and ongoing implications from Brexit, plus more downward revisions to GDP and still slowing sales growth.)

Chart 1:Factor Performance in YTD



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Top 5 screens in July	Perf.
Forward Earnings Yield	8.2%
Low Price	7.8%
Small Size	7.3%
Share Repurchase	7.1%
Low PE to Growth	6.8%
S&P 500 (Equal weighted)	4.2%

Bottom 5 screens in July	Perf.
Price Returns (12-m plus 1-m)	-0.4%
Rel. Strength (Price/200d MA)	0.6%
Price Returns (12-Month)	1.3%
High EPS Estimate Dispersion	1.5%
Price Returns (3-Month)	1.5%
S&P 500 (Equal weighted)	4.2%

Disclaimer: The valuations and screens contained herein are useful in assessing comparative valuations and comparative earnings prospects and are not intended to recommend transactions relating to any specific security. These indicators should be used in investment decisions only with other factors including financial risk, investment risk, management strategies and operating and financial outlooks.

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Table 1: Quantitative Strategies Performance as of 7/29/2016

Strategies (Universe based on the S&P 500)		1 M	3 M	6 M	12 M	YTD	2 Yr Perf. Gross	2 Yr Perf. Anlzd	3 Yr Perf. Gross	3 Yr Perf. Anlzd	5 Yr Perf. Gross	5 Yr Perf. Anlzd	Inception Date
Dividend Yield (Total Return)	Corp Cash Deployment	6.2	10.0	29.9	24.0	26.8	29.9	14.0	52.1	15.0	126.4	17.8	12/31/1988
Low Price	Risk	7.8	7.9	36.3	11.2	26.1	1.7	0.9	24.7	7.6	75.5	11.9	12/31/1988
High EPS Estimate Dispersion	Risk	1.5	1.4	33.9	2.4	23.7	-25.7	-13.8	-3.2	-1.1	22.8	4.2	12/31/1988
Dividend Yield (Price Return)	Corp Cash Deployment	6.1	8.9	26.9	18.1	23.6	18.3	8.8	32.3	9.8	77.9	12.2	12/31/1988
Small Size	Miscellaneous	7.3	3.9	30.1	8.5	21.5	3.8	1.9	27.3	8.4	80.5	12.5	12/31/1988
Most Active	Technical	6.6	6.5	24.8	5.9	14.8	4.3	2.1	24.8	7.7	64.9	10.5	8/31/2003
DDM Valuation	Value	2.2	8.3	17.1	10.6	13.4	20.2	9.6	42.2	12.4	108.6	15.8	12/31/1988
Institutional Neglect	Miscellaneous	2.6	5.0	15.5	12.6	13.2	15.5	7.5	31.1	9.5	66.4	10.7	12/31/1988
High Foreign Exposure	Miscellaneous	6.3	10.1	21.1	10.1	11.4	4.9	2.4	23.8	7.4	44.6	7.7	12/31/1988
Price Returns (12-Month plus 1-Month Reversal)	Technical	4.8	11.2	17.7	7.8	10.8	19.8	9.4	47.9	13.9	88.8	13.6	1/31/2010
Alpha Surprise Model	GARP	2.3	6.1	15.4	7.0	10.7	18.7	9.0	35.1	10.6	90.1	13.7	12/31/1988
S&P 500 Equal Weighted (Total Return)	Benchmark	4.3	5.8	17.3	6.3	10.7	16.6	8.0	37.8	11.3	91.6	13.9	
High Variability of EPS	Risk	4.5	7.7	17.7	1.1	9.4	5.5	2.7	26.5	8.1	54.2	9.1	12/31/1988
S&P 500 Equal Weighted (Price Return)	Benchmark	4.2	5.2	16.0	4.0	9.4	11.5	5.6	29.3	8.9	72.2	11.5	
Low EV/EBITDA	Value	6.8	3.1	18.5	-1.0	9.2	-18.9	-9.9	0.6	0.2	41.9	7.3	9/30/2001
Analyst Coverage Neglect	Miscellaneous	3.9	6.0	14.2	7.6	9.0	18.0	8.6	36.5	10.9	87.6	13.4	6/30/1989
Low EPS Torpedo	Growth (Negative)	4.5	4.2	16.4	-5.9	8.9	-21.3	-11.3	-6.1	-2.1	18.0	3.4	12/31/1988
Low Price to Sales	Value	6.7	4.2	19.2	-3.4	8.8	4.9	2.4	30.5	9.3	97.6	14.6	12/31/1988
Low Price to Cash Flow	Value	5.9	2.0	16.4	-2.5	8.4	-14.7	-7.6	7.3	2.4	35.8	6.3	12/31/1988
ROE (5-Yr Avg. Adj. by Debt)	Quality	5.2	5.2	11.0	5.5	8.2	17.6	8.4	38.9	11.6	73.1	11.6	4/30/1997
Low Price to Book Value	Value	5.3	1.5	20.9	-3.6	7.9	-10.7	-5.5	6.3	2.1	53.5	9.0	12/31/1988
ROE (5-Yr Average)	Quality	6.2	6.2	14.1	5.8	7.7	16.0	7.7	31.7	9.6	73.8	11.7	4/30/1997
Forecast Positive Earnings Surprise	Growth	2.4	3.0	14.2	-0.1	7.0	8.5	4.2	25.5	7.9	68.7	11.0	12/31/1988
Low PE to GROWTH	GARP	6.8	3.9	16.8	-2.1	6.6	-2.3	-1.2	10.7	3.4	43.7	7.5	12/30/1988
ROE (1-Yr Avg. Adj. by Debt)	Quality	4.6	5.0	10.4	1.7	6.5	14.4	7.0	34.2	10.3	82.5	12.8	4/30/1997
Short Interest	Miscellaneous	4.3	5.8	11.9	4.0	6.5	8.5	4.2					10/31/2013
Relative Strength (10wk/40wk)	Technical	3.3	7.4	10.9	5.8	6.4	21.6	10.3	41.9	12.4	88.4	13.5	1/31/2010
S&P 500 Index (Price Return)	Benchmark	3.6	5.2	12.0	3.3	6.3	12.6	6.1	28.9	8.8	68.2	11.0	
Earnings Yield	Value	6.3	3.2	15.5	-1.5	6.2	0.9	0.5	20.7	6.5	67.8	10.9	12/31/1988
ROC	Quality	5.0	5.1	11.3	0.4	5.7	20.5	9.8	36.1	10.8	75.8	12.0	4/30/1997
ROE (1-Yr Average)	Quality	3.3	4.1	10.9	0.3	5.5	16.3	7.9	31.9	9.7	72.8	11.6	4/30/1997
High Duration	Growth	5.3	6.0	13.3	2.2	5.5	13.9	6.7	33.9	10.2	65.8	10.6	12/31/1988
High Projected 5-Yr Growth	Growth	4.6	6.4	15.8	0.6	5.4	12.5	6.1	41.1	12.2	86.6	13.3	12/31/1988
Relative Strength (30wk/75wk)	Technical	2.3	7.9	12.2	1.6	5.4	9.1	4.4	35.3	10.6	70.5	11.3	8/31/1995
Price Returns (11-Month since 1 year ago)	Technical	1.8	8.5	10.9	2.3	5.4	14.8	7.2	38.6	11.5	81.3	12.6	1/31/2010
Forecast Negative Earnings Surprise	Growth (Negative)	4.1	3.1	12.5	0.3	5.2	9.2	4.5	30.7	9.3	67.5	10.9	12/31/1988
Price Returns (12-Month)	Technical	1.3	7.5	10.4	4.2	4.9	20.8	9.9	48.4	14.1	100.4	14.9	1/31/2010
Share Repurchase	Corp Cash Deployment	7.1	5.0	12.6	-5.2	4.6	-0.5	-0.3	16.1	5.1	87.9	13.4	12/31/2004
ROA	Quality	4.6	3.9	8.5	-2.2	4.0	14.0	6.8	32.0	9.7	73.9	11.7	4/30/1997
Price Returns (9-Month)	Technical	2.3	6.3	8.2	3.0	3.7	19.6	9.3	43.1	12.7	95.3	14.3	1/31/2010
High Free Cash Flow to EV	Value	6.1	4.4	11.0	-6.0	3.4	2.2	1.1	34.2	10.3	93.8	14.2	7/31/2010
Relative Strength (5wk/30wk)	Technical	2.4	4.2	8.5	3.6	3.4	17.8	8.5	36.5	10.9	86.3	13.2	1/31/2010
High Beta	Risk	6.5	2.7	18.2	-9.9	3.3	-16.9	-8.8	3.4	1.1	28.9	5.2	12/31/1988
Low Price to Free Cash Flow	Value	5.3	3.4	9.6	-9.5	2.8	-3.2	-1.6	21.8	6.8	73.0	11.6	7/30/2003
Upward Estimate Revisions	Growth	3.8	5.3	10.3	-0.6	2.4	3.8	1.9	29.4	9.0	68.3	11.0	12/31/1988
High Dividend Growth (Total Return)	Corp Cash Deployment	3.1	4.1	10.3	-2.6	1.7	-1.0	-0.5	21.1	6.6	73.1	11.6	12/31/2004
Forward Earnings Yield	Value	8.2	3.2	16.0	-7.9	1.6	-10.2	-5.3	7.2	2.3	50.6	8.5	12/31/1988
EPS Momentum	Growth	4.4	3.7	9.8	-1.1	1.4	5.9	2.9	24.6	7.6	59.8	9.8	12/31/1988
Relative Strength (Price/200-Day Moving Avg)	Technical	0.6	2.5	4.0	-0.1	0.6	14.9	7.2	35.2	10.6	75.3	11.9	1/31/2010
High Dividend Growth (Price Return)	Corp Cash Deployment	3.1	3.6	9.1	-4.6	0.6	-5.4	-2.7	13.5	4.3	54.4	9.1	12/31/2004
Price Returns (12-Month plus 1-Month)	Technical	-0.4	2.4	5.0	-0.8	-0.2	11.5	5.6	23.9	7.4	69.6	11.2	1/31/2010
Price Returns (3-Month)	Technical	1.5	-1.5	6.2	-3.8	-1.9	4.0	2.0	21.1	6.6	70.3	11.2	1/31/2010

Source: BofA Merrill Lynch US Equity and US Quant Strategy

The performance does not reflect transaction costs or tax withholdings or any applicable advisory fees. Had these costs been reflected, the performance would have been lower. Performance is calculated on the basis of price return unless noted. Total return performance calculations assume that dividends paid on securities in a portfolio are deposited in a cash account on the ex-dividend date, and are not reinvested. Please see Performance Calculation methodology on page 60 for a full explanation.

†For screens that have less than 5 years history, the performance is since inception.

Past performance should not and cannot be viewed as an indicator of future performance. A complete performance record is available upon request.

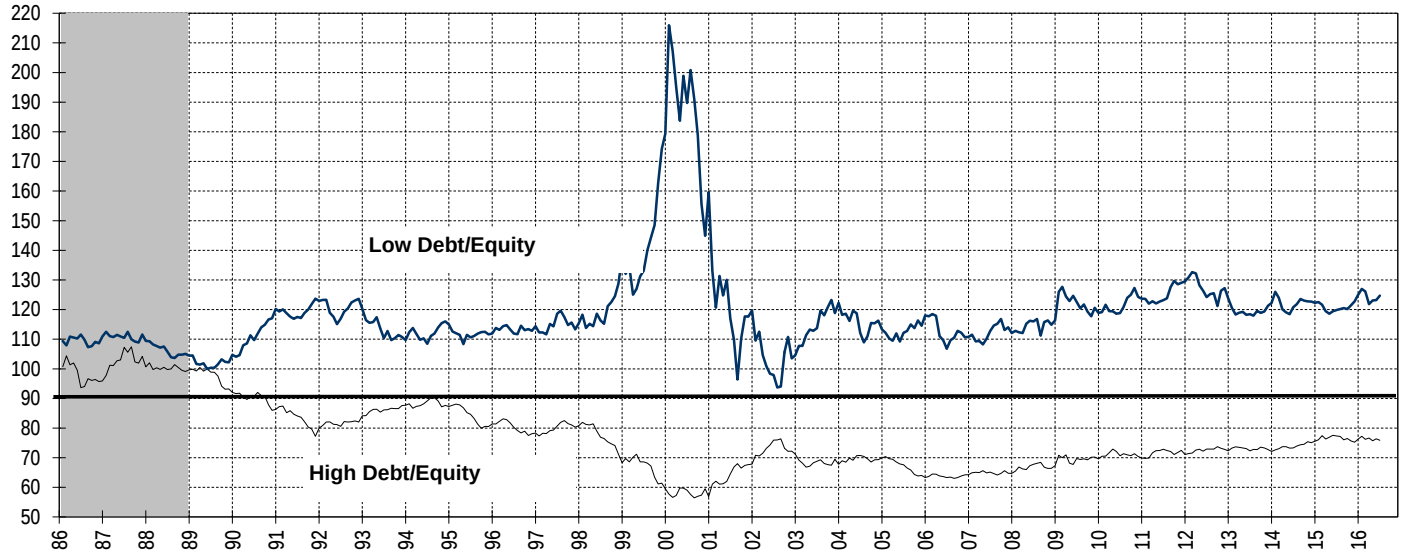
Table 2: Advances and Declines as of 7/29/2016

	1M		3M		6M		12M		YTD		2Yr		3Yr		5Yr	
Quantitative Strategies	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.
Dividend Yield (Total Return)	40	10	102	48	218	82	353	247	241	109	666	533	1038	759	1823	1171
Low Price	40	10	93	56	197	102	302	295	209	140	576	618	947	843	1628	1353
High EPS Estimate Dispersion	23	23	68	64	164	98	251	262	173	131	454	562	729	730	1378	1258
Dividend Yield (Price Return)	39	11	97	53	209	90	341	258	231	118	637	561	985	811	1729	1263
Small Size	40	9	84	65	194	105	299	299	205	144	594	600	956	836	1633	1355
Most Active	41	9	94	55	192	107	305	292	200	149	622	574	993	802	1695	1293
DDM Valuation	33	25	111	59	227	125	358	304	252	160	713	572	1161	866	2044	1418
Institutional Neglect	27	22	88	60	189	108	328	269	214	133	632	563	989	805	1720	1269
High Foreign Exposure	40	10	99	51	196	103	315	284	203	146	594	603	965	831	1623	1370
Price Returns (12-Month plus 1-Month Reversal)	37	11	106	42	193	104	323	273	207	140	662	532	1036	757	1735	1256
Alpha Surprise Model	22	15	66	39	163	83	270	232	177	115	640	498	1013	755	1687	1206
High Variability of EPS	45	18	119	64	247	123	395	342	261	172	822	690	1283	963	2188	1608
Low EV/EBITDA	40	10	77	72	177	122	289	310	189	160	545	653	919	876	1612	1381
Analyst Coverage Neglect	29	11	80	43	166	86	297	242	181	115	625	514	967	715	1617	1176
Low EPS Torpedo	34	15	81	68	183	116	293	306	195	154	557	641	915	882	1569	1422
Low Price to Sales	40	9	84	64	182	116	287	311	192	156	620	578	986	810	1685	1305
Low Price to Cash Flow	39	11	78	71	183	116	291	308	197	152	560	638	933	863	1594	1392
ROE (5-Yr Avg. Adj. by Debt)	39	11	89	61	177	123	308	292	196	154	638	561	1004	795	1707	1292
Low Price to Book Value	42	8	91	58	198	101	299	300	205	144	628	575	1013	795	1749	1268
ROE (5-Yr Average)	39	11	87	63	190	110	321	279	207	143	633	565	991	806	1692	1302
Forecast Positive Earnings Surprise	41	26	111	83	258	153	422	403	276	204	946	799	1498	1160	2471	1834
Low PE to GROWTH	45	5	93	57	201	99	299	301	211	139	612	588	972	825	1659	1336
ROE (1-Yr Avg. Adj. by Debt)	36	14	86	64	174	126	293	307	191	159	628	572	990	810	1713	1287
Short Interest	39	11	100	49	194	104	316	282	208	140	634	561	964	818	1625	1289
Relative Strength (10wk/40wk)	33	16	98	50	181	116	325	270	201	146	665	530	1010	779	1727	1260
Earnings Yield	43	7	89	61	196	104	297	303	202	148	631	567	1009	789	1735	1259
ROC	38	12	91	59	184	115	298	301	200	149	656	543	1004	794	1705	1292
ROE (1-Yr Average)	32	18	87	63	183	116	303	296	199	150	644	553	995	802	1706	1287
High Duration	37	13	89	59	174	123	291	305	181	166	635	561	988	808	1686	1308
High Projected 5-Yr Growth	37	13	93	57	190	111	305	297	199	153	640	565	1015	806	1718	1310
Relative Strength (30wk/75wk)	29	19	97	51	186	112	303	294	199	149	636	560	999	794	1687	1305
Price Returns (11-Month since 1 year ago)	24	24	96	52	179	118	306	290	195	152	650	545	1010	781	1718	1271
Forecast Negative Earnings Surprise	52	17	115	78	243	150	405	416	259	204	833	784	1330	1095	2269	1727
Price Returns (12-Month)	23	25	96	52	183	114	318	278	199	148	665	530	1026	765	1729	1259
Share Repurchase	37	13	81	69	177	123	266	333	184	166	590	609	960	839	1722	1276
ROA	34	16	85	65	175	124	290	309	193	156	630	569	977	822	1668	1331
Price Returns (9-Month)	29	20	92	56	175	122	315	280	193	154	665	530	1017	771	1739	1244
High Free Cash Flow to EV	33	8	74	49	152	94	233	258	160	127	507	486	831	657	1433	1066
Relative Strength (5wk/30wk)	31	18	80	68	170	127	311	283	184	163	649	545	995	793	1715	1266
High Beta	41	10	84	70	188	122	282	340	191	169	585	658	964	884	1652	1409
Low Price to Free Cash Flow	41	9	87	62	182	117	282	317	193	156	598	599	981	815	1705	1288
Upward Estimate Revisions	35	15	91	59	184	116	309	289	196	154	633	565	1010	787	1724	1269
High Dividend Growth (Total Return)	36	14	99	51	192	108	308	292	200	150	628	572	1018	780	1764	1231
Forward Earnings Yield	47	3	87	63	197	103	297	303	200	150	612	587	989	808	1685	1308
EPS Momentum	37	13	88	62	184	115	309	290	192	157	642	557	996	801	1694	1300
Relative Strength (Price/200-Day Moving Avg)	20	29	75	73	157	141	297	299	178	170	643	553	992	798	1698	1286
High Dividend Growth (Price Return)	36	14	94	56	184	115	297	302	191	158	611	588	993	804	1729	1267
Price Returns (12-Month plus 1-Month)	16	34	82	68	171	128	306	292	185	164	649	549	980	813	1702	1288
Price Returns (3-Month)	29	21	71	78	164	134	298	298	176	172	613	583	958	835	1666	1321

Source: BofA Merrill Lynch US Quantitative Strategy.

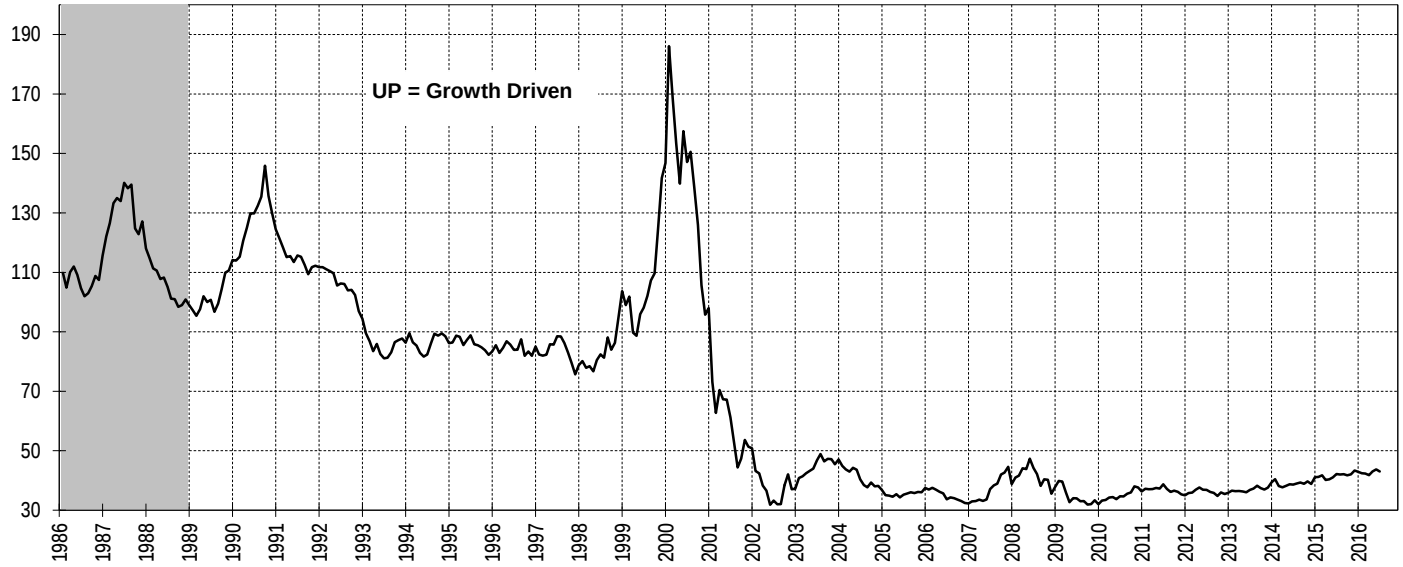
MLQS Financial Confidence & Thematic Indicator Financial Conditions

Financial Confidence



Source: BofA Merrill Lynch US Quantitative Strategy.
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance.

Thematic (High 5-Year Projected Growth vs. High EPS Yield)

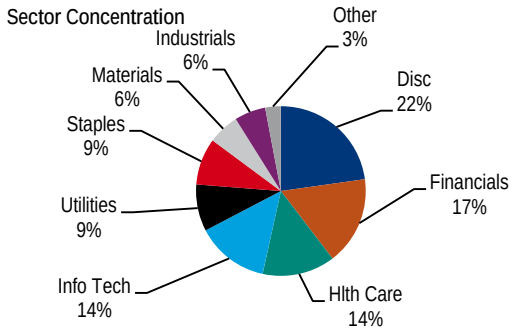


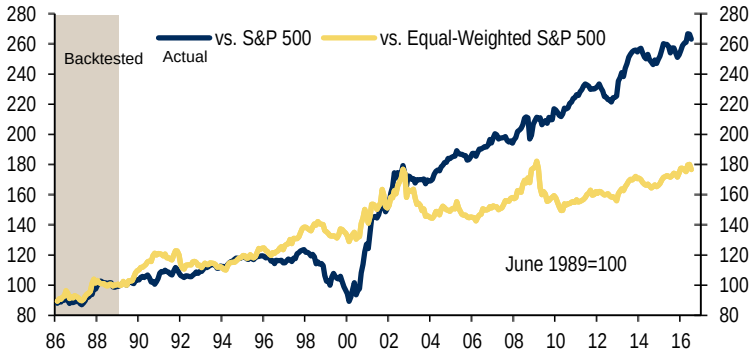
Source: BofA Merrill Lynch US Quantitative Strategy.
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance.

GARP STRATEGIES: Alpha Surprise Model

Top 50 S&P 500 Companies By Alpha Surprise Model

Alpha Surprise Model: a 25%/75% combination of the DDM "Alpha" and the Positive EPS "Surprise" Models.





Absolute Returns

Last 1 Month	2.29%
Last 3 Months	6.07%
Last 6 Months	15.38%
Last 12 Months	7.02%
2016 YTD	10.72%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for August

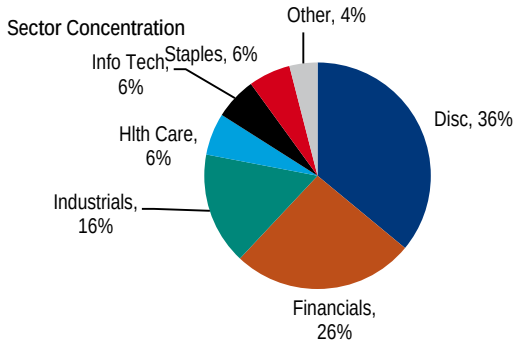
Mo. In Scrn	Company	Ticker	Alpha Surprise Score	Price 07/29/2016	S&P	Mo. In Scrn	Company	Ticker	Alpha Surprise Score	Price 07/29/2016	S&P
22	AMAZON.COM INC	AMZN	1.00	758.81	B-	2	SEMPRA ENERGY	SRE	2.25	111.88	B+
26	AUTOZONE INC	AZO	1.00	813.97	A-	New	WATERS CORP	WAT	2.25	158.93	B+
3	DOMINION RESOURCES INC	D	1.00	78.02	B	New	ACTIVISION BLIZZARD INC	ATVI	2.50	40.16	NA
3	PPL CORP	PPL	1.00	37.71	B	New	BB&T CORP	BBT	2.50	36.87	B
3	INTUIT INC	INTU	1.25	110.99	B+	New	DARDEN RESTAURANTS INC	DRI	2.50	61.56	A-
22	AUTONATION INC	AN	1.50	53.35	B	3	DISCOVERY COMMUNICATIONS INC	DISCA	2.50	25.09	B-
7	ELECTRONIC ARTS INC	EA	1.50	76.32	B+	2	FEDERAL REALTY INVESTMENT TR	FRT	2.50	169.70	A-
9	FACEBOOK INC	FB	1.75	123.94	NA	2	KROGER CO	KR	2.50	34.19	B+
4	PUBLIC STORAGE	PSA	1.75	238.92	B+	2	MARTIN MARIETTA MATERIALS	MLM	2.50	202.65	B
New	CELGENE CORP	CELG	2.00	112.19	B	New	PROGRESSIVE CORP-OHIO	PGR	2.50	32.51	B
New	CENTENE CORP	CNC	2.00	70.55	B+	2	ANTHEM INC	ANTM	2.75	131.34	B+
New	DELTA AIR LINES INC	DAL	2.00	38.75	NA	New	CBS CORP	CBS	2.75	52.22	B
4	MICROSOFT CORP	MSFT	2.00	56.68	A-	New	DISNEY (WALT) CO	DIS	2.75	95.95	A+
New	PNC FINANCIAL SVCS GROUP INC	PNC	2.00	82.65	B+	New	INGERSOLL-RAND PLC	IR	2.75	66.26	NA
4	PULTEGROUP INC	PHM	2.00	21.18	B-	3	LABORATORY CP OF AMER HLDGS	LH	2.75	139.56	B+
New	WALGREENS BOOTS ALLIANCE INC	WBA	2.00	79.25	A-	2	LYONDELLBASELL INDUSTRIES NV	LYB	2.75	75.26	NA
4	LEGG MASON INC	LM	2.25	34.14	B	2	MONSTER BEVERAGE CORP	MNST	2.75	160.63	B+
						9	SPECTRA ENERGY CORP	SE	2.75	35.97	NA

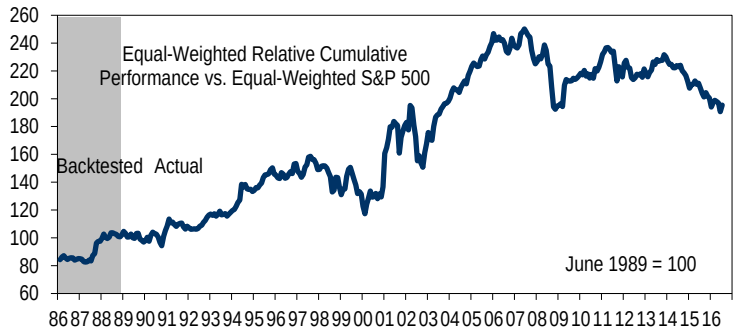
*Based on decile ranks of DDM Alpha and Positive EPS Surprise, weighted 25% / 75%, respectively.

P/E-to-Growth

Top 50 S&P 500 Companies By Low PE to GROWTH

P/E-to-Growth: Trailing twelve months P/E divided by the five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exist, then IBES Mean Long Term Growth Estimate is used.





Absolute Returns

Last 1 Month	6.82%
Last 3 Months	3.88%
Last 6 Months	16.75%
Last 12 Months	-2.13%
2016 YTD	6.56%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

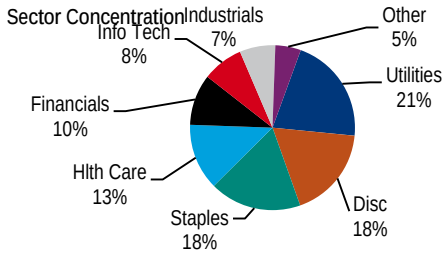
Screen for August

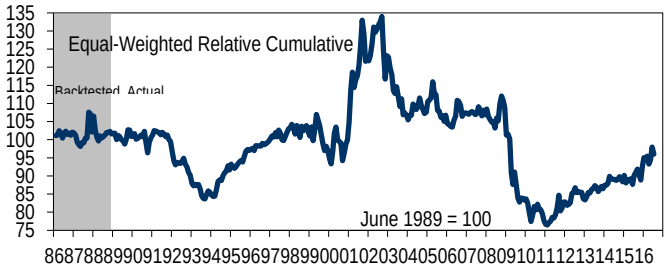
Mo. In Scrn.	Company	Ticker	PE/ Growth	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	PE/ Growth	Price 07/29/2016
6	DISCOVERY COMMUNICATIONS INC	DISCA	0.06	25.09	New	ASSURANT INC	AIZ	0.99	83.01
16	GENERAL MOTORS CO	GM	0.27	31.54	5	METLIFE INC	MET	1.00	42.74
64	FIFTH THIRD BANCORP	FITB	0.46	18.98	7	LYONDELLBASELL INDUSTRIES NV	LYB	1.01	75.26
4	BAXTER INTERNATIONAL INC	BAX	0.50	48.02	3	HCA HOLDINGS INC	HCA	1.01	77.13
13	DELTA AIR LINES INC	DAL	0.57	38.75	41	WHIRLPOOL CORP	WHR	1.02	192.36
11	PULTEGROUP INC	PHM	0.58	21.18	6	UNUM GROUP	UNM	1.02	33.41
33	CBS CORP	CBS	0.59	52.22	13	EATON CORP PLC	ETN	1.02	63.41
13	SKYWORKS SOLUTIONS INC	SWKS	0.65	66.02	4	CARNIVAL CORP/PLC (USA)	CCL	1.04	46.72
6	MONDELEZ INTERNATIONAL INC	MDLZ	0.70	43.98	4	REYNOLDS AMERICAN INC	RAI	1.05	50.06
23	UNITED RENTALS INC	URI	0.73	79.67	New	DOW CHEMICAL	DOW	1.06	53.67
9	PRUDENTIAL FINANCIAL INC	PRU	0.77	75.29	2	ROYAL CARIBBEAN CRUISES LTD	RCL	1.07	72.44
2	RYDER SYSTEM INC	R	0.79	65.90	3	TYSON FOODS INC -CL A	TSN	1.07	73.60
7	KLA-TENCOR CORP	KLAC	0.79	75.71	16	GAP INC	GPS	1.07	25.79
New	GOLDMAN SACHS GROUP INC	GS	0.84	158.81	New	MASCO CORP	MAS	1.11	36.48
49	WELLS FARGO & CO	WFC	0.87	47.97	4	NORFOLK SOUTHERN CORP	NSC	1.11	89.78
6	LINCOLN NATIONAL CORP	LNC	0.89	43.67	New	CAPITAL ONE FINANCIAL CORP	COF	1.13	67.08
3	LKQ CORP	LKQ	0.89	34.39	New	AMERICAN EXPRESS CO	AXP	1.13	64.46
55	AUTONATION INC	AN	0.91	53.35	New	INGERSOLL-RAND PLC	IR	1.15	66.26
New	TE CONNECTIVITY LTD	TEL	0.91	60.28	6	D R HORTON INC	DHI	1.16	32.88
40	SOUTHWEST AIRLINES	LUV	0.91	37.01	New	CENTENE CORP	CNC	1.16	70.55
15	URBAN OUTFITTERS INC	URBN	0.92	29.90	31	MORGAN STANLEY	MS	1.17	28.73
6	SCRIPPS NETWORKS INTERACTIVE	SNI	0.93	66.06	8	CARMAX INC	KMX	1.18	58.26
5	MACY'S INC	M	0.96	35.83	2	KEYCORP	KEY	1.19	11.70
22	TIME WARNER INC	TWX	0.98	76.65	4	DISCOVER FINANCIAL SVCS INC	DFS	1.21	56.84
New	TEGNA INC	TGNA	0.99	21.90	4	HARMAN INTERNATIONAL INDS	HAR	1.24	82.64

VALUATION STRATEGIES: Dividend Discount Model Alpha

Top S&P 500 Companies By DDM ALPHA

Dividend Discount Model Alpha: The implied return from the BofAML Quantitative Strategy three-stage dividend discount model less the required return from a Capital Asset Pricing Model. Presented as a decile rank.





Absolute Returns

Last 1 Month	2.15%
Last 3 Months	8.30%
Last 6 Months	17.11%
Last 12 Months	10.60%
2016 YTD	13.41%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for August

Mo. In Scrn	Company	Ticker	DDM Alpha	Price 07/29/2016	Mo. In Scrn	Company	Ticker	DDM Alpha	Price 07/29/2016
17	AMAZON.COM INC	AMZN	1	758.81	2	ANTHEM INC	ANTM	2	131.34
2	AMERICAN WATER WORKS CO INC	AWK	1	82.58	New	BOEING CO	BA	2	133.66
9	APPLIED MATERIALS INC	AMAT	1	26.29	New	CAMPBELL SOUP CO	CPB	2	62.27
4	ASSURANT INC	AIZ	1	83.01	2	CARDINAL HEALTH INC	CAH	2	83.60
56	AUTOZONE INC	AZO	1	813.97	2	CENTENE CORP	CNC	2	70.55
34	BRISTOL-MYERS SQUIBB CO	BMY	1	74.81	New	CHURCH & DWIGHT INC	CHD	2	98.24
10	C H ROBINSON WORLDWIDE INC	CHRW	1	69.62	10	CONAGRA FOODS INC	CAG	2	46.76
16	CABOT OIL & GAS CORP	COG	1	24.67	18	DELTA AIR LINES INC	DAL	2	38.75
11	CARNIVAL CORP/PLC (USA)	CCL	1	46.72	2	DIGITAL REALTY TRUST INC	DLR	2	104.46
33	CONSOLIDATED EDISON INC	ED	1	80.08	11	DOLLAR GENERAL CORP	DG	2	94.74
10	DARDEN RESTAURANTS INC	DRI	1	61.56	4	DR PEPPER SNAPPLE GROUP INC	DPS	2	98.51
6	DISCOVERY COMMUNICATIONS INC	DISCA	1	25.09	21	DTE ENERGY CO	DTE	2	97.52
19	DOLLAR TREE INC	DLTR	1	96.29	13	ENTERGY CORP	ETR	2	81.39
30	DOMINION RESOURCES INC	D	1	78.02	16	EQUINIX INC	EQIX	2	372.87
5	DUKE ENERGY CORP	DUK	1	85.59	13	EXELON CORP	EXC	2	37.28
10	EDISON INTERNATIONAL	EIX	1	77.38	10	FIFTH THIRD BANCORP	FITB	2	18.98
9	FACEBOOK INC	FB	1	123.94	91	GENERAL MILLS INC	GIS	2	71.89
6	KRAFT HEINZ CO	KHC	1	86.39	New	INTUIT INC	INTU	2	110.99
13	LAM RESEARCH CORP	LRCX	1	89.77	6	KIMBERLY-CLARK CORP	KMB	2	129.55
12	LILLY (ELI) & CO	LLY	1	82.89	3	L BRANDS INC	LB	2	73.90
10	MACY'S INC	M	1	35.83	6	MCDONALD'S CORP	MCD	2	117.65
13	PPL CORP	PPL	1	37.71	2	MONSTER BEVERAGE CORP	MNST	2	160.63
14	REYNOLDS AMERICAN INC	RAI	1	50.06	10	PERRIGO CO PLC	PRGO	2	91.39
38	SOUTHERN CO	SO	1	53.50	4	PG&E CORP	PCG	2	63.94
10	UNITEDHEALTH GROUP INC	UNH	1	143.20	New	PINNACLE WEST CAPITAL CORP	PNW	2	78.87
19	VERIZON COMMUNICATIONS INC	VZ	1	55.41	9	SKYWORKS SOLUTIONS INC	SWKS	2	66.02
2	VERTEX PHARMACEUTICALS INC	VRTX	1	97.00	3	TARGET CORP	TGT	2	75.33
12	WELLS FARGO & CO	WFC	1	47.97	New	VERISK ANALYTICS INC	VRSK	2	85.28
New	ALTRIA GROUP INC[1]	MO	2	67.70	New	VULCAN MATERIALS CO	VMC	2	123.98
19	AMERICAN ELECTRIC POWER CO	AEP	2	69.30	3	WAL-MART STORES INC	WMT	2	72.97
					8	WELLTOWER INC	HCN	2	79.33

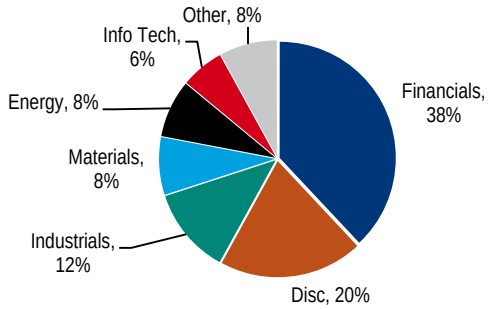
[1] BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

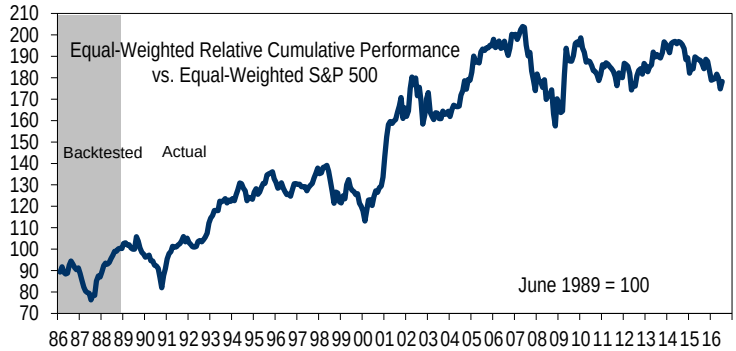
Earnings Yield

Top 50 S&P 500 Companies By EARNINGS YIELD

Earnings Yield: Trailing 12-month EPS divided by month-end price.

Sector Concentration





Absolute Returns

Last 1 Month	6.26%
Last 3 Months	3.23%
Last 6 Months	15.54%
Last 12 Months	-1.52%
2016 YTD	6.21%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

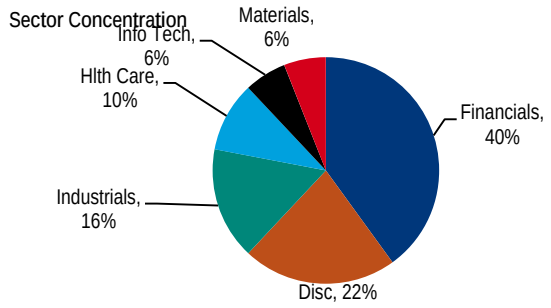
Screen for August

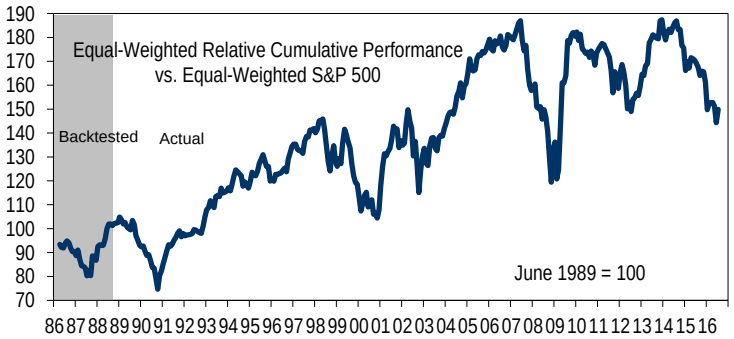
Mo. In Scrn	Company	Ticker	Earnings Yield	Price 07/29/2016	Mo. In Scrn	Company	Ticker	Earnings Yield	Price 07/29/2016
11	UNITED CONTINENTAL HLDGS INC	UAL	37.75%	46.89	10	MONDELEZ INTERNATIONAL INC	MDLZ	10.71%	43.98
6	TRANSOCEAN LTD	RIG	37.67%	10.99	45	CAPITAL ONE FINANCIAL CORP	COF	10.67%	67.08
16	AMERICAN AIRLINES GROUP INC	AAL	29.92%	35.50	New	SOUTHWEST AIRLINES	LUV	10.29%	37.01
6	GENERAL MOTORS CO	GM	25.40%	31.54	11	MOSAIC CO	MOS	10.00%	27.00
6	LEVEL 3 COMMUNICATIONS INC	LVLT	19.96%	50.60	13	PITNEY BOWES INC	PBI	9.94%	19.31
4	BAXTER INTERNATIONAL INC	BAX	18.16%	48.02	42	LINCOLN NATIONAL CORP	LNC	9.82%	43.67
4	EQUITY RESIDENTIAL	EQR	16.96%	67.99	2	SYNCHRONY FINANCIAL	SYF	9.43%	27.88
7	FORD MOTOR CO	F	16.82%	12.66	17	DISCOVER FINANCIAL SVCS INC	DFS	9.39%	56.84
27	NAVIENT CORP	NAVI	16.62%	14.20	22	JPMORGAN CHASE & CO	JPM	9.32%	63.97
4	FIRST SOLAR INC	FSLR	16.45%	46.68	22	MARATHON PETROLEUM CORP	MPC	9.24%	39.39
7	DELTA AIR LINES INC	DAL	15.95%	38.75	New	TEGNA INC	TGNA	9.22%	21.90
12	TESORO CORP	TSO	15.51%	76.15	2	EASTMAN CHEMICAL CO	EMN	9.18%	65.23
17	GILEAD SCIENCES INC	GILD	14.60%	79.47	8	PRINCIPAL FINANCIAL GRP INC	PFG	9.09%	46.63
9	PRUDENTIAL FINANCIAL INC	PRU	14.45%	75.29	3	SCRIPPS NETWORKS INTERACTIVE	SNI	9.05%	66.06
9	HP INC	HPQ	13.92%	14.01	New	TRAVELERS COS INC	TRV	9.01%	116.22
6	DOW CHEMICAL	DOW	13.51%	53.67	New	CORNING INC	GLW	8.96%	22.22
22	LYONDELLBASELL INDUSTRIES NV	LYB	12.34%	75.26	2	PNC FINANCIAL SVCS GROUP INC	PNC	8.91%	82.65
12	VIACOM INC	VIAB	12.32%	45.47	New	SUNTRUST BANKS INC	STI	8.82%	42.29
40	VALERO ENERGY CORP	VLO	11.86%	52.28	New	AMERICAN EXPRESS CO	AXP	8.81%	64.46
11	BED BATH & BEYOND INC	BBBY	11.26%	44.95	New	LENNAR CORP	LEN	8.76%	46.80
22	METLIFE INC	MET	11.00%	42.74	3	BEST BUY CO INC	BBY	8.75%	33.60
6	UNUM GROUP	UNM	10.89%	33.41	2	REGIONS FINANCIAL CORP	RF	8.72%	9.17
7	FIFTH THIRD BANCORP	FITB	10.85%	18.98	3	MACY'S INC	M	8.71%	35.83
7	CITIGROUP INC	C	10.84%	43.81	3	MICHAEL KORS HOLDINGS LTD	KORS	8.70%	51.72
3	ALASKA AIR GROUP INC	ALK	10.79%	67.22	2	AMERIPRISE FINANCIAL INC	AMP	8.68%	95.84

Forward Earnings Yield

Top 50 S&P 500 Companies By FORWARD EARNINGS YIELD

Earnings Yield: Rolling 12-month Forward EPS divided by month-end price.





Absolute Returns

Last 1 Month	8.25%
Last 3 Months	3.21%
Last 6 Months	16.02%
Last 12 Months	-7.86%
2016 YTD	1.56%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

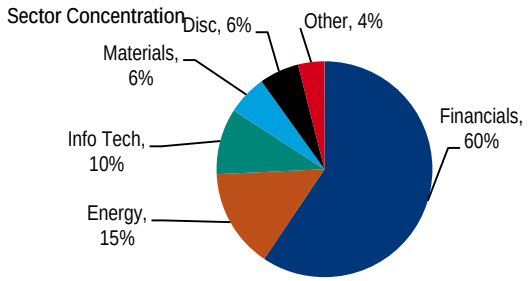
Screen for August

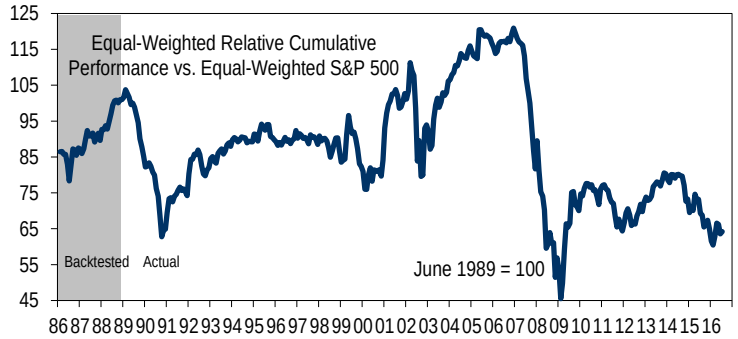
Mo. In Scrn	Company	Ticker	Forward Earnings Yield	Price 07/29/2016	Mo. In Scrn	Company	Ticker	Forward Earnings Yield	Price 07/29/2016
10	ENDO INTERNATIONAL PLC	ENDP	27.72%	17.36	8	AMERIPRISE FINANCIAL INC	AMP	10.44%	95.84
38	GENERAL MOTORS CO	GM	18.51%	31.54	20	DISCOVER FINANCIAL SVCS INC	DFS	10.43%	56.84
11	UNITED CONTINENTAL HLDGS INC	UAL	15.38%	46.89	19	VIACOM INC	VIAB	10.40%	45.47
43	FORD MOTOR CO	F	15.32%	12.66	4	BORGWARNER INC	BWA	10.31%	33.18
26	DELTA AIR LINES INC	DAL	15.14%	38.75	19	UNITED RENTALS INC	URI	10.23%	79.67
104	LINCOLN NATIONAL CORP	LNC	14.95%	43.67	2	SYNCHRONY FINANCIAL	SYF	10.23%	27.88
21	GILEAD SCIENCES INC	GILD	14.78%	79.47	3	PITNEY BOWES INC	PBI	10.15%	19.31
17	AMERICAN AIRLINES GROUP INC	AAL	14.53%	35.50	2	SIGNET JEWELERS LTD	SIG	10.06%	87.91
60	GOODYEAR TIRE & RUBBER CO	GT	14.50%	28.67	2	KEYCORP	KEY	10.00%	11.70
27	NAVIENT CORP	NAVI	13.65%	14.20	31	GOLDMAN SACHS GROUP INC	GS	10.00%	158.81
82	METLIFE INC	MET	13.27%	42.74	3	STAPLES INC	SPLS	9.83%	9.29
72	PRUDENTIAL FINANCIAL INC	PRU	13.25%	75.29	New	HARTFORD FINANCIAL SERVICES	HIG	9.83%	39.85
12	MALLINCKRODT PLC	MNK	13.07%	67.34	7	BANK OF AMERICA CORP	BAC	9.81%	14.49
62	OWENS-ILLINOIS INC	OI	12.99%	18.79	2	AFFILIATED MANAGERS GRP INC	AMG	9.70%	146.78
22	LYONDELLBASELL INDUSTRIES NV	LYB	12.97%	75.26	8	PRINCIPAL FINANCIAL GRP INC	PFG	9.67%	46.63
91	UNUM GROUP	UNM	11.90%	33.41	New	AFLAC INC	AFL	9.61%	72.28
6	MYLAN NV	MYL	11.67%	46.79	3	DELPHI AUTOMOTIVE PLC	DLPH	9.59%	67.82
9	HP INC	HPQ	11.54%	14.01	New	TEGNA INC	TGNA	9.55%	21.90
48	CAPITAL ONE FINANCIAL CORP	COF	11.39%	67.08	12	MORGAN STANLEY	MS	9.54%	28.73
63	CITIGROUP INC	C	11.32%	43.81	New	PERRIGO CO PLC	PRGO	9.53%	91.39
25	EASTMAN CHEMICAL CO	EMN	11.22%	65.23	2	REGIONS FINANCIAL CORP	RF	9.52%	9.17
9	BED BATH & BEYOND INC	BBBY	10.98%	44.95	9	HEWLETT PACKARD ENTERPRISE	HPE	9.49%	21.02
6	XEROX CORP	XRX	10.90%	10.30	2	RYDER SYSTEM INC	R	9.44%	65.90
3	ALASKA AIR GROUP INC	ALK	10.54%	67.22	3	KOHL'S CORP	KSS	9.39%	41.59
5	SOUTHWEST AIRLINES	LUV	10.52%	37.01	New	JPMORGAN CHASE & CO	JPM	9.33%	63.97

Price/Book Value

Top 50 S&P 500 Companies By LOW PRICE/BOOK

Price/Book Value: Month-end price divided by latest reported book value per share.





Absolute Returns

Last 1 Month	5.30%
Last 3 Months	1.49%
Last 6 Months	20.90%
Last 12 Months	-3.60%
2016 YTD	7.92%

Source: BofA Merrill Lynch US Quantitative Strategy

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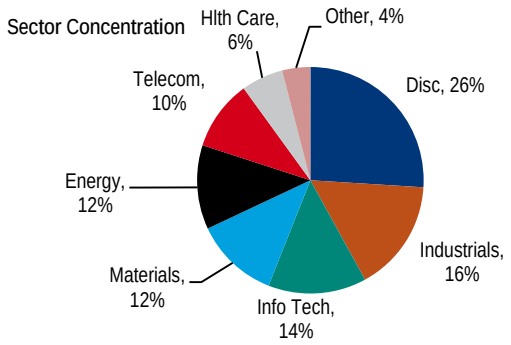
Screen for August

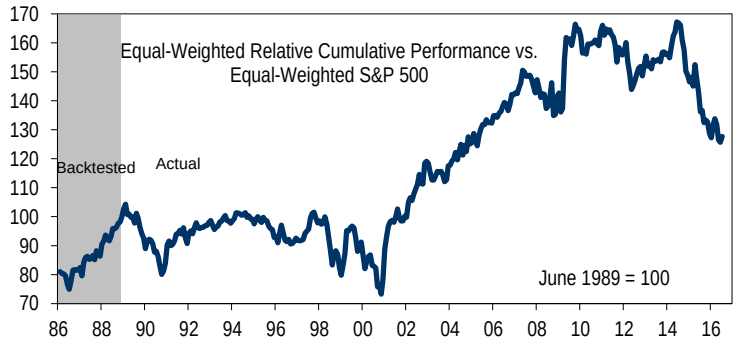
Mo. In Scrn	Company	Ticker	Price/ Book	Price 07/29/2016	Mo. In Scrn	Company	Ticker	Price/ Book	Price 07/29/2016
34	TRANSOCEAN LTD	RIG	0.27	10.99	12	GOLDMAN SACHS GROUP INC	GS	0.90	158.81
6	CITIZENS FINANCIAL GROUP INC	CFG	0.59	22.33	23	MURPHY OIL CORP	MUR	0.91	27.43
63	CITIGROUP INC	C	0.60	43.81	91	SUNTRUST BANKS INC	STI	0.91	42.29
22	MARATHON OIL CORP	MRO	0.60	13.64	10	FIFTH THIRD BANCORP	FITB	0.94	18.98
93	BANK OF AMERICA CORP	BAC	0.61	14.49	9	MOSAIC CO	MOS	0.94	27.00
82	METLIFE INC	MET	0.62	42.74	78	PEOPLE'S UNITED FINL INC	PBCT	0.95	15.16
5	ENDO INTERNATIONAL PLC	ENDP	0.65	17.36	6	PNC FINANCIAL SVCS GROUP INC	PNC	0.97	82.65
37	NEWS CORP	NWSA	0.65	12.97	6	WESTERN DIGITAL CORP	WDC	0.99	47.51
39	LEUCADIA NATIONAL CORP	LUK	0.66	18.26	9	WESTROCK CO	WRK	0.99	42.91
31	PRUDENTIAL FINANCIAL INC	PRU	0.68	75.29	28	COMERICA INC	CMA	1.02	45.24
67	AMERICAN INTERNATIONAL GROUP	AIG	0.70	54.44	76	JPMORGAN CHASE & CO	JPM	1.02	63.97
117	REGIONS FINANCIAL CORP	RF	0.70	9.17	New	MARATHON PETROLEUM CORP	MPC	1.04	39.39
117	CAPITAL ONE FINANCIAL CORP	COF	0.71	67.08	3	STAPLES INC	SPLS	1.10	9.29
94	LINCOLN NATIONAL CORP	LNC	0.71	43.67	New	ASSURANT INC	AIZ	1.13	83.01
23	DIAMOND OFFSHRE DRILLING INC	DO	0.74	22.72	7	BB&T CORP	BBT	1.13	36.87
19	NATIONAL OILWELL VARCO INC	NOV	0.75	32.35	3	ALCOA INC	AA	1.14	10.62
87	LOEWS CORP	L	0.79	41.33	4	XEROX CORP	XRX	1.14	10.30
79	MORGAN STANLEY	MS	0.79	28.73	8	HEWLETT PACKARD ENTERPRISE	HPE	1.15	21.02
24	HESS CORP	HES	0.82	53.65	5	FRONTIER COMMUNICATIONS CORP	FTR	1.16	5.20
New	XL GROUP LTD	XL	0.82	34.61	5	GENERAL MOTORS CO	GM	1.16	31.54
4	FIRST SOLAR INC	FSLR	0.83	46.68	2	HUNTINGTON BANCSHARES	HBAN	1.16	9.50
95	HARTFORD FINANCIAL SERVICES	HIG	0.83	39.85	New	BANK OF NEW YORK MELLON CORP	BK	1.17	39.40
92	ZIONS BANCORPORATION	ZION	0.83	27.88	New	MICRON TECHNOLOGY INC	MU	1.17	13.74
87	UNUM GROUP	UNM	0.86	33.41	2	E TRADE FINANCIAL CORP	ETFC	1.19	25.08
12	LEGG MASON INC	LM	0.87	34.14	New	M & T BANK CORP	MTB	1.19	114.56
10	KEYCORP	KEY	0.89	11.70	2	VALERO ENERGY CORP	VLO	1.19	52.28

Price/Cash Flow

Top 50 S&P 500 (ex. Financials) Companies By LOW PRICE/CASH FLOW

Price/Cash Flow: Month-end price divided by latest reported cash flow. Cash flow is defined as earnings post extraordinary items plus depreciation.





Absolute Returns

Last 1 Month	5.90%
Last 3 Months	1.96%
Last 6 Months	16.35%
Last 12 Months	-2.53%
2016 YTD	8.35%

Source: BofA Merrill Lynch US Quantitative Strategy

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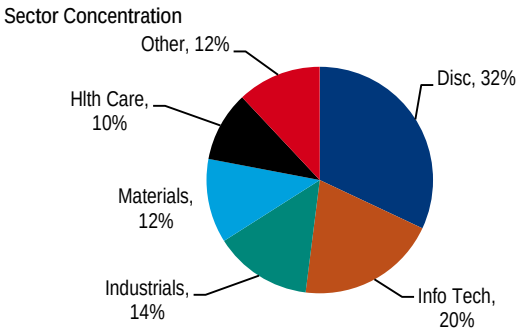
Screen for August

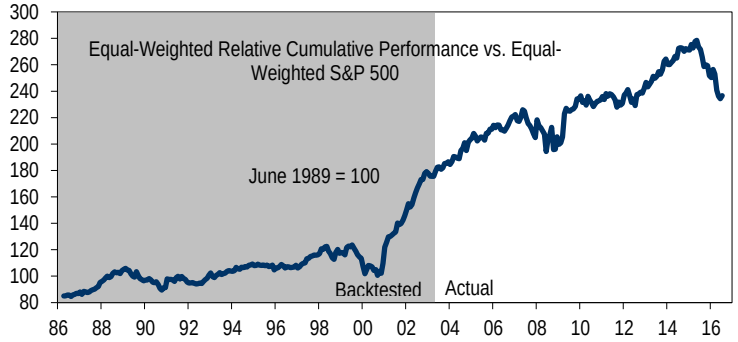
Mo. In Scrn.	Company	Ticker	Price / Cash Flow	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Price / Cash Flow	Price 07/29/2016
6	TRANSOCEAN LTD	RIG	1.67	10.99	21	AES CORP	AES	5.85	12.35
11	UNITED CONTINENTAL HLDGS INC	UAL	2.03	46.89	3	DIAMOND OFFSHRE DRILLING INC	DO	5.89	22.72
38	GENERAL MOTORS CO	GM	2.31	31.54	5	HEWLETT PACKARD ENTERPRISE	HPE	6.10	21.02
216	RYDER SYSTEM INC	R	2.38	65.90	6	LYONDELLBASELL INDUSTRIES NV	LYB	6.45	75.26
16	AMERICAN AIRLINES GROUP INC	AAL	2.65	35.50	6	GILEAD SCIENCES INC	GILD	6.46	79.47
89	FORD MOTOR CO	F	3.37	12.66	5	BED BATH & BEYOND INC	BBBY	6.58	44.95
153	CENTURYLINK INC	CTL	3.41	31.44	7	AT&T INC	T	6.60	43.29
6	LEVEL 3 COMMUNICATIONS INC	LVLT	3.76	50.60	7	EASTMAN CHEMICAL CO	EMN	6.61	65.23
23	UNITED RENTALS INC	URI	3.92	79.67	New	SOUTHWEST AIRLINES	LUV	6.68	37.01
19	DISCOVERY COMMUNICATIONS INC	DISCA	3.99	25.09	7	XEROX CORP	XRX	6.68	10.30
12	TESORO CORP	TSO	4.15	76.15	3	ALASKA AIR GROUP INC	ALK	6.72	67.22
19	MICRON TECHNOLOGY INC	MU	4.30	13.74	6	PITNEY BOWES INC	PBI	6.83	19.31
9	HP INC	HPQ	4.47	14.01	9	BEST BUY CO INC	BBY	6.88	33.60
7	DELTA AIR LINES INC	DAL	4.50	38.75	New	TE CONNECTIVITY LTD	TEL	7.09	60.28
2	OWENS-ILLINOIS INC	OI	4.52	18.79	New	CORNING INC	GLW	7.22	22.22
4	FIRST SOLAR INC	FSLR	4.58	46.68	3	HCA HOLDINGS INC	HCA	7.24	77.13
3	BAXTER INTERNATIONAL INC	BAX	4.74	48.02	4	NORDSTROM INC	JWN	7.27	44.23
41	VALERO ENERGY CORP	VLO	5.10	52.28	4	STAPLES INC	SPLS	7.39	9.29
12	KOHL'S CORP	KSS	5.24	41.59	4	VIACOM INC	VIAB	7.40	45.47
94	MARATHON OIL CORP	MRO	5.32	13.64	7	VERIZON COMMUNICATIONS INC	VZ	7.41	55.41
11	MOSAIC CO	MOS	5.55	27.00	4	GAP INC	GPS	7.45	25.79
10	MACY'S INC	M	5.57	35.83	67	FRONTIER COMMUNICATIONS CORP	FTR	7.48	5.20
16	MARATHON PETROLEUM CORP	MPC	5.66	39.39	2	BORGWARNER INC	BWA	7.53	33.18
6	DOW CHEMICAL	DOW	5.71	53.67	New	TEGNA INC	TGNA	7.70	21.90
5	CF INDUSTRIES HOLDINGS INC	CF	5.75	24.68	New	KROGER CO	KR	7.76	34.19

Price/Free Cash Flow

Top 50 S&P 500 (ex. Financials) Companies By LOW PRICE/FREE CASH FLOW

Price/Free Cash Flow: Month-end price divided by latest reported free cash flow. Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.





Absolute Returns

Last 1 Month	5.29%
Last 3 Months	3.42%
Last 6 Months	9.64%
Last 12 Months	-9.45%
2016 YTD	2.80%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end July 2003. The unshaded portion represents actual performance since August 2003. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

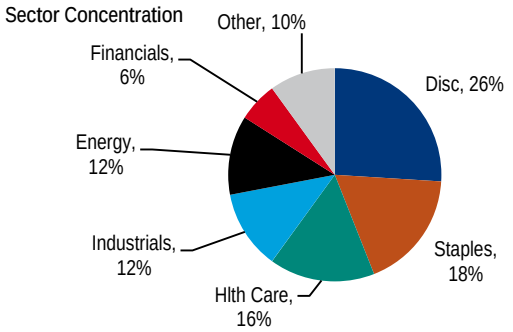
Screen for August

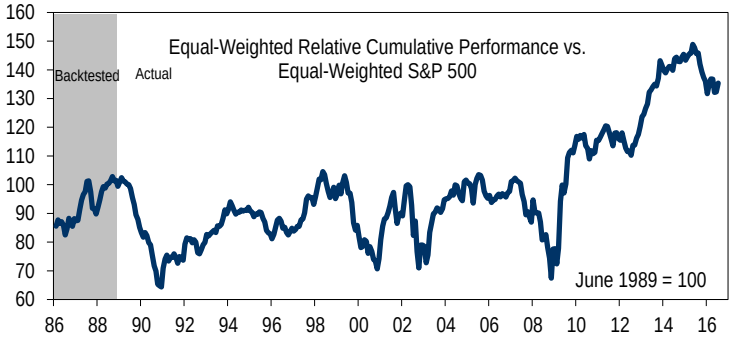
Mo. In Scrn.	Company	Ticker	Price / FCF	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Price / FCF	Price 07/29/2016
11	UNITED CONTINENTAL HLDGS INC	UAL	3.25	46.89	54	WESTERN UNION CO	WU	10.16	20.00
33	DISCOVERY COMMUNICATIONS INC	DISCA	4.12	25.09	7	AMERICAN AIRLINES GROUP INC	AAL	10.17	35.50
6	LEVEL 3 COMMUNICATIONS INC	LVLT	5.11	50.60	22	LYONDELLBASELL INDUSTRIES NV	LYB	10.38	75.26
3	BAXTER INTERNATIONAL INC	BAX	5.29	48.02	12	FMC CORP	FMC	10.69	47.54
10	FIRST SOLAR INC	FSLR	5.44	46.68	New	CORNING INC	GLW	10.75	22.22
10	FORD MOTOR CO	F	6.26	12.66	4	BLOCK H & R INC	HRB	10.88	23.79
18	GILEAD SCIENCES INC	GILD	6.77	79.47	New	INGERSOLL-RAND PLC	IR	10.98	66.26
9	HP INC	HPQ	7.14	14.01	6	TARGET CORP	TGT	11.04	75.33
30	VALERO ENERGY CORP	VLO	7.30	52.28	6	EXPRESS SCRIPTS HOLDING CO	ESRX	11.15	76.07
10	TESORO CORP	TSO	7.37	76.15	New	OWENS-ILLINOIS INC	OI	11.24	18.79
64	XEROX CORP	XRX	7.66	10.30	10	BEST BUY CO INC	BBY	11.45	33.60
13	VIACOM INC	VIAB	7.82	45.47	4	EASTMAN CHEMICAL CO	EMN	11.47	65.23
21	CENTURYLINK INC	CTL	7.89	31.44	3	AMERISOURCEBERGEN CORP	ABC	11.78	85.19
16	TE CONNECTIVITY LTD	TEL	8.71	60.28	3	PVH CORP	PVH	11.90	101.06
6	DOW CHEMICAL	DOW	8.73	53.67	7	UNITED TECHNOLOGIES CORP	UTX	12.12	107.65
12	MACY'S INC	M	8.76	35.83	10	APPLE INC	AAPL	12.44	104.21
7	DELTA AIR LINES INC	DAL	9.07	38.75	13	EATON CORP PLC	ETN	12.59	63.41
14	TEGNA INC	TGNA	9.23	21.90	38	INTL BUSINESS MACHINES CORP	IBM	12.62	160.62
7	NETFLIX INC	NFLX	9.29	91.25	2	DELPHI AUTOMOTIVE PLC	DLPH	12.69	67.82
6	ALLERGAN PLC	AGN	9.52	252.95	New	WYNDHAM WORLDWIDE CORP	WYN	12.95	71.02
22	PITNEY BOWES INC	PBI	9.65	19.31	12	MOSAIC CO	MOS	13.33	27.00
13	BED BATH & BEYOND INC	BBBY	9.65	44.95	2	CA INC	CA	13.50	34.65
16	KOHL'S CORP	KSS	9.71	41.59	6	PULTEGROUP INC	PHM	13.56	21.18
6	SCRIPPS NETWORKS INTERACTIVE	SNI	9.77	66.06	4	REYNOLDS AMERICAN INC	RAI	13.66	50.06
10	MONDELEZ INTERNATIONAL INC	MDLZ	9.99	43.98	52	WESTERN DIGITAL CORP	WDC	13.79	47.51

Price/Sales

Top 50 S&P 500 Companies By LOW PRICE/SALES

Price/Sales: Month-end market value divided by reported sales.





Absolute Returns

Last 1 Month	6.69%
Last 3 Months	4.16%
Last 6 Months	19.20%
Last 12 Months	-3.35%
2016 YTD	8.82%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

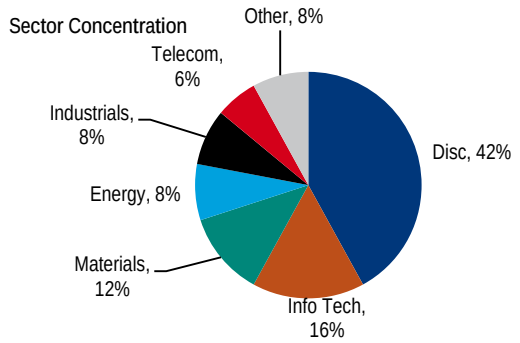
Screen for August

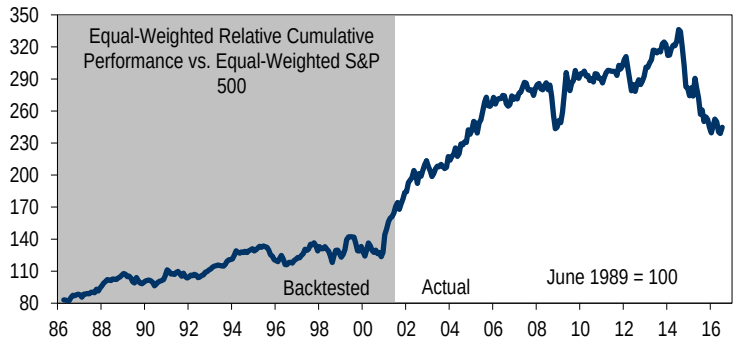
Mo. In Scrn.	Company	Ticker	Mkt Val / Sales	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Mkt Val / Sales	Price 07/29/2016
163	AMERISOURCEBERGEN CORP	ABC	0.11	85.19	25	OWENS-ILLINOIS INC	OI	0.47	18.79
162	AUTONATION INC	AN	0.18	53.35	90	HUMANA INC	HUM	0.47	172.55
208	MCKESSON CORP	MCK	0.23	194.56	41	EXPRESS SCRIPTS HOLDING CO	ESRX	0.47	76.07
49	WAL-MART STORES INC	WMT	0.23	72.97	200	GOODYEAR TIRE & RUBBER CO	GT	0.48	28.67
145	CARDINAL HEALTH INC	CAH	0.23	83.60	48	PHILLIPS 66	PSX	0.49	76.06
41	BEST BUY CO INC	BBY	0.24	33.60	6	AMERICAN AIRLINES GROUP INC	AAL	0.51	35.50
24	CHESAPEAKE ENERGY CORP	CHK	0.28	5.42	12	QUANTA SERVICES INC	PWR	0.52	25.60
38	GENERAL MOTORS CO	GM	0.28	31.54	12	RYDER SYSTEM INC	R	0.53	65.90
52	STAPLES INC	SPLS	0.29	9.29	47	XEROX CORP	XRX	0.55	10.30
92	KROGER CO	KR	0.29	34.19	45	SYSCO CORP	SYY	0.55	51.79
21	NRG ENERGY INC	NRG	0.31	13.84	33	JACOBS ENGINEERING GROUP INC	JEC	0.56	53.52
192	FORD MOTOR CO	F	0.32	12.66	8	TRANSOCEAN LTD	RIG	0.56	10.99
9	HP INC	HPQ	0.32	14.01	47	AES CORP	AES	0.57	12.35
148	VALERO ENERGY CORP	VLO	0.33	52.28	132	TYSON FOODS INC -CL A	TSN	0.57	73.60
107	TESORO CORP	TSO	0.34	76.15	5	HCA HOLDINGS INC	HCA	0.57	77.13
60	MARATHON PETROLEUM CORP	MPC	0.37	39.39	4	BED BATH & BEYOND INC	BBBY	0.57	44.95
5	GAP INC	GPS	0.38	25.79	21	LEUCADIA NATIONAL CORP	LUK	0.58	18.26
10	NORDSTROM INC	JWN	0.39	44.23	51	ASSURANT INC	AIZ	0.58	83.01
16	KOHL'S CORP	KSS	0.40	41.59	New	WALGREENS BOOTS ALLIANCE INC	WBA	0.58	79.25
5	CENTENE CORP	CNC	0.40	70.55	2	PRUDENTIAL FINANCIAL INC	PRU	0.59	75.29
30	ARCHER-DANIELS-MIDLAND CO	ADM	0.41	45.08	6	NEWS CORP	NWSA	0.60	12.97
57	FLUOR CORP	FLR	0.41	53.52	3	TARGET CORP	TGT	0.61	75.33
11	MACY'S INC	M	0.42	35.83	7	COSTCO WHOLESALE CORP	COST	0.62	167.22
20	ANTHEM INC	ANTM	0.42	131.34	New	CVS HEALTH CORP	CVS	0.62	92.72
11	UNITED CONTINENTAL HLDGS INC	UAL	0.43	46.89	New	WHOLE FOODS MARKET INC	WFM	0.62	30.48

EV / EBITDA

Top 50 S&P Industrials Companies By LOW EV/EBITDA

EV/EBITDA: Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents) divided by the latest 4-quarter EBITDA.





Absolute Returns

Last 1 Month	6.79%
Last 3 Months	3.05%
Last 6 Months	18.47%
Last 12 Months	-0.95%
2016 YTD	9.24%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end September 2001. The unshaded portion represents actual performance since October 2001. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

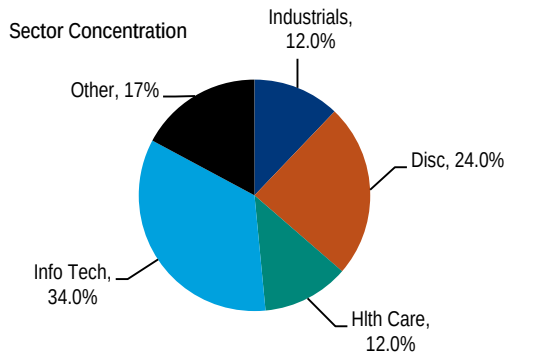
Screen for August

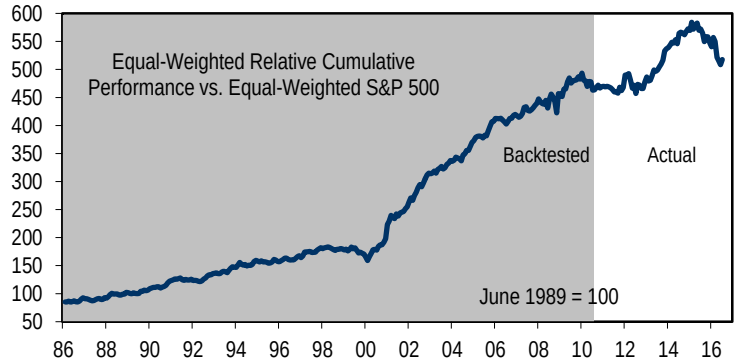
Mo. In Scrn	Company	Ticker	EV / EBITDA	Price 07/29/2016	Mo. In Scrn	Company	Ticker	EV / EBITDA	Price 07/29/2016
32	TRANSOCEAN LTD	RIG	3.07	10.99	4	FOOT LOCKER INC	FL	6.46	59.62
5	FIRST SOLAR INC	FSLR	3.15	46.68	4	BORGWARNER INC	BWA	6.49	33.18
9	HP INC	HPQ	3.18	14.01	9	NORDSTROM INC	JWN	6.50	44.23
43	VALERO ENERGY CORP	VLO	3.49	52.28	13	MOSAIC CO	MOS	6.56	27.00
33	BEST BUY CO INC	BBY	4.18	33.60	4	URBAN OUTFITTERS INC	URBN	6.67	29.90
12	TESORO CORP	TSO	4.34	76.15	3	MALLINCKRODT PLC	MNK	6.83	67.34
30	NEWS CORP	NWSA	4.47	12.97	23	FLUOR CORP	FLR	6.86	53.52
24	DIAMOND OFFSHRE DRILLING INC	DO	4.72	22.72	3	TWENTY-FIRST CENTURY FOX INC	FOXA	6.88	26.64
16	KOHL'S CORP	KSS	4.99	41.59	8	TERADATA CORP	TDC	6.88	28.38
18	RALPH LAUREN CORP	RL	5.00	98.09	18	XEROX CORP	XRX	6.92	10.30
34	GOODYEAR TIRE & RUBBER CO	GT	5.09	28.67	2	ROBERT HALF INTL INC	RHI	7.11	36.54
18	GAP INC	GPS	5.13	25.79	2	BLOCK H & R INC	HRB	7.14	23.79
19	UNITED RENTALS INC	URI	5.28	79.67	2	WHOLE FOODS MARKET INC	WFM	7.21	30.48
7	GILEAD SCIENCES INC	GILD	5.31	79.47	6	VERIZON COMMUNICATIONS INC	VZ	7.23	55.41
39	CENTURYLINK INC	CTL	5.32	31.44	3	SCRIPPS NETWORKS INTERACTIVE	SNI	7.33	66.06
18	GENERAL MOTORS CO	GM	5.39	31.54	4	PITNEY BOWES INC	PBI	7.38	19.31
19	MICRON TECHNOLOGY INC	MU	5.47	13.74	3	TARGET CORP	TGT	7.38	75.33
9	HEWLETT PACKARD ENTERPRISE	HPE	5.68	21.02	New	OWENS-ILLINOIS INC	OI	7.38	18.79
13	DISCOVERY COMMUNICATIONS INC	DISCA	5.78	25.09	6	VIACOM INC	VIAB	7.42	45.47
15	FRONTIER COMMUNICATIONS CORP	FTR	5.82	5.20	New	KROGER CO	KR	7.47	34.19
21	LYONDELLBASELL INDUSTRIES NV	LYB	6.01	75.26	New	CARNIVAL CORP/PLC (USA)	CCL	7.48	46.72
11	MACY'S INC	M	6.02	35.83	3	WESTROCK CO	WRK	7.51	42.91
5	MICHAEL KORS HOLDINGS LTD	KORS	6.21	51.72	11	INTL PAPER CO	IP	7.58	45.81
9	NETAPP INC	NTAP	6.27	26.35	New	CF INDUSTRIES HOLDINGS INC	CF	7.58	24.68
11	STAPLES INC	SPLS	6.36	9.29	7	INTEL CORP	INTC	7.62	34.86

Free Cash Flow / EV

Top Decile S&P 500 (ex. Financials) Companies By HIGH Free Cash Flow / EV

Free Cash Flow / EV: Free Cash Flow divided by Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents). Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.





Absolute Returns

Last 1 Month	6.12%
Last 3 Months	4.44%
Last 6 Months	11.04%
Last 12 Months	-5.96%
2016 YTD	3.43%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end July 2010. The unshaded portion represents actual performance since August 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

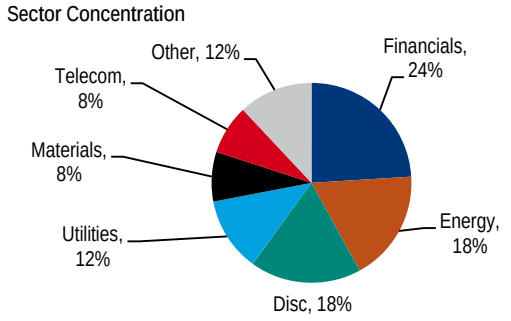
Screen for August

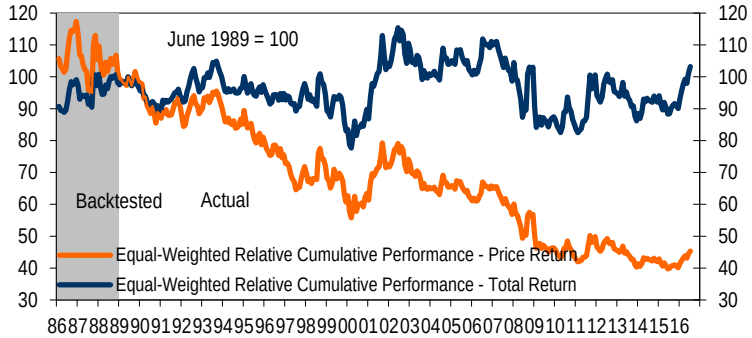
Mo. In Scrn.	Company	Ticker	FCF/EV	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	FCF/EV	Price 07/29/2016
3	SYMANTEC CORP	SYMC	0.29	20.43	7	TESORO CORP	TSO	0.08	76.15
12	FIRST SOLAR INC	FSLR	0.27	46.68	54	WESTERN UNION CO	WU	0.08	20.00
66	DISCOVERY COMMUNICATIONS INC	DISCA	0.26	25.09	2	BROWN FORMAN CORP	BF.B	0.08	98.19
10	UNITED CONTINENTAL HLDGS INC	UAL	0.25	46.89	6	VIACOM INC	VIAB	0.08	45.47
3	BAXTER INTERNATIONAL INC	BAX	0.16	48.02	22	LYONDELLBASELL INDUSTRIES NV	LYB	0.08	75.26
18	GILEAD SCIENCES INC	GILD	0.15	79.47	10	APPLE INC	AAPL	0.08	104.21
27	VALERO ENERGY CORP	VLO	0.14	52.28	6	MALLINCKRODT PLC	MNK	0.08	67.34
10	HP INC	HPQ	0.13	14.01	30	NETAPP INC	NTAP	0.08	26.35
77	WESTERN DIGITAL CORP	WDC	0.12	47.51	63	CA INC	CA	0.08	34.65
6	LEVEL 3 COMMUNICATIONS INC	LVLT	0.12	50.60	2	BLOCK H & R INC	HRB	0.08	23.79
29	BEST BUY CO INC	BBY	0.11	33.60	New	INGERSOLL-RAND PLC	IR	0.08	66.26
7	NETFLIX INC	NFLX	0.11	91.25	4	MICHAEL KORS HOLDINGS LTD	KORS	0.08	51.72
9	TE CONNECTIVITY LTD	TEL	0.11	60.28	5	TARGET CORP	TGT	0.08	75.33
New	CORNING INC	GLW	0.10	22.22	7	INTEL CORP	INTC	0.08	34.86
6	DELTA AIR LINES INC	DAL	0.10	38.75	2	SKYWORKS SOLUTIONS INC	SWKS	0.07	66.02
9	BED BATH & BEYOND INC	BBBY	0.09	44.95	3	AMERISOURCEBERGEN CORP	ABC	0.07	85.19
56	CISCO SYSTEMS INC	CSCO	0.09	30.53	3	ALASKA AIR GROUP INC	ALK	0.07	67.22
New	DOW CHEMICAL	DOW	0.09	53.67	3	ALLERGAN PLC	AGN	0.07	252.95
3	SCRIPPS NETWORKS INTERACTIVE	SNI	0.09	66.06	New	ROBERT HALF INTL INC	RHI	0.07	36.54
9	MONDELEZ INTERNATIONAL INC	MDLZ	0.08	43.98	6	XEROX CORP	XRX	0.07	10.30
					New	MACY'S INC	M	0.07	35.83

CASH DEPLOYMENT STRATEGIES: Dividend Yield

Top 50 S&P 500 Companies By DIVIDEND YIELD

Dividend Yield: Indicated dividend divided by month-end price.





Absolute Returns

Last 1 Month	6.11%
Last 3 Months	8.85%
Last 6 Months	26.91%
Last 12 Months	18.08%
2016 YTD	23.58%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

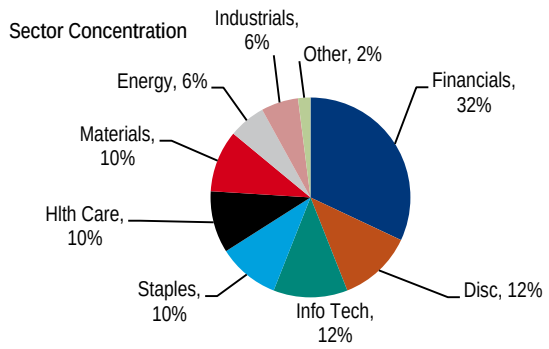
Screen for August

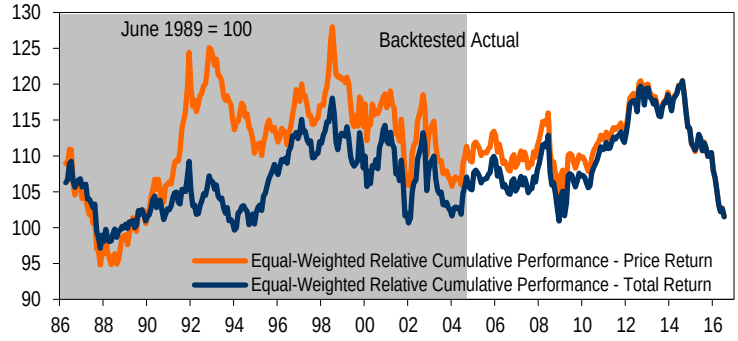
Mo. In Scrn	Company	Ticker	Yield	Price 07/29/2016	Mo. In Scrn	Company	Ticker	Yield	Price 07/29/2016
24	WILLIAMS COS INC	WMB	10.68%	23.97	6	WESTERN DIGITAL CORP	WDC	4.21%	47.51
97	FRONTIER COMMUNICATIONS CORP	FTR	8.08%	5.20	88	SOUTHERN CO	SO	4.19%	53.50
17	SEAGATE TECHNOLOGY PLC	STX	7.87%	32.03	71	ENTERGY CORP	ETR	4.18%	81.39
97	CENTURYLINK INC	CTL	6.87%	31.44	21	CHEVRON CORP	CVX	4.18%	102.48
94	HCP INC	HCP	5.86%	39.23	18	FIRSTENERGY CORP	FE	4.12%	34.92
22	ONEOK INC	OKE	5.49%	44.79	88	VERIZON COMMUNICATIONS INC	VZ	4.08%	55.41
9	STAPLES INC	SPLS	5.17%	9.29	7	MOSAIC CO	MOS	4.07%	27.00
13	MURPHY OIL CORP	MUR	5.10%	27.43	39	PHILIP MORRIS INTERNATIONAL	PM	4.07%	100.26
3	CF INDUSTRIES HOLDINGS INC	CF	4.86%	24.68	13	OCCIDENTAL PETROLEUM CORP	OXY	4.07%	74.73
16	GENERAL MOTORS CO	GM	4.82%	31.54	84	PPL CORP	PPL	4.03%	37.71
6	KOHL'S CORP	KSS	4.81%	41.59	New	DUKE ENERGY CORP	DUK	4.00%	85.59
19	FORD MOTOR CO	F	4.74%	12.66	3	PITNEY BOWES INC	PBI	3.88%	19.31
19	IRON MOUNTAIN INC	IRM	4.71%	41.21	11	INTL PAPER CO	IP	3.84%	45.81
4	VALERO ENERGY CORP	VLO	4.59%	52.28	2	INVESCO LTD	IVZ	3.84%	29.18
31	MATTEL INC	MAT	4.55%	33.38	15	VENTAS INC	VTR	3.83%	76.16
15	HELMERICH & PAYNE	HP	4.52%	61.97	8	WEYERHAEUSER CO	WY	3.79%	32.72
3	LYONDELLBASELL INDUSTRIES NV	LYB	4.52%	75.26	20	GARMIN LTD	GRMN	3.75%	54.33
18	HOST HOTELS & RESORTS INC	HST	4.51%	17.74	2	METLIFE INC	MET	3.74%	42.74
13	NAVIENT CORP	NAVI	4.51%	14.20	13	CATERPILLAR INC	CAT	3.72%	82.76
21	SPECTRA ENERGY CORP	SE	4.50%	35.97	2	PRUDENTIAL FINANCIAL INC	PRU	3.72%	75.29
75	PEOPLE'S UNITED FINL INC	PBCT	4.49%	15.16	New	BLOCK H & R INC	HRB	3.70%	23.79
89	AT&T INC	T	4.44%	43.29	New	REYNOLDS AMERICAN INC	RAI	3.68%	50.06
11	WELLTOWER INC	HCN	4.34%	79.33	New	MARATHON PETROLEUM CORP	MPC	3.66%	39.39
31	CENTERPOINT ENERGY INC	CNP	4.31%	23.92	New	CROWN CASTLE INTL CORP	CCI	3.65%	97.03
3	MACY'S INC	M	4.21%	35.83	New	DARDEN RESTAURANTS INC	DRI	3.64%	61.56

Dividend Growth

Top 50 S&P 500 Companies By Dividend Growth

Dividend Growth: The growth between trailing 4-quarter total common dividends and year-ago trailing 4-quarter total common dividends.





Absolute Returns

Last 1 Month	3.05%
Last 3 Months	3.57%
Last 6 Months	9.12%
Last 12 Months	-4.64%
2016 YTD	0.56%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end Mary 1986 to month end December 2004. The unshaded portion represents actual performance since January 2005. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

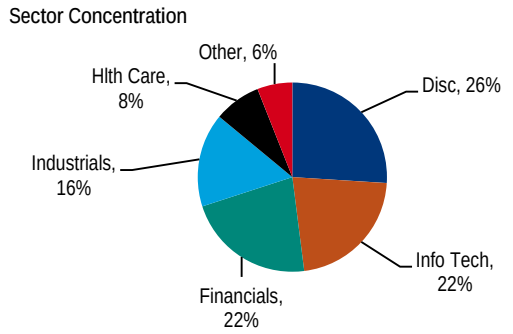
Screen for August

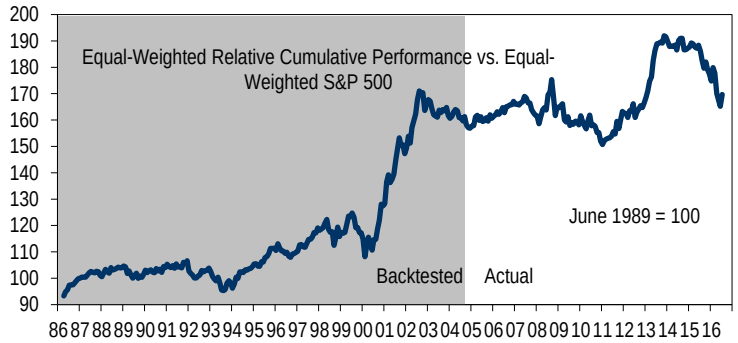
Mo. In Scrn	Company	Ticker	Dividend Growth	Price 07/29/2016	Mo. In Scrn	Company	Ticker	Dividend Growth	Price 07/29/2016
3	SYMANTEC CORP	SYMC	590.0%	20.43	6	EXPEDIA INC	EXPE	51.4%	116.65
27	CF INDUSTRIES HOLDINGS INC	CF	421.8%	24.68	4	ASSURANT INC	AIZ	51.4%	83.01
4	EQUITY RESIDENTIAL	EQR	383.2%	67.99	10	NASDAQ INC	NDAQ	48.8%	70.76
9	NORDSTROM INC	JWN	351.2%	44.23	10	VALERO ENERGY CORP	VLO	44.1%	52.28
2	CONSTELLATION BRANDS	STZ	337.1%	164.63	12	TESORO CORP	TSO	44.1%	76.15
3	DOLLAR GENERAL CORP	DG	302.4%	94.74	13	LAM RESEARCH CORP	LRCX	43.0%	89.77
New	GILEAD SCIENCES INC	GILD	285.2%	79.47	19	TYSON FOODS INC -CL A	TSN	42.5%	73.60
10	REYNOLDS AMERICAN INC	RAI	187.9%	50.06	2	NIKE INC	NKE	41.7%	55.50
12	WESTROCK CO	WRK	174.4%	42.91	22	DELTA AIR LINES INC	DAL	41.4%	38.75
6	MACERICH CO	MAC	170.7%	89.24	3	ALASKA AIR GROUP INC	ALK	39.5%	67.22
13	CITIGROUP INC	C	143.9%	43.81	6	CITIZENS FINANCIAL GROUP INC	CFG	36.1%	22.33
8	KROGER CO	KR	130.4%	34.19	New	ALBEMARLE CORP	ALB	35.9%	84.17
12	ROSS STORES INC	ROST	126.8%	61.83	New	XL GROUP LTD	XL	34.4%	34.61
6	EQUINIX INC	EQIX	109.9%	372.87	4	EXTRA SPACE STORAGE INC	EXR	34.3%	86.02
13	SKYWORKS SOLUTIONS INC	SWKS	108.0%	66.02	7	ZIONS BANCORPORATION	ZION	34.2%	27.88
12	MARATHON PETROLEUM CORP	MPC	99.2%	39.39	New	MASCO CORP	MAS	33.6%	36.48
27	VULCAN MATERIALS CO	VMC	87.0%	123.98	22	MORGAN STANLEY	MS	31.3%	28.73
6	HORMEL FOODS CORP	HRL	85.0%	37.35	5	UNITEDHEALTH GROUP INC	UNH	30.6%	143.20
4	GLOBAL PAYMENTS INC	GPN	79.4%	74.66	4	CINCINNATI FINANCIAL CORP	CINF	30.3%	74.70
6	AMERICAN INTERNATIONAL GROUP	AIG	74.1%	54.44	4	CME GROUP INC	CME	30.0%	102.24
10	PPG INDUSTRIES INC	PPG	68.6%	104.71	4	BRISTOL-MYERS SQUIBB CO	BMY	29.3%	74.81
9	MEDTRONIC PLC	MDT	59.8%	87.63	8	AMERICAN TOWER CORP	AMT	28.5%	115.77
6	BROADCOM LTD	AVGO	58.0%	161.98	4	PROGRESSIVE CORP-OHIO	PGR	28.5%	32.51
4	FORD MOTOR CO	F	55.8%	12.66	New	HARRIS CORP	HRS	27.9%	86.62
15	AES CORP	AES	54.9%	12.35	New	DENTSPLY SIRONA INC	XRAY	27.0%	64.04

Share Repurchase

Top 50 S&P 500 Companies By Large Share Repurchase

Share Repurchase: The year-to-year change in shares outstanding.





Absolute Returns

Last 1 Month	7.09%
Last 3 Months	5.01%
Last 6 Months	12.59%
Last 12 Months	-5.19%
2016 YTD	4.60%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 2004. The unshaded portion represents actual performance since January 2005. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

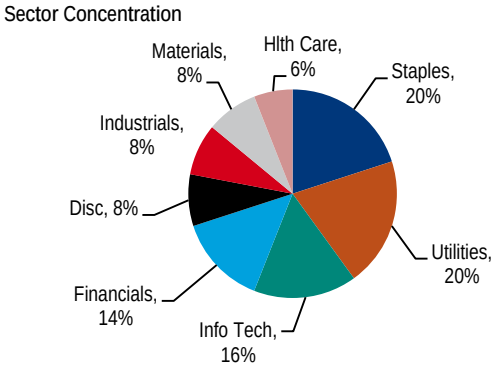
Screen for August

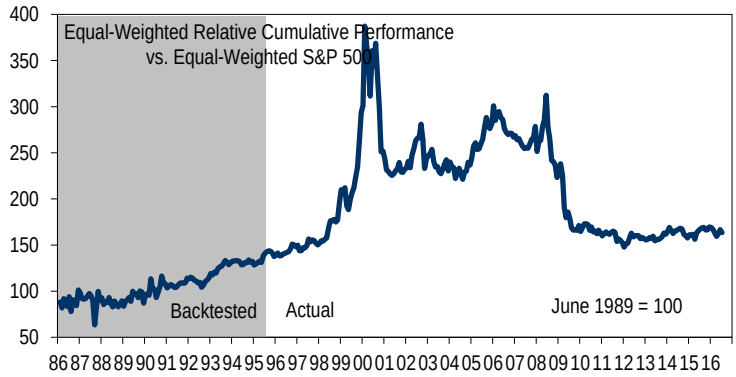
Mo. In Scrn	Company	Ticker	Share Repurchase	Price 07/29/2016	Mo. In Scrn	Company	Ticker	Share Repurchase	Price 07/29/2016
9	QUANTA SERVICES INC	PWR	-22.1%	25.60	10	GRAINGER (W W) INC	GWW	-8.4%	218.85
13	AMERICAN AIRLINES GROUP INC	AAL	-20.8%	35.50	4	BOEING CO	BA	-8.1%	133.66
8	BLOCK H & R INC	HRB	-20.2%	23.79	6	NORDSTROM INC	JWN	-7.9%	44.23
10	CORNING INC	GLW	-15.8%	22.22	3	CBS CORP	CBS	-7.9%	52.22
21	MOTOROLA SOLUTIONS INC	MSI	-15.6%	69.38	2	CARMAX INC	KMX	-7.8%	58.26
19	NAVIENT CORP	NAVI	-15.2%	14.20	New	AMERICAN EXPRESS CO	AXP	-7.7%	64.46
4	UNITED CONTINENTAL HLDGS INC	UAL	-14.8%	46.89	3	INTUIT INC	INTU	-7.7%	110.99
5	QORVO INC	QRVO	-14.8%	63.23	New	YUM BRANDS INC	YUM	-7.6%	89.42
16	AMERICAN INTERNATIONAL GROUP	AIG	-13.5%	54.44	31	TRAVELERS COS INC	TRV	-7.4%	116.22
9	HARLEY-DAVIDSON INC	HOG	-12.1%	52.92	6	LOEWS CORP	L	-7.3%	41.33
7	TE CONNECTIVITY LTD	TEL	-11.8%	60.28	2	EBAY INC	EBAY	-7.1%	31.16
6	WHOLE FOODS MARKET INC	WFM	-11.1%	30.48	New	WYNDHAM WORLDWIDE CORP	WYN	-7.0%	71.02
3	SYMANTEC CORP	SYMC	-10.5%	20.43	New	DISCOVER FINANCIAL SVCS INC	DFS	-6.9%	56.84
28	LYONDELLBASELL INDUSTRIES NV	LYB	-10.4%	75.26	New	HARTFORD FINANCIAL SERVICES	HIG	-6.8%	39.85
4	AUTONATION INC	AN	-9.9%	53.35	8	BIOGEN INC	BIIB	-6.8%	289.93
4	GILEAD SCIENCES INC	GILD	-9.6%	79.47	9	MACY'S INC	M	-6.8%	35.83
8	APPLIED MATERIALS INC	AMAT	-9.3%	26.29	2	MALLINCKRODT PLC	MNK	-6.8%	67.34
7	AMERIPRISE FINANCIAL INC	AMP	-9.3%	95.84	3	MCDONALD'S CORP	MCD	-6.8%	117.65
4	UNITED RENTALS INC	URI	-9.1%	79.67	New	F5 NETWORKS INC	FFIV	-6.8%	123.42
7	MEAD JOHNSON NUTRITION CO	MJN	-8.9%	89.20	New	CAPITAL ONE FINANCIAL CORP	COF	-6.7%	67.08
New	XL GROUP LTD	XL	-8.9%	34.61	13	EXPRESS SCRIPTS HOLDING CO	ESRX	-6.7%	76.07
5	BED BATH & BEYOND INC	BBBY	-8.9%	44.95	9	ALLSTATE CORP	ALL	-6.7%	68.33
6	GENERAL ELECTRIC CO	GE	-8.9%	31.14	New	CINTAS CORP	CTAS	-6.7%	107.27
12	MICHAEL KORS HOLDINGS LTD	KORS	-8.8%	51.72	13	QUALCOMM INC	QCOM	-6.7%	62.58
17	TERADATA CORP	TDC	-8.6%	28.38	15	TWENTY-FIRST CENTURY FOX INC	FOXA	-6.6%	26.64

TECHNICAL STRATEGIES: Relative Strength – 30wk/75wk Moving Average

Top 50 S&P 500 Companies By RELATIVE STRENGTH

Relative Strength: The ratio of the 30-week moving average of price to the 75-week moving average.





Absolute Returns

Last 1 Month	2.28%
Last 3 Months	7.93%
Last 6 Months	12.19%
Last 12 Months	1.56%
2016 YTD	5.39%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end August 1995. The unshaded portion represents actual performance since September 1995. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for August

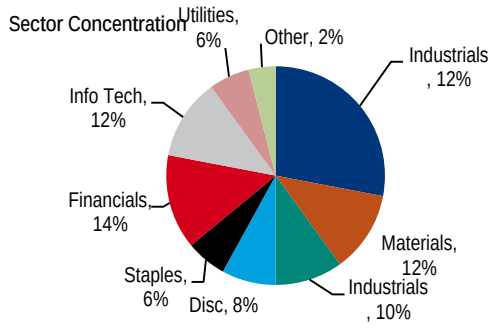
Mo. In Scrn.	Company	Ticker	Relative Strength	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Relative Strength	Price 07/29/2016
8	NVIDIA CORP	NVDA	1.28	57.10	6	NASDAQ INC	NDAQ	1.11	70.76
6	TYSON FOODS INC -CL A	TSN	1.23	73.60	5	CINCINNATI FINANCIAL CORP	CINF	1.11	74.70
2	NEWMONT MINING CORP	NEM	1.22	44.00	4	GLOBAL PAYMENTS INC	GPN	1.11	74.66
3	DIGITAL REALTY TRUST INC	DLR	1.18	104.46	3	KLA-TENCOR CORP	KLAC	1.11	75.71
5	AMERICAN WATER WORKS CO INC	AWK	1.17	82.58	2	INTUITIVE SURGICAL INC	ISRG	1.11	695.76
22	EDWARDS LIFESCIENCES CORP	EW	1.17	114.52	2	CMS ENERGY CORP	CMS	1.11	45.18
5	NISOURCE INC	NI	1.16	25.66	2	SYSCO CORP	SYY	1.11	51.79
12	AMAZON.COM INC	AMZN	1.15	758.81	New	ALLIANT ENERGY CORP	LNT	1.11	40.25
3	REALTY INCOME CORP	O	1.15	71.47	7	NORTHROP GRUMMAN CORP	NOC	1.11	216.63
4	ULTA SALON COSMETCS & FRAG	ULTA	1.14	261.21	2	WEC ENERGY GROUP INC	WEC	1.11	64.91
8	HORMEL FOODS CORP	HRL	1.14	37.35	3	MCCORMICK & CO INC	MKC	1.10	102.25
3	MATTEL INC	MAT	1.14	33.38	New	CONSOLIDATED EDISON INC	ED	1.10	80.08
5	CAMPBELL SOUP CO	CPB	1.14	62.27	8	VERISIGN INC	VRSN	1.10	86.61
New	ALBEMARLE CORP	ALB	1.14	84.17	New	XCEL ENERGY INC	XEL	1.10	43.98
10	ACTIVISION BLIZZARD INC	ATVI	1.14	40.16	9	MASCO CORP	MAS	1.10	36.48
10	EQUINIX INC	EQIX	1.13	372.87	9	AVERY DENNISON CORP	AVY	1.10	77.89
3	SCANA CORP	SCG	1.13	74.94	New	PINNACLE WEST CAPITAL CORP	PNW	1.10	78.87
8	FACEBOOK INC	FB	1.13	123.94	2	ALTRIA GROUP INC	MO	1.10	67.70
7	PUBLIC STORAGE	PSA	1.12	238.92	13	VULCAN MATERIALS CO	VMC	1.10	123.98
17	CONSTELLATION BRANDS	STZ	1.12	164.63	10	FISERV INC	FISV	1.10	110.36
11	REYNOLDS AMERICAN INC	RAI	1.12	50.06	4	RAYTHEON CO	RTN	1.10	139.53
3	ACUITY BRANDS INC	AYI	1.12	262.43	New	AMEREN CORP	AEE	1.09	52.44
7	EXTRA SPACE STORAGE INC	EXR	1.12	86.02	3	KIMBERLY-CLARK CORP	KMB	1.09	129.55
5	MOLSON COORS BREWING CO	TAP	1.12	102.16	2	SCHEIN (HENRY) INC	HSIC	1.09	180.98
5	MCDONALD'S CORP	MCD	1.12	117.65	8	ALPHABET INC	GOOGL	1.09	791.34

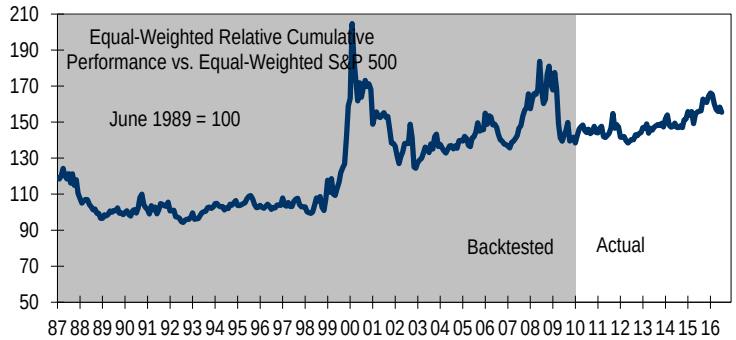
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Relative Strength – 5wk/30wk Moving Average

Top 50 S&P 500 Companies By 5W/30W Price Moving Average

Relative Strength: The ratio of the 5-week moving average of price to the 30-week moving average.





Absolute Returns

Last 1 Month	2.37%
Last 3 Months	4.15%
Last 6 Months	8.50%
Last 12 Months	3.56%
2016 YTD	3.37%

Source: BofA Merrill Lynch US Quantitative Strategy
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

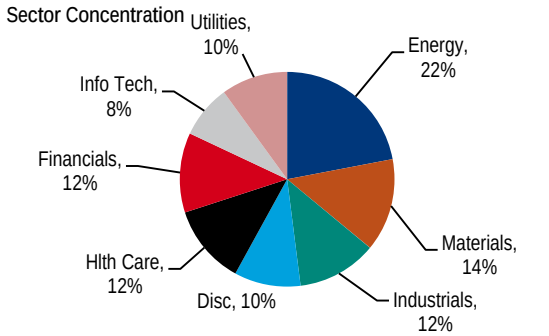
Screen for August

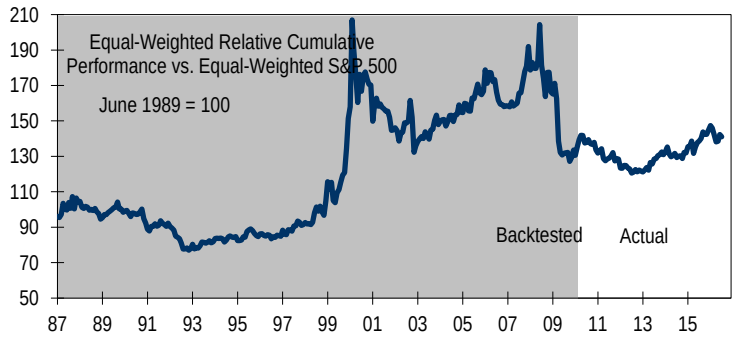
Mo. In Scrn.	Company	Ticker	5W/30W	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	5W/30W	Price 07/29/2016
4	ONEOK INC	OKE	1.4	44.79	2	ANADARKO PETROLEUM CORP	APC	1.2	54.53
6	NEWMONT MINING CORP	NEM	1.4	44.00	New	VULCAN MATERIALS CO	VMC	1.2	123.98
5	NVIDIA CORP	NVDA	1.3	57.10	3	JACOBS ENGINEERING GROUP INC	JEC	1.2	53.52
3	SOUTHWESTERN ENERGY CO	SWN	1.3	14.58	New	HERSHEY CO	HSY	1.2	110.76
5	FREEPORT-MCMORAN INC	FCX	1.3	12.96	3	EQT CORP	EQT	1.1	72.86
3	NEWFIELD EXPLORATION CO	NFX	1.3	43.30	2	L-3 COMMUNICATIONS HLDGS INC	LLL	1.1	151.63
New	ALBEMARLE CORP	ALB	1.2	84.17	New	SMUCKER (JM) CO	SJM	1.1	154.16
2	MARATHON OIL CORP	MRO	1.2	13.64	2	AMAZON.COM INC	AMZN	1.1	758.81
4	ULTA SALON COSMETCS & FRAG	ULTA	1.2	261.21	New	NUCOR CORP	NUE	1.1	53.64
3	ST JUDE MEDICAL INC	STJ	1.2	83.04	5	CENTERPOINT ENERGY INC	CNP	1.1	23.92
2	DEVON ENERGY CORP	DVN	1.2	38.28	3	CIMAREX ENERGY CO	XEC	1.1	120.02
4	RANGE RESOURCES CORP	RRC	1.2	40.31	3	DUN & BRADSTREET CORP	DNB	1.1	129.25
2	APPLIED MATERIALS INC	AMAT	1.2	26.29	2	EQUINIX INC	EQIX	1.1	372.87
4	IRON MOUNTAIN INC	IRM	1.2	41.21	3	TYCO INTERNATIONAL PLC	TYC	1.1	45.57
3	MARTIN MARIETTA MATERIALS	MLM	1.2	202.65	New	REALTY INCOME CORP	O	1.1	71.47
3	DIGITAL REALTY TRUST INC	DLR	1.2	104.46	New	AES CORP	AES	1.1	12.35
New	QORVO INC	QRVO	1.2	63.23	3	FIDELITY NATIONAL INFO SVCS	FIS	1.1	79.53
2	SPECTRA ENERGY CORP	SE	1.2	35.97	New	GENERAL MILLS INC	GIS	1.1	71.89
2	HEWLETT PACKARD ENTERPRISE	HPE	1.2	21.02	2	DOLLAR GENERAL CORP	DG	1.1	94.74
4	MURPHY OIL CORP	MUR	1.2	27.43	New	DOLLAR TREE INC	DLTR	1.1	96.29
3	BOSTON SCIENTIFIC CORP	BSX	1.2	24.28	New	TRANSDIGM GROUP INC	TDG	1.1	279.52
3	HALLIBURTON CO	HAL	1.2	43.66	New	CINCINNATI FINANCIAL CORP	CINF	1.1	74.70
3	VENTAS INC	VTR	1.2	76.16	New	PROLOGIS INC	PLD	1.1	54.49
5	AMERICAN WATER WORKS CO INC	AWK	1.2	82.58	3	CONCHO RESOURCES INC	CXO	1.1	124.20
New	Williams Cos Inc	WMB	1.2	23.97	New	ACTIVISION BLIZZARD INC	ATVI	1.1	40.16

Relative Strength – 10wk/40wk Moving Average

Top 50 S&P 500 Companies By 10W/40W Price Moving Average

Relative Strength: The ratio of the 10-week moving average of price to the 40-week moving average.





Absolute Returns

Last 1 Month	3.29%
Last 3 Months	7.40%
Last 6 Months	10.94%
Last 12 Months	5.76%
2016 YTD	6.38%

Source: BofA Merrill Lynch US Quantitative Strategy

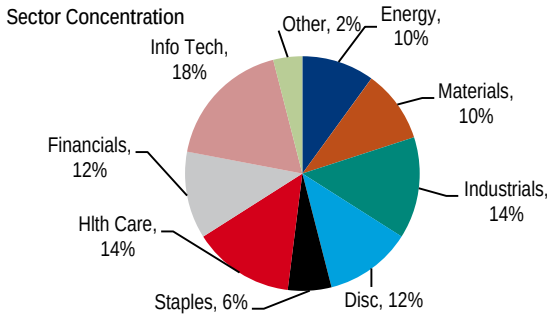
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

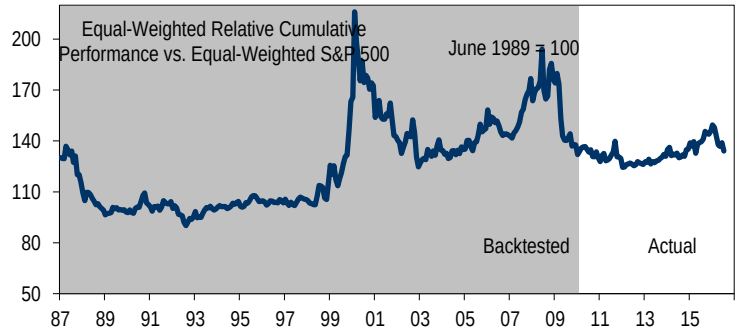
Screen for August

Mo. In Scrn.	Company	Ticker	10W/40W	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	10W/40W	Price 07/29/2016
5	NEWMONT MINING CORP	NEM	1.4	44.00	2	EQT CORP	EQT	1.2	72.86
3	ONEOK INC	OKE	1.4	44.79	2	HALLIBURTON CO	HAL	1.2	43.66
10	NVIDIA CORP	NVDA	1.3	57.10	2	EQUINIX INC	EQIX	1.2	372.87
2	SOUTHWESTERN ENERGY CO	SWN	1.3	14.58	2	DUN & BRADSTREET CORP	DNB	1.1	129.25
New	ALBEMARLE CORP	ALB	1.3	84.17	4	XYLEM INC	XYL	1.1	47.81
3	RANGE RESOURCES CORP	RRC	1.3	40.31	3	VULCAN MATERIALS CO	VMC	1.1	123.98
3	ULTA SALON COSMETCS & FRAG	ULTA	1.2	261.21	2	FMC CORP	FMC	1.1	47.54
3	FREEPORT-MCMORAN INC	FCX	1.2	12.96	2	L-3 COMMUNICATIONS HLDGS INC	LLL	1.1	151.63
4	APPLIED MATERIALS INC	AMAT	1.2	26.29	3	APACHE CORP	APA	1.1	52.50
2	ST JUDE MEDICAL INC	STJ	1.2	83.04	New	DOLLAR TREE INC	DLTR	1.1	96.29
3	DIGITAL REALTY TRUST INC	DLR	1.2	104.46	4	NISOURCE INC	NI	1.1	25.66
3	IRON MOUNTAIN INC	IRM	1.2	41.21	2	CABOT OIL & GAS CORP	COG	1.1	24.67
3	MARTIN MARIETTA MATERIALS	MLM	1.2	202.65	3	NUCOR CORP	NUE	1.1	53.64
4	WYNN RESORTS LTD	WYNN	1.2	97.95	2	CONCHO RESOURCES INC	CXO	1.1	124.20
2	NEWFIELD EXPLORATION CO	NFX	1.2	43.30	7	REALTY INCOME CORP	O	1.1	71.47
3	BOSTON SCIENTIFIC CORP	BSX	1.2	24.28	7	EDWARDS LIFESCIENCES CORP	EW	1.1	114.52
5	AMERICAN WATER WORKS CO INC	AWK	1.2	82.58	2	AMAZON.COM INC	AMZN	1.1	758.81
2	JACOBS ENGINEERING GROUP INC	JEC	1.2	53.52	New	ALLIANT ENERGY CORP	LNT	1.1	40.25
2	SPECTRA ENERGY CORP	SE	1.2	35.97	6	INTUITIVE SURGICAL INC	ISRG	1.1	695.76
3	CENTERPOINT ENERGY INC	CNP	1.2	23.92	New	TRANSDIGM GROUP INC	TDG	1.1	279.52
2	NRG ENERGY INC	NRG	1.2	13.84	New	BARD (C.R.) INC	BCR	1.1	223.73
4	DOLLAR GENERAL CORP	DG	1.2	94.74	New	FIDELITY NATIONAL INFO SVCS	FIS	1.1	79.53
3	VENTAS INC	VTR	1.2	76.16	New	PROLOGIS INC	PLD	1.1	54.49
3	MURPHY OIL CORP	MUR	1.2	27.43	2	ZIMMER BIOMET HOLDINGS INC	ZBH	1.1	131.14
2	TYCO INTERNATIONAL PLC	TYC	1.2	45.57	New	QORVO INC	QRVO	1.1	63.23

Price to Moving Average (200-Day)

Top 50 S&P 500 Companies By Price to 200-Day Moving Average





Absolute Returns

Last 1 Month	0.61%
Last 3 Months	2.49%
Last 6 Months	4.01%
Last 12 Months	-0.11%
2016 YTD	0.58%

Source: BofA Merrill Lynch US Quantitative Strategy

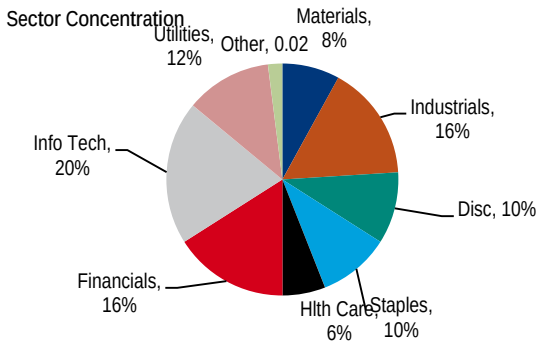
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

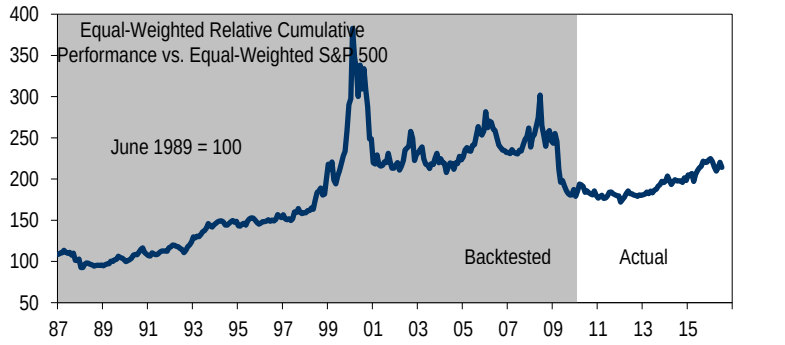
Screen for August

Mo. In Scrn.	Company	Ticker	Price/200D	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Price/200D	Price 07/29/2016
6	NEWMONT MINING CORP	NEM	1.6	44.00	3	NEWFIELD EXPLORATION CO	NFX	1.2	43.30
11	NVIDIA CORP	NVDA	1.6	57.10	New	EBAY INC	EBAY	1.2	31.16
4	SOUTHWESTERN ENERGY CO	SWN	1.4	14.58	5	AMERICAN WATER WORKS CO INC	AWK	1.2	82.58
New	GARMIN LTD	GRMN	1.4	54.33	3	DIGITAL REALTY TRUST INC	DLR	1.2	104.46
4	FREEPORT-MCMORAN INC	FCX	1.4	12.96	New	JACOBS ENGINEERING GROUP INC	JEC	1.2	53.52
4	ONEOK INC	OKE	1.4	44.79	New	TEXAS INSTRUMENTS INC	TXN	1.2	69.75
New	LINEAR TECHNOLOGY CORP	LLTC	1.3	59.99	2	SPECTRA ENERGY CORP	SE	1.2	35.97
New	ALBEMARLE CORP	ALB	1.3	84.17	New	ZIMMER BIOMET HOLDINGS INC	ZBH	1.2	131.14
4	ULTA SALON COSMETCS & FRAG	ULTA	1.3	261.21	New	WYNN RESORTS LTD	WYNN	1.2	97.95
5	APPLIED MATERIALS INC	AMAT	1.3	26.29	New	QUALCOMM INC	QCOM	1.2	62.58
New	HEWLETT PACKARD ENTERPRISE	HPE	1.3	21.02	New	WATERS CORP	WAT	1.2	158.93
4	ST JUDE MEDICAL INC	STJ	1.3	83.04	3	DOLLAR GENERAL CORP	DG	1.2	94.74
New	QORVO INC	QRVO	1.3	63.23	New	QUEST DIAGNOSTICS INC	DGX	1.2	86.36
5	IRON MOUNTAIN INC	IRM	1.3	41.21	3	DOLLAR TREE INC	DLTR	1.2	96.29
New	EDWARDS LIFESCIENCES CORP	EW	1.3	114.52	New	XYLEM INC	XYL	1.2	47.81
3	MARTIN MARIETTA MATERIALS	MLM	1.3	202.65	New	NUCOR CORP	NUE	1.2	53.64
2	VENTAS INC	VTR	1.3	76.16	3	L-3 COMMUNICATIONS HLDGS INC	LLL	1.2	151.63
New	TYSON FOODS INC -CL A	TSN	1.2	73.60	2	HERSHEY CO	HSY	1.2	110.76
New	S&P GLOBAL INC	SPGI	1.2	122.20	6	INTUITIVE SURGICAL INC	ISRG	1.2	695.76
4	BOSTON SCIENTIFIC CORP	BSX	1.2	24.28	New	FIDELITY NATIONAL INFO SVCS	FIS	1.2	79.53
New	PROLOGIS INC	PLD	1.2	54.49	New	TRANSDIGM GROUP INC	TDG	1.2	279.52
2	REALTY INCOME CORP	O	1.2	71.47	New	NEWELL BRANDS INC	NWL	1.2	52.46
New	TYCO INTERNATIONAL PLC	TYC	1.2	45.57	4	RANGE RESOURCES CORP	RRC	1.2	40.31
New	MASCO CORP	MAS	1.2	36.48	2	SMUCKER (JM) CO	SJM	1.2	154.16
New	UNITED RENTALS INC	URI	1.2	79.67	4	CENTERPOINT ENERGY INC	CNP	1.2	23.92

Price Return – 12-Month Performance

Top 50 S&P 500 Companies By 12-month price return





Absolute Returns

Last 1 Month	1.28%
Last 3 Months	7.47%
Last 6 Months	10.44%
Last 12 Months	4.23%
2016 YTD	4.89%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

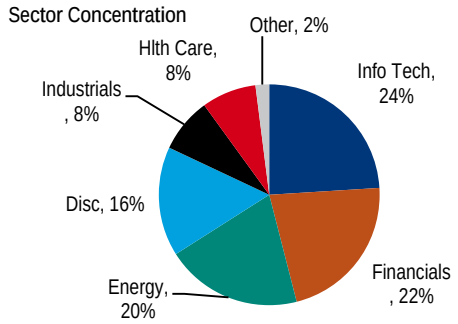
Screen for August

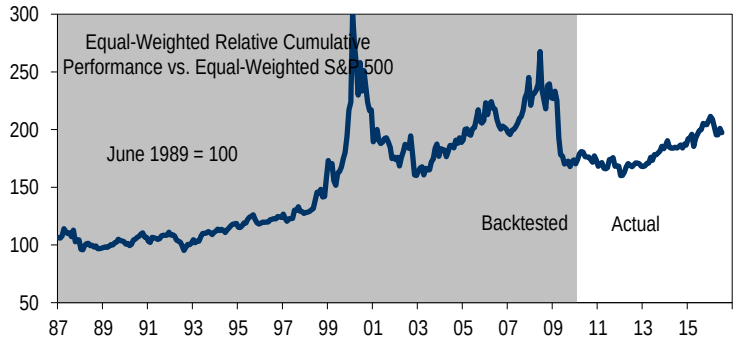
Mo. In Scrn.	Company	Ticker	Price Return	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 07/29/2016
11	NVIDIA CORP	NVDA	186.2%	57.10	13	CONSTELLATION BRANDS	STZ	37.2%	164.63
2	NEWMONT MINING CORP	NEM	156.3%	44.00	New	IRON MOUNTAIN INC	IRM	37.1%	41.21
8	TYSON FOODS INC -CL A	TSN	66.0%	73.60	5	SCANA CORP	SCG	36.8%	74.94
3	DIGITAL REALTY TRUST INC	DLR	62.5%	104.46	13	VULCAN MATERIALS CO	VMC	36.2%	123.98
5	AMERICAN WATER WORKS CO INC	AWK	59.1%	82.58	4	CINCINNATI FINANCIAL CORP	CINF	35.3%	74.70
4	ULTA SALON COSMETCS & FRAG	ULTA	57.3%	261.21	New	PROLOGIS INC	PLD	34.2%	54.49
11	ACTIVISION BLIZZARD INC	ATVI	55.7%	40.16	10	EQUINIX INC	EQIX	33.7%	372.87
New	ALBEMARLE CORP	ALB	55.3%	84.17	4	GLOBAL PAYMENTS INC	GPN	33.2%	74.66
New	APPLIED MATERIALS INC	AMAT	51.4%	26.29	New	FORTUNE BRANDS HOME & SECUR	FBHS	32.5%	63.27
8	EDWARDS LIFESCIENCES CORP	EW	50.5%	114.52	3	WEC ENERGY GROUP INC	WEC	32.5%	64.91
4	REALTY INCOME CORP	O	48.0%	71.47	New	NEWFIELD EXPLORATION CO	NFX	32.1%	43.30
New	NISOURCE INC	NI	47.0%	25.66	2	CMS ENERGY CORP	CMS	31.9%	45.18
New	LINEAR TECHNOLOGY CORP	LLTC	46.3%	59.99	10	FACEBOOK INC	FB	31.8%	123.94
New	MATTEL INC	MAT	43.8%	33.38	New	L-3 COMMUNICATIONS HLDGS INC	LLL	31.3%	151.63
5	MOLSON COORS BREWING CO	TAP	43.6%	102.16	New	ALLIANT ENERGY CORP	LNT	30.9%	40.25
New	KLA-TENCOR CORP	KLAC	42.7%	75.71	4	INTUITIVE SURGICAL INC	ISRG	30.5%	695.76
5	SYSCO CORP	SYY	42.6%	51.79	3	ACUITY BRANDS INC	AYI	30.4%	262.43
13	AMAZON.COM INC	AMZN	41.5%	758.81	2	KIMCO REALTY CORP	KIM	29.9%	32.10
New	BOSTON SCIENTIFIC CORP	BSX	40.0%	24.28	New	MICROCHIP TECHNOLOGY INC	MCHP	29.9%	55.64
New	TEXAS INSTRUMENTS INC	TXN	39.6%	69.75	New	EQUIFAX INC	EFX	29.7%	132.46
7	NASDAQ INC	NDAQ	38.7%	70.76	New	GARMIN LTD	GRMN	29.6%	54.33
New	XYLEM INC	XYL	38.5%	47.81	New	BROADCOM LTD	AVGO	29.4%	161.98
New	MASCO CORP	MAS	38.2%	36.48	2	WASTE MANAGEMENT INC	WM	29.3%	66.12
New	COACH INC	COH	38.2%	43.11	3	MARTIN MARIETTA MATERIALS	MLM	29.2%	202.65
2	SMUCKER (JM) CO	SJM	38.0%	154.16	New	ILLINOIS TOOL WORKS	ITW	29.0%	115.40

BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Price Return – 9-Month Performance

Top 50 S&P 500 Companies By 9-month price return.





Absolute Returns

Last 1 Month	2.35%
Last 3 Months	6.29%
Last 6 Months	8.20%
Last 12 Months	3.01%
2016 YTD	3.67%

Source: BofA Merrill Lynch US Quantitative Strategy

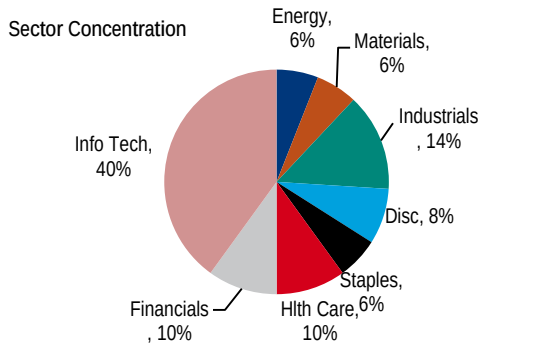
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

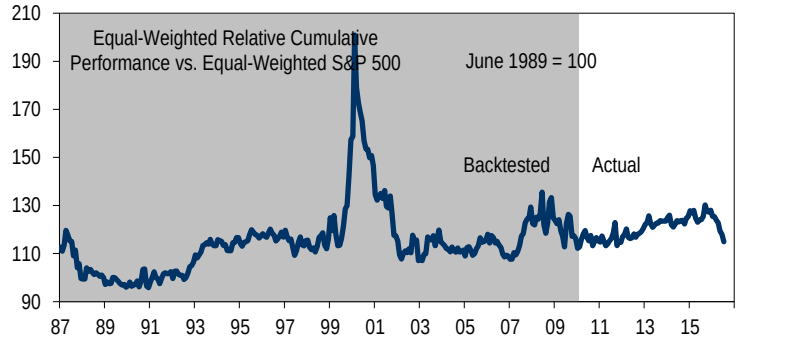
Screen for August

Mo. In Scrn.	Company	Ticker	Price Return	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 07/29/2016
4	NEWMONT MINING CORP	NEM	126.1%	44.00	New	EXELON CORP	EXC	33.5%	37.28
11	NVIDIA CORP	NVDA	101.3%	57.10	2	JACOBS ENGINEERING GROUP INC	JEC	33.3%	53.52
9	TYSON FOODS INC -CL A	TSN	65.9%	73.60	4	BOSTON SCIENTIFIC CORP	BSX	32.8%	24.28
New	ALBEMARLE CORP	ALB	57.3%	84.17	2	RANGE RESOURCES CORP	RRC	32.4%	40.31
3	APPLIED MATERIALS INC	AMAT	56.8%	26.29	New	SOUTHWESTERN ENERGY CO	SWN	32.1%	14.58
New	GARMIN LTD	GRMN	53.2%	54.33	2	ONEOK INC	OKE	32.0%	44.79
4	ULTA SALON COSMETCS & FRAG	ULTA	50.2%	261.21	New	S&P GLOBAL INC	SPGI	31.9%	122.20
2	DOLLAR TREE INC	DLTR	47.0%	96.29	New	BROADCOM LTD	AVGO	31.6%	161.98
4	EDWARDS LIFESCIENCES CORP	EW	45.7%	114.52	2	SMUCKER (JM) CO	SJM	31.3%	154.16
7	REALTY INCOME CORP	O	44.5%	71.47	4	XYLEM INC	XYL	31.3%	47.81
5	AMERICAN WATER WORKS CO INC	AWK	44.0%	82.58	New	MARTIN MARIETTA MATERIALS	MLM	30.6%	202.65
New	QORVO INC	QRVO	43.9%	63.23	New	ST JUDE MEDICAL INC	STJ	30.1%	83.04
New	HEWLETT PACKARD ENTERPRISE	HPE	42.8%	21.02	2	AT&T INC	T	29.2%	43.29
New	VENTAS INC	VTR	41.8%	76.16	2	CENTERPOINT ENERGY INC	CNP	28.9%	23.92
3	DIGITAL REALTY TRUST INC	DLR	41.2%	104.46	2	BAXTER INTERNATIONAL INC	BAX	28.4%	48.02
2	INTUITIVE SURGICAL INC	ISRG	40.1%	695.76	2	VULCAN MATERIALS CO	VMC	28.4%	123.98
3	WYNN RESORTS LTD	WYNN	40.0%	97.95	New	EDISON INTERNATIONAL	EIX	27.9%	77.38
New	DOLLAR GENERAL CORP	DG	39.8%	94.74	New	PROLOGIS INC	PLD	27.5%	54.49
4	COACH INC	COH	38.2%	43.11	New	WAL-MART STORES INC	WMT	27.5%	72.97
New	ALLIANT ENERGY CORP	LNT	36.4%	40.25	New	AGILENT TECHNOLOGIES INC	A	27.4%	48.11
6	MATTEL INC	MAT	35.8%	33.38	New	QUANTA SERVICES INC	PWR	27.3%	25.60
New	LINEAR TECHNOLOGY CORP	LLTC	35.1%	59.99	New	TRANSDIGM GROUP INC	TDG	27.1%	279.52
New	IRON MOUNTAIN INC	IRM	34.5%	41.21	2	QUEST DIAGNOSTICS INC	DGX	27.1%	86.36
4	NISOURCE INC	NI	33.9%	25.66	New	NUCOR CORP	NUE	26.8%	53.64
New	MICHAEL KORS HOLDINGS LTD	KORS	33.9%	51.72	7	SCANA CORP	SCG	26.5%	74.94

Price Return – 3-Month Performance

Top 50 S&P 500 Companies By 3-month price return.





Absolute Returns

Last 1 Month	1.51%
Last 3 Months	-1.46%
Last 6 Months	6.16%
Last 12 Months	-3.76%
2016 YTD	-1.87%

Source: BofA Merrill Lynch US Quantitative Strategy

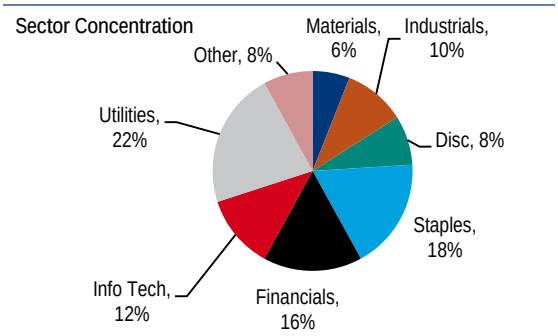
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

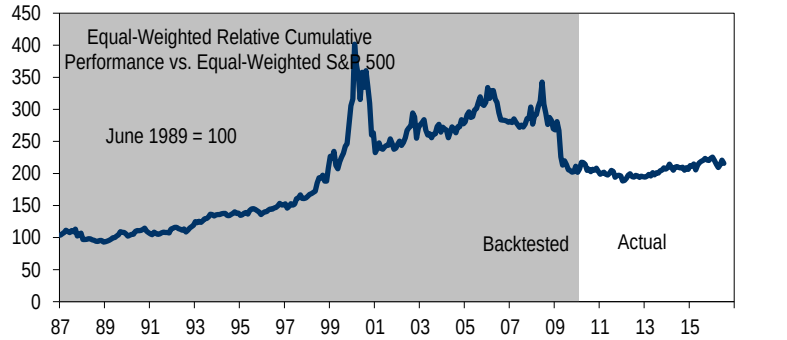
Screen for August

Mo. In Scrn.	Company	Ticker	Price Return	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 07/29/2016
3	NVIDIA CORP	NVDA	60.7%	57.10	New	REALTY INCOME CORP	O	20.7%	71.47
New	SEAGATE TECHNOLOGY PLC	STX	47.1%	32.03	New	JACOBS ENGINEERING GROUP INC	JEC	20.1%	53.52
New	QORVO INC	QRVO	40.4%	63.23	New	PROLOGIS INC	PLD	20.0%	54.49
New	LINEAR TECHNOLOGY CORP	LLTC	34.9%	59.99	5	MARTIN MARIETTA MATERIALS	MLM	19.7%	202.65
New	APPLIED MATERIALS INC	AMAT	28.4%	26.29	New	CINTAS CORP	CTAS	19.5%	107.27
2	MICRON TECHNOLOGY INC	MU	27.8%	13.74	3	NEWFIELD EXPLORATION CO	NFX	19.4%	43.30
New	EBAY INC	EBAY	27.5%	31.16	New	UNITED RENTALS INC	URI	19.0%	79.67
New	GARMIN LTD	GRMN	27.4%	54.33	New	CORNING INC	GLW	19.0%	22.22
New	ALBEMARLE CORP	ALB	27.2%	84.17	2	HERSHEY CO	HSY	19.0%	110.76
New	HEWLETT PACKARD ENTERPRISE	HPE	26.2%	21.02	New	MASCO CORP	MAS	18.8%	36.48
6	NEWMONT MINING CORP	NEM	25.8%	44.00	2	DIGITAL REALTY TRUST INC	DLR	18.7%	104.46
3	ULTA SALON COSMETCS & FRAG	ULTA	25.4%	261.21	New	XILINX INC	XLNX	18.6%	51.08
5	ONEOK INC	OKE	23.9%	44.79	2	TYCO INTERNATIONAL PLC	TYC	18.3%	45.57
New	QUALCOMM INC	QCOM	23.9%	62.58	New	F5 NETWORKS INC	FFIV	17.8%	123.42
3	Williams Cos Inc	WMB	23.6%	23.97	New	AGILENT TECHNOLOGIES INC	A	17.6%	48.11
2	ELECTRONIC ARTS INC	EA	23.4%	76.32	New	BLOCK H & R INC	HRB	17.5%	23.79
New	ILLUMINA INC	ILMN	23.2%	166.35	New	LAM RESEARCH CORP	LRCX	17.5%	89.77
New	SYMANTEC CORP	SYMC	22.7%	20.43	New	MACERICH CO	MAC	17.3%	89.24
2	TRANSDIGM GROUP INC	TDG	22.7%	279.52	New	GENERAL MILLS INC	GIS	17.2%	71.89
2	VENTAS INC	VTR	22.6%	76.16	3	DUN & BRADSTREET CORP	DNB	17.1%	129.25
New	TEXAS INSTRUMENTS INC	TXN	22.3%	69.75	New	CA INC	CA	16.8%	34.65
New	WATERS CORP	WAT	22.1%	158.93	New	ALLERGAN PLC	AGN	16.8%	252.95
2	SMUCKER (JM) CO	SJM	21.4%	154.16	New	VARIAN MEDICAL SYSTEMS INC	VAR	16.7%	94.74
3	FIDELITY NATIONAL INFO SVCS	FIS	20.9%	79.53	2	ACTIVISION BLIZZARD INC	ATVI	16.5%	40.16
New	DOLLAR TREE INC	DLTR	20.8%	96.29	New	WESTERN DIGITAL CORP	WDC	16.3%	47.51

Price Return – 11-Month Performance

Top 50 S&P 500 Companies By 11-month price return.





Absolute Returns

Last 1 Month	1.83%
Last 3 Months	8.49%
Last 6 Months	10.87%
Last 12 Months	2.30%
2016 YTD	5.36%

Source: BofA Merrill Lynch US Quantitative Strategy

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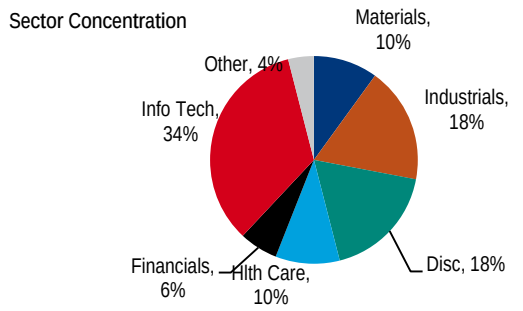
Screen for August

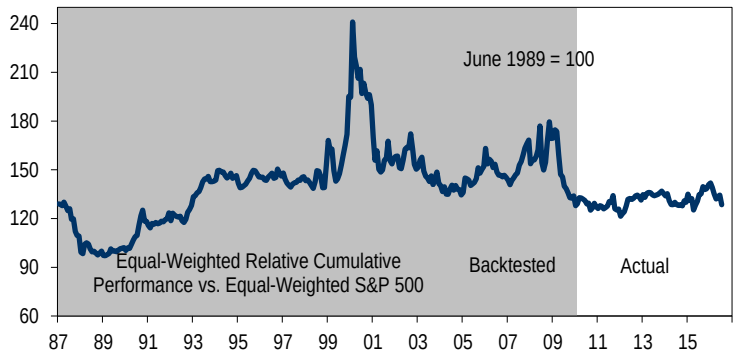
Mo. In Scrn.	Company	Ticker	Price Return	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 07/29/2016
10	NVIDIA CORP	NVDA	135.6%	57.10	3	WEC ENERGY GROUP INC	WEC	33.3%	64.91
3	NEWMONT MINING CORP	NEM	127.8%	44.00	New	IRON MOUNTAIN INC	IRM	32.5%	41.21
3	DIGITAL REALTY TRUST INC	DLR	69.6%	104.46	5	VULCAN MATERIALS CO	VMC	32.2%	123.98
5	AMERICAN WATER WORKS CO INC	AWK	62.8%	82.58	2	PINNACLE WEST CAPITAL CORP	PNW	31.4%	78.87
11	ACTIVISION BLIZZARD INC	ATVI	53.7%	40.16	6	EDWARDS LIFESCIENCES CORP	EW	31.1%	114.52
New	NISOURCE INC	NI	51.9%	25.66	New	COACH INC	COH	30.6%	43.11
7	TYSON FOODS INC -CL A	TSN	50.6%	73.60	2	AMEREN CORP	AEE	30.4%	52.44
4	ULTA SALON COSMETCS & FRAG	ULTA	46.7%	261.21	New	MCCORMICK & CO INC	MKC	30.1%	102.25
New	ALBEMARLE CORP	ALB	46.3%	84.17	2	WASTE MANAGEMENT INC	WM	29.6%	66.12
4	REALTY INCOME CORP	O	43.6%	71.47	2	EDISON INTERNATIONAL	EIX	29.4%	77.38
4	MOLSON COORS BREWING CO	TAP	42.2%	102.16	New	XYLEM INC	XYL	29.3%	47.81
5	SYSCO CORP	SYY	39.7%	51.79	2	XCEL ENERGY INC	XEL	29.2%	43.98
10	EQUINIX INC	EQIX	39.0%	372.87	New	ALLIANT ENERGY CORP	LNT	29.1%	40.25
2	KLA-TENCOR CORP	KLAC	38.1%	75.71	5	NORTHROP GRUMMAN CORP	NOC	28.5%	216.63
New	APPLIED MATERIALS INC	AMAT	38.1%	26.29	New	PAYCHEX INC	PAYX	28.2%	59.28
5	SCANA CORP	SCG	38.1%	74.94	4	GLOBAL PAYMENTS INC	GPN	27.4%	74.66
13	CONSTELLATION BRANDS	STZ	37.8%	164.63	New	L-3 COMMUNICATIONS HLDGS INC	LLL	27.0%	151.63
New	SMUCKER (JM) CO	SJM	36.5%	154.16	New	KIMCO REALTY CORP	KIM	27.0%	32.10
5	CINCINNATI FINANCIAL CORP	CINF	35.6%	74.70	5	ALTRIA GROUP INC	MO	26.8%	67.70
New	CAMPBELL SOUP CO	CPB	34.9%	62.27	2	NASDAQ INC	NDAQ	26.7%	70.76
New	MATTEL INC	MAT	34.8%	33.38	New	CONSOLIDATED EDISON INC	ED	26.5%	80.08
3	BOSTON SCIENTIFIC CORP	BSX	34.8%	24.28	7	EXTRA SPACE STORAGE INC	EXR	25.9%	86.02
New	NEWFIELD EXPLORATION CO	NFX	34.7%	43.30	12	REYNOLDS AMERICAN INC	RAI	25.7%	50.06
2	CMS ENERGY CORP	CMS	33.9%	45.18	3	EQUIFAX INC	EFX	25.7%	132.46
13	AMAZON.COM INC	AMZN	33.5%	758.81	New	ONEOK INC	OKE	25.6%	44.79

BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Price Return – 12-Month and 1-Month Performance

Top 50 S&P 500 Companies By average rank of 12-month and 1-month price return.





Absolute Returns

Last 1 Month	-0.39%
Last 3 Months	2.37%
Last 6 Months	4.96%
Last 12 Months	-0.85%
2016 YTD	-0.25%

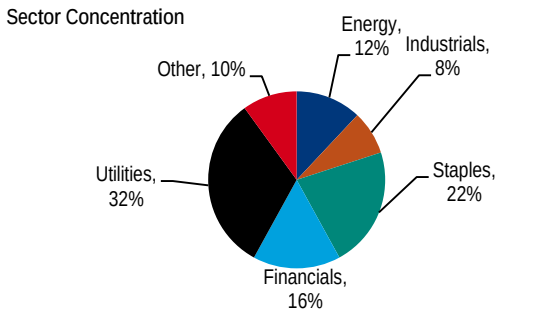
Source: BofA Merrill Lynch US Quantitative Strategy
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

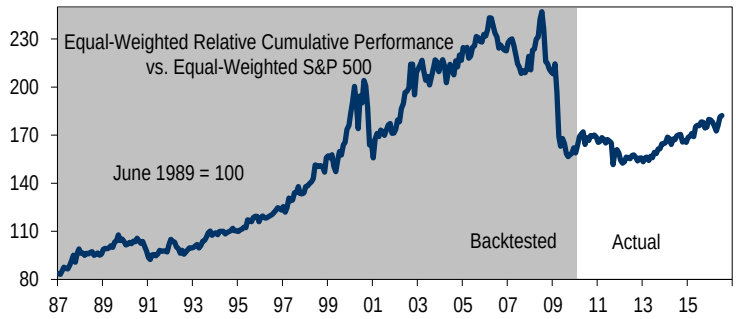
Screen for August

Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 07/29/2016
New	NVIDIA CORP	NVDA	1.8	57.10	New	ZIMMER BIOMET HOLDINGS INC	ZBH	17.1	131.14
New	LINEAR TECHNOLOGY CORP	LLTC	2.4	59.99	New	MATTEL INC	MAT	18.5	33.38
New	EDWARDS LIFESCIENCES CORP	EW	4.6	114.52	New	XYLEM INC	XYL	18.6	47.81
New	MASCO CORP	MAS	5.1	36.48	New	CITRIX SYSTEMS INC	CTXS	18.6	89.13
2	NEWMONT MINING CORP	NEM	5.9	44.00	New	EBAY INC	EBAY	18.7	31.16
New	GARMIN LTD	GRMN	6.0	54.33	New	ALBEMARLE CORP	ALB	19.5	84.17
New	HEWLETT PACKARD ENTERPRISE	HPE	6.6	21.02	New	PIONEER NATURAL RESOURCES CO	PXD	20.1	162.57
New	CSRA INC	CSRA	6.6	26.92	New	JACOBS ENGINEERING GROUP INC	JEC	20.6	53.52
2	TYSON FOODS INC -CL A	TSN	8.5	73.60	New	NUCOR CORP	NUE	20.6	53.64
New	TEXAS INSTRUMENTS INC	TXN	8.6	69.75	New	FREEPORT-MCMORAN INC	FCX	21.0	12.96
New	APPLIED MATERIALS INC	AMAT	10.1	26.29	New	AUTODESK INC	ADSK	21.1	59.45
New	PROLOGIS INC	PLD	10.6	54.49	New	AMAZON.COM INC	AMZN	21.5	758.81
New	NASDAQ INC	NDAQ	12.6	70.76	New	COACH INC	COH	22.5	43.11
New	ILLINOIS TOOL WORKS	ITW	12.6	115.40	New	VARIAN MEDICAL SYSTEMS INC	VAR	22.5	94.74
New	UNITED RENTALS INC	URI	13.1	79.67	New	FIDELITY NATIONAL INFO SVCS	FIS	22.6	79.53
New	FORTUNE BRANDS HOME & SECUR	FBHS	14.1	63.27	New	NEWELL BRANDS INC	NWL	23.1	52.46
New	MICROCHIP TECHNOLOGY INC	MCHP	14.1	55.64	New	CORNING INC	GLW	23.1	22.22
New	S&P GLOBAL INC	SPGI	14.6	122.20	New	WHIRLPOOL CORP	WHR	24.0	192.36
New	WATERS CORP	WAT	15.6	158.93	New	QORVO INC	QRVO	24.0	63.23
New	ALPHABET INC	GOOGL	15.6	791.34	New	DU PONT (E I) DE NEMOURS	DD	24.1	69.17
New	FACEBOOK INC	FB	16.1	123.94	New	ROSS STORES INC	ROST	24.1	61.83
New	XILINX INC	XLNX	16.1	51.08	New	HOME DEPOT INC	HD	24.1	138.24
4	ULTA SALON COSMETCS & FRAG	ULTA	16.5	261.21	New	ACUITY BRANDS INC	AYI	24.5	262.43
New	CINTAS CORP	CTAS	16.6	107.27	New	STANLEY BLACK & DECKER INC	SWK	24.6	121.70
New	MICROSOFT CORP	MSFT	16.6	56.68	New	AGILENT TECHNOLOGIES INC	A	24.6	48.11

Price Return – 12-Month and 1-Month Reversal

Top 50 S&P 500 Companies By avg. rank of 12-m and reversal 1-m price return.





Absolute Returns

Last 1 Month	4.80%
Last 3 Months	11.17%
Last 6 Months	17.70%
Last 12 Months	7.76%
2016 YTD	10.82%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for August

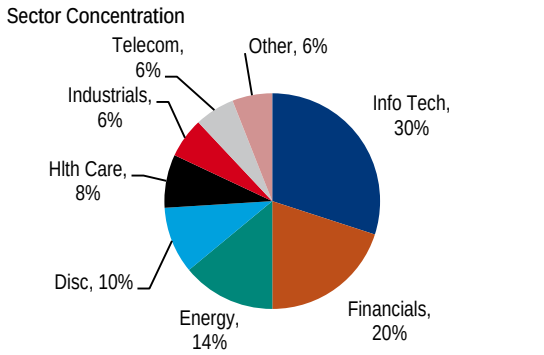
Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 07/29/2016
New	DIGITAL REALTY TRUST INC	DLR	4.2	104.46	New	HERSHEY CO	HSY	17.3	110.76
New	NISOURCE INC	NI	7.3	25.66	New	WASTE MANAGEMENT INC	WM	17.8	66.12
New	AMERICAN WATER WORKS CO INC	AWK	7.7	82.58	New	PAYCHEX INC	PAYX	17.8	59.28
New	EQUINIX INC	EQIX	8.3	372.87	New	CONSOLIDATED EDISON INC	ED	17.8	80.08
New	CAMPBELL SOUP CO	CPB	8.4	62.27	New	NEXTERA ENERGY INC	NEE	17.8	128.29
New	MCCORMICK & CO INC	MKC	10.8	102.25	New	APACHE CORP	APA	17.8	52.50
New	NEWFIELD EXPLORATION CO	NFX	12.3	43.30	New	AMERICAN ELECTRIC POWER CO	AEP	18.3	69.30
New	PINNACLE WEST CAPITAL CORP	PNW	12.3	78.87	2	ACTIVISION BLIZZARD INC	ATVI	18.6	40.16
New	SCANA CORP	SCG	13.3	74.94	2	MOLSON COORS BREWING CO	TAP	18.7	102.16
New	CMS ENERGY CORP	CMS	13.8	45.18	New	DTE ENERGY CO	DTE	18.8	97.52
New	AMEREN CORP	AEE	13.8	52.44	New	CHUBB LTD	CB	18.8	125.26
New	NORTHROP GRUMMAN CORP	NOC	13.8	216.63	New	BARD (C.R.) INC	BCR	18.8	223.73
New	ONEOK INC	OKE	13.8	44.79	New	CHURCH & DWIGHT INC	CHD	19.3	98.24
New	CONSTELLATION BRANDS	STZ	14.3	164.63	New	KIMBERLY-CLARK CORP	KMB	19.3	129.55
New	WEC ENERGY GROUP INC	WEC	14.3	64.91	New	SMUCKER (JM) CO	SJM	19.7	154.16
2	EXTRA SPACE STORAGE INC	EXR	14.3	86.02	New	CENTERPOINT ENERGY INC	CNP	19.8	23.92
New	XCEL ENERGY INC	XEL	14.8	43.98	New	SPECTRA ENERGY CORP	SE	19.8	35.97
New	CROWN CASTLE INTL CORP	CCI	14.8	97.03	3	MCDONALD'S CORP	MCD	19.8	117.65
New	REYNOLDS AMERICAN INC	RAI	14.8	50.06	New	EVERSOURCE ENERGY	ES	19.8	58.49
New	FORTIVE CORP	FTV	15.0	48.21	New	EXXON MOBIL CORP	XOM	20.3	88.95
New	CINCINNATI FINANCIAL CORP	CINF	15.3	74.70	New	GENERAL ELECTRIC CO	GE	20.8	31.14
2	PUBLIC STORAGE	PSA	15.3	238.92	New	CHEVRON CORP	CVX	21.3	102.48
New	CLOROX CO/DE	CLX	15.8	131.07	New	MARSH & MCLENNAN COS	MMC	21.3	65.75
New	ALTRIA GROUP INC	MO	16.3	67.70	New	ALLIANT ENERGY CORP	LNT	21.7	40.25
New	EDISON INTERNATIONAL	EIX	17.3	77.38	New	AT&T INC	T	21.7	43.29

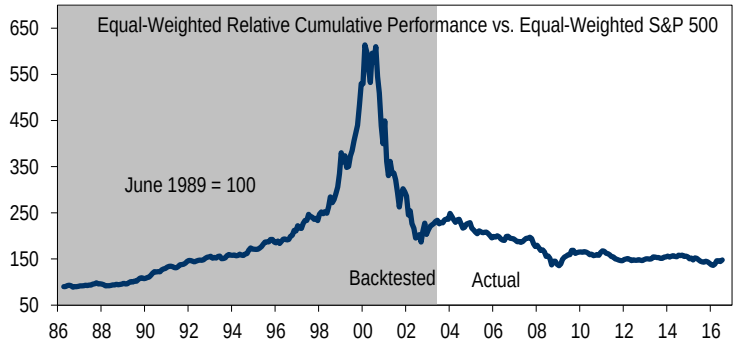
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Most Active

Top 50 S&P 500 Companies By Most Actively Traded Stocks.

Most Actively Traded Stocks: Stocks have the highest monthly share trading volume.





Absolute Returns

Last 1 Month	6.65%
Last 3 Months	6.52%
Last 6 Months	24.76%
Last 12 Months	5.89%
2016 YTD	14.83%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end August 2003. The unshaded portion represents actual performance since September 2003. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

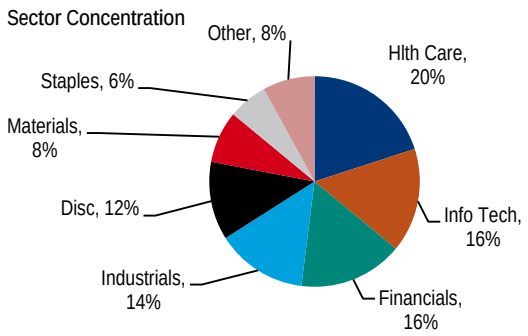
Screen for August

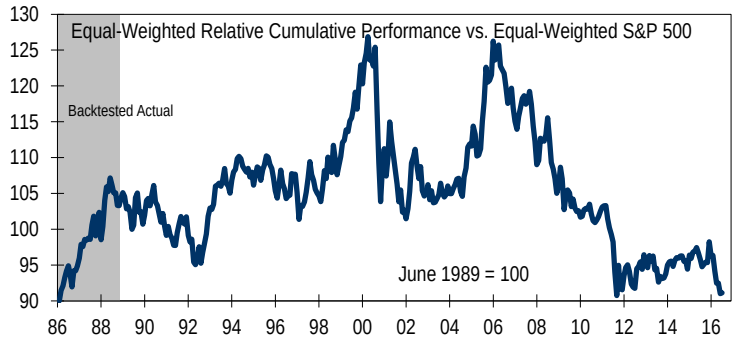
Mo. In Scrn	Company	Ticker	Trading Volume (In Mils)	Price 07/29/2016	Mo. In Scrn	Company	Ticker	Trading Volume (In Mils)	Price 07/29/2016
144	BANK OF AMERICA CORP	BAC	1833	14.49	118	JPMORGAN CHASE & CO	JPM	305	63.97
156	GENERAL ELECTRIC CO	GE	823	31.14	2	EBAY INC	EBAY	303	31.16
139	FORD MOTOR CO	F	801	12.66	4	EMC CORP/MA	EMC	300	28.28
22	CHESAPEAKE ENERGY CORP	CHK	792	5.42	83	VERIZON COMMUNICATIONS INC	VZ	294	55.41
23	FREEPORT-MCMORAN INC	FCX	749	12.96	15	FRONTIER COMMUNICATIONS CORP	FTR	278	5.20
54	APPLE INC	AAPL	722	104.21	156	YAHOO INC	YHOO	274	38.19
156	MICROSOFT CORP	MSFT	676	56.68	4	AMERICAN AIRLINES GROUP INC	AAL	259	35.50
88	MICRON TECHNOLOGY INC	MU	661	13.74	9	HP INC	HPQ	255	14.01
156	INTEL CORP	INTC	565	34.86	156	ORACLE CORP	ORCL	253	41.04
32	FACEBOOK INC	FB	493	123.94	48	COCA-COLA CO	KO	252	43.63
156	CISCO SYSTEMS INC	CSCO	467	30.53	4	DELTA AIR LINES INC	DAL	248	38.75
88	REGIONS FINANCIAL CORP	RF	451	9.17	New	GILEAD SCIENCES INC	GILD	245	79.47
63	CITIGROUP INC	C	445	43.81	8	WILLIAMS COS INC	WMB	245	23.97
129	AT&T INC	T	444	43.29	51	APPLIED MATERIALS INC	AMAT	231	26.29
94	ALCOA INC	AA	443	10.62	2	HOST HOTELS & RESORTS INC	HST	230	17.74
14	KINDER MORGAN INC	KMI	407	20.33	3	ABBOTT LABORATORIES	ABT	230	44.75
156	PFIZER INC	PFE	378	36.89	156	EXXON MOBIL CORP	XOM	225	88.95
109	WELLS FARGO & CO	WFC	377	47.97	New	PAYPAL HOLDINGS INC	PYPL	219	37.24
10	KEYCORP	KEY	365	11.70	New	QUALCOMM INC	QCOM	215	62.58
13	MARATHON OIL CORP	MRO	361	13.64	New	STARBUCKS CORP	SBUX	214	58.05
11	SOUTHWESTERN ENERGY CO	SWN	350	14.58	2	SCHWAB (CHARLES) CORP	SCHW	213	28.42
New	NETFLIX INC	NFLX	329	91.25	2	HUNTINGTON BANCSHARES	HBAN	210	9.50
6	TRANSOCEAN LTD	RIG	326	10.99	2	VISA INC	V	209	78.05
13	MORGAN STANLEY	MS	318	28.73	New	TWENTY-FIRST CENTURY FOX INC	FOXA	205	26.64
38	GENERAL MOTORS CO	GM	311	31.54	2	BOSTON SCIENTIFIC CORP	BSX	201	24.28

GROWTH STRATEGIES: Earnings Momentum

Top 50 S&P 500 Companies By EPS MOMENTUM

Earnings Momentum: The difference between 12-month trailing EPS and year-ago12-month trailing EPS divided by year-ago 12-month trailing EPS.





Absolute Returns

Last 1 Month	4.36%
Last 3 Months	3.71%
Last 6 Months	9.81%
Last 12 Months	-1.10%
2016 YTD	1.43%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

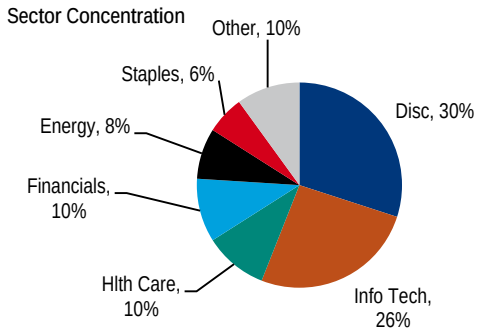
Screen for August

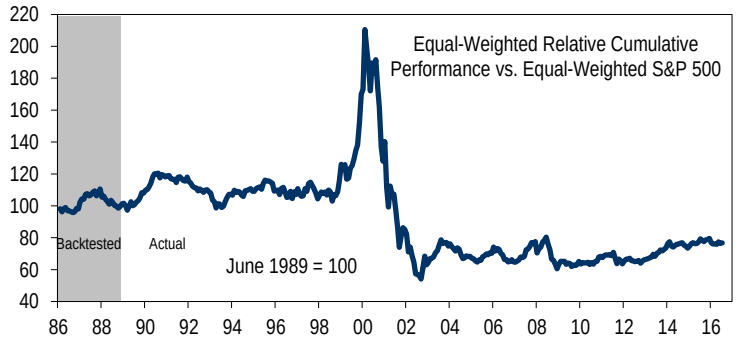
Mo. In Scrn.	Company	Ticker	EPS Momentum	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	EPS Momentum	Price 07/29/2016
10	AMAZON.COM INC	AMZN	1076.2	758.81	6	EQUINIX INC	EQIX	134.4	372.87
2	OWENS-ILLINOIS INC	OI	1053.8	18.79	2	TRANSDIGM GROUP INC	TDG	126.3	279.52
6	LEVEL 3 COMMUNICATIONS INC	LVLT	1034.8	50.60	New	INGERSOLL-RAND PLC	IR	124.2	66.26
4	BAXTER INTERNATIONAL INC	BAX	837.6	48.02	7	AT&T INC	T	121.0	43.29
4	S&P GLOBAL INC	SPGI	811.3	122.20	6	PRUDENTIAL FINANCIAL INC	PRU	118.0	75.29
New	SL GREEN REALTY CORP	SLG	593.4	117.82	New	FACEBOOK INC	FB	112.0	123.94
3	DIAMOND OFFSHRE DRILLING INC	DO	554.5	22.72	New	ALBEMARLE CORP	ALB	105.3	84.17
4	GENERAL ELECTRIC CO	GE	460.0	31.14	6	REGENERON PHARMACEUTICALS	REGN	105.0	425.12
4	EQUITY RESIDENTIAL	EQR	363.1	67.99	6	DOW CHEMICAL	DOW	103.1	53.67
6	AMERISOURCEBERGEN CORP	ABC	340.3	85.19	7	FORD MOTOR CO	F	100.9	12.66
5	STAPLES INC	SPLS	273.3	9.29	4	KLA-TENCOR CORP	KLAC	100.0	75.71
10	MONDELEZ INTERNATIONAL INC	MDLZ	268.0	43.98	5	HOLOGIC INC	HOLX	95.8	38.49
7	JUNIPER NETWORKS INC	JNPR	267.3	22.69	10	SALESFORCE.COM INC	CRM	92.0	81.80
4	FIRST SOLAR INC	FSLR	244.4	46.68	New	GARMIN LTD	GRMN	87.9	54.33
9	MALLINCKRODT PLC	MNK	205.4	67.34	9	AGILENT TECHNOLOGIES INC	A	84.4	48.11
New	KIMBERLY-CLARK CORP	KMB	204.5	129.55	11	DARDEN RESTAURANTS INC	DRI	83.1	61.56
6	MOTOROLA SOLUTIONS INC	MSI	199.7	69.38	New	ASSURANT INC	AIZ	82.6	83.01
6	GENERAL MOTORS CO	GM	183.0	31.54	18	VORNADO REALTY TRUST	VNO	80.9	107.40
7	ABBVIE INC	ABBV	169.8	66.23	17	AMERICAN AIRLINES GROUP INC	AAL	78.2	35.50
7	DELTA AIR LINES INC	DAL	166.4	38.75	2	FEDEX CORP	FDX	78.1	161.90
6	TRANSOCEAN LTD	RIG	152.8	10.99	10	STRYKER CORP	SYK	73.3	116.28
11	UNITED CONTINENTAL HLDGS INC	UAL	151.8	46.89	2	SMUCKER (JM) CO	SJM	73.3	154.16
3	VULCAN MATERIALS CO	VMC	149.4	123.98	New	QUEST DIAGNOSTICS INC	DGX	70.0	86.36
6	UNUM GROUP	UNM	144.3	33.41	3	INTUIT INC	INTU	64.2	110.99
11	ADOBE SYSTEMS INC	ADBE	143.2	97.86	New	VERTEX PHARMACEUTICALS INC	VRTX	63.5	97.00

Projected Five-Year EPS Growth

Top 50 S&P 500 Companies By PROJ. 5-YR EPS GROWTH

Projected 5-Year EPS Growth: The five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exist, then the IBES Mean Long Term Growth Estimate is used.





Absolute Returns

Last 1 Month	4.58%
Last 3 Months	6.36%
Last 6 Months	15.83%
Last 12 Months	0.56%
2016 YTD	5.43%

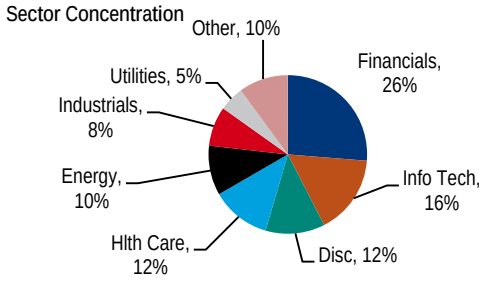
Source: BofA Merrill Lynch US Quantitative Strategy
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

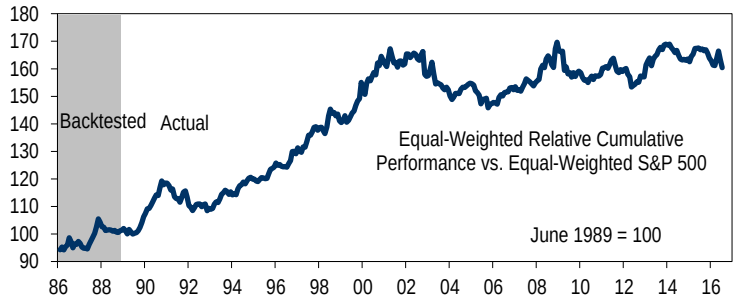
Screen for August

Mo. In Scrn	Company	Ticker	EPS Gr Next 5Yr	Price 07/29/2016	Mo. In Scrn	Company	Ticker	EPS Gr Next 5Yr	Price 07/29/2016
6	DISCOVERY COMMUNICATIONS INC	DISCA	262.6	25.09	5	CENTENE CORP	CNC	22.2	70.55
5	NRG ENERGY INC	NRG	133.7	13.84	14	MONSTER BEVERAGE CORP	MNST	22.1	160.63
3	WILLIAMS COS INC	WMB	70.8	23.97	13	KLA-TENCOR CORP	KLAC	21.2	75.71
16	VERTEX PHARMACEUTICALS INC	VRTX	65.8	97.00	2	ROYAL CARIBBEAN CRUISES LTD	RCL	20.5	72.44
22	AMAZON.COM INC	AMZN	62.6	758.81	43	FIFTH THIRD BANCORP	FITB	20.2	18.98
16	CABOT OIL & GAS CORP	COG	47.3	24.67	15	BRISTOL-MYERS SQUIBB CO	BMY	20.0	74.81
32	FACEBOOK INC	FB	43.1	123.94	19	DOLLAR TREE INC	DLTR	20.0	96.29
3	HARRIS CORP	HRS	41.8	86.62	13	PAYPAL HOLDINGS INC	PYPL	20.0	37.24
17	EQUINIX INC	EQIX	37.2	372.87	19	PRICELINE GROUP INC	PCLN	20.0	1350.81
22	VULCAN MATERIALS CO	VMC	35.6	123.98	19	RED HAT INC	RHT	20.0	75.29
3	EQT CORP	EQT	32.3	72.86	19	STARBUCKS CORP	SBUX	20.0	58.05
6	NEWFIELD EXPLORATION CO	NFX	30.4	43.30	New	ACTIVISION BLIZZARD INC	ATVI	19.9	40.16
61	NETFLIX INC	NFLX	30.0	91.25	17	SKYWORKS SOLUTIONS INC	SWKS	19.7	66.02
6	KRAFT HEINZ CO	KHC	28.1	86.39	4	ULTA SALON COSMETCS & FRAG	ULTA	19.7	261.21
3	LKQ CORP	LKQ	26.8	34.39	42	SCHWAB (CHARLES) CORP	SCHW	19.6	28.42
33	CBS CORP	CBS	26.0	52.22	3	ACUITY BRANDS INC	AYI	19.5	262.43
12	INTUIT INC	INTU	25.7	110.99	28	CELGENE CORP	CELG	19.4	112.19
3	AUTODESK INC	ADSK	25.2	59.45	4	FLIR SYSTEMS INC	FLIR	18.5	32.58
22	MARTIN MARIETTA MATERIALS	MLM	25.0	202.65	3	APPLIED MATERIALS INC	AMAT	18.3	26.29
95	SALESFORCE.COM INC	CRM	25.0	81.80	3	TYSON FOODS INC -CL A	TSN	18.2	73.60
9	MASCO CORP	MAS	24.6	36.48	8	EDWARDS LIFESCIENCES CORP	EW	18.0	114.52
4	GLOBAL PAYMENTS INC	GPN	23.7	74.66	6	LEUCADIA NATIONAL CORP	LUK	18.0	18.26
5	PULTEGROUP INC	PHM	23.5	21.18	8	URBAN OUTFITTERS INC	URBN	18.0	29.90
3	WYNN RESORTS LTD	WYNN	23.2	97.95	3	LOWE'S COMPANIES INC	LOW	17.6	82.28
27	UNDER ARMOUR INC	UA	22.8	39.46	New	GOLDMAN SACHS GROUP INC	GS	17.6	158.81

Forecast Positive Earnings Surprise

Top S&P 500 Companies By POSITIVE EPS SURPRISE





Absolute Returns

Last 1 Month	2.36%
Last 3 Months	3.03%
Last 6 Months	14.21%
Last 12 Months	-0.09%
2016 YTD	7.04%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

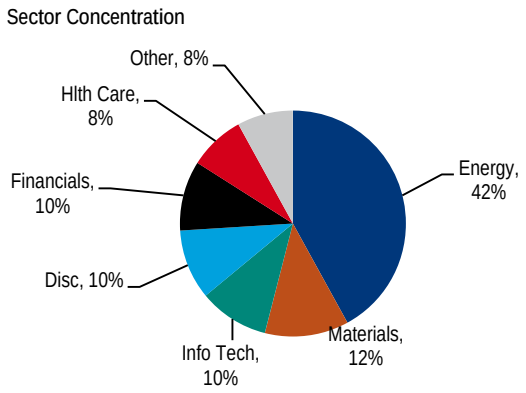
Screen for August

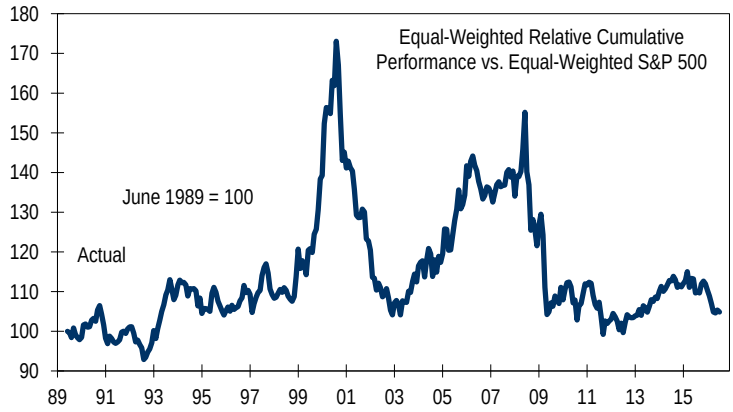
Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 07/29/2016
31	AMAZON.COM INC	AMZN	1	758.81
New	AMERICAN AIRLINES GROUP INC	AAL	1	35.50
22	AUTONATION INC	AN	1	53.35
26	AUTOZONE INC	AZO	1	813.97
New	BB&T CORP	BBT	1	36.87
New	CELGENE CORP	CELG	1	112.19
New	COMERICA INC	CMA	1	45.24
New	DANAHER CORP	DHR	1	81.44
New	DISNEY (WALT) CO	DIS	1	95.95
3	DOMINION RESOURCES INC	D	1	78.02
7	ELECTRONIC ARTS INC	EA	1	76.32
2	EXXON MOBIL CORP	XOM	1	88.95
2	GILEAD SCIENCES INC	GILD	1	79.47
3	INGERSOLL-RAND PLC	IR	1	66.26
3	INTUIT INC	INTU	1	110.99
New	INVESCO LTD	IVZ	1	29.18
4	LYONDELLBASELL INDUSTRIES NV	LYB	1	75.26
4	LEGG MASON INC	LM	1	34.14
7	MARTIN MARIETTA MATERIALS	MLM	1	202.65
4	MICROSOFT CORP	MSFT	1	56.68
15	NETFLIX INC	NFLX	1	91.25
26	NVIDIA CORP	NVDA	1	57.10
New	PIONEER NATURAL RESOURCES CO	PXD	1	162.57
New	PNC FINANCIAL SVCS GROUP INC	PNC	1	82.65
3	PPL CORP	PPL	1	37.71
2	PRINCIPAL FINANCIAL GRP INC	PFG	1	46.63
4	PUBLIC STORAGE	PSA	1	238.92
4	PULTEGROUP INC	PHM	1	21.18
New	REGIONS FINANCIAL CORP	RF	1	9.17
2	SALESFORCE.COM INC	CRM	1	81.80
10	SPECTRA ENERGY CORP	SE	1	35.97
New	TEXTRON INC	TXT	1	39.00
2	WALGREENS BOOTS ALLIANCE INC	WBA	1	79.25
New	WATERS CORP	WAT	1	158.93
3	ABBVIE INC	ABBV	2	66.23
New	ACTIVISION BLIZZARD INC	ATVI	2	40.16
New	AES CORP	AES	2	12.35
New	AIR PRODUCTS & CHEMICALS INC	APD	2	149.42
New	ALASKA AIR GROUP INC	ALK	2	67.22
3	AMERICAN INTERNATIONAL GROUP	AIG	2	54.44
New	APPLE INC	AAPL	2	104.21
3	AUTODESK INC	ADSK	2	59.45
New	BIOGEN INC	BIIB	2	289.93
New	BLACKROCK INC	BLK	2	366.25
2	CATERPILLAR INC	CAT	2	82.76
2	CBS CORP	CBS	2	52.22
New	CENTENE CORP	CNC	2	70.55
7	CHEVRON CORP	CVX	2	102.48
3	COGNIZANT TECH SOLUTIONS	CTSH	2	57.49
New	DELTA AIR LINES INC	DAL	2	38.75
7	DEVON ENERGY CORP	DVN	2	38.28
New	E TRADE FINANCIAL CORP	ETFC	2	25.08
New	F5 NETWORKS INC	FFIV	2	123.42
2	FACEBOOK INC	FB	2	123.94
2	FEDERAL REALTY INVESTMENT TR	FRT	2	169.70
New	HALLIBURTON CO	HAL	2	43.66
4	HUNTINGTON BANCSHARES	HBAN	2	9.50
New	ILLUMINA INC	ILMN	2	166.35
2	KROGER CO	KR	2	34.19
3	LABORATORY CP OF AMER HLDGS	LH	2	139.56
5	LENNAR CORP	LEN	2	46.80
3	LEVEL 3 COMMUNICATIONS INC	LVLT	2	50.60
New	METLIFE INC	MET	2	42.74
4	MORGAN STANLEY	MS	2	28.73
4	NORTHERN TRUST CORP	NTRS	2	67.59
5	PHILIP MORRIS INTERNATIONAL	PM	2	100.26
New	PRICE (T. ROWE) GROUP	TROW	2	70.69
New	PROGRESSIVE CORP-OHIO	PGR	2	32.51
New	PROLOGIS INC	PLD	2	54.49
New	RALPH LAUREN CORP	RL	2	98.09
4	RANGE RESOURCES CORP	RRC	2	40.31
2	SEMPRA ENERGY	SRE	2	111.88
New	TE CONNECTIVITY LTD	TEL	2	60.28

Earnings Estimate Revision

Top 50 S&P 500 Companies By UPWARD EPS EST. REVISION

EPS Estimate Revision: The difference between the I/B/E/S FY1 estimate and that of three months ago divided by the absolute value of the I/B/E/S FY1 estimate of three months ago.





Source: BofA Merrill Lynch US Quantitative Strategy
The performance chart represents actual returns since July 1989. There are no back tested results.

Absolute Returns

Last 1 Month	3.76%
Last 3 Months	5.25%
Last 6 Months	10.27%
Last 12 Months	-0.59%
2016 YTD	2.43%

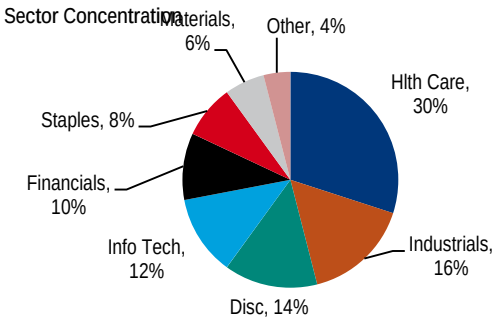
Screen for August

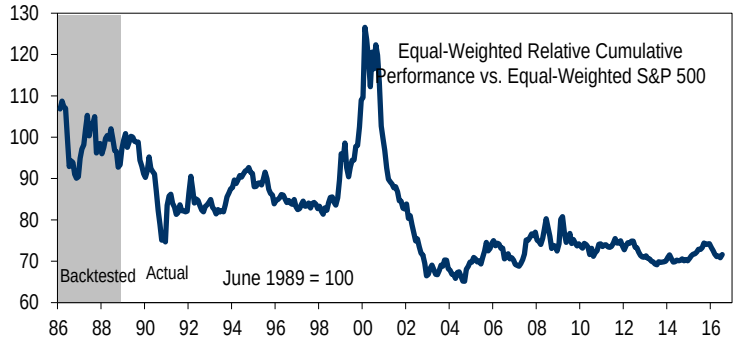
Mo. In Scrn.	Company	Ticker	EPS Est. Revision	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	EPS Est. Revision	Price 07/29/2016
New	FREEPORT-MCMORAN INC	FCX	2.480	12.96	6	APPLIED MATERIALS INC	AMAT	0.167	26.29
3	CIMAREX ENERGY CO	XEC	1.492	120.02	New	NOBLE ENERGY INC	NBL	0.165	35.72
3	TRANSOCEAN LTD	RIG	1.489	10.99	New	EOG RESOURCES INC	EOG	0.153	81.70
3	SOUTHWESTERN ENERGY CO	SWN	1.051	14.58	3	HESS CORP	HES	0.140	53.65
5	NEWMONT MINING CORP	NEM	0.949	44.00	New	ANADARKO PETROLEUM CORP	APC	0.140	54.53
3	APACHE CORP	APA	0.805	52.50	6	BAXTER INTERNATIONAL INC	BAX	0.129	48.02
3	PIONEER NATURAL RESOURCES CO	PXD	0.675	162.57	New	ALBEMARLE CORP	ALB	0.120	84.17
2	CONCHO RESOURCES INC	CXO	0.553	124.20	3	EXXON MOBIL CORP	XOM	0.111	88.95
2	NUCOR CORP	NUE	0.512	53.64	9	KLA-TENCOR CORP	KLAC	0.109	75.71
2	CABOT OIL & GAS CORP	COG	0.478	24.67	New	CHEVRON CORP	CVX	0.108	102.48
5	NRG ENERGY INC	NRG	0.458	13.84	3	SL GREEN REALTY CORP	SLG	0.105	117.82
4	MURPHY OIL CORP	MUR	0.452	27.43	7	BRISTOL-MYERS SQUIBB CO	BMY	0.103	74.81
2	EQT CORP	EQT	0.430	72.86	3	MARTIN MARIETTA MATERIALS	MLM	0.099	202.65
3	DEVON ENERGY CORP	DVN	0.414	38.28	New	E TRADE FINANCIAL CORP	ETFC	0.099	25.08
3	RANGE RESOURCES CORP	RRC	0.413	40.31	New	GARMIN LTD	GRMN	0.098	54.33
2	LEUCADIA NATIONAL CORP	LUK	0.300	18.26	New	WILLIAMS COS INC	WMB	0.091	23.97
2	ALCOA INC	AA	0.294	10.62	New	FORTUNE BRANDS HOME & SECUR	FBHS	0.090	63.27
4	NEWELL BRANDS INC	NWL	0.254	52.46	New	BIOGEN INC	BIIB	0.084	289.93
4	CHESAPEAKE ENERGY CORP	CHK	0.247	5.42	12	CINCINNATI FINANCIAL CORP	CINF	0.084	74.70
13	DIAMOND OFFSHRE DRILLING INC	DO	0.242	22.72	3	LKQ CORP	LKQ	0.083	34.39
9	FACEBOOK INC	FB	0.241	123.94	6	TYSON FOODS INC -CL A	TSN	0.081	73.60
3	MARATHON OIL CORP	MRO	0.237	13.64	12	NVIDIA CORP	NVDA	0.081	57.10
3	WYNN RESORTS LTD	WYNN	0.227	97.95	New	EDWARDS LIFESCIENCES CORP	EW	0.076	114.52
2	SMUCKER (JM) CO	SJM	0.209	154.16	4	TOTAL SYSTEM SERVICES INC	TSS	0.075	50.92
3	AMAZON.COM INC	AMZN	0.200	758.81	New	MORGAN STANLEY	MS	0.074	28.73

Equity Duration

Top 50 S&P 500 Companies By HIGH DURATION

Equity Duration: An adaptation of our Dividend Discount Model that measures the interest-rate sensitivity of a stock. Longer duration (higher numbers) suggests more interest-rate sensitivity.





Absolute Returns

Last 1 Month	5.34%
Last 3 Months	5.96%
Last 6 Months	13.25%
Last 12 Months	2.15%
2016 YTD	5.46%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988.The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for August

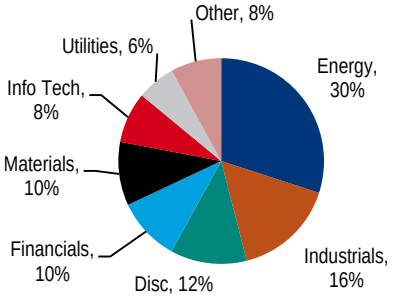
Mo. In Scrn.	Company	Ticker	Equity Duration	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Equity Duration	Price 07/29/2016
New	PIONEER NATURAL RESOURCES CO	PXD	85.0	162.57	19	PERKINELMER INC	PKI	43.4	56.92
7	PENTAIR PLC	PNR	80.6	63.82	6	PVH CORP	PVH	43.3	101.06
9	TRIPADVISOR INC	TRIP	52.3	69.97	23	COSTCO WHOLESALE CORP	COST	43.2	167.22
35	ADOBE SYSTEMS INC	ADBE	51.5	97.86	75	SALESFORCE.COM INC	CRM	43.0	81.80
7	INTUITIVE SURGICAL INC	ISRG	49.7	695.76	19	BIOGEN INC	BIIB	43.0	289.93
New	AMERICAN TOWER CORP	AMT	49.4	115.77	3	ADVANCE AUTO PARTS INC	AAP	43.0	169.86
19	AMETEK INC	AME	48.6	47.03	8	CHURCH & DWIGHT INC	CHD	43.0	98.24
New	FORTIVE CORP	FTV	48.4	48.21	4	VORNADO REALTY TRUST	VNO	42.9	107.40
New	DANAHER CORP	DHR	48.3	81.44	2	TRANSDIGM GROUP INC	TDG	42.9	279.52
New	SPECTRA ENERGY CORP	SE	48.3	35.97	5	TEXTRON INC	TXT	42.8	39.00
6	ILLUMINA INC	ILMN	48.0	166.35	4	ALLERGAN PLC	AGN	42.7	252.95
New	BALL CORP	BLL	47.1	70.67	6	FEDERAL REALTY INVESTMENT TR	FRT	42.7	169.70
9	REGENERON PHARMACEUTICALS	REGN	46.9	425.12	3	WILLIS TOWERS WATSON PLC	WLTW	42.4	123.62
19	AMPHENOL CORP	APH	46.4	59.52	11	COLGATE-PALMOLIVE CO	CL	42.2	74.43
3	NVIDIA CORP	NVDA	46.3	57.10	7	ALCOA INC	AA	41.9	10.62
13	NETFLIX INC	NFLX	45.3	91.25	New	CINTAS CORP	CTAS	41.5	107.27
31	BROWN FORMAN CORP	BF.B	45.3	98.19	8	BED BATH & BEYOND INC	BBBY	41.5	44.95
23	UNIVERSAL HEALTH SVCS INC	UHS	44.7	129.53	6	SEALED AIR CORP	SEE	41.4	47.18
4	JACOBS ENGINEERING GROUP INC	JEC	44.6	53.52	5	HOLOGIC INC	HOLX	41.4	38.49
31	DAVITA HEALTHCARE PARTNERS	DVA	44.5	77.54	New	EDWARDS LIFESCIENCES CORP	EW	41.2	114.52
19	BOSTON SCIENTIFIC CORP	BSX	44.3	24.28	10	VERISK ANALYTICS INC	VRSK	41.1	85.28
31	PERRIGO CO PLC	PRGO	44.2	91.39	11	BARD (C.R.) INC	BCR	41.1	223.73
6	EXPEDIA INC	EXPE	44.1	116.65	6	AETNA INC	AET	41.0	115.21
3	SYMANTEC CORP	SYMC	43.6	20.43	New	EBAY INC	EBAY	40.8	31.16
18	BOSTON PROPERTIES INC	BXP	43.5	142.13	2	UNDER ARMOUR INC	UA	40.6	39.46

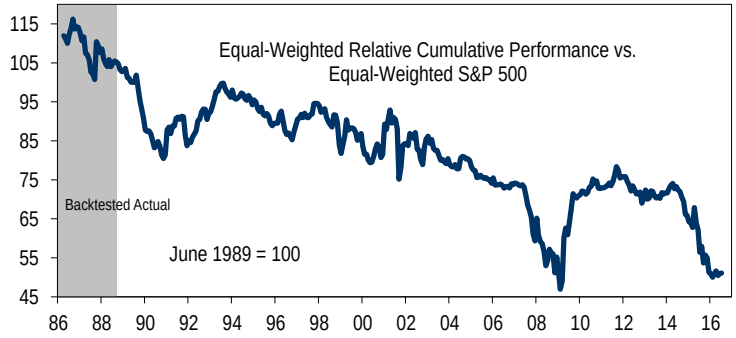
GROWTH (NEGATIVE) STRATEGIES: Earnings Torpedo

Top S&P 500 Companies By LOW EPS TORPEDO

Earnings Torpedo: I/B/E/S FY2 estimate less latest actual annual EPS divided by month-end price.

Sector Concentration





Absolute Returns

Last 1 Month	4.46%
Last 3 Months	4.16%
Last 6 Months	16.40%
Last 12 Months	-5.88%
2016 YTD	8.94%

Source: BofA Merrill Lynch US Quantitative Strategy

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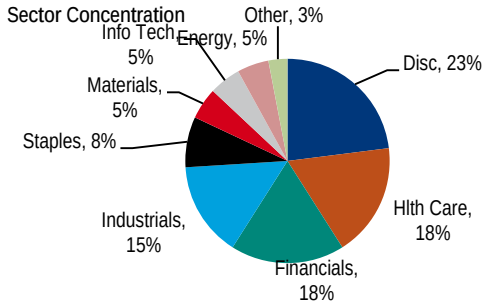
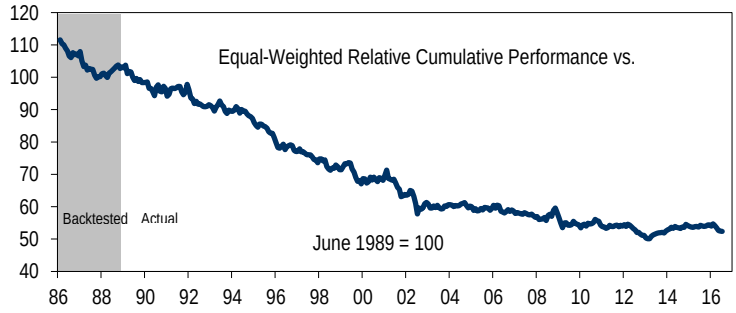
Screen for August

Mo. In Scrn.	Company	Ticker	EPS Torpedo	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	EPS Torpedo	Price 07/29/2016
28	TRANSOCEAN LTD	RIG	-0.386	10.99	3	GAP INC	GPS	-0.015	25.79
14	MICRON TECHNOLOGY INC	MU	-0.159	13.74	2	VIACOM INC	VIAB	-0.014	45.47
7	AMERICAN AIRLINES GROUP INC	AAL	-0.117	35.50	6	PACCAR INC	PCAR	-0.014	58.97
7	UNITED CONTINENTAL HLDGS INC	UAL	-0.111	46.89	12	AUTODESK INC	ADSK	-0.014	59.45
18	NATIONAL OILWELL VARCO INC	NOV	-0.099	32.35	6	CONCHO RESOURCES INC	CXO	-0.014	124.20
6	TESORO CORP	TSO	-0.099	76.15	6	CATERPILLAR INC	CAT	-0.013	82.76
28	DIAMOND OFFSHRE DRILLING INC	DO	-0.096	22.72	20	RANGE RESOURCES CORP	RRC	-0.011	40.31
6	CF INDUSTRIES HOLDINGS INC	CF	-0.079	24.68	7	FLUOR CORP	FLR	-0.011	53.52
7	VALERO ENERGY CORP	VLO	-0.076	52.28	3	MACY'S INC	M	-0.011	35.83
20	HELMERICH & PAYNE	HP	-0.069	61.97	New	GILEAD SCIENCES INC	GILD	-0.011	79.47
6	MARATHON PETROLEUM CORP	MPC	-0.062	39.39	4	CHIPOTLE MEXICAN GRILL INC	CMG	-0.011	423.99
7	SEAGATE TECHNOLOGY PLC	STX	-0.057	32.03	3	NORDSTROM INC	JWN	-0.010	44.23
6	MOSAIC CO	MOS	-0.056	27.00	6	ENTERGY CORP	ETR	-0.009	81.39
6	FIRST SOLAR INC	FSLR	-0.051	46.68	6	HCP INC	HCP	-0.009	39.23
18	FMC TECHNOLOGIES INC	FTI	-0.051	25.38	7	FLOWSERVE CORP	FLS	-0.009	47.85
15	FRONTIER COMMUNICATIONS CORP	FTR	-0.048	5.20	6	CUMMINS INC	CMI	-0.009	122.77
19	DEVON ENERGY CORP	DVN	-0.037	38.28	6	TRAVELERS COS INC	TRV	-0.009	116.22
22	NOBLE ENERGY INC	NBL	-0.030	35.72	6	CENTURYLINK INC	CTL	-0.008	31.44
7	DEERE & CO	DE	-0.028	77.71	7	AES CORP	AES	-0.008	12.35
6	WESTROCK CO	WRK	-0.027	42.91	6	LYONDELLBASELL INDUSTRIES NV	LYB	-0.007	75.26
3	PHILLIPS 66	PSX	-0.022	76.06	New	MONSANTO CO	MON	-0.007	106.77
6	FIFTH THIRD BANCORP	FITB	-0.017	18.98	6	CINCINNATI FINANCIAL CORP	CINF	-0.006	74.70
6	SCHLUMBERGER LTD	SLB	-0.017	80.52	4	FIRSTENERGY CORP	FE	-0.006	34.92
6	FRANKLIN RESOURCES INC	BEN	-0.016	36.19	New	DANAHER CORP	DHR	-0.005	81.44
5	HALLIBURTON CO	HAL	-0.015	43.66	2	RALPH LAUREN CORP	RL	-0.005	98.09

Forecast Negative Earnings Surprise

Top S&P 500 Companies By NEGATIVE EPS SURPRISE





Absolute Returns

Last 1 Month	4.09%
Last 3 Months	3.13%
Last 6 Months	12.48%
Last 12 Months	0.32%
2016 YTD	5.23%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Table 3: Screen for August

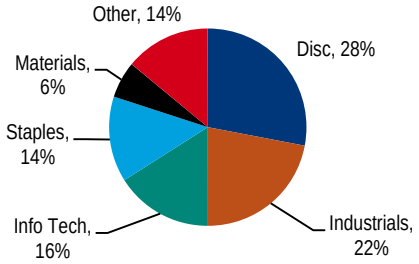
Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 07/29/2016
New	AGILENT TECHNOLOGIES INC	A	10	48.11	2	AFFILIATED MANAGERS GRP INC	AMG	9	146.78
New	ANADARKO PETROLEUM CORP	APC	10	54.53	3	ARTHUR J GALLAGHER & CO	AJG	9	49.19
4	ASSURANT INC	AIZ	10	83.01	3	AVALONBAY COMMUNITIES INC	AVB	9	185.65
New	BAXTER INTERNATIONAL INC	BAX	10	48.02	New	BALL CORP	BLL	9	70.67
4	BED BATH & BEYOND INC	BBBY	10	44.95	New	BECTON DICKINSON & CO	BDX	9	176.00
9	CF INDUSTRIES HOLDINGS INC	CF	10	24.68	New	BORGWARNER INC	BWA	9	33.18
New	CHIPOTLE MEXICAN GRILL INC	CMG	10	423.99	New	BROWN FORMAN CORP	BF.B	9	98.19
16	COACH INC	COH	10	43.11	7	CAMPBELL SOUP CO	CPB	9	62.27
11	CONAGRA FOODS INC	CAG	10	46.76	New	CHESAPEAKE ENERGY CORP	CHK	9	5.42
New	CONSOLIDATED EDISON INC	ED	10	80.08	New	CITIGROUP INC	C	9	43.81
2	DISCOVER FINANCIAL SVCS INC	DFS	10	56.84	New	COCA-COLA CO	KO	9	43.63
16	DR PEPPER SNAPPLE GROUP INC	DPS	10	98.51	4	DAVITA HEALTHCARE PARTNERS	DVA	9	77.54
2	EMERSON ELECTRIC CO	EMR	10	55.90	3	DEERE & CO	DE	9	77.71
New	EXPRESS SCRIPTS HOLDING CO	ESRX	10	76.07	4	DOW CHEMICAL	DOW	9	53.67
9	GAP INC	GPS	10	25.79	3	FLOWSERVE CORP	FLS	9	47.85
New	GARMIN LTD	GRMN	10	54.33	10	FLUOR CORP	FLR	9	53.52
New	HESS CORP	HES	10	53.65	New	GENERAL MOTORS CO	GM	9	31.54
25	INTUITIVE SURGICAL INC	ISRG	10	695.76	4	GENUINE PARTS CO	GPC	9	102.24
New	KANSAS CITY SOUTHERN	KSU	10	96.11	3	HEWLETT PACKARD ENTERPRISE	HPE	9	21.02
3	L BRANDS INC	LB	10	73.90	2	HP INC	HPQ	9	14.01
New	M & T BANK CORP	MTB	10	114.56	New	HUNT (JB) TRANSPRT SVCS INC	JBHT	9	83.13
3	MALLINCKRODT PLC	MNK	10	67.34	2	LILLY (ELI) & CO	LLY	9	82.89
12	MARSH & MCLENNAN COS	MMC	10	65.75	New	MARATHON PETROLEUM CORP	MPC	9	39.39
New	MCDONALD'S CORP	MCD	10	117.65	10	MERCK & CO	MRK	9	58.66
2	MEDTRONIC PLC	MDT	10	87.63	3	MYLAN NV	MYL	9	46.79
2	MICHAEL KORS HOLDINGS LTD	KORS	10	51.72	4	NASDAQ INC	NDAQ	9	70.76
10	MICRON TECHNOLOGY INC	MU	10	13.74	5	NIKE INC	NKE	9	55.50
New	ROCKWELL AUTOMATION	ROK	10	114.40	New	NUCOR CORP	NUE	9	53.64
3	SOUTHERN CO	SO	10	53.50	6	REGENERON PHARMACEUTICALS	REGN	9	425.12
New	STARBUCKS CORP	SBUX	10	58.05	12	ROSS STORES INC	ROST	9	61.83
New	TRANSDIGM GROUP INC	TDG	10	279.52	New	SCRIPPS NETWORKS INTERACTIVE	SNI	9	66.06
4	UNITED PARCEL SERVICE INC	UPS	10	108.10	New	SIMON PROPERTY GROUP INC	SPG	9	227.04
New	UNITED RENTALS INC	URI	10	79.67	9	SYNCHRONY FINANCIAL	SYF	9	27.88
3	UNIVERSAL HEALTH SVCS INC	UHS	10	129.53	23	TJX COMPANIES INC	TJX	9	81.72
New	VORNADO REALTY TRUST	VNO	10	107.40	New	U S BANCORP	USB	9	42.17
3	WESTERN DIGITAL CORP	WDC	10	47.51	New	VERISK ANALYTICS INC	VRSK	9	85.28
3	WYNN RESORTS LTD	WYNN	10	97.95	3	WAL-MART STORES INC	WMT	9	72.97

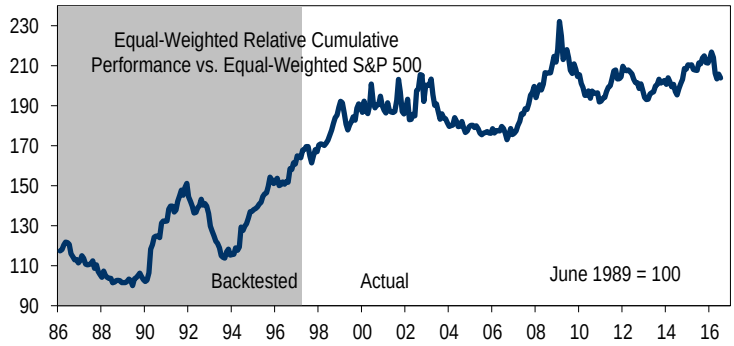
QUALITY STRATEGIES: One-Year Return on Equity

Top 50 S&P 500 Companies By ROE (1-Yr Average)

Return on Equity One-Year Average: Net income divided by average equity provided.

Sector Concentration





Absolute Returns

Last 1 Month	3.30%
Last 3 Months	4.08%
Last 6 Months	10.85%
Last 12 Months	0.29%
2016 YTD	5.52%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance.

Screen for August

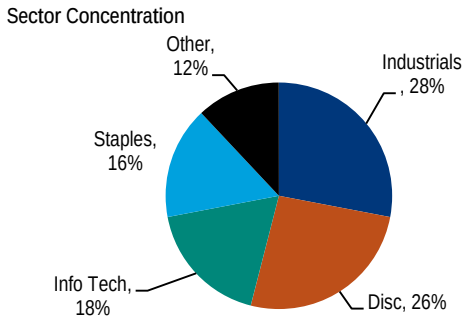
Mo. In Scrn.	Company	Ticker	ROE	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	ROE	Price 07/29/2016
7	KIMBERLY-CLARK CORP	KMB	550.8	129.55	52	MASTERCARD INC	MA	62.2	95.24
New	MEAD JOHNSON NUTRITION CO	MJN	524.1	89.20	13	BROWN FORMAN CORP	BF.B	61.6	98.19
40	PITNEY BOWES INC	PBI	426.8	19.31	6	MOTOROLA SOLUTIONS INC	MSI	58.8	69.38
168	YUM BRANDS INC	YUM	241.7	89.42	61	ACCENTURE PLC	ACN	58.0	112.81
30	CLOROX CO/DE	CLX	239.6	131.07	25	LYONDELLBASELL INDUSTRIES NV	LYB	57.8	75.26
4	ALLEGION PLC	ALLE	211.8	72.39	44	DELPHI AUTOMOTIVE PLC	DLPH	55.2	67.82
4	S&P GLOBAL INC	SPGI	206.7	122.20	22	O'REILLY AUTOMOTIVE INC	ORLY	54.5	290.63
88	ALTRIA GROUP INC	MO	190.7	67.70	102	TJX COMPANIES INC	TJX	52.4	81.72
16	AMERICAN AIRLINES GROUP INC	AAL	166.7	35.50	7	SCRIPPS NETWORKS INTERACTIVE	SNI	51.2	66.06
7	KLA-TENCOR CORP	KLAC	126.9	75.71	3	OMNICOM GROUP	OMC	45.3	82.29
112	LOCKHEED MARTIN CORP	LMT	124.3	252.73	7	DELTA AIR LINES INC	DAL	44.8	38.75
18	SHERWIN-WILLIAMS CO	SHW	111.3	299.73	22	C H ROBINSON WORLDWIDE INC	CHRW	44.5	69.62
6	UNITED CONTINENTAL HLDGS INC	UAL	109.9	46.89	162	CAMPBELL SOUP CO	CPB	43.5	62.27
79	BOEING CO	BA	108.5	133.66	New	SEALED AIR CORP	SEE	42.3	47.18
27	GILEAD SCIENCES INC	GILD	100.9	79.47	41	ROSS STORES INC	ROST	42.2	61.83
28	VERIZON COMMUNICATIONS INC	VZ	94.2	55.41	3	INTUIT INC	INTU	41.7	110.99
31	HOME DEPOT INC	HD	93.1	138.24	6	LEVEL 3 COMMUNICATIONS INC	LVLT	41.5	50.60
109	INTL BUSINESS MACHINES CORP	IBM	81.2	160.62	8	BLOCK H & R INC	HRB	41.3	23.79
57	HERSHEY CO	HSY	79.2	110.76	New	UNITED RENTALS INC	URI	41.3	79.67
3	AMERISOURCEBERGEN CORP	ABC	73.7	85.19	2	PAYCHEX INC	PAYX	40.9	59.28
33	VIACOM INC	VIAB	71.9	45.47	New	STARWOOD HOTELS&RESORTS WRLD	HOT	40.8	78.06
15	ONEOK INC	OKE	67.2	44.79	New	MICHAEL KORS HOLDINGS LTD	KORS	39.6	51.72
10	VERISK ANALYTICS INC	VRSK	63.9	85.28	New	3M CO	MMM	39.2	178.36
85	WESTERN UNION CO	WU	63.3	20.00	4	EQUITY RESIDENTIAL	EQR	38.9	67.99
18	WYNDHAM WORLDWIDE CORP	WYN	63.0	71.02	New	HANESBRANDS INC	HBI	38.8	26.66

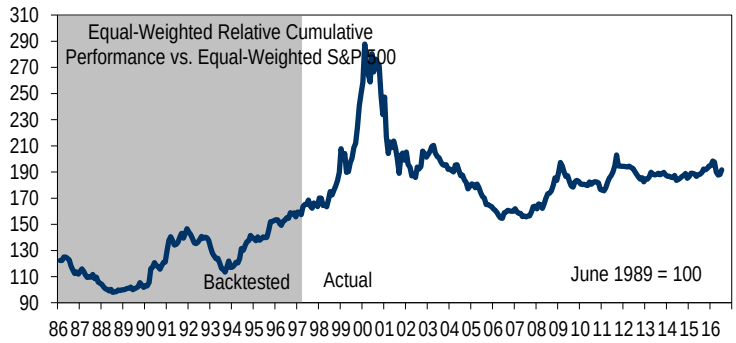
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Five-Year Return on Equity

Top 50 S&P 500 Companies By ROE (5-Yr Average)

Return on Equity Five-year Average: Five-year average return on equity.





Absolute Returns

Last 1 Month	6.22%
Last 3 Months	6.19%
Last 6 Months	14.07%
Last 12 Months	5.84%
2016 YTD	7.73%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for August

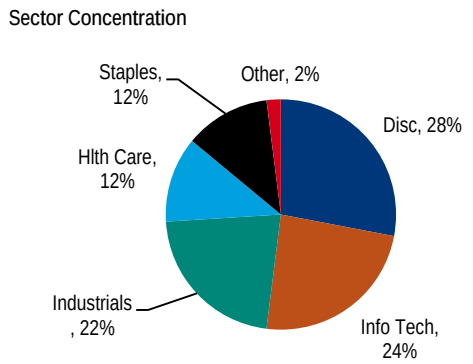
Mo. In Scrn	Company	Ticker	5-Yr Avg ROE	Price 07/29/2016	Mo. In Scrn	Company	Ticker	5-Yr Avg ROE	Price 07/29/2016
42	MOODY'S CORP	MCO	728.8	106.01	61	ACCENTURE PLC	ACN	62.0	112.81
6	ALLEGION PLC	ALLE	501.6	72.39	65	GILEAD SCIENCES INC	GILD	60.6	79.47
110	PITNEY BOWES INC	PBI	489.8	19.31	113	HERSHEY CO	HSY	60.2	110.76
101	PHILIP MORRIS INTERNATIONAL	PM	460.0	100.26	18	SHERWIN-WILLIAMS CO	SHW	56.8	299.73
30	MEAD JOHNSON NUTRITION CO	MJN	292.3	89.20	24	SEAGATE TECHNOLOGY PLC	STX	55.5	32.03
6	AMERICAN AIRLINES GROUP INC	AAL	198.8	35.50	183	TJX COMPANIES INC	TJX	52.5	81.72
78	LOCKHEED MARTIN CORP	LMT	191.6	252.73	18	GOODYEAR TIRE & RUBBER CO	GT	50.6	28.67
10	VERISK ANALYTICS INC	VRSK	166.5	85.28	18	MARRIOTT INTL INC	MAR	49.3	71.70
163	COLGATE-PALMOLIVE CO	CL	151.6	74.43	6	VERISIGN INC	VRSN	47.1	86.61
77	ALTRIA GROUP INC	MO	128.6	67.70	33	MICHAEL KORS HOLDINGS LTD	KORS	46.5	51.72
32	ALLIANCE DATA SYSTEMS CORP	ADS	112.7	231.62	30	MASTERCARD INC	MA	46.2	95.24
41	L BRANDS INC	LB	105.4	73.90	30	DELPHI AUTOMOTIVE PLC	DLPH	46.1	67.82
77	KIMBERLY-CLARK CORP	KMB	104.8	129.55	5	HOME DEPOT INC	HD	46.0	138.24
4	S&P GLOBAL INC	SPGI	97.8	122.20	65	ROSS STORES INC	ROST	45.1	61.83
30	WESTERN UNION CO	WU	96.1	20.00	110	KELLOGG CO	K	42.9	82.71
18	DELTA AIR LINES INC	DAL	91.4	38.75	143	COACH INC	COH	42.0	43.11
41	ABBVIE INC	ABBV	87.0	66.23	6	WYNN RESORTS LTD	WYNN	41.6	97.95
89	INTL BUSINESS MACHINES CORP	IBM	86.2	160.62	6	MASCO CORP	MAS	41.6	36.48
41	UNITED PARCEL SERVICE INC	UPS	84.7	108.10	65	C H ROBINSON WORLDWIDE INC	CHRW	40.8	69.62
84	LINEAR TECHNOLOGY CORP	LLTC	80.0	59.99	2	TRANSDIGM GROUP INC	TDG	40.8	279.52
42	FORD MOTOR CO	F	78.4	12.66	6	VERIZON COMMUNICATIONS INC	VZ	40.6	55.41
90	BOEING CO	BA	74.1	133.66	110	ROCKWELL COLLINS INC	COL	40.2	84.62
110	YUM BRANDS INC	YUM	74.1	89.42	9	VIACOM INC	VIAB	39.6	45.47
23	UNITED RENTALS INC	URI	68.1	79.67	13	HUNT (JB) TRANSPRT SVCS INC	JBHT	39.3	83.13
110	CAMPBELL SOUP CO	CPB	64.2	62.27	45	APPLE INC	AAPL	39.0	104.21

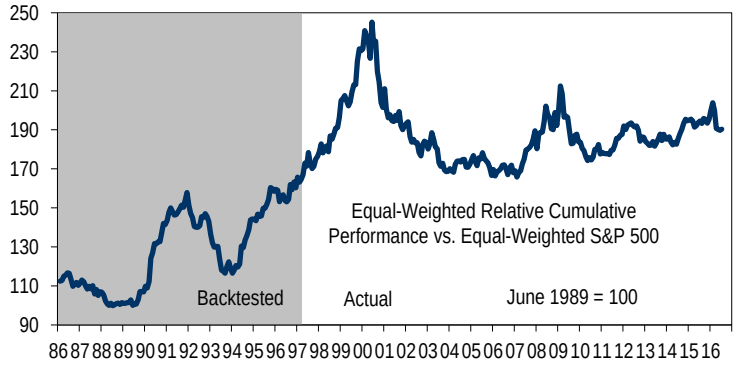
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

One-Year Return on Equity (Adjusted for Debt)

Top 50 S&P 500 Companies By ROE (1-Yr Avg. Adj. for Debt)

Return on Equity One-Year Average (Adjusted for Debt): The ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.





Absolute Returns

Last 1 Month	4.58%
Last 3 Months	5.02%
Last 6 Months	10.44%
Last 12 Months	1.72%
2016 YTD	6.54%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

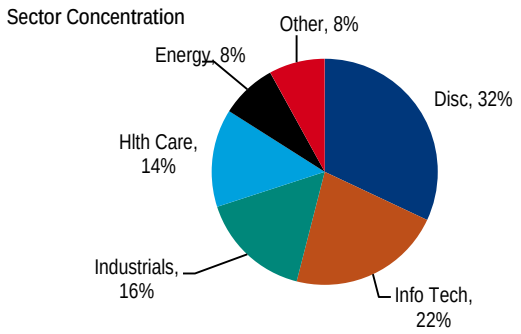
Screen for August

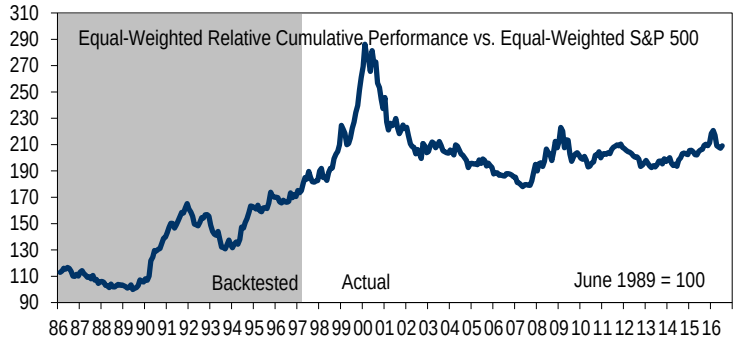
Mo. In Scrn.	Company	Ticker	Debt Adj ROE	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Debt Adj ROE	Price 07/29/2016
35	ACCENTURE PLC	ACN	57.8	112.81	18	COGNIZANT TECH SOLUTIONS	CTSH	17.2	57.49
9	MICHAEL KORS HOLDINGS LTD	KORS	39.6	51.72	13	VF CORP	VFC	17.2	62.43
41	ROSS STORES INC	ROST	35.6	61.83	25	EDWARDS LIFESCIENCES CORP	EW	16.8	114.52
55	ROBERT HALF INTL INC	RHI	35.0	36.54	5	URBAN OUTFITTERS INC	URBN	16.2	29.90
212	TJX COMPANIES INC	TJX	33.7	81.72	6	SNAP-ON INC	SNA	15.3	157.17
3	ALASKA AIR GROUP INC	ALK	30.2	67.22	6	NVIDIA CORP	NVDA	15.3	57.10
85	MASTERCARD INC	MA	27.0	95.24	3	BEST BUY CO INC	BBY	15.0	33.60
33	C H ROBINSON WORLDWIDE INC	CHRW	26.9	69.62	10	ALPHABET INC	GOOGL	14.8	791.34
19	ELECTRONIC ARTS INC	EA	25.5	76.32	10	MONDELEZ INTERNATIONAL INC	MDLZ	14.7	43.98
31	TRACTOR SUPPLY CO	TSCO	25.3	91.65	3	ACUITY BRANDS INC	AYI	14.4	262.43
112	NIKE INC	NKE	25.2	55.50	14	GAP INC	GPS	14.3	25.79
3	INTUIT INC	INTU	25.0	110.99	4	FIRST SOLAR INC	FSLR	14.0	46.68
13	SOUTHWEST AIRLINES	LUV	22.7	37.01	27	CUMMINS INC	CMI	14.0	122.77
13	FASTENAL CO	FAST	22.5	42.75	3	COSTCO WHOLESALE CORP	COST	13.9	167.22
19	TEXAS INSTRUMENTS INC	TXN	21.4	69.75	3	CHURCH & DWIGHT INC	CHD	13.8	98.24
2	FOOT LOCKER INC	FL	19.9	59.62	New	BIOGEN INC	BIIB	13.6	289.93
58	GENUINE PARTS CO	GPC	19.9	102.24	6	XILINX INC	XLNX	13.4	51.08
16	GENERAL DYNAMICS CORP	GD	19.7	146.89	8	SCHEIN (HENRY) INC	HSIC	13.4	180.98
12	REGENERON PHARMACEUTICALS	REGN	19.5	425.12	7	DISNEY (WALT) CO	DIS	13.2	95.95
7	DELTA AIR LINES INC	DAL	19.4	38.75	2	BROWN FORMAN CORP	BF.B	13.1	98.19
34	VARIAN MEDICAL SYSTEMS INC	VAR	18.5	94.74	4	CERNER CORP	CERN	13.0	62.39
25	HORMEL FOODS CORP	HRL	18.1	37.35	New	BED BATH & BEYOND INC	BBBY	13.0	44.95
102	AUTOMATIC DATA PROCESSING	ADP	17.7	88.95	New	HONEYWELL INTERNATIONAL INC	HON	12.9	116.33
60	LAUDER (ESTEE) COS INC -CL A	EL	17.7	92.90	New	MOHAWK INDUSTRIES INC	MHK	12.6	208.94
37	APPLE INC	AAPL	17.3	104.21	New	PUBLIC STORAGE	PSA	12.5	238.92

Five-Year Return on Equity (Adjusted by Debt)

Top 50 S&P 500 Companies By ROE (5-Yr Avg. Adj. for Debt)

Return on Equity Five-year Average (Adjusted for Debt): The average five year ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.





Absolute Returns

Last 1 Month	5.20%
Last 3 Months	5.20%
Last 6 Months	11.00%
Last 12 Months	5.54%
2016 YTD	8.22%

Source: BofA Merrill Lynch US Quantitative Strategy

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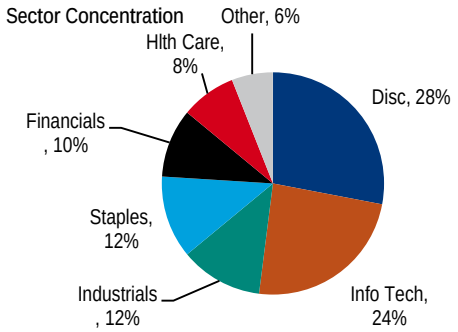
Screen for August

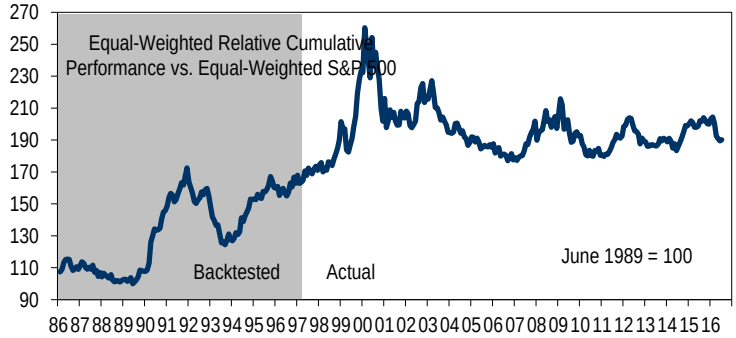
Mo. In Scrn.	Company	Ticker	Debt Adj 5Yr ROE	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Debt Adj 5Yr ROE	Price 07/29/2016
35	ACCENTURE PLC	ACN	61.8	112.81	39	GAP INC	GPS	17.4	25.79
9	MICHAEL KORS HOLDINGS LTD	KORS	46.4	51.72	4	FOOT LOCKER INC	FL	17.3	59.62
13	DELTA AIR LINES INC	DAL	39.6	38.75	150	EXXON MOBIL CORP	XOM	17.0	88.95
80	ROSS STORES INC	ROST	38.0	61.83	33	HORMEL FOODS CORP	HRL	16.9	37.35
117	TJX COMPANIES INC	TJX	33.8	81.72	9	ADVANCE AUTO PARTS INC	AAP	16.8	169.86
38	ROBERT HALF INTL INC	RHI	28.1	36.54	12	URBAN OUTFITTERS INC	URBN	16.2	29.90
16	COACH INC	COH	28.1	43.11	21	STARBUCKS CORP	SBUX	15.8	58.05
49	TRIPADVISOR INC	TRIP	26.8	69.97	15	TEXAS INSTRUMENTS INC	TXN	15.8	69.75
33	C H ROBINSON WORLDWIDE INC	CHRW	24.6	69.62	10	ALPHABET INC	GOOGL	15.7	791.34
31	TRACTOR SUPPLY CO	TSCO	23.9	91.65	12	VF CORP	VFC	14.7	62.43
30	CHIPOTLE MEXICAN GRILL INC	CMG	23.8	423.99	230	JOHNSON & JOHNSON	JNJ	14.3	125.23
34	VARIAN MEDICAL SYSTEMS INC	VAR	23.0	94.74	3	INTUIT INC	INTU	14.3	110.99
3	ALASKA AIR GROUP INC	ALK	22.9	67.22	4	SNAP-ON INC	SNA	13.8	157.17
13	FASTENAL CO	FAST	21.8	42.75	New	ROCKWELL COLLINS INC	COL	13.7	84.62
161	NIKE INC	NKE	21.3	55.50	10	AFLAC INC	AFL	13.7	72.28
78	MASTERCARD INC	MA	20.0	95.24	30	RALPH LAUREN CORP	RL	13.5	98.09
18	COGNIZANT TECH SOLUTIONS	CTSH	19.9	57.49	5	NVIDIA CORP	NVDA	13.2	57.10
42	GENUINE PARTS CO	GPC	19.8	102.24	30	INTEL CORP	INTC	13.0	34.86
18	EDWARDS LIFESCIENCES CORP	EW	19.5	114.52	12	XILINX INC	XLNX	13.0	51.08
108	CUMMINS INC	CMI	19.1	122.77	6	HELMERICH & PAYNE	HP	12.8	61.97
6	REGENERON PHARMACEUTICALS	REGN	19.1	425.12	12	FMC TECHNOLOGIES INC	FTI	12.6	25.38
9	BAXTER INTERNATIONAL INC	BAX	18.9	48.02	4	AUTOMATIC DATA PROCESSING	ADP	12.6	88.95
36	LAUDER (ESTEE) COS INC -CL A	EL	18.4	92.90	New	PHILLIPS 66	PSX	12.6	76.06
37	APPLE INC	AAPL	17.8	104.21	New	CERNER CORP	CERN	12.6	62.39
30	FRANKLIN RESOURCES INC	BEN	17.7	36.19	New	SCHEIN (HENRY) INC	HSIC	12.3	180.98

Return on Assets

Top 50 S&P 500 Companies by ROA

Return on Assets: Net income plus interest and taxes as a percent of average total assets.





Absolute Returns

Last 1 Month	4.64%
Last 3 Months	3.90%
Last 6 Months	8.50%
Last 12 Months	-2.20%
2016 YTD	3.98%

Source: BofA Merrill Lynch US Quantitative Strategy

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Screen for August

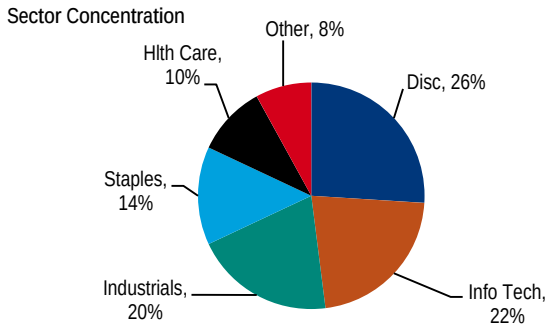
Mo. In Scrn.	Company	Ticker	ROA	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	ROA	Price 07/29/2016
28	GILEAD SCIENCES INC	GILD	36.7	79.47	13	VERISIGN INC	VRSN	17.0	86.61
33	MICHAEL KORS HOLDINGS LTD	KORS	31.9	51.72	18	HOME DEPOT INC	HD	16.6	138.24
17	SKYWORKS SOLUTIONS INC	SWKS	26.2	66.02	79	APPLE INC	AAPL	16.5	104.21
48	BROWN FORMAN CORP	BF.B	25.5	98.19	4	S&P GLOBAL INC	SPGI	16.5	122.20
154	LINEAR TECHNOLOGY CORP	LLTC	25.1	59.99	2	L BRANDS INC	LB	16.4	73.90
81	MASTERCARD INC	MA	24.1	95.24	6	UNITED CONTINENTAL HLDGS INC	UAL	16.4	46.89
43	ROBERT HALF INTL INC	RHI	20.8	36.54	4	ULTA SALON COSMETCS & FRAG	ULTA	16.1	261.21
61	ACCENTURE PLC	ACN	20.7	112.81	12	EXPEDITORS INTL WASH INC	EXPD	15.9	49.43
41	ROSS STORES INC	ROST	20.5	61.83	6	LEVEL 3 COMMUNICATIONS INC	LVLT	15.8	50.60
88	TJX COMPANIES INC	TJX	20.0	81.72	12	CLOROX CO/DE	CLX	15.8	131.07
40	BIOGEN INC	BIIB	20.0	289.93	19	F5 NETWORKS INC	FFIV	15.7	123.42
95	FASTENAL CO	FAST	19.5	42.75	18	C H ROBINSON WORLDWIDE INC	CHRW	15.6	69.62
90	PHILIP MORRIS INTERNATIONAL	PM	19.3	100.26	22	3M CO	MMM	15.2	178.36
4	EQUITY RESIDENTIAL	EQR	19.0	67.99	4	FOOT LOCKER INC	FL	14.8	59.62
19	TEXAS INSTRUMENTS INC	TXN	18.5	69.75	15	AUTOZONE INC	AZO	14.7	813.97
13	ALTRIA GROUP INC	MO	17.9	67.70	81	PRICELINE GROUP INC	PCLN	14.7	1350.81
79	PRICE (T. ROWE) GROUP	TROW	17.9	70.69	3	SCRIPPS NETWORKS INTERACTIVE	SNI	14.6	66.06
9	MONSTER BEVERAGE CORP	MNST	17.7	160.63	3	INTUIT INC	INTU	14.5	110.99
180	MOODY'S CORP	MCO	17.7	106.01	New	KLA-TENCOR CORP	KLAC	14.4	75.71
3	ELECTRONIC ARTS INC	EA	17.5	76.32	New	O'REILLY AUTOMOTIVE INC	ORLY	14.4	290.63
44	NIKE INC	NKE	17.5	55.50	3	REGENERON PHARMACEUTICALS	REGN	14.4	425.12
31	TRACTOR SUPPLY CO	TSCO	17.4	91.65	New	PUBLIC STORAGE	PSA	14.0	238.92
15	SHERWIN-WILLIAMS CO	SHW	17.4	299.73	New	COGNIZANT TECH SOLUTIONS	CTSH	13.9	57.49
6	YUM BRANDS INC	YUM	17.3	89.42	New	LAUDER (ESTEE) COS INC -CL A	EL	13.9	92.90
31	LYONDELLBASELL INDUSTRIES NV	LYB	17.1	75.26	New	EDWARDS LIFESCIENCES CORP	EW	13.8	114.52

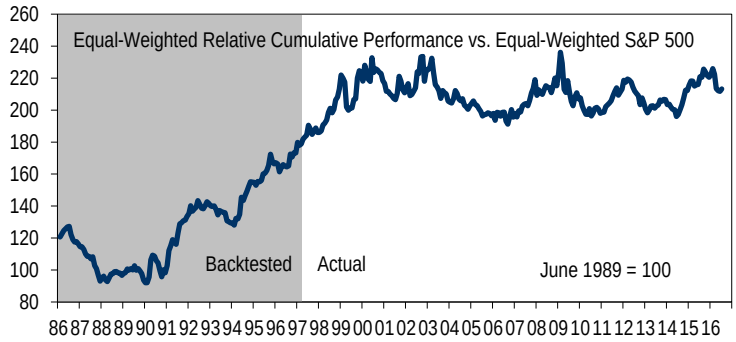
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Return on Capital

Top 50 S&P 500 Companies By ROC

Return on Capital: The sum of net income, interest expense and minority interest, as a percent of average total invested capital which is inclusive of long-term debt, preferred stock, common equity, and minority interest.





Absolute Returns

Last 1 Month	4.96%
Last 3 Months	5.11%
Last 6 Months	11.28%
Last 12 Months	0.35%
2016 YTD	5.70%

Source: BofA Merrill Lynch US Quantitative Strategy
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for August

Mo. In Scrn.	Company	Ticker	Ret on Cap	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Ret on Cap	Price 07/29/2016
4	VERISIGN INC	VRSN	303%	86.61	22	STARBUCKS CORP	SBUX	33%	58.05
46	MARRIOTT INTL INC	MAR	245%	71.70	6	YUM BRANDS INC	YUM	33%	89.42
25	GILEAD SCIENCES INC	GILD	77%	79.47	13	AMERICAN AIRLINES GROUP INC	AAL	32%	35.50
33	DUN & BRADSTREET CORP	DNB	62%	129.25	30	BOEING CO	BA	32%	133.66
61	ACCENTURE PLC	ACN	59%	112.81	17	HOME DEPOT INC	HD	32%	138.24
101	PHILIP MORRIS INTERNATIONAL	PM	56%	100.26	3	ALASKA AIR GROUP INC	ALK	31%	67.22
30	SHERWIN-WILLIAMS CO	SHW	48%	299.73	114	C H ROBINSON WORLDWIDE INC	CHRW	31%	69.62
94	AUTOZONE INC	AZO	45%	813.97	3	ELECTRONIC ARTS INC	EA	31%	76.32
85	MASTERCARD INC	MA	45%	95.24	93	LOCKHEED MARTIN CORP	LMT	30%	252.73
4	S&P GLOBAL INC	SPGI	45%	122.20	13	O'REILLY AUTOMOTIVE INC	ORLY	30%	290.63
10	UNITED CONTINENTAL HLDGS INC	UAL	44%	46.89	3	BAXTER INTERNATIONAL INC	BAX	29%	48.02
108	PAYCHEX INC	PAYX	41%	59.28	7	DELTA AIR LINES INC	DAL	29%	38.75
15	UNITED PARCEL SERVICE INC	UPS	41%	108.10	97	LINEAR TECHNOLOGY CORP	LLTC	29%	59.99
52	ALTRIA GROUP INC	MO	40%	67.70	25	LYONDELLBASELL INDUSTRIES NV	LYB	29%	75.26
8	BROWN FORMAN CORP	BF.B	40%	98.19	13	SKYWORKS SOLUTIONS INC	SWKS	29%	66.02
33	MICHAEL KORS HOLDINGS LTD	KORS	39%	51.72	13	F5 NETWORKS INC	FFIV	28%	123.42
97	TJX COMPANIES INC	TJX	39%	81.72	6	ABBVIE INC	ABBV	27%	66.23
80	ROSS STORES INC	ROST	37%	61.83	New	AUTOMATIC DATA PROCESSING	ADP	27%	88.95
54	CLOROX CO/DE	CLX	36%	131.07	12	NIKE INC	NKE	27%	55.50
73	MOODY'S CORP	MCO	36%	106.01	31	TRACTOR SUPPLY CO	TSCO	27%	91.65
37	ROBERT HALF INTL INC	RHI	35%	36.54	3	AMERISOURCEBERGEN CORP	ABC	26%	85.19
New	KIMBERLY-CLARK CORP	KMB	34%	129.55	82	APPLE INC	AAPL	26%	104.21
41	L BRANDS INC	LB	34%	73.90	19	BIOGEN INC	BIIB	26%	289.93
New	HERSHEY CO	HSY	33%	110.76	77	MEAD JOHNSON NUTRITION CO	MJN	26%	89.20
6	INTUIT INC	INTU	33%	110.99	2	ULTA SALON COSMETCS & FRAG	ULTA	26%	261.21

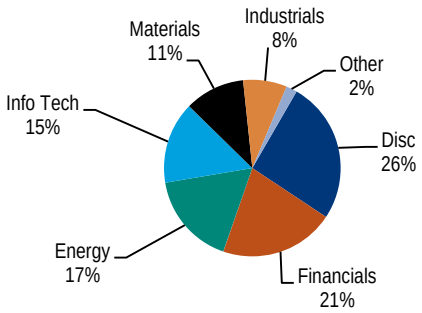
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

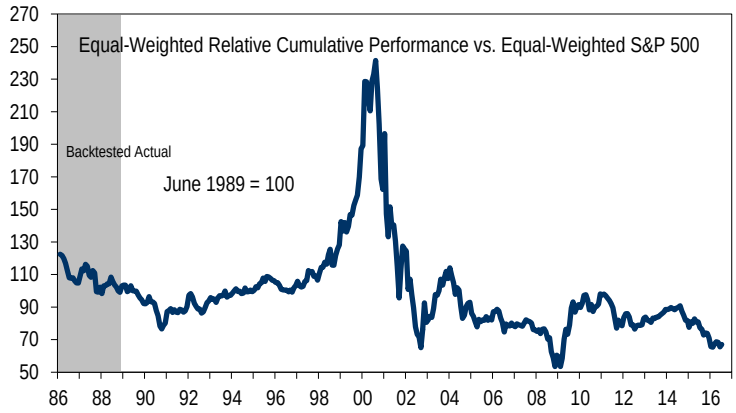
RISK STRATEGIES: Beta

Top 50 S&P 500 Companies By BETA

Beta: A measure of non-diversifiable risk. It is calculated using a regression incorporating 60 months of price performance versus that of the S&P 500.

Sector Concentration





Absolute Returns

Last 1 Month	6.53%
Last 3 Months	2.69%
Last 6 Months	18.17%
Last 12 Months	-9.85%
2016 YTD	3.29%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

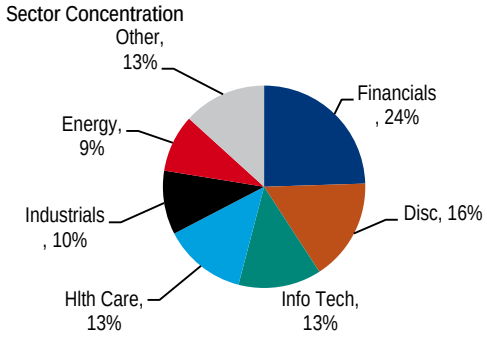
Screen for August

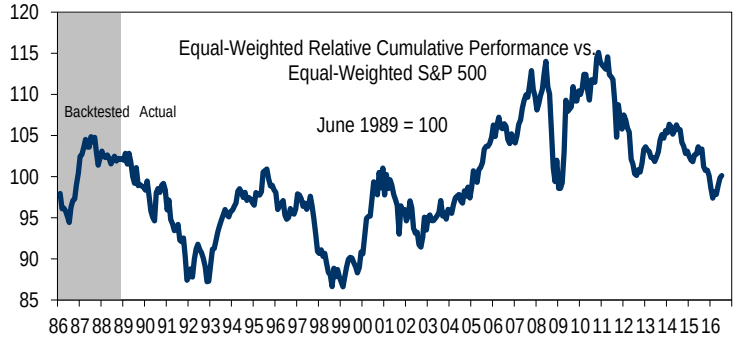
Mo. In Scrn.	Company	Ticker	Beta	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Beta	Price 07/29/2016
30	FREEPORT-MCMORAN INC	FCX	2.13	12.96	13	MASCO CORP	MAS	1.63	36.48
23	UNITED RENTALS INC	URI	2.02	79.67	60	METLIFE INC	MET	1.63	42.74
49	SEAGATE TECHNOLOGY PLC	STX	1.99	32.03	4	BORGWARNER INC	BWA	1.62	33.18
19	TRIPADVISOR INC	TRIP	1.88	69.97	14	MICRON TECHNOLOGY INC	MU	1.61	13.74
2	NAVIENT CORP	NAVI	1.86	14.20	28	CITRIX SYSTEMS INC	CTXS	1.60	89.13
30	MORGAN STANLEY	MS	1.85	28.73	New	CHESAPEAKE ENERGY CORP	CHK	1.58	5.42
94	LINCOLN NATIONAL CORP	LNC	1.83	43.67	25	FIRST SOLAR INC	FSLR	1.58	46.68
38	MARATHON PETROLEUM CORP	MPC	1.83	39.39	30	INTERPUBLIC GROUP OF COS	IPG	1.58	23.06
12	HARMAN INTERNATIONAL INDS	HAR	1.77	82.64	11	WYNN RESORTS LTD	WYNN	1.58	97.95
28	AUTODESK INC	ADSK	1.74	59.45	85	CBS CORP	CBS	1.57	52.22
58	CBRE GROUP INC	CBG	1.74	28.45	3	LEVEL 3 COMMUNICATIONS INC	LVLT	1.57	50.60
10	MARATHON OIL CORP	MRO	1.74	13.64	7	NETFLIX INC	NFLX	1.55	91.25
14	MURPHY OIL CORP	MUR	1.74	27.43	7	WESTROCK CO	WRK	1.55	42.91
88	OWENS-ILLINOIS INC	OI	1.71	18.79	13	CIMAREX ENERGY CO	XEC	1.54	120.02
78	STARWOOD HOTELS&RESORTS WRLD	HOT	1.71	78.06	30	JUNIPER NETWORKS INC	JNPR	1.54	22.69
22	TIFFANY & CO	TIF	1.70	64.52	28	REGIONS FINANCIAL CORP	RF	1.54	9.17
30	INVESCO LTD	IVZ	1.69	29.18	10	TRANSOCEAN LTD	RIG	1.54	10.99
10	NEWS CORP	NWSA	1.69	12.97	28	PULTEGROUP INC	PHM	1.53	21.18
8	DEVON ENERGY CORP	DVN	1.68	38.28	New	RYDER SYSTEM INC	R	1.53	65.90
74	E TRADE FINANCIAL CORP	ETFC	1.67	25.08	15	APPLIED MATERIALS INC	AMAT	1.52	26.29
63	CITIGROUP INC	C	1.66	43.81	4	FLUOR CORP	FLR	1.52	53.52
28	TESORO CORP	TSO	1.66	76.15	12	LYONDELLBASELL INDUSTRIES NV	LYB	1.52	75.26
New	ALBEMARLE CORP	ALB	1.65	84.17	2	ROYAL CARIBBEAN CRUISES LTD	RCL	1.52	72.44
21	VALERO ENERGY CORP	VLO	1.65	52.28	7	BANK OF AMERICA CORP	BAC	1.51	14.49
25	F5 NETWORKS INC	FFIV	1.63	123.42	10	DU PONT (E I) DE NEMOURS	DD	1.51	69.17
106	GOODYEAR TIRE & RUBBER CO	GT	1.63	28.67	8	GENERAL MOTORS CO	GM	1.51	31.54
					New	ZIONS BANCORPORATION	ZION	1.51	27.88

Variability of Earnings

Top S&P 500 Companies By HIGH VARIABILITY OF EPS

Variability of EPS: The degree of variability in quarterly EPS over the past 5 yrs, ranked from 10 (high) to 1(low).





Absolute Returns

Last 1 Month	4.55%
Last 3 Months	7.70%
Last 6 Months	17.73%
Last 12 Months	1.12%
2016 YTD	9.36%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for August

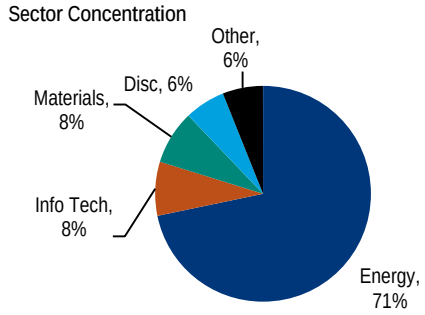
Mo. In Scrn	Company	Ticker	EPS Risk	Price 07/29/2016
18	AES CORP	AES	10	12.35
New	ALLEGION PLC	ALLE	10	72.39
19	AMERISOURCEBERGEN CORP	ABC	10	85.19
21	APPLIED MATERIALS INC	AMAT	10	26.29
7	BANK OF AMERICA CORP	BAC	10	14.49
4	BAXTER INTERNATIONAL INC	BAX	10	48.02
5	CENTENE CORP	CNC	10	70.55
7	CONAGRA FOODS INC	CAG	10	46.76
28	DELTA AIR LINES INC	DAL	10	38.75
3	ELECTRONIC ARTS INC	EA	10	76.32
New	EQUITY RESIDENTIAL	EQR	10	67.99
21	FACEBOOK INC	FB	10	123.94
6	GOODYEAR TIRE & RUBBER CO	GT	10	28.67
25	HARTFORD FINANCIAL SERVICES	HIG	10	39.85
New	HOST HOTELS & RESORTS INC	HST	10	17.74
7	KINDER MORGAN INC	KMI	10	20.33
50	LAM RESEARCH CORP	LRCX	10	89.77
29	LEUCADIA NATIONAL CORP	LUK	10	18.26
39	MACERICH CO	MAC	10	89.24
28	MORGAN STANLEY	MS	10	28.73
43	NETFLIX INC	NFLX	10	91.25
9	NOBLE ENERGY INC	NBL	10	35.72
54	PERKINELMER INC	PKI	10	56.92
New	PULTEGROUP INC	PHM	10	21.18
20	ROYAL CARIBBEAN CRUISES LTD	RCL	10	72.44
17	SL GREEN REALTY CORP	SLG	10	117.82
45	STAPLES INC	SPLS	10	9.29
33	STARBUCKS CORP	SBUX	10	58.05
31	VERIZON COMMUNICATIONS INC	VZ	10	55.41
28	WASTE MANAGEMENT INC	WM	10	66.12
7	WESTROCK CO	WRK	10	42.91
New	XL GROUP LTD	XL	10	34.61
84	YAHOO INC	YHOO	10	38.19

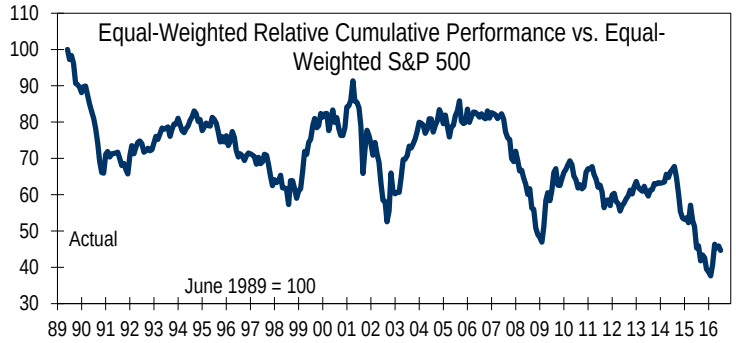
Mo. In Scrn	Company	Ticker	EPS Risk	Price 07/29/2016
28	ABBOTT LABORATORIES	ABT	9	44.75
2	ALEXION PHARMACEUTICALS INC	ALXN	9	128.60
31	AT&T INC	T	9	43.29
31	AVALONBAY COMMUNITIES INC	AVB	9	185.65
16	BARD (C.R.) INC	BCR	9	223.73
2	BROADCOM LTD	AVGO	9	161.98
14	CARDINAL HEALTH INC	CAH	9	83.60
4	CHEVRON CORP	CVX	9	102.48
6	CONCHO RESOURCES INC	CXO	9	124.20
31	CONSTELLATION BRANDS	STZ	9	164.63
13	CROWN CASTLE INTL CORP	CCI	9	97.03
28	D R HORTON INC	DHI	9	32.88
New	EXPEDIA INC	EXPE	9	116.65
21	FIRSTENERGY CORP	FE	9	34.92
10	FMC CORP	FMC	9	47.54
7	GENERAL ELECTRIC CO	GE	9	31.14
New	GENERAL MOTORS CO	GM	9	31.54
10	HALLIBURTON CO	HAL	9	43.66
26	LENNAR CORP	LEN	9	46.80
30	LINCOLN NATIONAL CORP	LNC	9	43.67
85	METLIFE INC	MET	9	42.74
4	MONDELEZ INTERNATIONAL INC	MDLZ	9	43.98
24	PRUDENTIAL FINANCIAL INC	PRU	9	75.29
2	QUANTA SERVICES INC	PWR	9	25.60
49	SEAGATE TECHNOLOGY PLC	STX	9	32.03
3	SYMANTEC CORP	SYMC	9	20.43
2	TRANSDIGM GROUP INC	TDG	9	279.52
3	TWENTY-FIRST CENTURY FOX INC	FOXA	9	26.64
103	UNITED PARCEL SERVICE INC	UPS	9	108.10
19	UNUM GROUP	UNM	9	33.41
11	WELLTOWER INC	HCN	9	79.33
New	WESTERN DIGITAL CORP	WDC	9	47.51
19	WILLIAMS COS INC	WMB	9	23.97
4	ZIMMER BIOMET HOLDINGS INC	ZBH	9	131.14

Estimate Dispersion

Top S&P 500 Companies By EPS ESTIMATE DISPERSION

EPS Estimate Dispersion: The coefficient of variation among I/B/E/S FY2 ESTIMATES. Presented as a decile rank.





Source: BofA Merrill Lynch US Quantitative Strategy
The performance chart represents actual returns since July 1989. There are no back tested results.

Absolute Returns

Last 1 Month	1.50%
Last 3 Months	1.38%
Last 6 Months	33.85%
Last 12 Months	2.44%
2016 YTD	23.72%

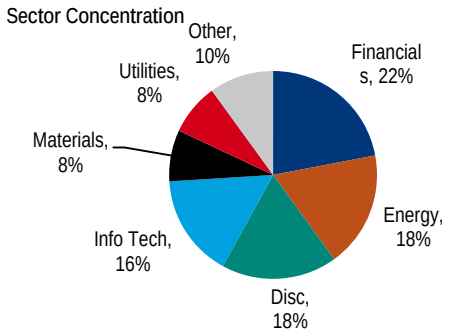
Screen for August

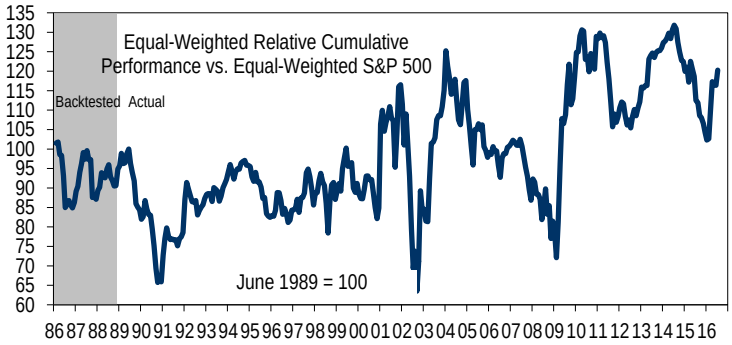
Mo. In Scrn	Company	Ticker	EPS Est. Dispers.	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	EPS Est. Dispers.	Price 07/29/2016
22	ANADARKO PETROLEUM CORP	APC	10	54.53	21	SOUTHWESTERN ENERGY CO	SWN	10	14.58
24	APACHE CORP	APA	10	52.50	29	TRANSOCEAN LTD	RIG	10	10.99
18	AUTODESK INC	ADSK	10	59.45	2	CF INDUSTRIES HOLDINGS INC	CF	9	24.68
20	BAKER HUGHES INC	BHI	10	47.83	13	CHEVRON CORP	CVX	9	102.48
30	CABOT OIL & GAS CORP	COG	10	24.67	2	EXXON MOBIL CORP	XOM	9	88.95
23	CHESAPEAKE ENERGY CORP	CHK	10	5.42	New	FIRST SOLAR INC	FSLR	9	46.68
23	CIMAREX ENERGY CO	XEC	10	120.02	28	FREEPORT-MCMORAN INC	FCX	9	12.96
6	CONCHO RESOURCES INC	CXO	10	124.20	5	HALLIBURTON CO	HAL	9	43.66
21	CONOCOPHILLIPS	COP	10	40.82	20	HELMERICH & PAYNE	HP	9	61.97
20	DEVON ENERGY CORP	DVN	10	38.28	32	HESS CORP	HES	9	53.65
19	DIAMOND OFFSHRE DRILLING INC	DO	10	22.72	6	MARATHON PETROLEUM CORP	MPC	9	39.39
22	EOG RESOURCES INC	EOG	10	81.70	4	MOSAIC CO	MOS	9	27.00
20	EQT CORP	EQT	10	72.86	58	NETFLIX INC	NFLX	9	91.25
30	FRONTIER COMMUNICATIONS CORP	FTR	10	5.20	New	NEWMONT MINING CORP	NEM	9	44.00
26	MARATHON OIL CORP	MRO	10	13.64	New	NEWS CORP	NWSA	9	12.97
8	MICRON TECHNOLOGY INC	MU	10	13.74	3	ONEOK INC	OKE	9	44.79
22	MURPHY OIL CORP	MUR	10	27.43	New	PHILLIPS 66	PSX	9	76.06
10	NATIONAL OILWELL VARCO INC	NOV	10	32.35	4	SCHLUMBERGER LTD	SLB	9	80.52
63	NEWFIELD EXPLORATION CO	NFX	10	43.30	New	SPECTRA ENERGY CORP	SE	9	35.97
25	NOBLE ENERGY INC	NBL	10	35.72	2	TESORO CORP	TSO	9	76.15
32	NRG ENERGY INC	NRG	10	13.84	4	VERTEX PHARMACEUTICALS INC	VRTX	9	97.00
21	OCCIDENTAL PETROLEUM CORP	OXY	10	74.73	16	WYNN RESORTS LTD	WYNN	9	97.95
22	PIONEER NATURAL RESOURCES CO	PXD	10	162.57	19	WILLIAMS COS INC	WMB	9	23.97
89	RANGE RESOURCES CORP	RRC	10	40.31	3	YAHOO INC	YHOO	9	38.19

Price

Top 50 S&P 500 Companies By LOW PRICE

Low Price: Absolute price level of the stock at month-end.





Absolute Returns

Last 1 Month	7.75%
Last 3 Months	7.87%
Last 6 Months	36.32%
Last 12 Months	11.16%
2016 YTD	26.12%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

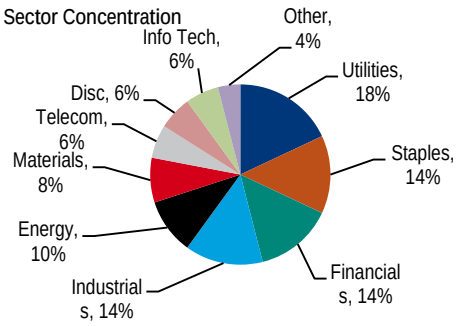
Screen for August

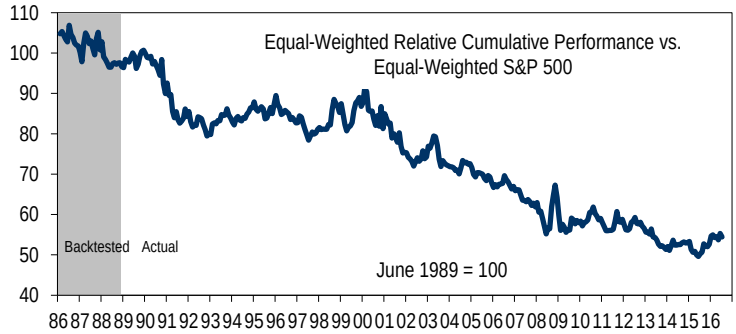
Mo. In Scrn.	Company	Ticker	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Price 07/29/2016
88	FRONTIER COMMUNICATIONS CORP	FTR	5.20	73	FIFTH THIRD BANCORP	FITB	18.98
25	CHESAPEAKE ENERGY CORP	CHK	5.42	26	PITNEY BOWES INC	PBI	19.31
92	REGIONS FINANCIAL CORP	RF	9.17	46	WESTERN UNION CO	WU	20.00
58	STAPLES INC	SPLS	9.29	9	KINDER MORGAN INC	KMI	20.33
92	HUNTINGTON BANCSHARES	HBAN	9.50	34	SYMANTEC CORP	SYMC	20.43
96	XEROX CORP	XRX	10.30	9	HEWLETT PACKARD ENTERPRISE	HPE	21.02
64	ALCOA INC	AA	10.62	38	PULTEGROUP INC	PHM	21.18
21	TRANSOCEAN LTD	RIG	10.99	5	TEGNA INC	TGNA	21.90
88	KEYCORP	KEY	11.70	59	CORNING INC	GLW	22.22
80	AES CORP	AES	12.35	6	CITIZENS FINANCIAL GROUP INC	CFG	22.33
67	FORD MOTOR CO	F	12.66	5	JUNIPER NETWORKS INC	JNPR	22.69
21	FREEPORT-MCMORAN INC	FCX	12.96	2	DIAMOND OFFSHRE DRILLING INC	DO	22.72
37	NEWS CORP	NWSA	12.97	147	INTERPUBLIC GROUP OF COS	IPG	23.06
15	MARATHON OIL CORP	MRO	13.64	4	BLOCK H & R INC	HRB	23.79
14	MICRON TECHNOLOGY INC	MU	13.74	32	CENTERPOINT ENERGY INC	CNP	23.92
20	NRG ENERGY INC	NRG	13.84	7	WILLIAMS COS INC	WMB	23.97
9	HP INC	HPQ	14.01	85	BOSTON SCIENTIFIC CORP	BSX	24.28
27	NAVIENT CORP	NAVI	14.20	New	CABOT OIL & GAS CORP	COG	24.67
70	BANK OF AMERICA CORP	BAC	14.49	2	CF INDUSTRIES HOLDINGS INC	CF	24.68
19	SOUTHWESTERN ENERGY CO	SWN	14.58	2	E TRADE FINANCIAL CORP	ETFC	25.08
70	PEOPLE'S UNITED FINL INC	PBCT	15.16	New	DISCOVERY COMMUNICATIONS INC	DISCA	25.09
3	ENDO INTERNATIONAL PLC	ENDP	17.36	New	FMC TECHNOLOGIES INC	FTI	25.38
46	HOST HOTELS & RESORTS INC	HST	17.74	12	QUANTA SERVICES INC	PWR	25.60
28	LEUCADIA NATIONAL CORP	LUK	18.26	New	NISOURCE INC	NI	25.66
23	OWENS-ILLINOIS INC	OI	18.79	4	GAP INC	GPS	25.79

MISCELLANEOUS STRATEGIES: Neglect-Institutional Ownership

Top 50 S&P 500 Companies By Low Institutional holdings

Neglect: Those companies with the lowest proportions of float-adjusted shares held by institutional owners are considered more neglected.





Absolute Returns

Last 1 Month	2.58%
Last 3 Months	5.04%
Last 6 Months	15.47%
Last 12 Months	12.60%
2016 YTD	13.17%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for August

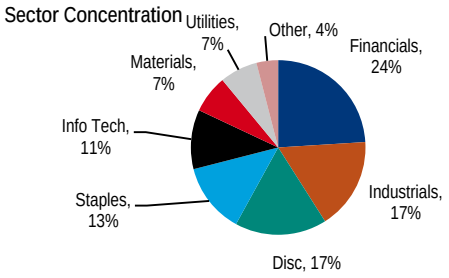
Mo. In Scrn.	Company	Ticker	% Held By Inst	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	% Held By Inst	Price 07/29/2016
New	FORTIVE CORP	FTV	0.0%	48.21	24	PRUDENTIAL FINANCIAL INC	PRU	67.3%	75.29
5	BERKSHIRE HATHAWAY	BRK.B	45.9%	144.27	137	DTE ENERGY CO	DTE	67.3%	97.52
114	SOUTHERN CO	SO	50.3%	53.50	100	SCANA CORP	SCG	67.5%	74.94
74	EXXON MOBIL CORP	XOM	52.0%	88.95	5	AFLAC INC	AFL	67.6%	72.28
60	CONSOLIDATED EDISON INC	ED	54.8%	80.08	5	3M CO	MMM	67.7%	178.36
54	AT&T INC	T	55.3%	43.29	18	KINDER MORGAN INC	KMI	67.7%	20.33
40	BROWN FORMAN CORP	BF.B	56.5%	98.19	5	INTEL CORP	INTC	68.0%	34.86
69	DUKE ENERGY CORP	DUK	57.8%	85.59	5	PUBLIC SERVICE ENTRP GRP INC	PEG	68.0%	46.01
78	GENERAL ELECTRIC CO	GE	58.0%	31.14	5	JOHNSON & JOHNSON	JNJ	68.1%	125.23
49	APPLE INC	AAPL	59.6%	104.21	36	HORMEL FOODS CORP	HRL	69.0%	37.35
63	FORD MOTOR CO	F	60.3%	12.66	5	AMERICAN ELECTRIC POWER CO	AEP	69.1%	69.30
108	PROCTER & GAMBLE CO	PG	61.1%	85.59	3	FREEPORT-MCMORAN INC	FCX	69.3%	12.96
47	ALTRIA GROUP INC	MO	62.5%	67.70	5	NORFOLK SOUTHERN CORP	NSC	69.3%	89.78
31	DOMINION RESOURCES INC	D	62.9%	78.02	3	ABBVIE INC	ABBV	69.5%	66.23
185	WAL-MART STORES INC	WMT	63.1%	72.97	5	UNITED PARCEL SERVICE INC	UPS	69.8%	108.10
14	GARMIN LTD	GRMN	63.8%	54.33	5	FRONTIER COMMUNICATIONS CORP	FTR	70.1%	5.20
33	BANK OF AMERICA CORP	BAC	64.1%	14.49	2	REALTY INCOME CORP	O	70.4%	71.47
37	CHEVRON CORP	CVX	64.3%	102.48	2	SPECTRA ENERGY CORP	SE	70.5%	35.97
22	CONOCOPHILLIPS	COP	64.8%	40.82	3	CATERPILLAR INC	CAT	70.7%	82.76
49	PACCAR INC	PCAR	65.3%	58.97	5	DOW CHEMICAL	DOW	70.7%	53.67
36	INTL BUSINESS MACHINES CORP	IBM	65.6%	160.62	5	KIMBERLY-CLARK CORP	KMB	70.8%	129.55
18	DISNEY (WALT) CO	DIS	65.9%	95.95	3	CINCINNATI FINANCIAL CORP	CINF	70.8%	74.70
28	VERIZON COMMUNICATIONS INC	VZ	66.1%	55.41	6	WALGREENS BOOTS ALLIANCE INC	WBA	70.8%	79.25
New	ALLIANT ENERGY CORP	LNT	66.2%	40.25	New	BALL CORP	BLL	71.0%	70.67
105	BB&T CORP	BBT	66.3%	36.87	5	ALCOA INC	AA	71.3%	10.62

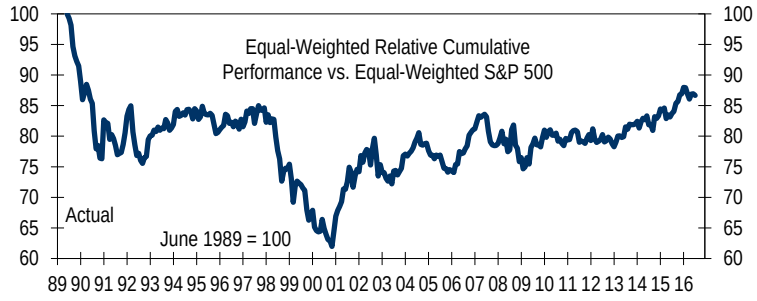
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Neglect-Analyst Coverage

Top 50 S&P 500 Companies By Low Analyst Coverage

Neglect: Those companies with the lowest number of analysts submitting ratings to FirstCall.





Source: BofA Merrill Lynch US Quantitative Strategy
The performance chart represents actual returns since July 1989. There are no back tested results.

Absolute Returns

Last 1 Month	3.92%
Last 3 Months	5.97%
Last 6 Months	14.23%
Last 12 Months	7.61%
2016 YTD	9.01%

Screen for August

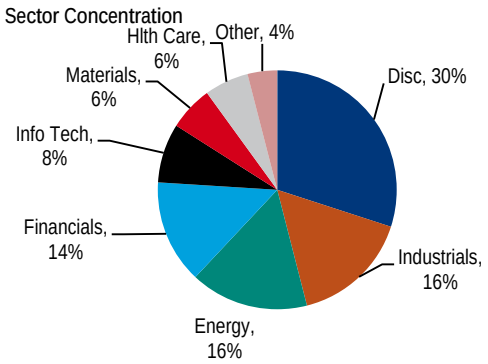
Mo. In Scrn.	Company	Ticker	No. of Analyst Coverage	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	No. of Analyst Coverage	Price 07/29/2016
8	LEUCADIA NATIONAL CORP	LUK	1	18.26	28	ALTRIA GROUP INC	MO	10	67.70
166	LOEWS CORP	L	4	41.33	18	BALL CORP	BLL	10	70.67
30	ASSURANT INC	AIZ	5	83.01	82	BLOCK H & R INC	HRB	10	23.79
107	CINCINNATI FINANCIAL CORP	CINF	5	74.70	49	INTL FLAVORS & FRAGRANCES	IFF	10	133.25
19	IRON MOUNTAIN INC	IRM	5	41.21	2	LKQ CORP	LKQ	10	34.39
33	VERISIGN INC	VRSN	5	86.61	2	PEOPLE'S UNITED FINL INC	PBCT	10	15.16
9	CSRA INC	CSRA	6	26.92	30	REYNOLDS AMERICAN INC	RAI	10	50.06
149	PITNEY BOWES INC	PBI	6	19.31	26	WYNDHAM WORLDWIDE CORP	WYN	10	71.02
58	CBRE GROUP INC	CBG	7	28.45	New	ACUITY BRANDS INC	AYI	11	262.43
128	LEGGETT & PLATT INC	LEG	7	52.57	New	ALASKA AIR GROUP INC	ALK	11	67.22
27	NAVIENT CORP	NAVI	7	14.20	32	ALLEGION PLC	ALLE	11	72.39
New	ALLIANT ENERGY CORP	LNT	8	40.25	33	AMEREN CORP	AEE	11	52.44
85	AVERY DENNISON CORP	AVY	8	77.89	New	GENUINE PARTS CO	GPC	11	102.24
19	FLIR SYSTEMS INC	FLIR	8	32.58	New	L-3 COMMUNICATIONS HLDGS INC	LLL	11	151.63
44	HARRIS CORP	HRS	8	86.62	3	LEGG MASON INC	LM	11	34.14
52	HORMEL FOODS CORP	HRL	8	37.35	27	MCCORMICK & CO INC	MKC	11	102.25
59	MOLSON COORS BREWING CO	TAP	8	102.16	4	PATTERSON COMPANIES INC	PDCO	11	49.36
166	SNAP-ON INC	SNA	8	157.17	New	RYDER SYSTEM INC	R	11	65.90
25	AFFILIATED MANAGERS GRP INC	AMG	9	146.78	10	TE CONNECTIVITY LTD	TEL	11	60.28
10	AMERIPRISE FINANCIAL INC	AMP	9	95.84	14	TEGNA INC	TGNA	11	21.90
68	DUN & BRADSTREET CORP	DNB	9	129.25	New	TYSON FOODS INC -CL A	TSN	11	73.60
68	GOODYEAR TIRE & RUBBER CO	GT	9	28.67	New	VARIAN MEDICAL SYSTEMS INC	VAR	11	94.74
44	SCANA CORP	SCG	9	74.94	2	WHIRLPOOL CORP	WHR	11	192.36

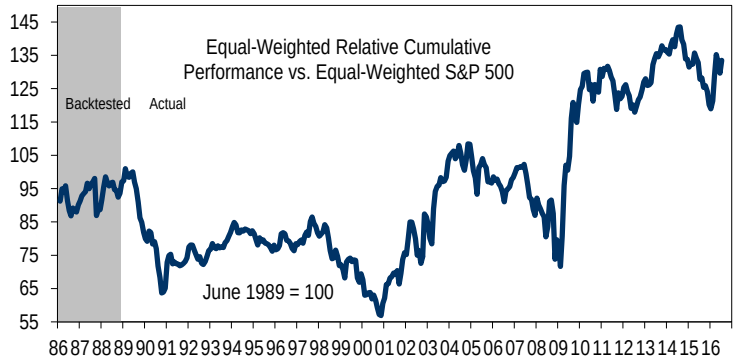
BofA Merrill Lynch is connected to Moslon-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Size

Top 50 S&P 500 Companies By SMALL SIZE

Firm Size: Month-end market value.





Absolute Returns

Last 1 Month	7.30%
Last 3 Months	3.86%
Last 6 Months	30.12%
Last 12 Months	8.54%
2016 YTD	21.46%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

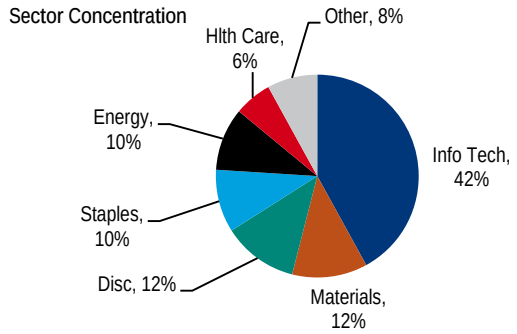
Screen for August

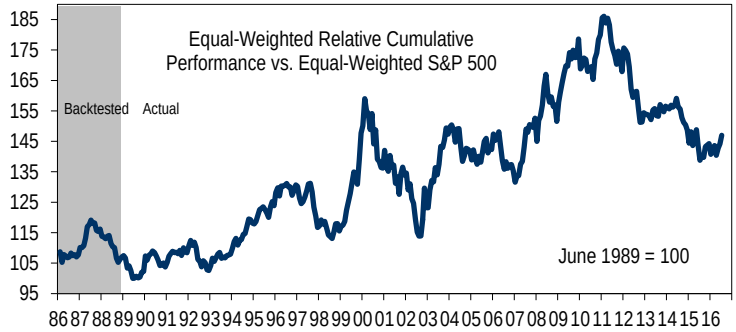
Mo. In Scrn.	Company	Ticker	Market Value	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Market Value	Price 07/29/2016
37	DIAMOND OFFSHRE DRILLING INC	DO	1465	22.72	5	BLOCK H & R INC	HRB	5339	23.79
41	URBAN OUTFITTERS INC	URBN	2591	29.90	6	RALPH LAUREN CORP	RL	5593	98.09
31	OWENS-ILLINOIS INC	OI	3042	18.79	4	NORDSTROM INC	JWN	5677	44.23
14	CHESAPEAKE ENERGY CORP	CHK	3170	5.42	35	ZIONS BANCORPORATION	ZION	5705	27.88
90	RYDER SYSTEM INC	R	3539	65.90	3	FMC TECHNOLOGIES INC	FTI	5745	25.38
5	ENDO INTERNATIONAL PLC	ENDP	3556	17.36	3	CF INDUSTRIES HOLDINGS INC	CF	5753	24.68
5	FIRST SOLAR INC	FSLR	3580	46.68	7	HARMAN INTERNATIONAL INDS	HAR	5831	82.64
57	LEGG MASON INC	LM	3598	34.14	4	GAP INC	GPS	5850	25.79
55	PITNEY BOWES INC	PBI	3642	19.31	4	STAPLES INC	SPLS	6004	9.29
18	TERADATA CORP	TDC	3689	28.38	9	LEUCADIA NATIONAL CORP	LUK	6087	18.26
9	CSRA INC	CSRA	3693	26.92	4	FRONTIER COMMUNICATIONS CORP	FTR	6100	5.20
20	TRANSOCEAN LTD	RIG	3773	10.99	89	PERKINELMER INC	PKI	6206	56.92
49	AUTONATION INC	AN	3795	53.35	13	FLOWSERVE CORP	FLS	6238	47.85
21	QUANTA SERVICES INC	PWR	3867	25.60	6	SCRIPPS NETWORKS INTERACTIVE	SNI	6277	66.06
71	PATTERSON COMPANIES INC	PDCO	4108	49.36	13	FMC CORP	FMC	6359	47.54
11	NRG ENERGY INC	NRG	4358	13.84	5	GARMIN LTD	GRMN	6373	54.33
13	MURPHY OIL CORP	MUR	4440	27.43	23	JACOBS ENGINEERING GROUP INC	JEC	6525	53.52
52	FLIR SYSTEMS INC	FLIR	4484	32.58	8	PULTEGROUP INC	PHM	6669	21.18
48	DUN & BRADSTREET CORP	DNB	4686	129.25	New	HELMERICH & PAYNE	HP	6695	61.97
13	NAVIENT CORP	NAVI	4693	14.20	New	RANGE RESOURCES CORP	RRC	6842	40.31
36	PEOPLE'S UNITED FINL INC	PBCT	4713	15.16	2	SIGNET JEWELERS LTD	SIG	6858	87.91
8	TEGNA INC	TGNA	4765	21.90	11	SOUTHWESTERN ENERGY CO	SWN	6901	14.58
6	ROBERT HALF INTL INC	RHI	4798	36.54	New	ALLEGION PLC	ALLE	6930	72.39
11	NEWS CORP	NWSA	4936	12.97	New	BED BATH & BEYOND INC	BBBY	6939	44.95
53	ASSURANT INC	AIZ	5141	83.01	New	TORCHMARK CORP	TMK	6942	61.87

Foreign Exposure

Top 50 S&P 500 Companies By FOREIGN EXPOSURE

Foreign Exposure: The ratio of foreign sales to total sales.





Absolute Returns

Last 1 Month	6.25%
Last 3 Months	10.14%
Last 6 Months	21.13%
Last 12 Months	10.11%
2016 YTD	11.43%

Source: BofA Merrill Lynch US Quantitative Strategy

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Screen for August

Mo. In Scrn.	Company	Ticker	Foreign Exposure	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Foreign Exposure	Price 07/29/2016
3	ACUITY BRANDS INC	AYI	100.0%	262.43	56	BORGWARNER INC	BWA	75.3%	33.18
3	LKQ CORP	LKQ	100.0%	34.39	34	TRANSOCEAN LTD	RIG	74.4%	10.99
50	PHILIP MORRIS INTERNATIONAL	PM	100.0%	100.26	50	COLGATE-PALMOLIVE CO	CL	74.3%	74.43
177	QUALCOMM INC	QCOM	99.0%	62.58	4	NEWMONT MINING CORP	NEM	74.1%	44.00
17	SKYWORKS SOLUTIONS INC	SWKS	97.9%	66.02	53	AVERY DENNISON CORP	AVY	74.1%	77.89
89	MOLSON COORS BREWING CO	TAP	97.4%	102.16	4	FMC CORP	FMC	74.0%	47.54
4	BROADCOM LTD	AVGO	88.9%	161.98	60	XILINX INC	XLNX	73.7%	51.08
209	TEXAS INSTRUMENTS INC	TXN	87.6%	69.75	29	MEAD JOHNSON NUTRITION CO	MJN	73.4%	89.20
177	NVIDIA CORP	NVDA	87.2%	57.10	49	EXPEDITORS INTL WASH INC	EXPD	73.3%	49.43
30	PRICELINE GROUP INC	PCLN	85.0%	1350.81	49	SEAGATE TECHNOLOGY PLC	STX	73.2%	32.03
129	MICRON TECHNOLOGY INC	MU	84.2%	13.74	86	FMC TECHNOLOGIES INC	FTI	72.9%	25.38
107	MICROCHIP TECHNOLOGY INC	MCHP	84.0%	55.64	71	LINEAR TECHNOLOGY CORP	LLTC	72.3%	59.99
195	APPLIED MATERIALS INC	AMAT	83.1%	26.29	4	SCHLUMBERGER LTD	SLB	72.0%	80.52
50	LAM RESEARCH CORP	LRCX	83.1%	89.77	80	WESTERN UNION CO	WU	71.1%	20.00
195	INTL FLAVORS & FRAGRANCES	IFF	82.8%	133.25	89	CORNING INC	GLW	70.2%	22.22
41	STARWOOD HOTELS&RESORTS WRLD	HOT	82.6%	78.06	4	AGILENT TECHNOLOGIES INC	A	70.1%	48.11
14	QORVO INC	QRVO	82.0%	63.23	138	AFLAC INC	AFL	69.6%	72.28
233	INTEL CORP	INTC	79.9%	34.86	4	AMPHENOL CORP	APH	69.5%	59.52
41	MONDELEZ INTERNATIONAL INC	MDLZ	79.7%	43.98	New	ALBEMARLE CORP	ALB	69.4%	84.17
85	WESTERN DIGITAL CORP	WDC	79.0%	47.51	30	ABBOTT LABORATORIES	ABT	69.3%	44.75
64	DIAMOND OFFSHRE DRILLING INC	DO	78.8%	22.72	32	TE CONNECTIVITY LTD	TEL	68.8%	60.28
41	YUM BRANDS INC	YUM	76.3%	89.42	126	HARMAN INTERNATIONAL INDS	HAR	68.6%	82.64
214	AES CORP	AES	76.0%	12.35	34	AUTODESK INC	ADSK	67.9%	59.45
24	KLA-TENCOR CORP	KLAC	75.4%	75.71	28	WATERS CORP	WAT	67.9%	158.93
17	NATIONAL OILWELL VARCO INC	NOV	75.3%	32.35	91	OWENS-ILLINOIS INC	OI	66.6%	18.79

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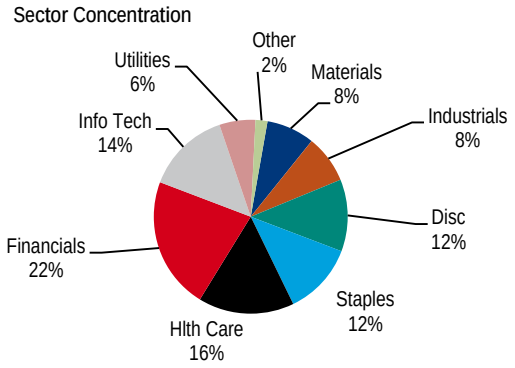
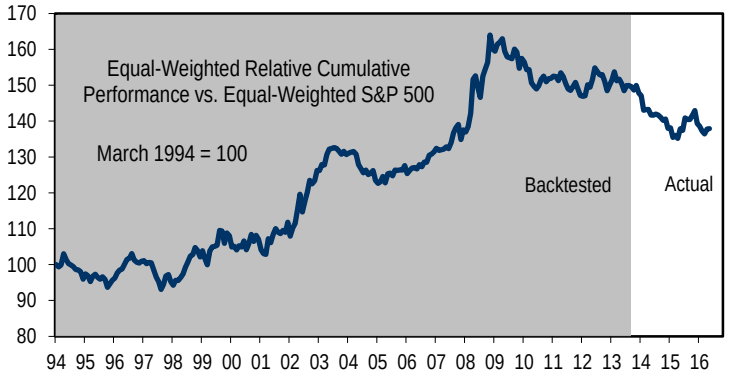
Short Interest

Top 50 S&P 500 Companies By DECLINING SHORT INTEREST

Declining Short Interest: The Z-Score of the most recent number of shorted shares vs. its 12 month history.





Absolute Returns

Last 1 Month	4.34%
Last 3 Months	5.77%
Last 6 Months	11.89%
Last 12 Months	4.00%
2016 YTD	6.45%

Source: BofA Merrill Lynch US Quantitative Strategy

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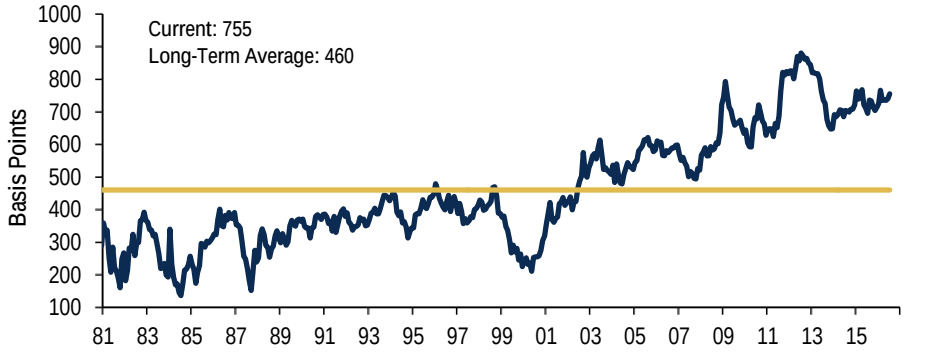
Screen for August

Mo. In Scrn.	Company	Ticker	Short. Interest Z-Score	Price 07/29/2016	Mo. In Scrn.	Company	Ticker	Short. Interest Z-Score	Price 07/29/2016
2	MARTIN MARIETTA MATERIALS	MLM	-3.14	202.65	3	PROGRESSIVE CORP-OHIO	PGR	-1.42	32.51
4	INTUIT INC	INTU	-2.49	110.99	2	PRAXAIR INC	PX	-1.42	116.54
2	SCHWAB (CHARLES) CORP	SCHW	-2.07	28.42	9	M & T BANK CORP	MTB	-1.40	114.56
6	HASBRO INC	HAS	-1.92	81.23	New	INTUITIVE SURGICAL INC	ISRG	-1.39	695.76
2	TEXTRON INC	TXT	-1.90	39.00	2	MICROSOFT CORP	MSFT	-1.38	56.68
4	LENNAR CORP	LEN	-1.87	46.80	2	REALTY INCOME CORP	O	-1.37	71.47
4	CELGENE CORP	CELG	-1.81	112.19	6	BECTON DICKINSON & CO	BDX	-1.36	176.00
2	MCCORMICK & CO INC	MKC	-1.75	102.25	New	WESTERN UNION CO	WU	-1.35	20.00
New	PPL CORP	PPL	-1.71	37.71	6	KOHL'S CORP	KSS	-1.34	41.59
New	METLIFE INC	MET	-1.70	42.74	3	COACH INC	COH	-1.34	43.11
New	ZIONS BANCORPORATION	ZION	-1.67	27.88	New	DAVITA HEALTHCARE PARTNERS	DVA	-1.30	77.54
4	WASTE MANAGEMENT INC	WM	-1.66	66.12	New	CITIGROUP INC	C	-1.28	43.81
5	TYSON FOODS INC -CL A	TSN	-1.63	73.60	New	NORFOLK SOUTHERN CORP	NSC	-1.27	89.78
5	SYSCO CORP	SYY	-1.61	51.79	8	Pitney Bowes Inc	PBI	-1.26	19.31
4	CONOCOPHILLIPS	COP	-1.59	40.82	2	INTEL CORP	INTC	-1.25	34.86
4	CONAGRA FOODS INC	CAG	-1.53	46.76	New	MONDELEZ INTERNATIONAL INC	MDLZ	-1.25	43.98
3	MASTERCARD INC	MA	-1.53	95.24	3	BRISTOL-MYERS SQUIBB CO	BMY	-1.25	74.81
5	FEDERAL REALTY INVESTMENT TR	FRT	-1.52	169.70	New	UNITEDHEALTH GROUP INC	UNH	-1.25	143.20
4	VULCAN MATERIALS CO	VMC	-1.51	123.98	5	LILLY (ELI) & CO	LLY	-1.25	82.89
New	APPLE INC	AAPL	-1.51	104.21	4	EVERSOURCE ENERGY	ES	-1.23	58.49
2	SEALED AIR CORP	SEE	-1.51	47.18	New	QUEST DIAGNOSTICS INC	DGX	-1.23	86.36
3	CME GROUP INC	CME	-1.49	102.24	2	CONSOLIDATED EDISON INC	ED	-1.21	80.08
New	HERSHEY CO	HSY	-1.46	110.76	New	EQUINIX INC	EQIX	-1.20	372.87
10	TWENTY-FIRST CENTURY FOX INC	FOXA	-1.44	26.64	New	PNC FINANCIAL SVCS GROUP INC	PNC	-1.20	82.65
2	ALPHABET INC	GOOGL	-1.44	791.34	New	PVH CORP	PVH	-1.18	101.06

Valuation Backdrop

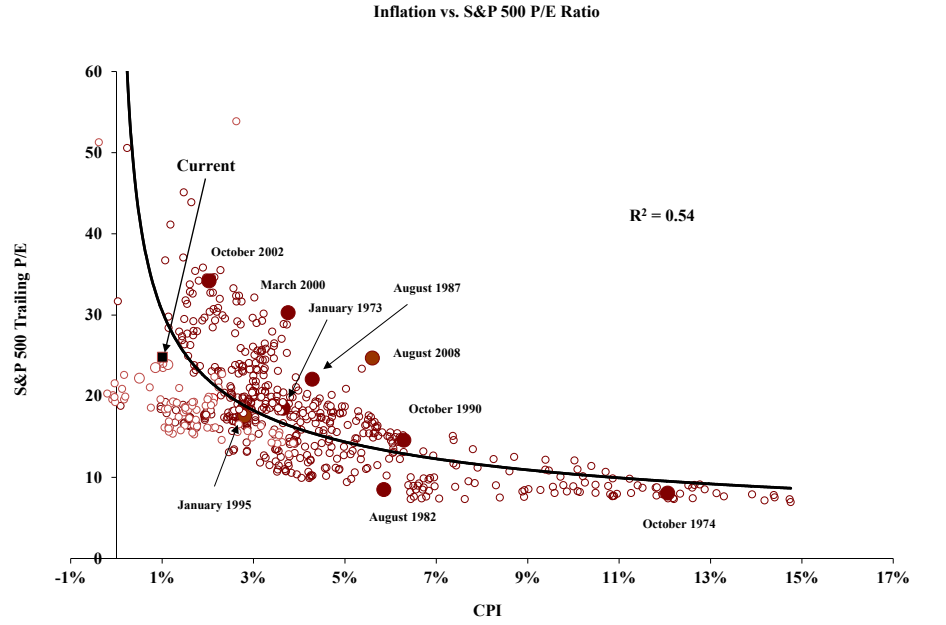
S&P 500 Risk Premium (DDM Expected Return less AAA Corporate Bond Rate)



Source: BofA Merrill Lynch US Quantitative Strategy

Note: In the Chart 2 below we exclude deflationary points from trend line calculation. Historically, the relationship between inflation and valuation breaks down during deflationary periods. For example, from 1949 to1950 S&P 500 valuation was below average, and from 1954 to 1955, valuation was well above average.

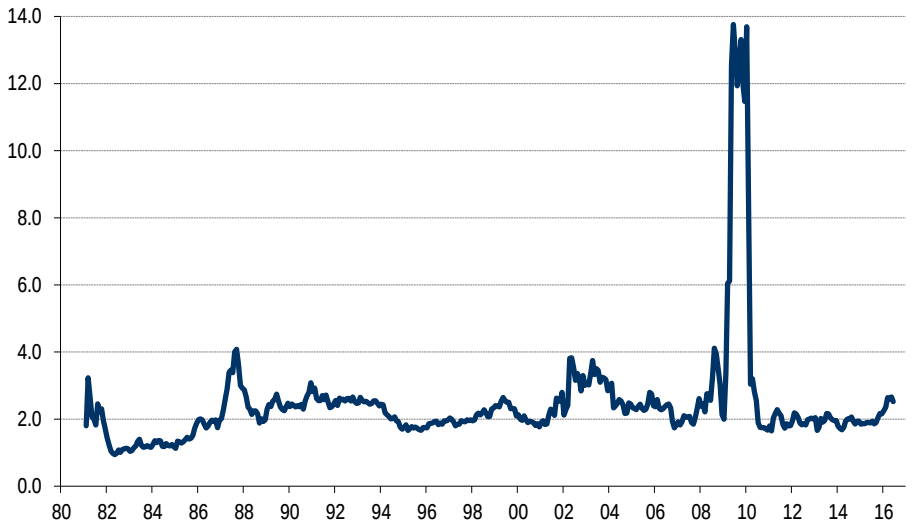
Chart 2: Inflation vs. P/E Model (1965 to Present)



Source: BofA Merrill Lynch US Quantitative Strategy

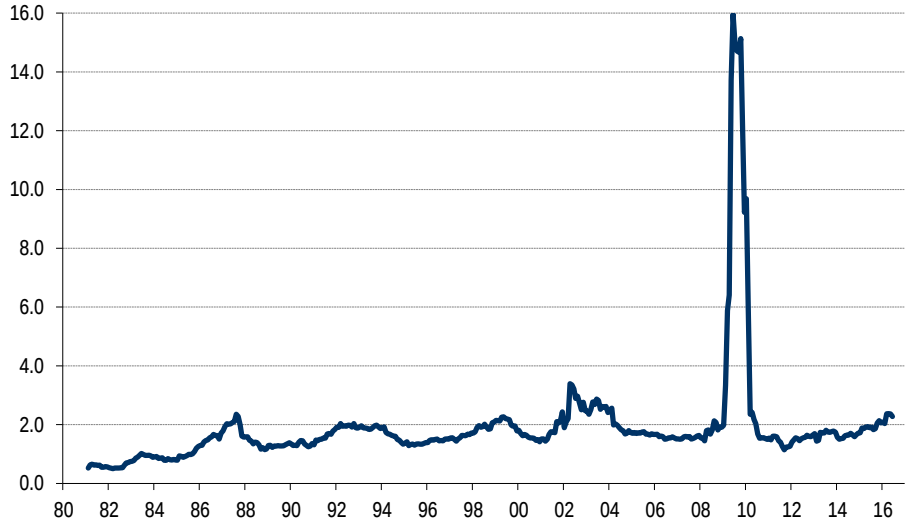
Bank of America Merrill Lynch

S&P 500 Real PE-to-Growth Ratio (Trailing P/E Divided by Proj. 5-Yr EPS Growth less Inflation)



Source: BofA Merrill Lynch US Quantitative Strategy

Chart 3: S&P 500 PE-to-Growth Ratio (Trailing P/E Divided by Proj. 5-Yr EPS Growth)



Source: BofA Merrill Lynch US Quantitative Strategy

BofAML Universe Sector/Industry Factor Evaluation

			Valuation Analysis								Expectation Analysis							
												Earnings (Decile)				PR 5yr	EPS Growth	
	# of Comp	% Univ BOFAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	Growth	2016E	2017E
Economic Sectors																		
Energy	132	8.06	9.1	12.1	-3.0	41.4	1.14	30.0	1.72	3.5	4	7	5	9	4	2.6	-40	144
Materials	55	3.13	10.7	13.1	-2.4	33.5	1.23	17.8	3.40	2.0	6	5	6	6	4	9.5	2	16
Industrials	125	9.20	10.7	11.5	-0.8	32.3	1.08	16.6	3.52	2.2	6	5	5	4	5	8.7	0	6
Consumer Discretionary	180	12.28	11.3	11.3	0.0	31.9	1.05	18.2	4.43	1.5	5	4	6	4	5	20.4	13	13
Consumer Staples	49	9.37	9.7	8.1	1.6	35.0	0.72	21.0	4.47	2.6	6	4	4	2	5	8.5	4	10
Health Care	163	15.07	10.3	9.7	0.6	34.9	0.89	17.1	3.78	1.5	6	5	6	4	5	10.1	8	11
Financials	264	14.83	11.1	12.0	-0.9	30.6	1.12	13.2	1.37	2.8	5	5	5	4	6	7.8	2	10
Information Technology	157	22.13	11.5	11.4	0.1	31.8	1.07	17.2	4.38	1.3	4	4	6	5	6	14.6	5	14
Telecommunication Services	13	2.95	9.8	6.8	3.0	31.3	0.59	16.3	2.85	3.7	4	9	4	4	6	7.3	-2	4
Utilities	47	2.98	9.3	5.9	3.4	34.2	0.50	19.0	2.00	3.4	5	5	3	2	6	5.5	29	5
Capitalization Sectors ($ Million)																		
39 To 1455	237	0.84	12.5	13.5	-1.0	29.4	1.28	25.7	1.53	2.7	5	7	6	7	6	21.4	0	49
1455 To 3217	237	2.63	11.1	12.8	-1.7	33.0	1.20	20.5	1.85	2.1	5	6	5	6	5	11.7	32	19
3224 To 6980	237	5.61	10.8	11.6	-0.8	34.7	1.08	17.8	2.03	1.9	6	6	6	5	5	11.2	13	15
6990 To 19057	237	13.28	10.5	11.6	-1.1	35.3	1.09	18.3	2.45	2.0	6	5	5	5	5	12.1	-3	14
19432 To 570802	237	77.65	10.8	10.5	0.3	32.3	0.97	17.1	3.02	2.1	5	5	5	4	5	10.6	3	14
Risk Sectors																		
-1.19 To 0.79	194	23.73	9.8	7.1	2.7	35.0	0.62	19.0	3.55	2.7	6	5	4	3	5	8.0	4	8
0.80 To 0.98	186	21.87	11.3	9.8	1.5	31.3	0.90	17.4	3.16	2.2	5	5	5	4	5	11.7	11	15
0.99 To 1.17	192	29.39	10.9	11.4	-0.5	32.5	1.06	17.3	3.60	1.7	4	4	6	5	6	12.5	3	15
1.18 To 1.41	190	14.28	11.1	13.7	-2.6	32.1	1.30	16.0	2.04	2.1	5	5	5	5	6	9.4	0	15
1.42 To 3.51	189	7.36	12.5	16.7	-4.2	29.0	1.60	15.0	1.36	2.1	5	7	5	7	5	11.3	-12	28
Uncoded	234	3.36	10.7			36.1		19.4	2.00	1.6	6	5	6	6	5	17.3	19	16
DDM Alpha																		
Most Undervalued	135	15.76	12.1	8.1	4.0	28.8	0.73	18.7	3.49	2.2	5	5	6	4	5	21.2	11	13
Undervalued	136	17.85	10.6	9.2	1.4	32.7	0.84	17.1	3.82	2.2	6	4	5	3	5	9.8	5	10
Fair Value	136	22.06	10.6	10.5	0.1	33.4	0.97	17.9	3.76	1.6	5	4	6	4	6	10.9	7	12
Overvalued	136	16.50	10.7	12.3	-1.6	32.8	1.15	14.3	2.97	2.1	4	5	5	4	6	8.9	3	11
Most Overvalued	136	7.74	9.9	14.6	-4.7	37.0	1.39	15.8	1.75	1.9	5	6	5	5	5	8.5	2	14
Uncoded	506	20.09	10.7	11.7	-1.0	36.1	1.09	20.2	1.88	2.6	5	6	5	7	5	6.0	-8	30

Source: BofA Merrill Lynch US Equity and US Quant Strategy

BofAML Universe Sector/Industry Factor Evaluation (cont'd)

					Valuation Analysis							Expectation Analysis						
												Earnings (Decile)				PR 5yr	EPS Growth	
	# of Comp	% Univ BOFAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	Growth	2016E	2017E
Duration																		
9.41 To 27.07	153	10.49	14.3	12.1	2.2	22.5	1.13	13.1	2.02	2.6	5	6	6	5	5	18.5	3	15
27.10 To 31.35	153	23.43	11.1	10.2	0.9	29.3	0.94	15.9	3.37	2.5	5	5	6	3	6	10.9	6	10
31.38 To 35.22	153	21.90	10.5	10.8	-0.3	33.4	1.00	16.3	3.11	1.7	5	4	5	4	6	9.9	5	12
35.25 To 39.62	153	15.26	9.5	9.4	0.1	36.9	0.85	18.5	3.52	2.1	6	4	5	3	5	7.4	7	9
39.63 To 85.04	153	8.99	8.8	10.4	-1.6	44.9	0.95	22.9	3.75	0.8	5	5	5	4	5	9.2	6	11
Uncoded	420	19.92		11.7			1.10	21.7	2.02	2.5	4	7	5	7	5	11.6	-7	nm
Growth Sectors																		
Growth	426	31.14	11.4	11.2	0.2	33.2	1.05	20.0	3.54	1.2	4	4	6	5	5	16.3	8	16
Growth Cyclical	282	20.17	10.8	11.8	-1.0	32.6	1.11	15.6	2.87	2.1	5	5	5	5	6	10.2	5	11
Growth Defensive	131	12.57	9.9	9.5	0.4	34.2	0.87	18.3	3.02	2.9	6	5	5	4	5	8.7	8	10
Cyclical	214	14.98	11.4	12.6	-1.2	30.3	1.18	14.7	1.76	2.2	6	5	5	5	6	8.7	-8	18
Defensive	132	21.14	10.1	8.4	1.7	33.1	0.75	17.6	2.90	3.0	5	6	5	4	4	6.7	4	16
EPS Surprise																		
Most Optimistic	207	22.78	11.5	11.5	0.0	31.7	1.07	16.7	2.99	2.0	1	6	5	6	5	13.8	4	19
Optimistic	207	22.96	11.1	10.4	0.7	31.9	0.95	15.9	2.76	2.0	4	4	6	4	6	11.8	10	11
Neutral	207	17.41	10.5	10.6	-0.1	32.8	0.98	18.2	2.98	2.3	6	5	6	4	5	10.5	5	12
Less Optimistic	207	17.62	10.4	10.5	-0.1	33.6	0.97	18.5	2.56	2.2	8	5	5	4	5	8.4	-1	16
Not Optimistic	207	14.19	10.3	10.4	-0.1	33.8	0.95	17.4	2.56	2.2	9	5	5	4	5	7.7	-5	14
Uncoded	150	5.04	9.2	11.3	-2.1	43.4	1.05	22.8	3.20	2.1		5	5	5	6	13.0	2	14
Quality Rank																		
A+	21	5.63	10.6	9.9	0.7	32.6	0.91	16.8	4.94	2.1	6	2	5	3	5	9.7	4	9
A	44	11.60	9.7	8.9	0.8	35.4	0.80	19.9	4.88	2.4	7	3	4	2	5	7.4	4	8
A-	69	17.73	11.4	10.4	1.0	30.7	0.96	17.6	3.43	1.9	4	4	5	4	6	11.0	4	16
B+	183	24.94	10.5	10.8	-0.3	33.0	1.00	15.1	2.78	2.3	5	5	5	4	5	7.9	3	11
B	181	12.89	10.4	10.7	-0.3	33.9	0.99	16.5	2.29	2.4	5	7	5	5	6	8.1	3	15
B-	150	8.57	10.8	13.1	-2.3	34.5	1.24	21.0	1.79	1.4	5	8	6	7	4	17.8	-7	28
C & D	59	1.53	10.8	13.7	-2.9	38.3	1.30	57.4	4.64	0.0	4	8	6	7	5	26.4	nm	209
Not Rated	478	17.10	12.1	11.2	0.9	30.9	1.04	17.8	2.30	2.2	5	6	6	5	6	15.6	7	17
B+ or Better	317	59.91	10.6	10.2	0.4	32.8	0.94	16.8	3.39	2.2	5	4	5	4	5	8.9	3	11
B or Worse	868	40.09	11.2	11.6	-0.4	32.8	1.08	18.4	2.20	2.0	5	7	6	5	5	14.0	3	20
BofAML Universe	1185	100.00	10.8	10.7	0.1	32.8	0.99	18.9	2.79	2.1						10.7	3	14
S&P 500	505	93.13	10.8	10.6	0.2	32.6	0.98	18.4	2.80	2.1						9.9	2	14

Source: BofA Merrill Lynch US Equity and US Quant Strategy

BofAML Universe Sector/Industry Factor Evaluation (cont'd)

			Valuation Analysis								Expectation Analysis							
												Earnings (Decile)					EPS Growth	
	# of Comp	% Univ BofAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	PR 5yr Growth	2016E	2017E
ENERGY	132	8.06	9.1	12.1	-3	41.4	1.14	30.0	1.72	3.5	4	7	5	9	4	2.5	-40	144
ENERGY EQUIP & SVS	19	1.03	10.6	14.5	-3.9	35.2	1.38	118.0	1.45	1.9	6	7	1	9	9	2.5	-82	55
OIL & GAS	113	7.03	8.7	11.8	-3.1	42.8	1.10	27.0	1.77	3.7	4	7	5	9	4	2.5	-32	148
MATERIALS	55	3.13	10.7	13.1	-2.4	33.5	1.23	17.8	3.40	2.0	6	5	6	6	4	9.2	2	16
CHEMICALS	17	1.84	10.8	13.2	-2.4	31.6	1.24	17.0	4.21	2.4	6	5	5	5	5	9.3	-5	12
CONSTR MATERIALS	3	0.15	13.8	12.7	1.1	28.0	1.20	25.0	3.37	0.7	5	5	9	6	2	30.0	53	41
CONTAINERS & PCKG	16	0.51	9.8	13.1	-3.3	39.5	1.23	16.0	3.88	2.1	7	6	5	5	5	5.2	-1	5
METALS & MINING	15	0.60	10.2	12.8	-2.6	36.7	1.21	21.2	2.09	1.0	7	6	7	9	1	7.6	46	40
PAPER & FOREST PROD	4	0.04	13.2	14.9	-1.7	27.8	1.41	16.1	1.51	1.8	5	9	6	9	4	3.5	31	10
INDUSTRIALS	125	9.20	10.7	11.5	-0.8	32.3	1.08	16.6	3.52	2.2	6	5	5	4	5	8.6	0	6
AEROSPACE & DEF	21	2.54	10.3	10.4	-0.1	33.8	0.96	17.4	4.45	2.1	7	3	5	4	4	8.7	3	5
BLDGS PRODUCTS	4	0.13	11.9	14.8	-2.9	32.9	1.41	18.7	3.65	0.9	5	9	8	5	3	17.9	21	17
CONSTR. & ENGR	4	0.10	9.9	15.6	-5.7	39.7	1.50	13.8	1.77	0.8	6	5	3	5	5	0.7	-3	1
ELECTRICAL EQUIP	9	0.50	10.9	13.3	-2.4	32.8	1.26	21.7	3.18	2.6	8	4	3	3	5	6.0	-10	5
IND CONGLOMERATES	2	1.90	9.8	11.6	-1.8	31.7	1.08	19.9	3.82	2.8	5	7	6	4	5	7.8	13	9
MACHINERY	28	1.19	11.1	14.1	-3	32.0	1.34	18.8	2.81	2.3	5	6	3	6	5	8.1	-14	5
TRADING COMPANIES	11	0.15	14.0	16.0	-2	25.4	1.54	10.3	1.70	0.6	7	7	6	7	5	21.4	-1	4
COMMERCIAL SVS	8	0.34	9.9	8.7	1.2	35.6	0.78	21.1	3.96	1.8	5	6	5	3	4	10.2	9	11
PROFESSIONAL SVS	11	0.34	11.0	11.1	-0.1	33.4	1.03	17.5	4.22	1.0	5	4	6	3	6	12.6	11	10
AIR FREIGHT & LOGIS	3	0.60	11.0	10.8	0.2	30.8	1.00	16.1	7.77	2.2	7	8	6	3	6	10.4	9	9
AIRLINES	10	0.55	12.1	9.7	2.4	31.0	0.89	7.4	2.70	1.0	2	7	5	7	9	0.6	-10	-2
MARINE	1	0.01	13.3	11.3	2	26.9	1.05	19.0	1.25	0.0	6	4	1	8	9	15.0	-35	11
ROAD & RAIL	11	0.80	11.6	11.7	-0.1	29.3	1.09	16.8	2.92	2.1	5	2	4	5	7	11.7	-6	12
TRANSPORT INFRA	2	0.04	12.4	10.9	1.5	29.3	1.01	27.9	1.93	5.2	6	9	7	5	7	2.0	nm	15
CONSUMER DISCR	180	12.28	11.3	11.3	0	31.9	1.05	18.2	4.43	1.5	5	4	6	4	5	20.0	13	13
AUTO COMP	9	0.26	11.1	13.7	-2.6	32.8	1.29	10.4	3.24	1.6	7	4	8	5	5	8.2	10	13
AUTOMOBILES	3	0.62	14.5	14.0	0.5	21.5	1.33	7.8	1.84	3.5	8	8	6	8	6	15.6	9	8
HOUSEHOLD DURABLES	14	0.48	12.6	13.2	-0.6	28.7	1.25	13.4	1.77	1.4	5	7	8	5	4	15.6	21	13
TEXTILES, APPAREL	13	0.77	10.2	9.2	1	36.6	0.83	20.5	5.08	1.2	8	3	5	3	6	11.7	4	13
HOTELS, RESTAURANTS & LEISURE	41	2.16	11.2	10.6	0.6	30.1	0.98	22.6	6.33	2.3	8	6	6	4	5	12.7	12	16
DIV CONSUMER SVS	9	0.10	10.9	9.8	1.1	35.8	0.90	17.9	3.82	0.7	7	5	6	4	6	13.1	9	14
MEDIA	23	2.52	11.2	12.5	-1.3	33.5	1.17	15.6	3.14	1.4	3	4	6	4	6	17.8	13	11
DISTRIBUTORS	1	0.07	8.8	9.9	-1.1	38.3	0.91	20.7	4.70	2.6	9	1	3	1	6	4.2	2	9
INTERNET & CATALOG RETAIL	11	2.08	11.1	12.5	-1.4	36.8	1.17	42.3	14.06	0.0	2	6	7	8	3	49.2	50	37
MULTILINE RETAIL	9	0.60	11.3	8.2	3.1	30.5	0.73	15.7	3.47	2.2	5	3	6	4	6	11.7	12	10
SPECIALTY RETAIL	47	2.63	11.2	10.3	0.9	31.5	0.95	18.0	6.72	1.6	6	2	6	3	5	13.0	9	12

Source: BofA Merrill Lynch US Equity and US Quant Strategy

BofAML Universe Sector/Industry Factor Evaluation (cont'd)

			Valuation Analysis								Expectation Analysis							
	# of	% Univ	Impl.	Reqd	DDM	Eqty.	BofAML	P/E	Price/			Earnings (Decile)				PR 5yr	EPS Growth	
	Comp	BofAML	Return	Return	Alpha	Duration	Adj ßeta	Ratio	Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	Growth	2016E	2017E
CONSUMER STAPLES	49	9.37	9.7	8.1	1.6	35.0	0.72	21.0	4.47	2.6	6	4	4	2	5	8.4	4	10
FOOD & STAPLES RETAILING	12	2.15	10.2	8.5	1.7	34.9	0.76	17.6	3.50	1.9	6	2	5	2	5	9.4	3	10
BEVERAGES	8	2.14	9.0	7.7	1.3	37.7	0.69	23.8	7.50	2.6	8	3	4	3	5	6.7	0	10
FOOD PRODUCTS	14	1.49	10.9	8.3	2.6	32.3	0.74	21.6	2.96	2.1	6	6	6	3	4	12.9	9	14
TOBACCO	3	1.59	10.2	8.7	1.5	29.4	0.78	20.9	11.18	3.7	5	3	4	1	5	8.8	7	10
HOUSEHOLD PRODUCTS	7	1.84	8.8	7.0	1.8	38.5	0.61	22.4	4.19	2.8	7	5	3	2	5	5.2	3	8
PERSONAL PRODUCTS	5	0.16	9.5	11.0	-1.5	38.4	1.02	24.2	6.06	1.1	7	3	5	3	5	10.2	10	17
HEALTH CARE	163	15.07	10.3	9.7	0.6	34.9	0.89	17.1	3.78	1.5	6	5	6	4	5	10.0	8	11
HEALTH CARE EQUIP	34	2.80	9.8	10.2	-0.4	37.3	0.94	21.4	3.29	1.2	7	6	5	3	5	10.6	8	10
HEALTH CARE PROV	44	2.78	11.2	9.6	1.6	33.6	0.87	14.9	2.87	0.9	6	4	7	3	4	11.9	13	12
HEALTH CARE TECH	3	0.03	10.0	9.2	0.8	40.6	0.84	40.8	5.30	0.0	6	7	5	4	4	19.4	9	23
BIOTECH	44	3.23	11.0	11.2	-0.2	33.1	1.05	15.6	7.17	1.4	3	5	6	6	6	10.6	7	10
PHARMACEUTICALS	26	5.42	10.0	8.5	1.5	34.3	0.77	17.0	3.57	2.3	6	5	6	4	4	8.1	7	10
LIFE SCIENCES	12	0.80	9.4	10.9	-1.5	43.3	1.01	21.8	3.88	0.3	6	3	5	2	4	11.0	10	12
FINANCIALS	264	14.83	11.1	12.0	-0.9	30.6	1.12	13.2	1.37	2.8	5	5	5	4	6	7.7	2	10
BANKS	40	4.42	11.7	13.0	-1.3	27.7	1.22	11.3	1.01	2.6	6	4	3	4	7	6.2	-2	8
THRIFTS & MORTGAGE FINANCE	6	0.07	11.4	11.3	0.1	30.8	1.05	12.4	1.30	2.5	6	3	6	6	8	10.9	18	13
DIV FINANCIALS	9	0.46	10.8	10.1	0.7	32.3	0.92	18.1	1.68	1.7	4	6	6	4	6	11.7	11	16
CONSUMER FINANCE	9	0.75	11.7	12.2	-0.5	29.2	1.14	9.7	1.36	1.8	6	2	6	4	7	8.7	6	6
CAPITAL MARKETS	43	2.00	12.5	15.0	-2.5	27.5	1.43	12.8	1.37	2.7	3	5	6	5	6	12.1	3	17
INSURANCE	32	2.52	11.0	12.3	-1.3	31.6	1.16	11.1	1.07	2.4	5	6	6	4	7	8.7	5	15
REITS	120	4.51	9.6	9.3	0.3	34.4	0.84	19.2	2.65	3.6	6	7	4	2	5	5.8	1	6
REAL ESTATE MGMT & DEV	5	0.10	12.7	15.5	-2.8	29.7	1.48	15.6	2.29	0.5		3			8	14.3	-4	8
INFO TECH	157	22.13	11.5	11.4	0.1	31.8	1.07	17.2	4.38	1.3	4	4	6	5	6	14.4	5	14
INTERNET SOFTWARE	24	6.46	12.9	10.8	2.1	31.4	1.00	22.4	5.27	0.0	4	3	7	5	6	22.2	23	20
IT SERVICES	24	3.14	10.4	10.3	0.1	34.5	0.95	17.8	7.27	1.6	5	4	5	2	6	10.6	2	11
SOFTWARE	38	4.40	11.3	11.8	-0.5	31.7	1.10	20.8	5.70	1.5	2	6	6	5	7	16.5	8	14
COMMUNICA. EQUIP	11	1.00	11.4	13.1	-1.7	30.5	1.24	13.4	2.72	2.6	6	4	5	3	4	11.1	6	7
COMPUTERS & PERIPH	10	3.47	10.4	11.9	-1.5	33.0	1.11	11.4	3.46	2.2	3	4	3	6	9	3.9	-5	11
ELECTR EQUIP & INSTR	14	0.50	11.1	13.2	-2.1	33.6	1.24	13.6	1.97	1.5	4	5	6	4	6	10.3	6	11
SEMICONDUCTORS	36	3.16	11.7	12.1	-0.4	28.7	1.13	16.1	3.15	2.1	6	5	6	6	3	12.9	2	12
TELECOMMUNICATION SERVICES	13	2.95	9.8	6.8	3	31.3	0.59	16.3	2.85	3.7	4	9	4	4	6	7.1	-2	4
DIVERSIFIED TELECOM SVS	11	2.65	9.8	6.4	3.4	31.3	0.55	15.0	3.10	4.2	4	9	3	3	6	5.4	-5	7
WIRELESS TELECOM SVS	2	0.30		10.3			0.95	80.5	1.69	0.0	6		9	9	3	22.6	309	-96
UTILITIES	47	2.98	9.3	5.9	3.4	34.2	0.50	19.0	2.00	3.4	5	5	3	2	6	5.4	29	5
ELECTRIC UTILITIES	14	1.80	9.4	5.5	3.9	33.4	0.46	17.8	1.86	3.5	6	5	3	2	6	4.4	4	3
GAS UTILITIES	13	0.25	9.0	7.3	1.7	37.6	0.64	21.4	2.61	3.5	5	5	4	4	7	5.2	2	12
MULTI-UTILITIES	8	0.72	9.2	5.6	3.6	34.5	0.47	19.6	2.30	3.3	4	5	3	2	6	3.8	2	2
WATER UTILITIES	1	0.07	8.9	4.9	4	40.3	0.40	28.0	2.95	1.8	7	2	3	1	5	8.2	6	8
INDEP POWER PROD & ENERGY TRAD	11	0.13	10.4	11.7	-1.3	32.0	1.09	31.2	1.51	2.8	5	10	5	7	7	27.9	113	130
BofAML UNIVERSE	1185	100.00	10.8	10.7	0.1	32.8	0.99	18.9	2.79	2.1						10.7	3	14
S&P 500	505	93.13	10.8	10.6	0.2	32.6	0.98	18.4	2.80	2.1						9.9	2	14

Source: BofA Merrill Lynch US Equity and US Quant Strategy

Performance Calculation Methodology

For each of the strategies represented in this report, rebalancing and performance calculations are conducted each month, using data and closing prices corresponding to the market's close on the last business day of each month. The performance of each index is computed on the basis of price return. The performance is presented relative to the benchmark which consists of the equal weighted price performance of stocks in the S&P 500 as of the last business day of each month. For Alpha Surprise model, the performance is also represented as relative to the market capitalization-weighted S&P 500 benchmark.

The results of quantitative strategies presented here may differ from the S&P 500 in that they are significantly less diversified, and, as such, their performance is more exposed to specific stock or sector results. Therefore investors following these strategies may experience greater volatility in their returns.

The performance results do not reflect transaction costs, tax withholdings or any investment advisory fees. Had these costs been reflected, the performance would have been lower. The performance results of individuals following the strategies presented here will differ from the performance contained in this report for a variety of reasons, including differences related to incurring transaction costs and/or investment advisory fees, as well as differences in the time and price that securities were acquired and disposed of, and differences in the weighting of such securities. The performance results of individuals following these strategies will also differ based on differences in treatment of dividends received, including the amount received and whether and when such dividends were reinvested.

Dividend Yield and Dividend Growth Strategies

We also provide total returns for dividend oriented strategies (high dividend yield strategy and high dividend growth strategy). The total return performance calculation assumes that dividends paid on securities in a portfolio are deposited in a cash account on the ex-dividend date, and are not reinvested. The performance is presented relative to the equal weighted total returns index of stocks in the S&P 500 as of the last business day of each month.

This report includes strategies for informational or descriptive purposes, and inclusion here is not equivalent to a recommendation of the strategy or portfolio.

Past performance should not and cannot be viewed as an indicator of future performance. A complete performance record is available upon request.

Advances & Declines

Advances and declines are based on the price returns of each stock for each relevant period. The portfolio rebalancing done each month constitutes the start of a new period for each stock in the portfolio. The performance period for the stock being removed will end when the stock is removed from the portfolio. For the stock being added, the performance period will begin when it is added to the portfolio.

Definitions

Absolute return: Absolute return is calculated based on monthly returns and reflects simple price appreciation (depreciation) over the stated period. Stocks in each screen are equally weighted. Returns do not reflect dividend or transaction costs.

Alpha Surprise Model: A 25%/75% combination of the Dividend Discount Model "Alpha" and the Positive EPS "Surprise" Models.

P/E-to-Growth: Trailing twelve months P/E divided by the five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exists, then the IBES Mean Long Term Growth Estimate is used.

Dividend Discount Model Alpha: The implied return from the BofAML Quantitative Strategy three-stage dividend discount model less the required return from a Capital Asset Pricing Model. Presented as a decile rank.

Earnings Yield: Trailing 12-month EPS divided by month-end price

Forward Earnings Yield: Rolling 12-month forward EPS divided by month-end price

Price/Book Value: Month-end price divided by the most recently reported book value per share.

Price/Cash Flow: Month-end price divided by the most recently reported cash flow. Cash flow is defined as earnings post extraordinary items plus depreciation.

Price/Free Cash Flow: Month-end price divided by most recently reported free cash flow. Free Cash flow is defined as earnings post extraordinary items plus depreciation minus capital expenditures.

Price/Sales: Month-end market value divided by most recently reported sales.

EV/EBITDA: Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents) divided by EBITDA (Reported Net Income + Special Items – Minority Interest + Interest Expense + Income Tax Expense + Depreciation and Amortization) – most recently reported.

Free Cash Flow/EV: Free Cash Flow divided by Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents). Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.

Dividend Yield: Indicated dividend divided by month-end price.

Dividend Growth: The growth between trailing 4-quarter total common dividends and year-ago trailing 4-quarter total common dividends.

Share Repurchase: The year-to-year change in shares outstanding

Rel Str – 30Wk/75Wk MA: The ratio of the 30-week moving average of price to the 75-week moving average.

Rel Str – 5Wk/30Wk MA: The ratio of the 5-week moving average of price to the 30-week moving average.

Rel Str – 10Wk/40Wk MA: The ratio of the 10-week moving average of price to the 40-week moving average.

Price/200-Day Moving Average: A ratio between month-end closing price and average closing price over the last 200 days.

Price Return – 12-Month Performance: Absolute price return over the last twelve months.

Price Return – 9-Month Performance: Absolute price return over the last nine months.

Price Return – 3-Month Performance: Absolute price return over the last three months.

Price Return – 11-Month Performance: Absolute price return from one year ago, ignoring the most recent month.

Price Return – 12-Month and 1-Month Performance: Equal weighted rank of stocks by (1) highest price return over the last twelve months and (2) highest price return over the most recently ended month.

Price Return – 12-Month and 1-Month Reversal: Equal weighted rank of stocks by (1) highest price return over the last twelve months and (2) lowest price return over the last one month.

Most Active: Stocks have the highest monthly share trading volume.

Earnings Momentum: The difference between 12-month trailing EPS and year-ago 12-month trailing EPS divided by year-ago 12-month trailing EPS.

Projected 5-Year EPS Growth: The five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exist, then I/B/E/S Mean Long Term Growth Estimate is used.

Forecast Earnings Surprise: A forecast earnings surprise variable which compares BofAML estimates to those of the consensus after adjusting for the range of estimates. Stocks are ranked from 1 to 10, with 1 being among the most optimistic, relative to the consensus, 10 being among the most pessimistic. Consensus estimated earnings data are courtesy of I/B/E/S.

Positive (Negative) Forecast Earnings Surprise: The companies ranked 1 or 2 (9 or 10) by Forecast Earnings Surprise.

EPS Estimate Revision: The difference between the I/B/E/S FY1 estimate and that of three months ago divided by the absolute value of I/B/E/S FY1 estimate of three months ago.

Equity Duration: An adaptation of our Dividend Discount Model which measures the interest-rate sensitivity of a stock. Longer durations (higher numbers) suggest more interest-rate sensitivity.

Earnings Torpedo: I/B/E/S FY2 estimate less latest actual annual EPS divided by month-end price.

Return on Equity One-Year Average: Net income divided by average equity provided.

Return on Equity Five-Year Average: Five-year average return on equity.

Return on Equity One-Year Average (Adjusted for Debt): The ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

Return on Equity Five-Year Average (Adjusted for Debt): The average five year ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

Return on Assets: Net income plus interest and taxes as a percent of average total assets.

Return on Capital: The sum of net income, interest expense and minority interest, as a percent of average total invested capital which is inclusive of long-term debt, preferred stock, common equity, and minority interest.

Beta: A measure of non-diversifiable risk. It is calculated using regression Strategy incorporating 60 months of price performance versus that of the S&P 500.

Variability of EPS: The degree of variability in quarterly EPS over the past 5 years. Stocks are ranked from 10 to 1 with 10 being the most variable.

EPS Estimate Dispersion: The coefficient of variation among I/B/E/S FY2 estimates. Presented as a decile rank.

Price: Absolute price level of the stock at month-end.

Neglect-Institutional Ownership: Those companies with the lowest proportions of float-adjusted shares held by institutional owners are considered more neglected.

Neglect-Analyst Coverage: Those companies with the lowest number of analysts submitting ratings to FirstCall.

Firm Size: Month-end market value.

Foreign Exposure: The ratio of foreign sales to total sales.

Short Interest 12-mth Z-Score: (Most recent number of short shares – 12mth average of short shares)/ 12mth standard deviation of short shares.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

* Ratings dispersions may vary from time to time where BofA Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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A PM's guide to stock picking

Exhibit (EP18)
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Bank of America Merrill Lynch

09 September 2016

High beta is the new low beta

In contrast to financial theory, which tells us high beta stocks should outperform amid strong market returns, August saw a flat market but high beta stocks triumphed (+2.9%) and low beta stocks ailed (-4.9%). Conversely, low beta stocks have been the surprising leaders amid a strong market: the last five years have seen above-average market returns but low beta stocks have led, and high beta stocks have lagged. This is in stark contrast to a more rational market prior to 2012, during which – as would be expected — high beta stocks outperformed and low beta stocks underperformed.

Value continues to edge out growth

In August, Value factors extended their second half gains: the group advanced 1.0% last month, with Low Price/Book (+4.1%) and Forward EPS Yield (+2.5%) faring best and finishing among the top five factors for the month. YTD, Value remains in the middle of the pack with a +7.9% return but has fairly consistently edged out growth this year.

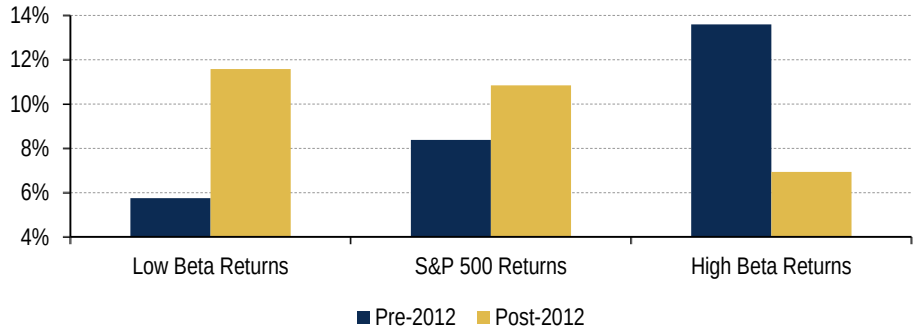
Cash return shifted from high div yld to div growth/buybacks

The leadership among Cash Deployment factors continued from earlier in 2016, but the line-up changed from expensive High Dividend Yield stocks, which led in July, to High Share Repurchase (+2.2%) and High Dividend Growth (+1.4) stocks in August. High Dividend Yield stocks did fare surprisingly well in August with no losses, despite the 13bp rise in 10-yr Tsy. yields. YTD, High Dividend Yield is the second best performing factor (+26.8%), while Dividend Growth (+3.2%) and Share Repurchase (+6.9%) lag the index. We continue to recommend Yield at a Reasonable Price.

Technical factors come up short

Momentum factors, which have screened as crowded and expensive in our work since last summer, lagged the benchmark by the widest margin (2.1ppt) of all factor groups in August, continuing weak trends. All of the bottom five factors last month were Momentum factors and were all in the red for the month. YTD, Momentum factors have been the weakest of the factors that we track.

Chart 1: High beta and low beta have swapped identities
Avg 12 mth returns of High Beta and Low Beta stocks (eq-wtd S&P 500 deciles, 1986 to 2016)



Source: BofAML US Equity & Quantitative Strategy

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Top 5 screens in August	Perf.
Low Price to Book Value	4.1%
High Beta	2.9%
Forward Earnings Yield	2.5%
Share Repurchase	2.2%
Most Active	2.2%
S&P 500 (Equal weighted)	0.0%

Bottom 5 screens in August	Perf.
Price Returns (9-Month)	-4.1%
Relative Strength (10wk/40wk)	-3.8%
Rel. Strength (Price/200d MA)	-3.6%
Relative Strength (30wk/75wk)	-3.0%
Price Returns (12-m plus 1-m Reversal)	-2.9%
S&P 500 (Equal weighted)	0.0%

Disclaimer: The valuations and screens contained herein are useful in assessing comparative valuations and comparative earnings prospects and are not intended to recommend transactions relating to any specific security. These indicators should be used in investment decisions only with other factors including financial risk, investment risk, management strategies and operating and financial outlooks.

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Refer to important disclosures on page 64 to 65.

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Table 1: Quantitative Strategies Performance as of 8/31/2016

Strategies (Universe based on the S&P 500)		1 M	3 M	6 M	12 M	YTD	2 Yr Perf. Gross	2 Yr Perf. Anlzd	3 Yr Perf. Gross	3 Yr Perf. Anlzd	5 Yr Perf. Gross	5 Yr Perf. Anlzd	Inception Date
Low Price	Risk	1.6	8.8	36.8	20.2	28.1	0.0	0.0	31.8	9.7	101.3	15.0	12/31/1988
Dividend Yield (Total Return)	Corp Cash Deployment	0.0	9.9	25.2	28.3	26.8	24.9	11.8	58.0	16.5	124.3	17.5	12/31/1988
High EPS Estimate Dispersion	Risk	0.8	3.3	37.5	8.0	24.7	-28.8	-15.6	-2.1	-0.7	36.5	6.4	12/31/1988
Dividend Yield (Price Return)	Corp Cash Deployment	-0.6	8.7	22.3	22.2	22.9	13.6	6.6	37.3	11.2	76.2	12.0	12/31/1988
Small Size	Miscellaneous	-0.3	4.2	25.9	14.3	21.1	-0.7	-0.3	31.8	9.6	99.3	14.8	12/31/1988
Most Active	Technical	2.2	7.6	27.4	15.9	17.3	3.0	1.5	31.4	9.5	85.5	13.2	8/31/2003
High Foreign Exposure	Miscellaneous	1.6	8.8	20.7	17.2	13.2	2.8	1.4	29.8	9.1	58.9	9.7	12/31/1988
Low Price to Book Value	Value	4.1	5.0	27.0	6.9	12.4	-10.2	-5.2	14.5	4.6	79.9	12.5	12/31/1988
Institutional Neglect	Miscellaneous	-1.2	4.1	12.3	16.8	11.8	9.6	4.7	36.0	10.8	70.3	11.2	12/31/1988
S&P 500 Equal Weighted (Total Return)	Benchmark	0.2	4.6	16.1	12.6	10.9	12.1	5.9	42.1	12.4	105.1	15.4	
Low EV/EBITDA	Value	1.4	7.4	15.8	4.7	10.7	-20.5	-10.9	4.5	1.5	54.1	9.0	9/30/2001
High Variability of EPS	Risk	0.9	6.3	19.2	7.7	10.4	2.4	1.2	30.7	9.3	71.0	11.3	12/31/1988
DDM Valuation	Value	-2.8	2.8	12.8	13.0	10.3	12.6	6.1	43.0	12.7	111.5	16.2	12/31/1988
Low EPS Torpedo	Growth (Negative)	1.1	6.4	18.6	-1.9	10.1	-23.1	-12.3	-2.7	-0.9	24.9	4.6	12/31/1988
S&P 500 Equal Weighted (Price Return)	Benchmark	0.0	4.0	14.9	10.1	9.4	7.2	3.5	33.3	10.0	84.3	13.0	
Low Price to Sales	Value	0.3	7.0	15.7	2.6	9.2	0.8	0.4	34.1	10.3	116.1	16.7	12/31/1988
Alpha Surprise Model	GARP	-1.6	0.6	12.5	10.9	8.9	13.3	6.4	36.1	10.8	99.1	14.8	12/31/1988
Analyst Coverage Neglect	Miscellaneous	-0.1	3.7	13.1	13.4	8.9	13.3	6.4	41.2	12.2	100.1	14.9	6/30/1989
Low PE to GROWTH	GARP	2.0	5.3	16.2	7.6	8.7	-4.7	-2.4	17.0	5.4	64.4	10.5	12/30/1988
Low Price to Cash Flow	Value	-0.2	4.8	11.3	2.7	8.2	-17.8	-9.3	10.0	3.2	47.5	8.1	12/31/1988
ROE (5-Yr Avg. Adj. by Debt)	Quality	-0.1	4.5	8.7	11.4	8.1	11.9	5.8	41.0	12.1	84.4	13.0	4/30/1997
Forecast Positive Earnings Surprise	Growth	1.0	1.3	15.3	6.7	8.1	6.1	3.0	29.4	9.0	85.0	13.1	12/31/1988
Earnings Yield	Value	1.7	4.9	16.2	7.1	8.1	-1.1	-0.6	27.3	8.4	85.0	13.1	12/31/1988
Price Returns (12-Month plus 1-Month Reversal)	Technical	-2.9	4.6	14.0	9.3	7.6	11.4	5.6	48.8	14.2	97.4	14.6	1/31/2010
ROE (1-Yr Avg. Adj. by Debt)	Quality	0.6	4.8	7.9	9.1	7.2	9.1	4.4	37.7	11.3	93.8	14.2	4/30/1997
Share Repurchase	Corp Cash Deployment	2.2	7.7	10.8	4.7	6.9	-2.7	-1.3	22.3	6.9	106.8	15.6	12/31/2004
High Beta	Risk	2.9	5.1	21.1	-0.7	6.3	-18.7	-9.8	9.4	3.0	52.9	8.9	12/31/1988
S&P 500 Index (Price Return)	Benchmark	-0.1	3.5	12.4	10.1	6.2	8.4	4.1	33.0	10.0	78.1	12.2	
High Projected 5-Yr Growth	Growth	0.3	3.5	16.2	8.3	5.8	7.7	3.8	45.0	13.2	111.4	16.2	12/31/1988
High Duration	Growth	0.2	4.7	13.5	7.8	5.7	9.5	4.6	36.8	11.0	75.2	11.9	12/31/1988
ROE (5-Yr Average)	Quality	-2.0	4.2	8.8	9.1	5.6	8.6	4.2	32.4	9.8	77.7	12.2	4/30/1997
Short Interest	Miscellaneous	-1.0	4.1	12.5	9.4	5.3	3.2	1.6					10/31/2013
High Free Cash Flow to EV	Value	1.8	6.4	8.6	2.7	5.3	-0.4	-0.2	39.2	11.7	111.2	16.1	7/31/2010
ROC	Quality	-0.6	4.0	7.8	5.8	5.1	13.4	6.5	39.0	11.6	84.5	13.0	4/30/1997
Forecast Negative Earnings Surprise	Growth (Negative)	-0.4	3.2	9.6	6.3	4.9	5.0	2.5	33.9	10.2	77.4	12.2	12/31/1988
ROE (1-Yr Average)	Quality	-1.0	3.3	6.9	5.4	4.5	8.9	4.3	34.1	10.3	79.4	12.4	4/30/1997
Forward Earnings Yield	Value	2.5	5.7	15.8	1.0	4.1	-11.9	-6.1	13.6	4.3	70.8	11.3	12/31/1988
ROA	Quality	-0.6	3.1	6.2	3.2	3.3	7.3	3.6	34.3	10.3	83.1	12.9	4/30/1997
High Dividend Growth (Total Return)	Corp Cash Deployment	1.4	5.1	11.6	3.4	3.2	-4.4	-2.2	26.4	8.1	86.8	13.3	12/31/2004
Price Returns (12-Month)	Technical	-1.9	2.3	9.1	7.3	2.9	13.7	6.6	49.2	14.3	110.0	16.0	1/31/2010
Low Price to Free Cash Flow	Value	0.0	4.2	5.9	-2.0	2.8	-7.1	-3.6	23.8	7.4	87.0	13.3	7/30/2003
Price Returns (11-Month since 1 year ago)	Technical	-2.7	2.4	9.4	4.8	2.5	7.8	3.8	39.4	11.7	90.5	13.8	1/31/2010
Relative Strength (10wk/40wk)	Technical	-3.8	1.8	6.7	6.6	2.3	11.8	5.7	40.3	12.0	92.1	13.9	1/31/2010
Relative Strength (30wk/75wk)	Technical	-3.0	1.6	9.0	3.4	2.2	1.0	0.5	35.5	10.7	78.6	12.3	8/31/1995
High Dividend Growth (Price Return)	Corp Cash Deployment	1.2	4.5	10.4	1.1	1.8	-8.6	-4.4	18.4	5.8	66.7	10.8	12/31/2004
Upward Estimate Revisions	Growth	-0.9	3.4	9.6	4.1	1.5	-2.2	-1.1	30.4	9.3	84.7	13.1	12/31/1988
Relative Strength (5wk/30wk)	Technical	-2.4	1.2	5.3	6.9	0.9	10.6	5.2	36.6	11.0	90.5	13.8	1/31/2010
EPS Momentum	Growth	-1.5	0.9	7.0	4.3	-0.1	-0.1	-0.1	29.1	8.9	75.9	12.0	12/31/1988
Price Returns (12-Month plus 1-Month)	Technical	-0.1	0.0	5.9	4.5	-0.4	7.4	3.6	27.2	8.4	81.8	12.7	1/31/2010
Price Returns (9-Month)	Technical	-4.1	0.6	4.0	4.2	-0.6	9.5	4.7	41.4	12.3	100.0	14.9	1/31/2010
Price Returns (3-Month)	Technical	-0.2	-0.1	5.0	0.6	-2.1	-0.7	-0.4	24.5	7.6	78.0	12.2	1/31/2010
Relative Strength (Price/200-Day Moving Avg)	Technical	-3.6	-1.7	0.4	0.9	-3.0	6.1	3.0	34.0	10.3	78.3	12.3	1/31/2010

Source: BofA Merrill Lynch US Equity and US Quant Strategy

The performance does not reflect transaction costs or tax withholdings or any applicable advisory fees. Had these costs been reflected, the performance would have been lower. Performance is calculated on the basis of price return unless noted. Total return performance calculations assume that dividends paid on securities in a portfolio are deposited in a cash account on the ex-dividend date, and are not reinvested. Please see Performance Calculation methodology on page 60 for a full explanation.

†For screens that have less than 5 years history, the performance is since inception.

Past performance should not and cannot be viewed as an indicator of future performance. A complete performance record is available upon request.

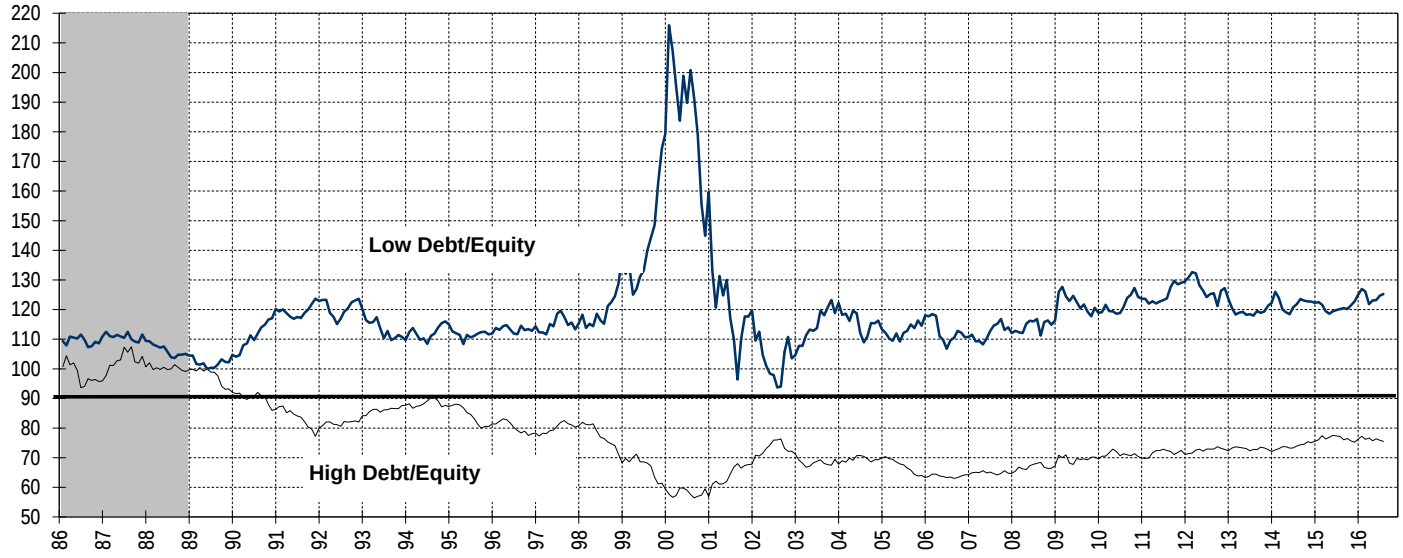
Table 2: Advances and Declines as of 8/31/2016

	1M		3M		6M		12M		YTD		2Yr		3Yr		5Yr	
Quantitative Strategies	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.	Adv.	Dec.
Dividend Yield (Total Return)	23	27	98	52	205	95	367	233	264	136	647	552	1052	745	1814	1181
Low Price	30	20	88	61	201	98	326	271	239	160	566	630	966	824	1654	1328
High EPS Estimate Dispersion	24	24	71	65	171	95	262	256	197	155	449	580	735	732	1396	1238
Dividend Yield (Price Return)	21	29	93	57	194	105	353	246	252	147	616	582	999	797	1721	1272
Small Size	23	27	75	74	186	113	312	286	228	171	575	621	966	826	1652	1336
Most Active	32	18	92	57	200	99	333	264	232	167	613	583	1014	781	1723	1265
DDM Valuation	16	45	88	87	210	144	369	308	268	205	679	607	1167	860	2035	1426
Institutional Neglect	20	30	81	67	178	119	344	253	234	163	607	588	1006	788	1718	1272
High Foreign Exposure	29	21	95	55	196	104	332	267	232	167	581	617	982	814	1647	1346
Price Returns (12-Month plus 1-Month Reversal)	11	39	81	67	182	116	326	270	218	179	632	563	1040	753	1738	1253
Alpha Surprise Model	16	19	55	50	152	80	277	213	193	134	607	511	1017	738	1690	1185
High Variability of EPS	32	35	108	81	241	130	417	324	293	207	801	715	1294	954	2212	1589
Low EV/EBITDA	28	22	86	64	174	125	302	297	217	182	534	664	928	867	1631	1362
Analyst Coverage Neglect	23	23	74	54	165	88	314	219	204	138	607	533	986	702	1627	1158
Low EPS Torpedo	28	22	88	61	185	114	305	294	223	176	545	653	930	867	1585	1407
Low Price to Sales	25	25	86	62	179	119	306	292	217	181	598	600	995	801	1703	1287
Low Price to Cash Flow	24	26	83	67	173	126	306	293	221	178	545	653	946	850	1610	1377
ROE (5-Yr Avg. Adj. by Debt)	26	24	86	64	176	124	328	272	222	178	616	584	1018	781	1725	1274
Low Price to Book Value	42	10	96	55	222	79	335	266	247	154	626	578	1044	766	1787	1232
ROE (5-Yr Average)	16	34	78	72	172	128	330	270	223	177	607	593	996	801	1695	1300
Forecast Positive Earnings Surprise	40	33	110	95	263	149	451	380	316	237	920	824	1518	1140	2503	1806
Low PE to GROWTH	32	18	92	58	204	96	327	273	243	157	600	600	995	802	1688	1307
ROE (1-Yr Avg. Adj. by Debt)	30	20	88	62	175	125	317	283	221	179	610	590	1010	790	1734	1266
Short Interest	26	24	93	57	196	103	338	260	234	164	616	580	983	799	1641	1275
Relative Strength (10wk/40wk)	10	40	75	74	166	132	326	269	211	186	634	561	1007	782	1722	1265
Earnings Yield	33	17	91	59	202	98	325	275	235	165	620	579	1030	768	1765	1229
ROC	23	27	86	64	178	121	316	283	223	176	633	566	1016	782	1718	1279
ROE (1-Yr Average)	18	32	77	73	167	132	316	283	217	182	620	579	1002	795	1713	1281
High Duration	23	27	81	67	181	116	306	290	204	193	614	582	1000	796	1700	1294
High Projected 5-Yr Growth	26	24	84	66	197	104	324	278	225	177	621	583	1029	792	1737	1291
Relative Strength (30wk/75wk)	14	36	77	71	177	122	307	290	213	185	606	591	1000	793	1691	1301
Price Returns (11-Month since 1 year ago)	15	35	75	73	175	123	313	283	210	187	625	571	1011	780	1726	1263
Forecast Negative Earnings Surprise	33	41	111	93	235	163	431	392	292	245	813	818	1346	1086	2290	1720
Price Returns (12-Month)	19	31	78	70	180	118	327	269	218	179	642	554	1029	762	1740	1248
Share Repurchase	34	16	89	61	176	124	294	305	218	182	579	620	983	816	1750	1248
ROA	22	28	78	72	170	129	306	293	215	184	607	592	989	810	1681	1318
Price Returns (9-Month)	11	39	72	77	161	137	316	279	204	193	632	563	1012	776	1741	1242
High Free Cash Flow to EV	24	17	72	51	147	99	250	241	184	144	494	499	840	647	1452	1043
Relative Strength (5wk/30wk)	15	35	72	77	157	141	321	273	199	198	625	569	994	794	1716	1265
High Beta	35	18	89	68	196	114	308	311	226	187	574	670	985	865	1684	1380
Low Price to Free Cash Flow	24	26	86	64	171	128	301	298	217	182	580	618	988	808	1726	1267
Upward Estimate Revisions	23	27	86	64	182	118	325	273	219	181	613	585	1015	782	1742	1251
High Dividend Growth (Total Return)	27	23	92	58	194	106	324	276	227	173	608	592	1033	765	1782	1214
Forward Earnings Yield	34	16	90	60	200	100	326	274	234	166	602	597	1013	784	1717	1276
EPS Momentum	21	29	77	73	178	122	326	273	213	186	620	579	1008	789	1712	1282
Relative Strength (Price/200-Day Moving Avg)	14	36	60	89	145	153	305	291	192	206	614	582	990	800	1702	1282
High Dividend Growth (Price Return)	27	23	89	61	186	113	313	286	218	181	591	608	1010	787	1748	1249
Price Returns (12-Month plus 1-Month)	27	23	69	81	177	123	327	271	212	187	633	565	991	802	1722	1268
Price Returns (3-Month)	22	28	70	80	157	142	314	282	198	200	591	605	965	828	1678	1308

Source: BofA Merrill Lynch US Quantitative Strategy.

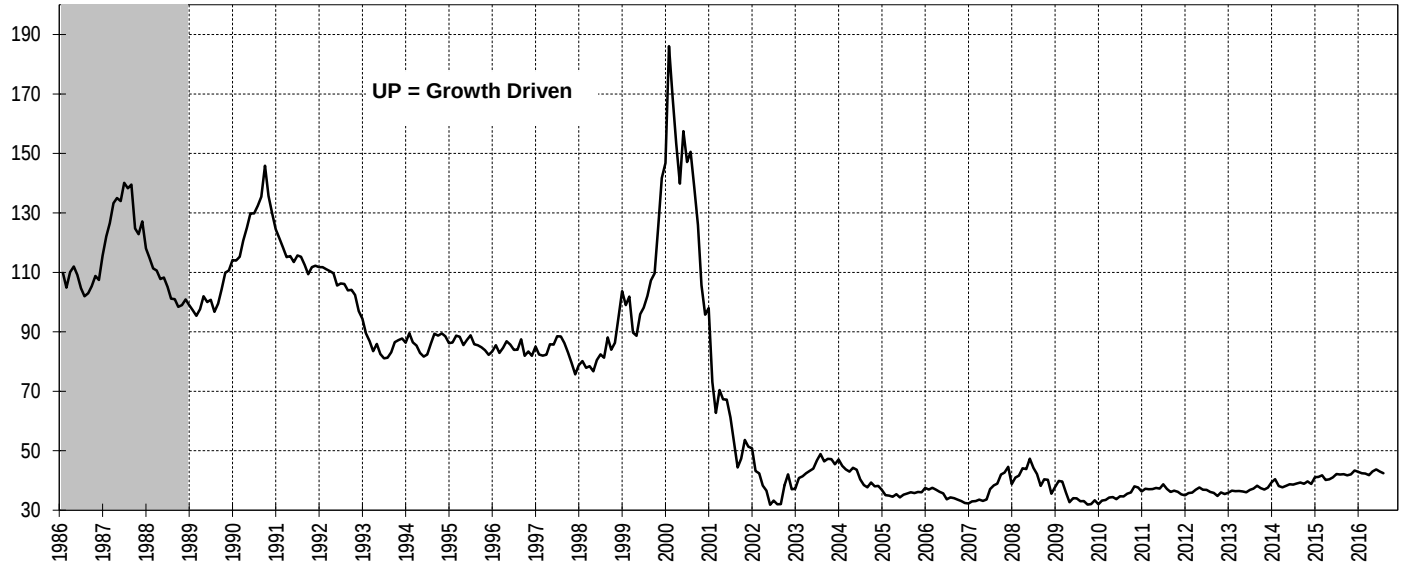
MLQS Financial Confidence & Thematic Indicator Financial Conditions

Financial Confidence



Source: BofA Merrill Lynch US Quantitative Strategy.
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance.

Thematic (High 5-Year Projected Growth vs. High EPS Yield)



Source: BofA Merrill Lynch US Quantitative Strategy.
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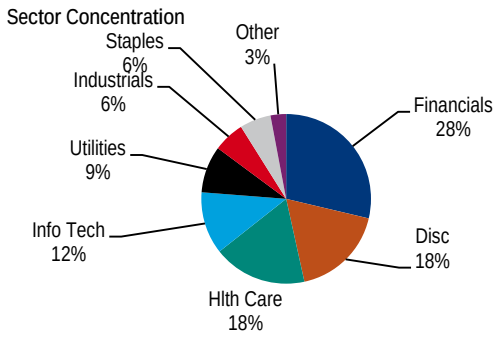
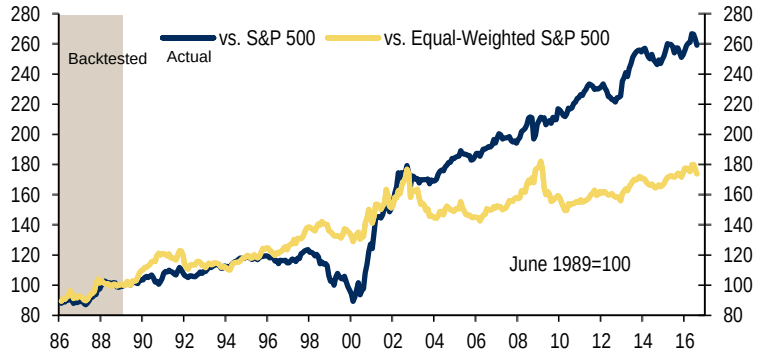
GARP STRATEGIES: Alpha Surprise Model

Top 50 S&P 500 Companies By Alpha Surprise Model

Alpha Surprise Model: a 25%/75% combination of the DDM "Alpha" and the Positive EPS "Surprise" Models.





Absolute Returns

Last 1 Month	-1.62%
Last 3 Months	0.59%
Last 6 Months	12.47%
Last 12 Months	10.87%
2016 YTD	8.93%

Source: BofA Merrill Lynch US Quantitative Strategy

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Screen for September

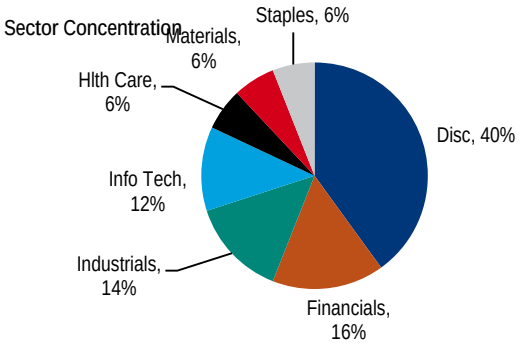
Mo. In Scrn	Company	Ticker	Alpha Surprise Score	Price 08/31/2016	S&P	Mo. In Scrn	Company	Ticker	Alpha Surprise Score	Price 08/31/2016	S&P
23	AMAZON.COM	AMZN	1.00	769.16	B-	3	THE KROGER CO.	KR	2.25	31.99	B+
27	AUTOZONE INC.	AZO	1.00	741.80	A-	New	WASTE MANAGEMENT	WM	2.25	63.94	B
New	CARDINAL HEALTH	CAH	1.25	79.67	B+	2	DARDEN RESTAURAN	DRI	2.50	61.64	A-
2	DELTA AIR LINES,	DAL	1.25	36.75	NA	New	INTERCONTINENTAL	ICE	2.50	282.02	B+
New	DOLLAR GENERAL C	DG	1.25	73.41	NA	4	LABORATORY CORPO	LH	2.50	136.93	B+
New	HCP, INC.	HCP	1.25	39.33	B-	5	LEGG MASON INC	LM	2.50	34.59	B
New	PERRIGO COMPANY	PRGO	1.25	90.99	NA	New	MALLINCKRODT PLC	MNK	2.50	74.54	NA
5	PULTEGROUP INC.	PHM	1.50	21.37	B-	4	PPL CORPORATION	PPL	2.50	34.78	B
New	APARTMENT INVEST	AIV	1.75	45.18	B-	New	THE MACERICH CO.	MAC	2.50	81.89	B
4	DOMINION RESOURC	D	1.75	74.16	B	New	THE WESTERN UNIO	WU	2.50	21.52	B+
10	FACEBOOK	FB	1.75	126.12	NA	New	AES CORPORATION	AES	2.75	12.07	B
New	AVALONBAY COMMUN	AVB	2.00	175.01	B+	3	ANTHEM INC	ANTM	2.75	125.08	B+
2	WALGREENS BOOTS	WBA	2.00	80.71	A-	23	AUTONATION, INC.	AN	2.75	47.35	B
2	WATERS CORPORATI	WAT	2.00	157.31	B+	New	KIMCO REALTY COR	KIM	2.75	30.05	A-
New	AMERICAN TOWER C	AMT	2.25	113.38	B	5	MICROSOFT CORP	MSFT	2.75	57.46	A-
2	BB&T CORPORATION	BBT	2.25	38.50	B	10	SPECTRA ENERGY	SE	2.75	35.62	NA
8	ELECTRONIC ARTS	EA	2.25	81.23	B+	2	THE PNC FINANCIA	PNC	2.75	90.10	B+

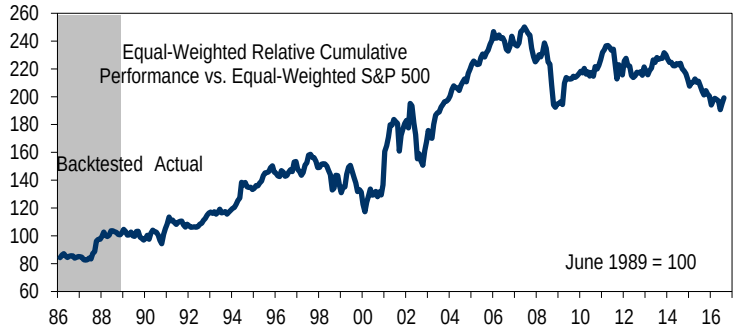
*Based on decile ranks of DDM Alpha and Positive EPS Surprise, weighted 25% / 75%, respectively.

P/E-to-Growth

Top 50 S&P 500 Companies By Low PE to GROWTH

P/E-to-Growth: Trailing twelve months P/E divided by the five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exist, then IBES Mean Long Term Growth Estimate is used.





Absolute Returns

Last 1 Month	1.98%
Last 3 Months	5.28%
Last 6 Months	16.15%
Last 12 Months	7.56%
2016 YTD	8.66%

Source: BofA Merrill Lynch US Quantitative Strategy

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Screen for September

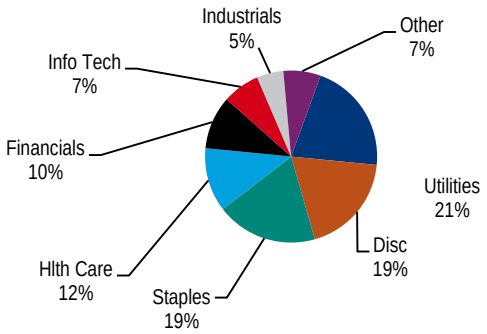
Mo. In Scrn.	Company	Ticker	PE/ Growth	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	PE/ Growth	Price 08/31/2016
7	DISCOVERY COMMUN	DISCA	0.05	25.51	4	TYSON FOODS INC -CL A	TSN	0.99	75.57
17	GENERAL MOTORS	GM	0.27	31.92	3	ROYAL CARIBBEAN CRUISES LTD	RCL	1.01	71.11
65	FIFTH THIRD BANC	FITB	0.48	20.16	7	LINCOLN NATIONAL	LNC	1.02	48.03
5	BAXTER HEALTHCAR	BAX	0.49	46.73	16	URBAN OUTFITTERS	URBN	1.03	35.85
14	DELTA AIR LINES,	DAL	0.54	36.75	17	GAP INC.	GPS	1.04	24.87
34	CBS CORP CL-B	CBS	0.58	51.03	5	REYNOLDS AMERICA	RAI	1.04	49.57
12	PULTEGROUP INC.	PHM	0.59	21.37	2	DOW CHEMICAL	DOW	1.06	53.64
24	UNITED RENTALS I	URI	0.60	82.31	5	CARNIVAL CORPORA	CCL	1.06	47.80
7	MONDELEZ INTERNA	MDLZ	0.72	45.02	8	LYONDELLBASELL I	LYB	1.06	78.89
8	KLA-TENCOR CORP.	KLAC	0.72	69.26	23	TIME WARNER INC.	TWX	1.07	78.41
14	SKYWORKS SOLUTIO	SWKS	0.74	74.86	2	ASSURANT INC.	AIZ	1.07	89.55
3	RYDER SYSTEM INC	R	0.78	65.52	2	MASCO CORP	MAS	1.08	35.48
New	HARRIS CORP	HRS	0.80	92.98	7	UNUM GROUP	UNM	1.09	35.61
10	PRUDENTIAL FINAN	PRU	0.89	79.38	14	EATON CORP PLC	ETN	1.09	66.54
2	THE GOLDMAN SACH	GS	0.90	169.46	2	CENTENE CORPORAT	CNC	1.12	68.29
41	SOUTHWEST AIRLIN	LUV	0.91	36.88	7	D.R. HORTON, INC	DHI	1.13	32.06
7	SCRIPPS NETWORKS	SNI	0.92	63.37	5	HARMAN INTERNATIONAL INDS	HAR	1.14	84.69
50	WELLS FARGO & CO	WFC	0.92	50.80	2	AMERICAN EXPRESS	AXP	1.15	65.58
2	TEGNA INC	TGNA	0.93	20.26	5	NORFOLK SOUTHERN	NSC	1.16	93.90
4	LKQ CORP	LKQ	0.93	36.09	New	VULCAN MATERIALS	VMC	1.17	113.87
New	APPLIED MATERIAL	AMAT	0.94	29.84	New	WYNN RESORTS LTD	WYNN	1.19	89.32
42	WHIRLPOOL CORP	WHR	0.95	178.64	9	CARMAX, INC.	KMX	1.19	58.95
56	AUTONATION, INC.	AN	0.95	47.35	6	MACY'S	M	1.20	36.18
2	TE CONNECTIVITY	TEL	0.96	63.57	New	DOLLAR GENERAL C	DG	1.20	73.41
4	HCA HOLDINGS INC	HCA	0.98	75.55	New	FLIR SYSTEMS INC	FLIR	1.22	30.83

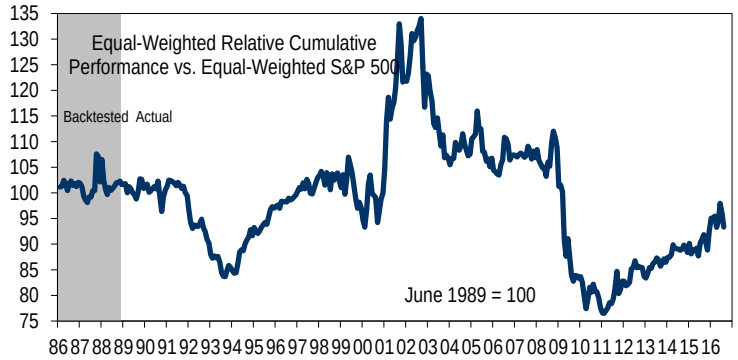
VALUATION STRATEGIES: Dividend Discount Model Alpha

Top S&P 500 Companies By DDM ALPHA

Dividend Discount Model Alpha: The implied return from the BofAML Quantitative Strategy three-stage dividend discount model less the required return from a Capital Asset Pricing Model. Presented as a decile rank.

Sector Concentration





Absolute Returns

Last 1 Month	-2.78%
Last 3 Months	2.77%
Last 6 Months	12.81%
Last 12 Months	12.98%
2016 YTD	10.25%

Source: BofA Merrill Lynch US Quantitative Strategy

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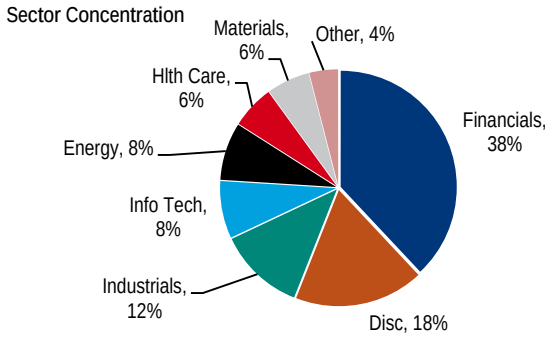
Screen for September

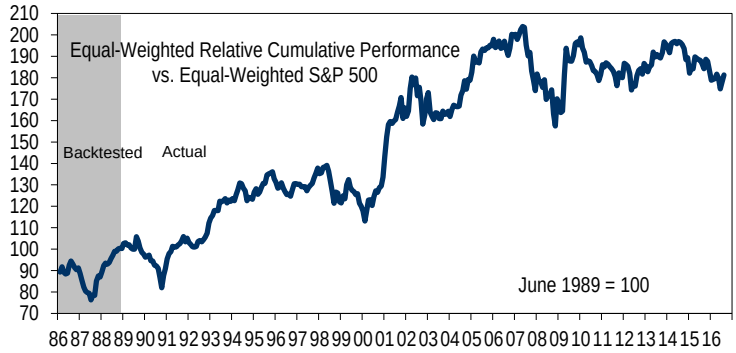
Mo. In Scrn	Company	Ticker	DDM Alpha	Price 08/31/2016	Mo. In Scrn	Company	Ticker	DDM Alpha	Price 08/31/2016
18	AMAZON.COM	AMZN	1	769.16	2	CAMPBELL SOUP	CPB	2	60.72
57	AUTOZONE INC.	AZO	1	741.80	3	CARDINAL HEALTH	CAH	2	79.67
35	BRISTOL-MYERS SQ	BMY	1	57.39	12	CARNIVAL CORPORA	CCL	2	47.80
11	C.H. ROBINSON WO	CHRW	1	69.42	New	CLOROX CO.	CLX	2	131.04
17	CABOT OIL & GAS	COG	1	24.63	11	CONAGRA FOODS, I	CAG	2	46.61
34	CONSOLIDATED EDI	ED	1	75.25	22	DTE ENERGY COMPA	DTE	2	92.90
11	DARDEN RESTAURAN	DRI	1	61.64	19	DELTA AIR LINES,	DAL	2	36.75
7	DISCOVERY COMMUN	DISCA	1	25.51	12	DOLLAR GENERAL C	DG	2	73.41
20	DOLLAR TREE, INC	DLTR	1	82.70	5	DR PEPPER SNAPPL	DPS	2	93.70
31	DOMINION RESOURC	D	1	74.16	14	ENTERGY CORPORAT	ETR	2	78.20
6	DUKE ENERGY	DUK	1	79.66	14	EXELON CORPORATI	EXC	2	34.00
11	EDISON INTERNATI	EIX	1	72.72	11	FIFTH THIRD BANC	FITB	2	20.16
13	ELI LILLY & CO.	LLY	1	77.75	92	GENERAL MILLS IN	GIS	2	70.82
17	EQUINIX INC.	EQIX	1	368.65	New	HCA HOLDINGS INC	HCA	2	75.55
10	FACEBOOK	FB	1	126.12	New	HCP, INC.	HCP	2	39.33
7	KRAFT HEINZ COMP	KHC	1	89.49	7	KIMBERLY-CLARK C	KMB	2	128.06
14	LAM RESEARCH	LRCX	1	93.32	4	L BRANDS INC	LB	2	76.21
11	MACY'S	M	1	36.18	7	MCDONALD'S CORPO	MCD	2	115.66
14	PPL CORPORATION	PPL	1	34.78	New	NEWFIELD EXPLORA	NFX	2	43.36
15	REYNOLDS AMERICA	RAI	1	49.57	New	NEXTERA ENERGY	NEE	2	120.94
39	SOUTHERN COMPANY	SO	1	51.33	5	PG&E CORPORATION	PCG	2	61.94
New	THE HERSHEY COMP	HSY	1	99.89	11	PERRIGO COMPANY	PRGO	2	90.99
11	UNITEDHEALTH GRO	UNH	1	136.05	2	PINNACLE WEST CA	PNW	2	75.04
20	VERIZON COMMUNIC	VZ	1	52.33	New	QORVO INC.	QRVO	2	57.43
13	WELLS FARGO & CO	WFC	1	50.80	New	STARBUCKS CORP	SBUX	2	56.23
3	ANTHEM INC	ANTM	2	125.08	10	SKYWORKS SOLUTIO	SWKS	2	74.86
2	ALTRIA GROUP, IN	MO	2	66.09	2	VULCAN MATERIALS	VMC	2	113.87
5	ASSURANT INC.	AIZ	2	89.55	4	WAL*MART STORES	WMT	2	71.44
2	BOEING CO.	BA	2	129.45	9	WELLTOWER	HCN	2	76.75

Earnings Yield

Top 50 S&P 500 Companies By EARNINGS YIELD

Earnings Yield: Trailing 12-month EPS divided by month-end price.





Absolute Returns

Last 1 Month	1.74%
Last 3 Months	4.90%
Last 6 Months	16.21%
Last 12 Months	7.11%
2016 YTD	8.06%

Source: BofA Merrill Lynch US Quantitative Strategy

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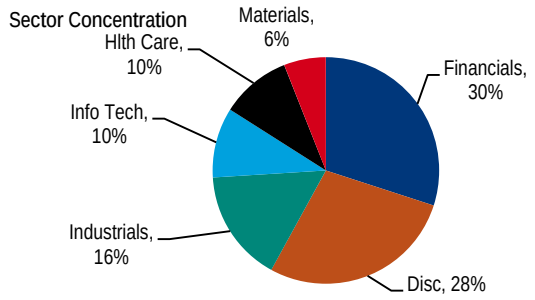
Screen for September

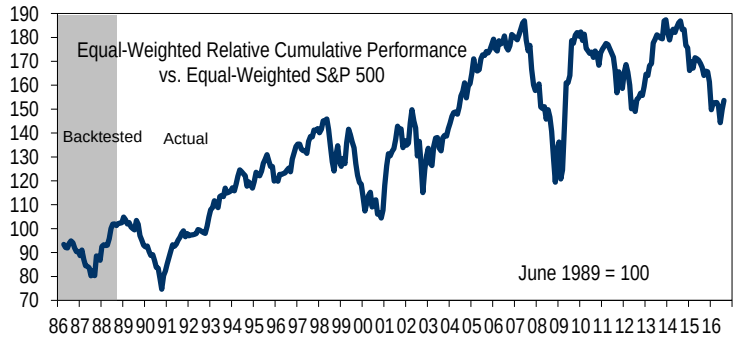
Mo. In Scrn	Company	Ticker	Earnings Yield	Price 08/31/2016	Mo. In Scrn	Company	Ticker	Earnings Yield	Price 08/31/2016
7	TRANSOCEAN	RIG	35.15%	9.70	46	CAPITAL ONE FINA	COF	10.00%	71.60
12	UNITED CONTINENT	UAL	35.11%	50.41	8	CITIGROUP INC.	C	9.95%	47.74
17	AMERICAN AIRLINE	AAL	29.26%	36.30	2	TEGNA INC	TGNA	9.87%	20.26
7	GENERAL MOTORS	GM	25.09%	31.92	3	SYNCHRONY FINANC	SYF	9.45%	27.83
7	LEVEL 3 COMMUNIC	LVLT	20.35%	49.63	4	SCRIPPS NETWORKS	SNI	9.31%	63.37
5	BAXTER HEALTHCAR	BAX	18.66%	46.73	4	MICHAEL KORS HOL	KORS	9.15%	48.95
5	FIRST SOLAR, INC	FSLR	18.19%	37.82	New	AMERISOURCEBERGE	ABC	9.01%	86.97
5	EQUITY RESIDENTI	EQR	17.77%	64.87	43	LINCOLN NATIONAL	LNC	8.93%	48.03
8	FORD MOTOR CO	F	16.90%	12.60	18	DISCOVER FINANCI	DFS	8.90%	60.00
8	DELTA AIR LINES,	DAL	16.82%	36.75	23	JPMORGAN CHASE &	JPM	8.83%	67.50
28	NAVIENT CORP	NAVI	16.41%	14.38	23	METLIFE INC.	MET	8.82%	43.40
18	GILEAD SCIENCES	GILD	14.80%	78.38	3	EASTMAN CHEMICAL CO	EMN	8.82%	67.89
13	TESORO CORP.	TSO	14.09%	75.42	2	THE TRAVELERS CO	TRV	8.82%	118.71
10	HP INC.	HPQ	13.71%	14.37	2	CORNING INC.	GLW	8.77%	22.69
7	DOW CHEMICAL	DOW	13.52%	53.64	9	PRINCIPAL FINANC	PFG	8.68%	49.07
13	VIACOM INC. (CL.	VIAB	12.89%	40.34	2	LENNAR CORPORATI	LEN	8.67%	47.30
10	PRUDENTIAL FINAN	PRU	12.43%	79.38	2	AMERICAN EXPRESS	AXP	8.66%	65.58
23	LYONDELLBASELL I	LYB	11.78%	78.89	23	MARATHON PETROLE	MPC	8.56%	42.51
41	VALERO ENERGY CO	VLO	11.20%	55.35	New	RYDER SYSTEM INC	R	8.52%	65.52
12	BED BATH & BEYON	BBBY	10.91%	46.37	2	SUNTRUST BANKS,	STI	8.46%	44.07
4	ALASKA AIR GROUP	ALK	10.74%	67.53	New	AUTONATION, INC.	AN	8.30%	47.35
11	MONDELEZ INTERNA	MDLZ	10.46%	45.02	New	AFLAC INC	AFL	8.25%	74.18
2	SOUTHWEST AIRLIN	LUV	10.33%	36.88	3	AMERIPRISE FINANCIAL INC	AMP	8.23%	101.08
7	UNUM GROUP	UNM	10.22%	35.61	3	THE PNC FINANCIA	PNC	8.17%	90.10
8	FIFTH THIRD BANC	FITB	10.22%	20.16	New	APPLE INC.	AAPL	8.13%	106.10

Forward Earnings Yield

Top 50 S&P 500 Companies By FORWARD EARNINGS YIELD

Earnings Yield: Rolling 12-month Forward EPS divided by month-end price.





Absolute Returns

Last 1 Month	2.51%
Last 3 Months	5.73%
Last 6 Months	15.82%
Last 12 Months	1.04%
2016 YTD	4.11%

Source: BofA Merrill Lynch US Quantitative Strategy

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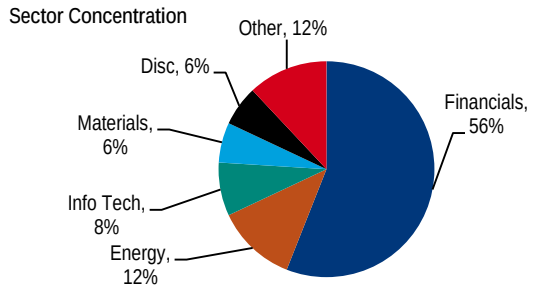
Screen for September

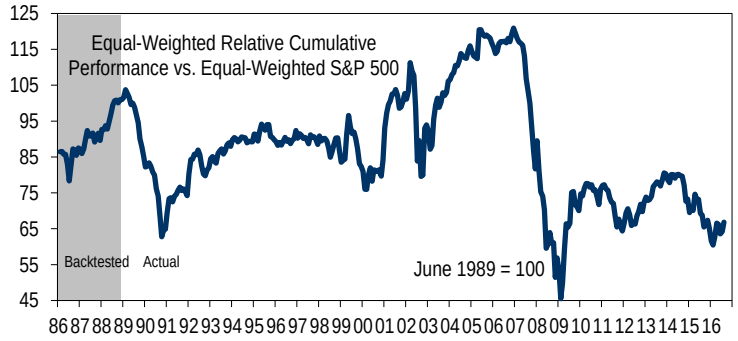
Mo. In Scrn	Company	Ticker	Forward Earnings Yield	Price 08/31/2016	Mo. In Scrn	Company	Ticker	Forward Earnings Yield	Price 08/31/2016
11	ENDO INTERNATION	ENDP	23.42%	20.70	4	STAPLES, INC.	SPLS	10.41%	8.56
39	GENERAL MOTORS	GM	18.17%	31.92	4	PITNEY BOWES INC	PBI	10.40%	18.76
27	DELTA AIR LINES,	DAL	15.71%	36.75	3	SYNCHRONY FINANC	SYF	10.35%	27.83
22	GILEAD SCIENCES	GILD	14.93%	78.38	2	TEGNA INC	TGNA	10.28%	20.26
44	FORD MOTOR CO	F	14.79%	12.60	26	EASTMAN CHEMICAL CO	EMN	10.21%	67.89
61	GOODYEAR TIRE & RUBBER CO	GT	14.22%	29.35	3	AFFILIATED MANAG	AMG	10.08%	142.05
12	UNITED CONTINENT	UAL	14.04%	50.41	5	BORGWARNER INC.	BWA	10.05%	34.39
18	AMERICAN AIRLINE	AAL	13.96%	36.30	9	AMERIPRISE FINANCIAL INC	AMP	9.97%	101.08
63	OWENS-ILLINOIS I	OI	13.73%	17.93	21	DISCOVER FINANCI	DFS	9.93%	60.00
105	LINCOLN NATIONAL	LNC	13.65%	48.03	20	UNITED RENTALS I	URI	9.90%	82.31
28	NAVIENT CORP	NAVI	13.55%	14.38	New	WESTERN DIGITAL	WDC	9.87%	46.67
7	MYLAN INC.	MYL	13.07%	42.36	New	JOHNSON CONTROLS INC	JCI	9.78%	43.88
73	PRUDENTIAL FINAN	PRU	12.35%	79.38	3	SIGNET JEWELERS	SIG	9.70%	81.98
83	METLIFE INC.	MET	12.33%	43.40	New	AUTONATION, INC.	AN	9.59%	47.35
23	LYONDELLBASELL I	LYB	12.19%	78.89	32	THE GOLDMAN SACH	GS	9.55%	169.46
7	XEROX CORP	XRX	11.53%	9.85	New	MICHAEL KORS HOL	KORS	9.54%	48.95
92	UNUM GROUP	UNM	11.24%	35.61	New	MACY'S	M	9.47%	36.18
10	HP INC.	HPQ	11.15%	14.37	New	QORVO INC.	QRVO	9.44%	57.43
13	MALLINCKRODT PLC	MNK	11.00%	74.54	3	RYDER SYSTEM INC	R	9.43%	65.52
49	CAPITAL ONE FINA	COF	10.77%	71.60	New	ROYAL CARIBBEAN CRUISES LTD	RCL	9.43%	71.11
10	BED BATH & BEYON	BBBY	10.67%	46.37	3	KEYCORP	KEY	9.42%	12.56
20	VIACOM INC. (CL.	VIAB	10.55%	40.34	10	HEWLETT-PACKARD	HPE	9.36%	21.48
4	ALASKA AIR GROUP	ALK	10.52%	67.53	2	AFLAC INC	AFL	9.36%	74.18
6	SOUTHWEST AIRLIN	LUV	10.49%	36.88	9	PRINCIPAL FINANC	PFG	9.34%	49.07
64	CITIGROUP INC.	C	10.48%	47.74	New	ANTHEM INC	ANTM	9.27%	125.08

Price/Book Value

Top 50 S&P 500 Companies By LOW PRICE/BOOK

Price/Book Value: Month-end price divided by latest reported book value per share.





Absolute Returns

Last 1 Month	4.11%
Last 3 Months	5.03%
Last 6 Months	27.03%
Last 12 Months	6.89%
2016 YTD	12.35%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

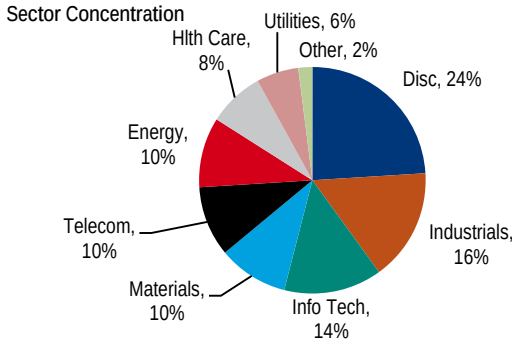
Screen for September

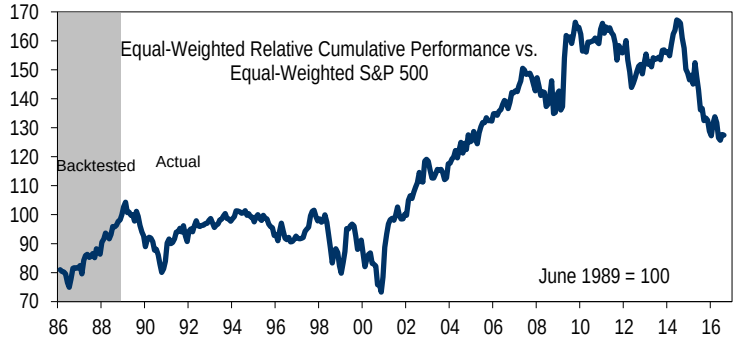
Mo. In Scrn	Company	Ticker	Price/ Book	Price 08/31/2016	Mo. In Scrn	Company	Ticker	Price/ Book	Price 08/31/2016
35	TRANSOCEAN	RIG	0.24	9.70	93	ZIONS BANCORPORA	ZION	0.91	30.59
83	METLIFE INC.	MET	0.60	43.40	92	SUNTRUST BANKS,	STI	0.95	44.07
32	PRUDENTIAL FINAN	PRU	0.63	79.38	11	KEYCORP	KEY	0.96	12.56
64	CITIGROUP INC.	C	0.65	47.74	13	THE GOLDMAN SACH	GS	0.96	169.46
7	CITIZENS FINANCI	CFG	0.66	24.77	11	FIFTH THIRD BANC	FITB	1.00	20.16
5	FIRST SOLAR, INC	FSLR	0.67	37.82	79	PEOPLE'S UNITED FINL INC	PBCT	1.02	16.25
23	MARATHON OIL COR	MRO	0.67	15.02	10	THE MOSAIC COMPA	MOS	1.06	30.07
94	BANK OF AMERICA CORP	BAC	0.68	16.14	7	THE PNC FINANCIA	PNC	1.06	90.10
40	LEUCADIA NATIONAL CORP	LUK	0.68	19.15	29	COMERICA INCORPO	CMA	1.07	47.29
24	DIAMOND OFFSHORE	DO	0.70	18.47	6	FRONTIER COMMUNI	FTR	1.07	4.60
95	LINCOLN NATIONAL	LNC	0.70	48.03	4	ALCOA INC.	AA	1.08	10.08
38	NEWS CORP	NWSA	0.71	14.06	77	JPMORGAN CHASE &	JPM	1.08	67.50
68	AMERICAN INTERNA	AIG	0.72	59.83	New	CENTURYLINK INC	CTL	1.09	27.80
6	ENDO INTERNATION	ENDP	0.74	20.70	5	XEROX CORP	XRX	1.09	9.85
118	CAPITAL ONE FINA	COF	0.75	71.60	6	GENERAL MOTORS	GM	1.17	31.92
118	REGIONS FINANCIA	RF	0.76	9.97	9	HEWLETT-PACKARD	HPE	1.17	21.48
20	NATIONAL OILWELL	NOV	0.78	33.54	2	ASSURANT INC.	AIZ	1.18	89.55
88	LOEWS CORP	L	0.79	41.86	8	BB&T CORPORATION	BBT	1.18	38.50
2	XL GROUP PLC	XL	0.81	34.23	7	WESTERN DIGITAL	WDC	1.19	46.67
25	HESS CORP.	HES	0.85	54.30	New	QUANTA SERVICES INC	PWR	1.21	25.73
96	HARTFORD FINANCI	HIG	0.86	41.07	New	EXELON CORPORATI	EXC	1.22	34.00
13	LEGG MASON INC	LM	0.88	34.59	New	FIRSTENERGY	FE	1.22	32.73
80	MORGAN STANLEY	MS	0.88	32.06	3	HUNTINGTON BANCS	HBAN	1.22	10.01
24	MURPHY OIL CORP	MUR	0.89	26.72	4	STAPLES, INC.	SPLS	1.22	8.56
88	UNUM GROUP	UNM	0.91	35.61	10	WESTROCK	WRK	1.22	47.90

Price/Cash Flow

Top 50 S&P 500 (ex. Financials) Companies By LOW PRICE/CASH FLOW

Price/Cash Flow: Month-end price divided by latest reported cash flow. Cash flow is defined as earnings post extraordinary items plus depreciation.





Absolute Returns

Last 1 Month	-0.17%
Last 3 Months	4.79%
Last 6 Months	11.29%
Last 12 Months	2.66%
2016 YTD	8.17%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

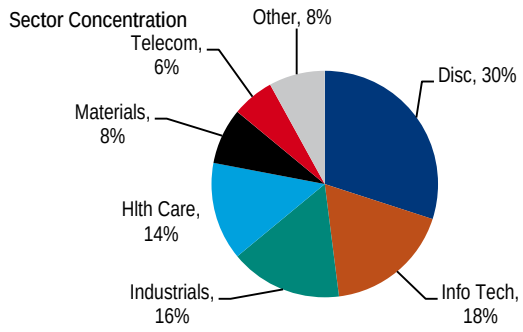
Screen for September

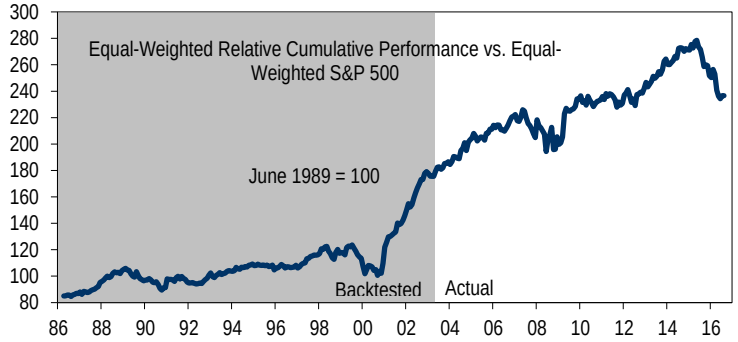
Mo. In Scrn.	Company	Ticker	Price / Cash Flow	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Price / Cash Flow	Price 08/31/2016
7	TRANSOCEAN	RIG	1.67	9.70	8	AT&T INC.	T	6.23	40.88
12	UNITED CONTINENT	UAL	2.18	50.41	95	MARATHON OIL COR	MRO	6.29	15.02
39	GENERAL MOTORS	GM	2.34	31.92	7	GILEAD SCIENCES	GILD	6.36	78.38
217	RYDER SYSTEM INC	R	2.36	65.52	8	XEROX CORP	XRX	6.39	9.85
17	AMERICAN AIRLINE	AAL	2.71	36.30	2	SOUTHWEST AIRLIN	LUV	6.66	36.88
154	CENTURYLINK INC	CTL	3.00	27.80	4	ALASKA AIR GROUP	ALK	6.75	67.53
90	FORD MOTOR CO	F	3.36	12.60	7	LYONDELLBASELL I	LYB	6.76	78.89
7	LEVEL 3 COMMUNIC	LVLT	3.69	49.63	6	BED BATH & BEYON	BBBY	6.79	46.37
20	DISCOVERY COMMUN	DISCA	3.84	25.51	8	EASTMAN CHEMICAL CO	EMN	6.88	67.89
24	UNITED RENTALS I	URI	4.06	82.31	8	VERIZON COMMUNIC	VZ	7.00	52.33
5	FIRST SOLAR, INC	FSLR	4.07	37.82	4	HCA HOLDINGS INC	HCA	7.01	75.55
8	DELTA AIR LINES,	DAL	4.27	36.75	5	VIACOM INC. (CL.	VIAB	7.02	40.34
13	TESORO CORP.	TSO	4.31	75.42	5	GAP INC.	GPS	7.19	24.87
3	OWENS-ILLINOIS I	OI	4.31	17.93	2	TEGNA INC	TGNA	7.25	20.26
4	BAXTER HEALTHCAR	BAX	4.60	46.73	2	THE KROGER CO.	KR	7.26	31.99
20	MICRON TECHNOLOG	MU	5.16	16.49	New	EXELON CORPORATI	EXC	7.35	34.00
42	VALERO ENERGY CO	VLO	5.40	55.35	2	CORNING INC.	GLW	7.37	22.69
13	KOHL'S	KSS	5.44	44.38	2	TE CONNECTIVITY	TEL	7.48	63.57
10	HP INC.	HPQ	5.51	14.37	10	BEST BUY CO., IN	BBY	7.57	38.48
68	FRONTIER COMMUNI	FTR	5.54	4.60	New	TARGET CORP.	TGT	7.67	70.19
7	DOW CHEMICAL	DOW	5.71	53.64	New	ENTERGY CORPORAT	ETR	7.78	78.20
New	MALLINCKRODT PLC	MNK	5.96	74.54	3	BORGWARNER INC.	BWA	7.81	34.39
17	MARATHON PETROLE	MPC	6.11	42.51	6	CF INDUSTRIES	CF	7.81	26.00
11	MACY'S	M	6.16	36.18	7	PITNEY BOWES INC	PBI	7.82	18.76
6	HEWLETT-PACKARD	HPE	6.23	21.48	New	AMERICAN ELECTRI	AEP	7.88	64.57

Price/Free Cash Flow

Top 50 S&P 500 (ex. Financials) Companies By LOW PRICE/FREE CASH FLOW

Price/Free Cash Flow: Month-end price divided by latest reported free cash flow. Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.





Absolute Returns

Last 1 Month	-0.02%
Last 3 Months	4.21%
Last 6 Months	5.93%
Last 12 Months	-2.02%
2016 YTD	2.78%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end July 2003. The unshaded portion represents actual performance since August 2003. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for September

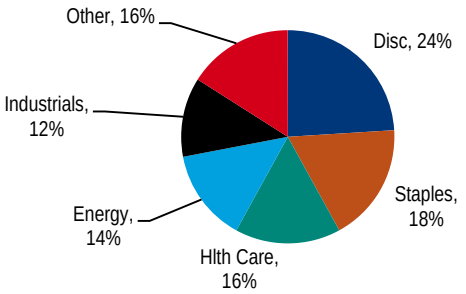
Mo. In Scrn.	Company	Ticker	Price / FCF	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Price / FCF	Price 08/31/2016
12	UNITED CONTINENT	UAL	3.49	50.41	7	TARGET CORP.	TGT	10.31	70.19
34	DISCOVERY COMMUN	DISCA	3.97	25.51	8	AMERICAN AIRLINE	AAL	10.40	36.30
4	BAXTER HEALTHCAR	BAX	4.81	46.73	55	THE WESTERN UNIO	WU	10.61	21.52
7	LEVEL 3 COMMUNIC	LVLT	5.08	49.63	7	EXPRESS SCRIPTS	ESRX	10.65	72.70
11	FIRST SOLAR, INC	FSLR	5.18	37.82	2	OWENS-ILLINOIS I	OI	10.73	17.93
11	FORD MOTOR CO	F	6.23	12.60	5	BLOCK H & R INC	HRB	10.73	21.66
19	GILEAD SCIENCES	GILD	6.69	78.38	23	LYONDELLBASELL I	LYB	10.88	78.89
New	MALLINCKRODT PLC	MNK	6.88	74.54	2	CORNING INC.	GLW	10.98	22.69
22	CENTURYLINK INC	CTL	6.96	27.80	2	INGERSOLL-RAND P	IR	11.27	67.99
65	XEROX CORP	XRX	7.32	9.85	4	AMERISOURCEBERGE	ABC	11.32	86.97
14	VIACOM INC. (CL.	VIAB	7.45	40.34	23	PITNEY BOWES INC	PBI	11.51	18.76
31	VALERO ENERGY CO	VLO	7.57	55.35	5	EASTMAN CHEMICAL CO	EMN	11.94	67.89
10	HP INC.	HPQ	7.58	14.37	8	UNITED TECHNOLOG	UTX	11.98	106.43
11	TESORO CORP.	TSO	7.61	75.42	11	BEST BUY CO., IN	BBY	12.11	38.48
8	DELTA AIR LINES,	DAL	8.60	36.75	39	INTERNATIONAL BU	IBM	12.49	158.88
15	TEGNA INC	TGNA	8.71	20.26	4	PVH CORP	PVH	12.51	107.76
7	DOW CHEMICAL	DOW	8.72	53.64	11	APPLE INC.	AAPL	12.67	106.10
7	ALLERGAN PLC.	AGN	8.98	234.54	New	MICHAEL KORS HOL	KORS	12.79	48.95
17	TE CONNECTIVITY	TEL	9.19	63.57	2	WYNDHAM WORLDWIDE CORP	WYN	12.91	70.79
7	SCRIPPS NETWORKS	SNI	9.36	63.37	New	MYLAN INC.	MYL	12.99	42.36
17	KOHL'S	KSS	9.58	44.38	New	ALASKA AIR GROUP	ALK	13.19	67.53
8	NETFLIX, INC.	NFLX	9.92	97.45	3	CA INC	CA	13.22	33.91
13	MACY'S	M	9.94	36.18	14	EATON CORP PLC	ETN	13.32	66.54
14	BED BATH & BEYON	BBBY	9.95	46.37	New	AT&T INC.	T	13.45	40.88
11	MONDELEZ INTERNA	MDLZ	10.22	45.02	5	REYNOLDS AMERICA	RAI	13.52	49.57

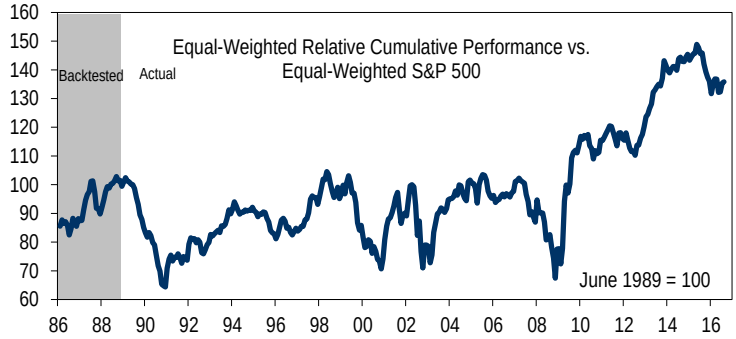
Price/Sales

Top 50 S&P 500 Companies By LOW PRICE/SALES

Price/Sales: Month-end market value divided by reported sales.

Sector Concentration





Absolute Returns

Last 1 Month	0.34%
Last 3 Months	6.96%
Last 6 Months	15.67%
Last 12 Months	2.55%
2016 YTD	9.19%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

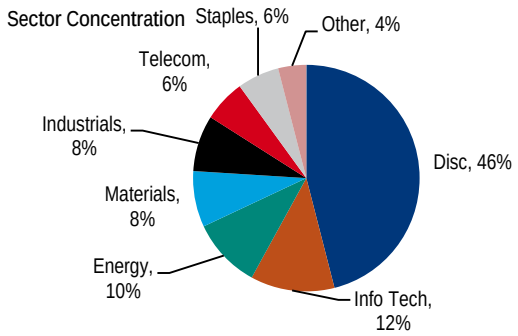
Screen for September

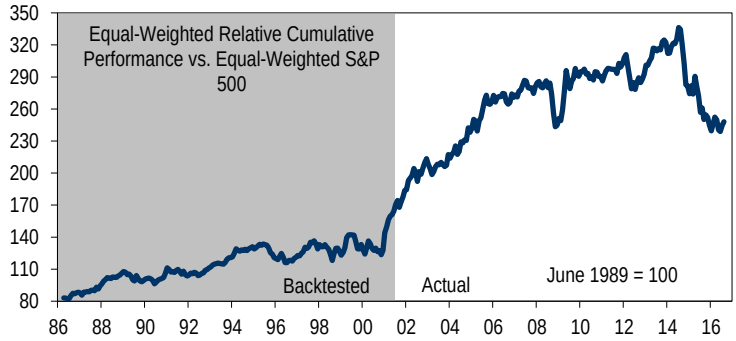
Mo. In Scrn.	Company	Ticker	Mkt Val / Sales	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Mkt Val / Sales	Price 08/31/2016
164	AMERISOURCEBERGE	ABC	0.11	86.97	42	EXPRESS SCRIPTS	ESRX	0.45	72.70
163	AUTONATION, INC.	AN	0.16	47.35	12	UNITED CONTINENT	UAL	0.46	50.41
146	CARDINAL HEALTH	CAH	0.21	79.67	7	AMERICAN AIRLINE	AAL	0.48	36.30
209	MCKESSON	MCK	0.22	184.62	91	HUMANA INC	HUM	0.49	178.71
50	WAL*MART STORES	WMT	0.23	71.44	201	GOODYEAR TIRE & RUBBER CO	GT	0.49	29.35
53	STAPLES, INC.	SPLS	0.27	8.56	49	PHILLIPS 66	PSX	0.50	78.45
93	THE KROGER CO.	KR	0.27	31.99	13	RYDER SYSTEM INC	R	0.53	65.52
42	BEST BUY CO., IN	BBY	0.28	38.48	48	XEROX CORP	XRX	0.53	9.85
39	GENERAL MOTORS	GM	0.28	31.92	13	QUANTA SERVICES INC	PWR	0.53	25.73
22	NRG ENERGY, INC.	NRG	0.29	12.11	46	SYSCO CORPORATIO	SYY	0.54	51.86
193	FORD MOTOR CO	F	0.32	12.60	6	HCA HOLDINGS INC	HCA	0.56	75.55
149	VALERO ENERGY CO	VLO	0.35	55.35	34	JACOBS ENGINEERI	JEC	0.56	52.69
6	GAP INC.	GPS	0.36	24.87	4	TARGET CORP.	TGT	0.58	70.19
108	TESORO CORP.	TSO	0.36	75.42	9	TRANSOCEAN	RIG	0.58	9.70
25	CHESAPEAKE ENERG	CHK	0.39	6.35	48	AES CORPORATION	AES	0.58	12.07
6	CENTENE CORPORAT	CNC	0.39	68.29	New	DIAMOND OFFSHORE	DO	0.59	18.47
10	HP INC.	HPQ	0.40	14.37	5	BED BATH & BEYON	BBBY	0.59	46.37
61	MARATHON PETROLE	MPC	0.40	42.51	133	TYSON FOODS INC -CL A	TSN	0.59	75.57
58	FLUOR CORP	FLR	0.40	51.90	2	WALGREENS BOOTS	WBA	0.59	80.71
21	ANTHEM INC	ANTM	0.40	125.08	2	CVS HEALTH	CVS	0.60	93.40
31	ARCHER DANIELS M	ADM	0.41	43.76	8	COSTCO WHOLESALE	COST	0.60	162.09
12	MACY'S	M	0.42	36.18	3	PRUDENTIAL FINAN	PRU	0.62	79.38
17	KOHL'S	KSS	0.43	44.38	22	LEUCADIA NATIONAL CORP	LUK	0.62	19.15
26	OWENS-ILLINOIS I	OI	0.44	17.93	2	WHOLE FOODS MARK	WFM	0.62	30.38
11	NORDSTROM	JWN	0.45	50.46	New	ALCOA INC.	AA	0.63	10.08

EV / EBITDA

Top 50 S&P Industrials Companies By LOW EV/EBITDA

EV/EBITDA: Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents) divided by the latest 4-quarter EBITDA.





Absolute Returns

Last 1 Month	1.37%
Last 3 Months	7.36%
Last 6 Months	15.81%
Last 12 Months	4.69%
2016 YTD	10.73%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end September 2001. The unshaded portion represents actual performance since October 2001. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

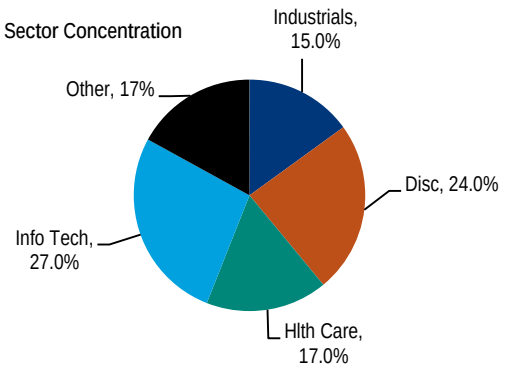
Screen for September

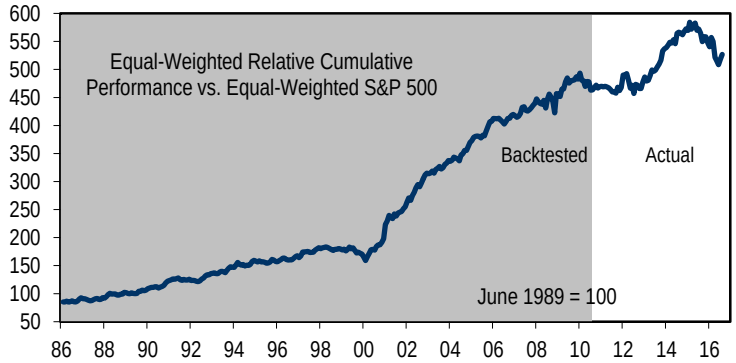
Mo. In Scrn	Company	Ticker	EV / EBITDA	Price 08/31/2016	Mo. In Scrn	Company	Ticker	EV / EBITDA	Price 08/31/2016
6	FIRST SOLAR, INC	FSLR	2.36	37.82	19	XEROX CORP	XRX	6.80	9.85
14	DISCOVERY COMMUN	DISCA	2.85	25.51	4	SCRIPPS NETWORKS	SNI	6.87	63.37
10	HP INC.	HPQ	3.14	14.37	7	VERIZON COMMUNIC	VZ	6.95	52.33
33	TRANSOCEAN	RIG	3.47	9.70	New	AT&T INC.	T	6.98	40.88
44	VALERO ENERGY CO	VLO	4.24	55.35	24	FLUOR CORP	FLR	6.99	51.90
31	NEWS CORP	NWSA	4.47	14.06	4	TARGET CORP.	TGT	7.05	70.19
12	STAPLES, INC.	SPLS	4.55	8.56	2	THE KROGER CO.	KR	7.11	31.99
13	TESORO CORP.	TSO	4.65	75.42	3	BLOCK H & R INC	HRB	7.20	21.66
34	BEST BUY CO., IN	BBY	4.72	38.48	2	OWENS-ILLINOIS I	OI	7.26	17.93
19	GAP INC.	GPS	4.96	24.87	5	FOOT LOCKER	FL	7.31	65.64
40	CENTURYLINK INC	CTL	4.98	27.80	10	NORDSTROM	JWN	7.31	50.46
25	DIAMOND OFFSHORE	DO	5.00	18.47	4	WESTROCK	WRK	7.35	47.90
17	KOHL'S	KSS	5.07	44.38	9	TERADATA CORPORA	TDC	7.36	31.73
35	GOODYEAR TIRE & RUBBER CO	GT	5.16	29.35	3	WHOLE FOODS MARK	WFM	7.37	30.38
19	POLO RALPH LAURE	RL	5.23	103.62	3	ROBERT HALF INTL	RHI	7.37	38.33
8	GILEAD SCIENCES	GILD	5.36	78.38	5	PITNEY BOWES INC	PBI	7.43	18.76
20	UNITED RENTALS I	URI	5.36	82.31	New	MARATHON PETROLE	MPC	7.57	42.51
19	GENERAL MOTORS	GM	5.42	31.92	2	CARNIVAL CORPORA	CCL	7.61	47.80
10	HEWLETT-PACKARD	HPE	5.78	21.48	7	VIACOM INC. (CL.	VIAB	7.62	40.34
22	LYONDELLBASELL I	LYB	6.12	78.89	New	HCA HOLDINGS INC	HCA	7.66	75.55
20	MICRON TECHNOLOG	MU	6.26	16.49	New	TEGNA INC	TGNA	7.84	20.26
6	MICHAEL KORS HOL	KORS	6.49	48.95	New	TYSON FOODS INC -CL A	TSN	7.87	75.57
4	21ST CENTURY FOX	FOXA	6.62	24.54	12	INTERNATIONAL PA	IP	7.98	48.49
5	BORGWARNER INC.	BWA	6.67	34.39	5	URBAN OUTFITTERS	URBN	8.00	35.85
12	MACY'S	M	6.67	36.18	New	HARMAN INTERNATIONAL INDS	HAR	8.01	84.69

Free Cash Flow / EV

Top Decile S&P 500 (ex. Financials) Companies By HIGH Free Cash Flow / EV

Free Cash Flow / EV: Free Cash Flow divided by Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents). Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.





Absolute Returns

Last 1 Month	1.77%
Last 3 Months	6.36%
Last 6 Months	8.60%
Last 12 Months	2.70%
2016 YTD	5.25%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end July 2010. The unshaded portion represents actual performance since August 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

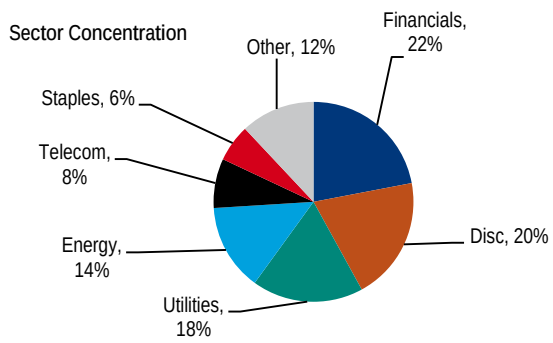
Screen for September

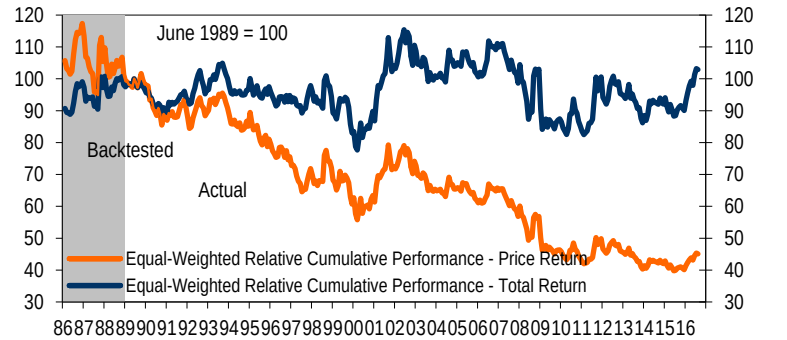
Mo. In Scrn.	Company	Ticker	FCF/EV	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	FCF/EV	Price 08/31/2016
13	First Solar, Inc	FSLR	0.30	37.82	4	Alaska Air Group	ALK	0.09	67.53
67	Discovery Commun	DISCA	0.26	25.51	3	BLOCK H & R INC	HRB	0.09	21.66
11	United Continent	UAL	0.23	50.41	7	XEROX CORP	XRX	0.08	9.85
4	Symantec Corpora	SYMC	0.21	24.13	10	Mondelez Interna	MDLZ	0.08	45.02
4	Baxter Healthcar	BAX	0.21	46.73	7	Viacom Inc. (Cl.	VIAB	0.08	40.34
19	Gilead Sciences	GILD	0.14	78.38	New	Lam Research	LRCX	0.08	93.32
11	HP Inc.	HPQ	0.13	14.37	5	Michael Kors Hol	KORS	0.08	48.95
7	Level 3 Communic	LVLT	0.13	49.63	55	The Western Unio	WU	0.08	21.52
28	Valero Energy Co	VLO	0.12	55.35	3	Brown-Forman Cor	BF.B	0.08	48.55
New	NEWS CORP	NWSA	0.11	14.06	64	CA INC	CA	0.08	33.91
7	Delta Air Lines,	DAL	0.10	36.75	23	LyondellBasell I	LYB	0.08	78.89
2	Corning Inc.	GLW	0.10	22.69	8	Tesoro Corp.	TSO	0.08	75.42
10	TE Connectivity	TEL	0.10	63.57	6	Target Corp.	TGT	0.08	70.19
8	Netflix, Inc.	NFLX	0.10	97.45	11	Apple Inc.	AAPL	0.08	106.10
30	Best Buy Co., In	BBY	0.09	38.48	4	Allergan Plc.	AGN	0.08	234.54
10	Bed Bath & Beyon	BBBY	0.09	46.37	2	Ingersoll-Rand P	IR	0.08	67.99
2	DOW CHEMICAL	DOW	0.09	53.64	New	ANTHEM INC	ANTM	0.07	125.08
57	Cisco Systems	CSCO	0.09	31.44	New	Express Scripts	ESRX	0.07	72.70
4	Scripps Networks	SNI	0.09	63.37	New	Southwest Airlin	LUV	0.07	36.88
7	MALLINCKRODT PLC	MNK	0.09	74.54	New	Amgen Inc.	AMGN	0.07	170.06
					New	United Technolog	UTX	0.07	106.43

CASH DEPLOYMENT STRATEGIES: Dividend Yield

Top 50 S&P 500 Companies By DIVIDEND YIELD

Dividend Yield: Indicated dividend divided by month-end price.





Absolute Returns

Last 1 Month	-0.57%
Last 3 Months	8.66%
Last 6 Months	22.27%
Last 12 Months	22.18%
2016 YTD	22.87%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

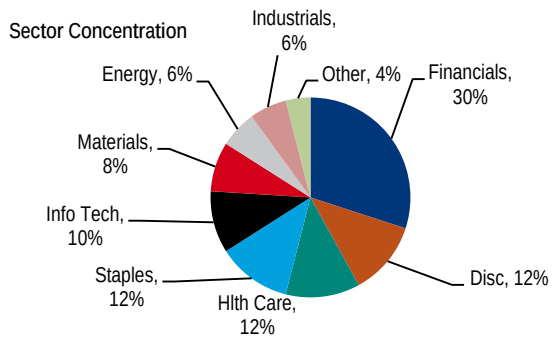
Screen for September

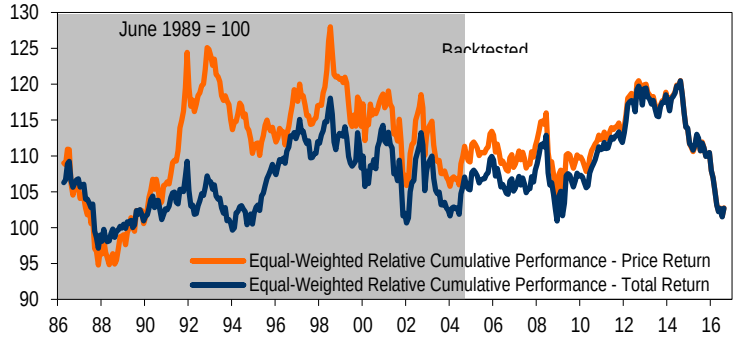
Mo. In Scrn	Company	Ticker	Yield	Price 08/31/2016	Mo. In Scrn	Company	Ticker	Yield	Price 08/31/2016
98	FRONTIER COMMUNI	FTR	9.13%	4.60	4	LYONDELLBASELL I	LYB	4.31%	78.89
98	CENTURYLINK INC	CTL	7.77%	27.80	2	DUKE ENERGY	DUK	4.29%	79.66
18	SEAGATE TECHNOLO	STX	7.47%	33.74	7	WESTERN DIGITAL	WDC	4.29%	46.67
95	HCP, INC.	HCP	5.85%	39.33	22	CHEVRON CORP.	CVX	4.26%	100.58
10	STAPLES, INC.	SPLS	5.61%	8.56	76	PEOPLE'S UNITED FINL INC	PBCT	4.18%	16.25
23	ONEOK, INC.	OKE	5.25%	46.89	4	MACY'S	M	4.17%	36.18
20	IRON MOUNTAIN INC	IRM	5.05%	38.41	21	GARMIN	GRMN	4.16%	49.08
20	FORD MOTOR CO	F	4.76%	12.60	40	PHILIP MORRIS IN	PM	4.08%	99.93
17	GENERAL MOTORS	GM	4.76%	31.92	2	BLOCK H & R INC	HRB	4.06%	21.66
90	AT&T INC.	T	4.70%	40.88	16	VENTAS INC.	VTR	4.02%	72.67
16	HELMERICH & PAYN	HP	4.63%	60.46	4	PITNEY BOWES INC	PBI	4.00%	18.76
4	CF INDUSTRIES	CF	4.62%	26.00	New	VIACOM INC. (CL.	VIAB	3.97%	40.34
32	MATTEL INC	MAT	4.59%	33.13	14	OCCIDENTAL PETRO	OXY	3.96%	76.85
32	CENTERPOINT ENERGY INC	CNP	4.58%	22.47	9	WEYERHAEUSER CO.	WY	3.89%	31.85
22	SPECTRA ENERGY	SE	4.55%	35.62	New	EXTRA SPACE STOR	EXR	3.87%	80.55
7	KOHL'S	KSS	4.51%	44.38	New	PUBLIC SERVICE E	PEG	3.84%	42.76
19	HOST HOTELS & RE	HST	4.49%	17.82	New	DOMINION RESOURC	D	3.78%	74.16
12	WELLTOWER	HCN	4.48%	76.75	14	CATERPILLAR INC	CAT	3.76%	81.95
14	NAVIENT CORP	NAVI	4.45%	14.38	14	MURPHY OIL CORP	MUR	3.74%	26.72
19	FIRSTENERGY	FE	4.40%	32.73	New	EXELON CORPORATI	EXC	3.74%	34.00
85	PPL CORPORATION	PPL	4.37%	34.78	2	CROWN CASTLE INT	CCI	3.74%	94.77
89	SOUTHERN COMPANY	SO	4.36%	51.33	2	REYNOLDS AMERICA	RAI	3.71%	49.57
72	ENTERGY CORPORAT	ETR	4.35%	78.20	New	GAP INC.	GPS	3.70%	24.87
5	VALERO ENERGY CO	VLO	4.34%	55.35	New	ALTRIA GROUP, IN	MO	3.69%	66.09
89	VERIZON COMMUNIC	VZ	4.32%	52.33	3	METLIFE INC.	MET	3.69%	43.40

Dividend Growth

Top 50 S&P 500 Companies By Dividend Growth

Dividend Growth: The growth between trailing 4-quarter total common dividends and year-ago trailing 4-quarter total common dividends.





Absolute Returns

Last 1 Month	1.18%
Last 3 Months	4.51%
Last 6 Months	10.37%
Last 12 Months	1.08%
2016 YTD	1.75%

Source: BofA Merrill Lynch US Quantitative Strategy
The shaded area in performance chart shows back tested results during the period from month end Mary 1986 to month end December 2004. The unshaded portion represents actual performance since January 2005. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

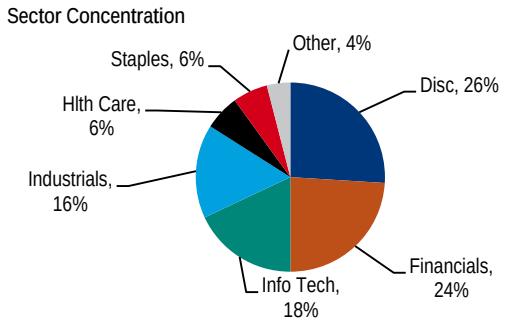
Screen for September

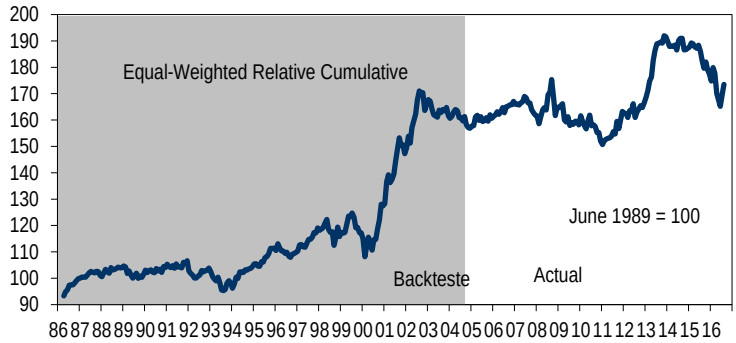
Mo. In Scrn	Company	Ticker	Dividend Growth	Price 08/31/2016	Mo. In Scrn	Company	Ticker	Dividend Growth	Price 08/31/2016
4	SYMANTEC CORPORA	SYMC	577.9%	24.13	11	NASDAQ INC	NDAQ	49.1%	71.21
5	EQUITY RESIDENTI	EQR	383.2%	64.87	2	DENTSPLY SIRONA	XRAY	44.9%	61.46
3	CONSTELLATION BR	STZ	337.1%	164.05	New	ZOETIS INC.	ZTS	44.3%	51.10
10	NORDSTROM	JWN	336.6%	50.46	20	TYSON FOODS INC -CL A	TSN	43.8%	75.57
2	GILEAD SCIENCES	GILD	285.2%	78.38	11	VALERO ENERGY CO	VLO	43.5%	55.35
11	REYNOLDS AMERICA	RAI	187.9%	49.57	14	LAM RESEARCH	LRCX	43.0%	93.32
13	WESTROCK	WRK	170.1%	47.90	3	NIKE	NKE	41.7%	57.64
7	THE MACERICH CO.	MAC	158.8%	81.89	23	DELTA AIR LINES,	DAL	41.4%	36.75
28	CF INDUSTRIES	CF	146.0%	26.00	10	MEDTRONIC, INC	MDT	40.0%	87.03
14	CITIGROUP INC.	C	143.9%	47.74	4	ALASKA AIR GROUP	ALK	39.5%	67.53
9	THE KROGER CO.	KR	130.4%	31.99	New	ALLIANT ENERGY CORP	LNT	36.8%	37.95
7	HORMEL FOODS CORP	HRL	110.1%	38.26	7	CITIZENS FINANCI	CFG	36.1%	24.77
14	SKYWORKS SOLUTIO	SWKS	107.3%	74.86	2	XL GROUP PLC	XL	34.4%	34.23
4	DOLLAR GENERAL C	DG	106.4%	73.41	5	EXTRA SPACE STOR	EXR	34.3%	80.55
7	AMERICAN INTERNA	AIG	104.9%	59.83	8	ZIONS BANCORPORA	ZION	34.2%	30.59
13	MARATHON PETROLE	MPC	99.2%	42.51	2	MASCO CORP	MAS	33.6%	35.48
28	VULCAN MATERIALS	VMC	88.6%	113.87	16	AES CORPORATION	AES	33.2%	12.07
7	EQUINIX INC.	EQIX	81.8%	368.65	13	TESORO CORP.	TSO	32.1%	75.42
5	GLOBAL PAYMENTS INC	GPN	79.4%	75.95	23	MORGAN STANLEY	MS	31.3%	32.06
13	ROSS STORES INC	ROST	78.3%	62.24	6	UNITEDHEALTH GRO	UNH	30.5%	136.05
11	PPG INDUSTRIES,	PPG	68.6%	105.88	5	CINCINNATI FINANCIAL CORP	CINF	30.3%	77.11
7	BROADCOM LIMITED	AVGO	58.0%	176.42	5	CME GROUP INC.	CME	30.0%	108.35
5	FORD MOTOR CO	F	55.8%	12.60	5	BRISTOL-MYERS SQ	BMY	29.3%	57.39
7	EXPEDIA INC	EXPE	51.4%	109.12	New	WEYERHAEUSER CO.	WY	29.0%	31.85
5	ASSURANT INC.	AIZ	50.0%	89.55	New	BROWN-FORMAN COR	BF.B	28.5%	48.55

Share Repurchase

Top 50 S&P 500 Companies By Large Share Repurchase

Share Repurchase: The year-to-year change in shares outstanding.





Absolute Returns

Last 1 Month	2.24%
Last 3 Months	7.69%
Last 6 Months	10.81%
Last 12 Months	4.74%
2016 YTD	6.94%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 2004. The unshaded portion represents actual performance since January 2005. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

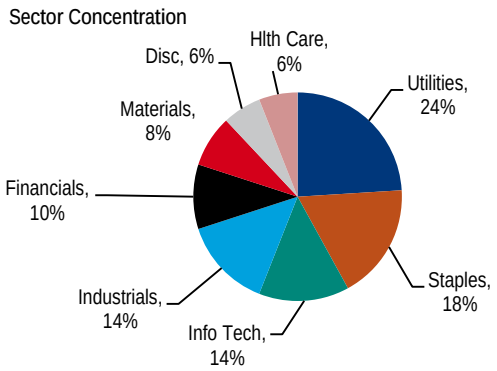
Screen for September

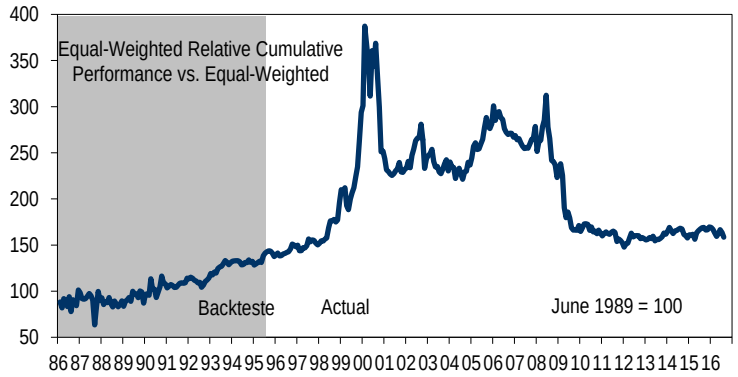
Mo. In Scrn	Company	Ticker	Share Repurchase	Price 08/31/2016	Mo. In Scrn	Company	Ticker	Share Repurchase	Price 08/31/2016
10	QUANTA SERVICES INC	PWR	-26.7%	25.73	New	TARGET CORP.	TGT	-8.8%	70.19
14	AMERICAN AIRLINE	AAL	-20.8%	36.30	New	THE MACERICH CO.	MAC	-8.7%	81.89
9	BLOCK H & R INC	HRB	-20.7%	21.66	New	HCA HOLDINGS INC	HCA	-8.7%	75.55
22	MOTOROLA SOLUTIONS INC	MSI	-19.4%	76.99	18	TERADATA CORPORA	TDC	-8.5%	31.73
17	AMERICAN INTERNA	AIG	-17.2%	59.83	11	GRAINGER (W W) INC	GWW	-8.4%	230.66
11	CORNING INC.	GLW	-15.8%	22.69	16	21ST CENTURY FOX	FOXA	-8.3%	24.54
20	NAVIENT CORP	NAVI	-15.2%	14.38	3	MALLINCKRODT PLC	MNK	-8.2%	74.54
5	UNITED CONTINENT	UAL	-14.8%	50.41	5	BOEING CO.	BA	-8.1%	129.45
6	QORVO INC.	QRVO	-14.5%	57.43	New	PITNEY BOWES INC	PBI	-8.0%	18.76
10	HARLEY-DAVIDSON INC	HOG	-13.2%	52.70	7	NORDSTROM	JWN	-7.9%	50.46
13	MICHAEL KORS HOL	KORS	-12.6%	48.95	4	CBS CORP CL-B	CBS	-7.9%	51.03
8	TE CONNECTIVITY	TEL	-11.8%	63.57	7	LOEWS CORP	L	-7.7%	41.86
7	GENERAL ELECTRIC	GE	-11.2%	31.24	10	THE ALLSTATE COR	ALL	-7.7%	68.96
7	WHOLE FOODS MARK	WFM	-11.1%	30.38	2	AMERICAN EXPRESS	AXP	-7.7%	65.58
29	LYONDELLBASELL I	LYB	-10.4%	78.89	4	INTUIT INC.	INTU	-7.7%	111.45
4	SYMANTEC CORPORA	SYMC	-10.0%	24.13	2	YUM! BRANDS, INC	YUM	-7.6%	90.71
9	APPLIED MATERIAL	AMAT	-10.0%	29.84	New	VALERO ENERGY CO	VLO	-7.5%	55.35
5	AUTONATION, INC.	AN	-9.9%	47.35	6	BED BATH & BEYON	BBBY	-7.4%	46.37
5	GILEAD SCIENCES	GILD	-9.6%	78.38	New	MONSTER BEVERAGE	MNST	-7.4%	153.89
New	ASSURANT INC.	AIZ	-9.5%	89.55	New	DISCOVERY COMMUN	DISCA	-7.4%	25.51
4	MCDONALD'S CORPO	MCD	-9.4%	115.66	32	THE TRAVELERS CO	TRV	-7.4%	118.71
8	AMERIPRISE FINANCIAL INC	AMP	-9.2%	101.08	New	LINCOLN NATIONAL	LNC	-7.2%	48.03
5	UNITED RENTALS I	URI	-9.1%	82.31	3	EBAY	EBAY	-7.1%	32.16
2	XL GROUP PLC	XL	-8.9%	34.23	2	DISCOVER FINANCI	DFS	-7.1%	60.00
8	MEAD JOHNSON	MJN	-8.9%	85.07	2	WYNDHAM WORLDWIDE CORP	WYN	-7.0%	70.79

TECHNICAL STRATEGIES: Relative Strength – 30wk/75wk Moving Average

Top 50 S&P 500 Companies By RELATIVE STRENGTH

Relative Strength: The ratio of the 30-week moving average of price to the 75-week moving average.





Absolute Returns

Last 1 Month	-3.00%
Last 3 Months	1.62%
Last 6 Months	9.03%
Last 12 Months	3.44%
2016 YTD	2.23%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end August 1995. The unshaded portion represents actual performance since September 1995. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for September

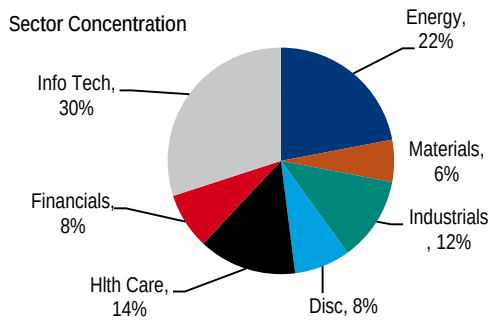
Mo. In Scrn.	Company	Ticker	Relative Strength	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Relative Strength	Price 08/31/2016
9	NVIDIA CORPORATI	NVDA	1.34	61.34	11	ACTIVISION BLIZZ	ATVI	1.12	41.37
3	NEWMONT MINING C	NEM	1.32	38.24	3	CMS ENERGY CORP	CMS	1.12	41.97
7	TYSON FOODS INC -CL A	TSN	1.25	75.57	14	VULCAN MATERIALS	VMC	1.12	113.87
4	DIGITAL REALTY T	DLR	1.20	99.09	3	WEC ENERGY GROUP INC	WEC	1.12	59.88
23	EDWARDS LIFESCIE	EW	1.19	115.16	5	GLOBAL PAYMENTS INC	GPN	1.12	75.95
2	ALBEMARLE CORP	ALB	1.19	79.97	9	HORMEL FOODS CORP	HRL	1.12	38.26
6	AMERICAN WATER W	AWK	1.18	73.99	18	CONSTELLATION BR	STZ	1.12	164.05
5	ULTA SALON COSMETCS & FRAG	ULTA	1.17	247.21	4	KLA-TENCOR CORP.	KLAC	1.12	69.26
4	REALTY INCOME	O	1.17	65.73	8	NORTHROP GRUMMAN	NOC	1.11	212.07
6	NISOURCE INC	NI	1.17	23.94	10	AVERY DENNISON C	AVY	1.11	77.44
4	MATTEL INC	MAT	1.16	33.13	6	MOLSON COORS BRE	TAP	1.11	102.32
13	AMAZON.COM	AMZN	1.15	769.16	4	MCCORMICK & CO INC	MKC	1.11	101.96
6	CAMPBELL SOUP	CPB	1.14	60.72	2	PINNACLE WEST CA	PNW	1.11	75.04
4	SCANA CORP	SCG	1.14	70.65	New	BOSTON SCIENTIFI	BSX	1.11	23.82
6	CINCINNATI FINANCIAL CORP	CINF	1.14	77.11	2	XCEL ENERGY INC	XEL	1.11	41.36
11	EQUINIX INC.	EQIX	1.13	368.65	2	CONSOLIDATED EDI	ED	1.11	75.25
New	APPLIED MATERIAL	AMAT	1.13	29.84	12	REYNOLDS AMERICA	RAI	1.11	49.57
9	FACEBOOK	FB	1.13	126.12	New	EDISON INTERNATI	EIX	1.11	72.72
3	SYSCO CORPORATIO	SYY	1.13	51.86	New	WASTE MANAGEMENT	WM	1.11	63.94
4	ACUITY BRANDS INC	AYI	1.13	275.12	2	AMEREN CORP	AEE	1.11	49.42
2	ALLIANT ENERGY CORP	LNT	1.13	37.95	New	BROADCOM LIMITED	AVGO	1.10	176.42
3	INTUITIVE SURGIC	ISRG	1.13	686.42	New	NEXTERA ENERGY	NEE	1.10	120.94
New	XYLEM INC	XYL	1.12	50.86	New	EQUIFAX INC	EFX	1.10	131.90
7	NASDAQ INC	NDAQ	1.12	71.21	3	ALTRIA GROUP, IN	MO	1.10	66.09
10	MASCO CORP	MAS	1.12	35.48	5	RAYTHEON CO.	RTN	1.10	140.13

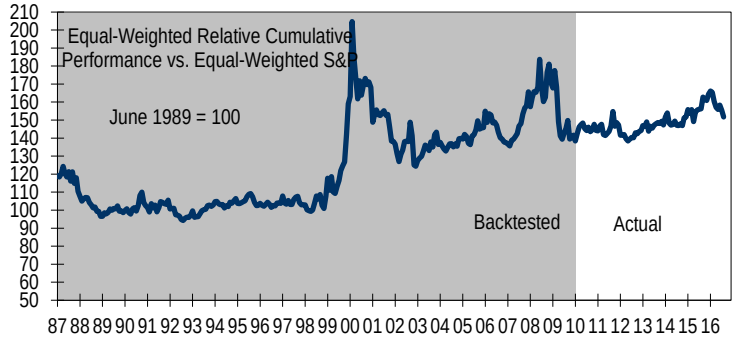
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Relative Strength – 5wk/30wk Moving Average

Top 50 S&P 500 Companies By 5W/30W Price Moving Average

Relative Strength: The ratio of the 5-week moving average of price to the 30-week moving average.





Absolute Returns

Last 1 Month	-2.38%
Last 3 Months	1.22%
Last 6 Months	5.33%
Last 12 Months	6.92%
2016 YTD	0.91%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

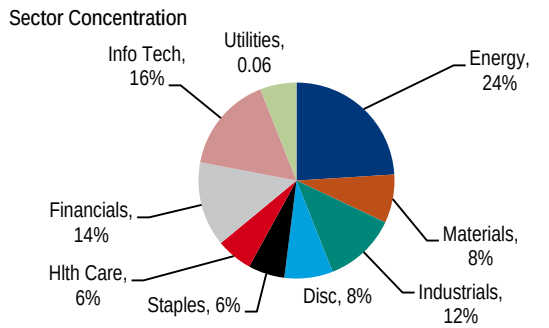
Screen for September

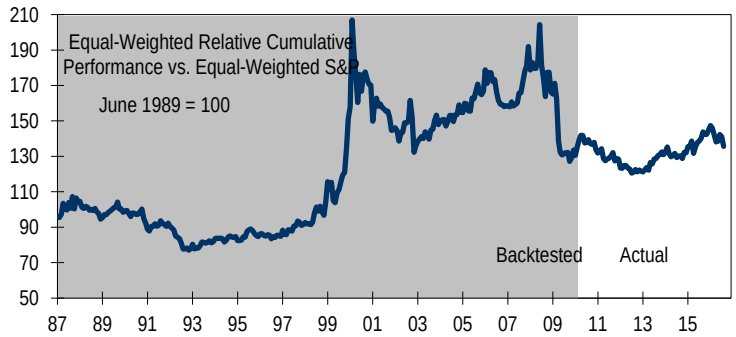
Mo. In Scrn.	Company	Ticker	5W/30W	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	5W/30W	Price 08/31/2016
6	NVIDIA Corporati	NVDA	1.4	61.34	New	Symantec Corpora	SYMC	1.2	24.13
7	Newmont Mining C	NEM	1.3	38.24	New	Texas Instrument	TXN	1.2	69.54
2	Williams Cos Inc	WMB	1.3	27.94	New	QUALCOMM Inc.	QCOM	1.2	63.07
3	Devon Energy	DVN	1.3	43.33	2	ALBEMARLE CORP	ALB	1.2	79.97
New	Micron Technolog	MU	1.3	16.49	New	Teradata Corpora	TDC	1.2	31.73
New	Chesapeake Energ	CHK	1.2	6.35	New	Pioneer Natural	PXD	1.2	179.05
New	Garmin	GRMN	1.2	49.08	New	S&P GLOBAL INC	SPGI	1.2	123.54
New	Linear Technolog	LLTC	1.2	58.24	2	TransDigm Group	TDG	1.2	285.19
3	Applied Material	AMAT	1.2	29.84	New	Waters Corporati	WAT	1.2	157.31
4	Southwestern Ene	SWN	1.2	13.91	2	Prologis, Inc.	PLD	1.2	53.11
5	ONEOK, Inc.	OKE	1.2	46.89	3	Amazon.com	AMZN	1.2	769.16
3	Hewlett-Packard	HPE	1.2	21.48	New	Biogen Inc.	BIIB	1.2	305.63
New	United Rentals I	URI	1.2	82.31	New	HP Inc.	HPQ	1.2	14.37
New	eBay	EBAY	1.2	32.16	4	Concho Resources	CXO	1.1	129.20
5	ULTA SALON COSMETCS & FRAG	ULTA	1.2	247.21	New	SL Green Realty	SLG	1.1	117.72
4	Newfield Explora	NFX	1.2	43.36	4	Jacobs Engineeri	JEC	1.1	52.69
New	MALLINCKRODT PLC	MNK	1.2	74.54	New	F5 Networks, Inc	FFIV	1.1	122.73
4	St Jude Medical	STJ	1.2	77.92	New	Edwards Lifescie	EW	1.1	115.16
4	DUN & BRADSTREET CORP	DNB	1.2	137.65	New	Kinder Morgan, I	KMI	1.1	21.85
3	Marathon Oil Cor	MRO	1.2	15.02	New	State Street Cor	STT	1.1	70.24
New	NetApp Inc.	NTAP	1.2	34.59	New	CERNER CORP	CERN	1.1	64.54
New	Microchip	MCHP	1.2	61.91	New	WestRock	WRK	1.1	47.90
4	Cimarex Energy C	XEC	1.2	132.18	New	XYLEM INC	XYL	1.1	50.86
New	Cintas Corporati	CTAS	1.2	117.51	4	Boston Scientifi	BSX	1.1	23.82
New	Newell Brands In	NWL	1.2	53.08	4	FIDELITY NATIONAL INFO SVCS	FIS	1.1	79.33

Relative Strength – 10wk/40wk Moving Average

Top 50 S&P 500 Companies By 10W/40W Price Moving Average

Relative Strength: The ratio of the 10-week moving average of price to the 40-week moving average.





Absolute Returns

Last 1 Month	-3.83%
Last 3 Months	1.84%
Last 6 Months	6.72%
Last 12 Months	6.60%
2016 YTD	2.31%

Source: BofA Merrill Lynch US Quantitative Strategy

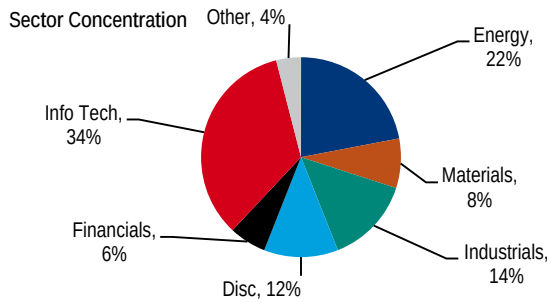
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

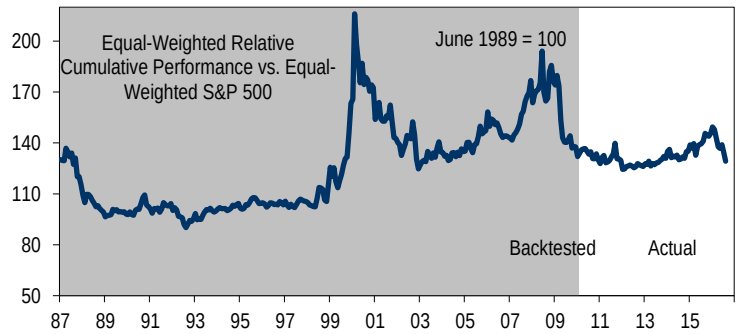
Screen for September

Mo. In Scrn.	Company	Ticker	10W/40W	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	10W/40W	Price 08/31/2016
6	Newmont Mining C	NEM	1.4	38.24	3	Concho Resources	CXO	1.2	129.20
11	NVIDIA Corporati	NVDA	1.4	61.34	3	TYCO INTERNATIONAL PLC	TYC	1.2	43.68
4	ONEOK, Inc.	OKE	1.4	46.89	5	XYLEM INC	XYL	1.1	50.86
3	Southwestern Ene	SWN	1.3	13.91	8	Edwards Lifescie	EW	1.1	115.16
4	Freeport-McMoRan	FCX	1.3	10.29	3	Halliburton Comp	HAL	1.1	43.01
2	ALBEMARLE CORP	ALB	1.2	79.97	2	Prologis, Inc.	PLD	1.1	53.11
4	ULTA SALON COSMETCS & FRAG	ULTA	1.2	247.21	New	The Hershey Comp	HSY	1.1	99.89
5	Applied Material	AMAT	1.2	29.84	2	FIDELITY NATIONAL INFO SVCS	FIS	1.1	79.33
3	Newfield Explora	NFX	1.2	43.36	2	TransDigm Group	TDG	1.1	285.19
New	Hewlett-Packard	HPE	1.2	21.48	6	American Water W	AWK	1.1	73.99
3	St Jude Medical	STJ	1.2	77.92	New	S&P GLOBAL INC	SPGI	1.1	123.54
New	Devon Energy	DVN	1.2	43.33	3	L-3 Communicatio	LLL	1.1	148.82
4	Range Resources	RRC	1.2	38.57	New	F5 Networks, Inc	FFIV	1.1	122.73
3	Spectra Energy	SE	1.2	35.62	5	WYNN RESORTS LTD	WYNN	1.1	89.32
New	Garmin	GRMN	1.2	49.08	8	Realty Income	O	1.1	65.73
4	Martin Marietta	MLM	1.2	183.03	New	Microchip	MCHP	1.1	61.91
4	IRON MOUNTAIN INC	IRM	1.2	38.41	New	TYSON FOODS INC -CL A	TSN	1.1	75.57
4	Digital Realty T	DLR	1.2	99.09	4	CENTERPOINT ENERGY INC	CNP	1.1	22.47
3	DUN & BRADSTREET CORP	DNB	1.2	137.65	3	Amazon.com	AMZN	1.1	769.16
4	Ventas Inc.	VTR	1.2	72.67	New	Chesapeake Energ	CHK	1.1	6.35
4	Boston Scientifi	BSX	1.2	23.82	New	CINCINNATI FINANCIAL CORP	CINF	1.1	77.11
New	Marathon Oil Cor	MRO	1.2	15.02	New	AES Corporation	AES	1.1	12.07
3	Jacobs Engineeri	JEC	1.2	52.69	New	Texas Instrument	TXN	1.1	69.54
New	Linear Technolog	LLTC	1.2	58.24	3	Cabot Oil & Gas	COG	1.1	24.63
New	Cimarex Energy C	XEC	1.2	132.18	New	SMUCKER (JM) CO	SJM	1.1	141.79

Price to Moving Average (200-Day)

Top 50 S&P 500 Companies By Price to 200-Day Moving Average





Absolute Returns

Last 1 Month	-3.58%
Last 3 Months	-1.71%
Last 6 Months	0.37%
Last 12 Months	0.93%
2016 YTD	-3.02%

Source: BofA Merrill Lynch US Quantitative Strategy

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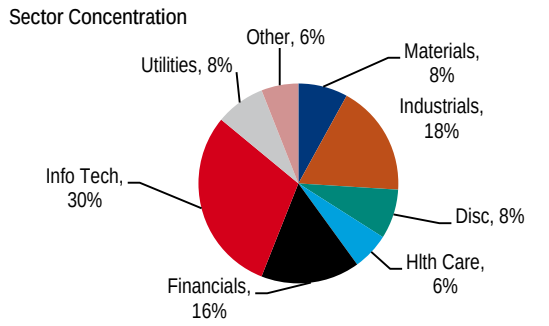
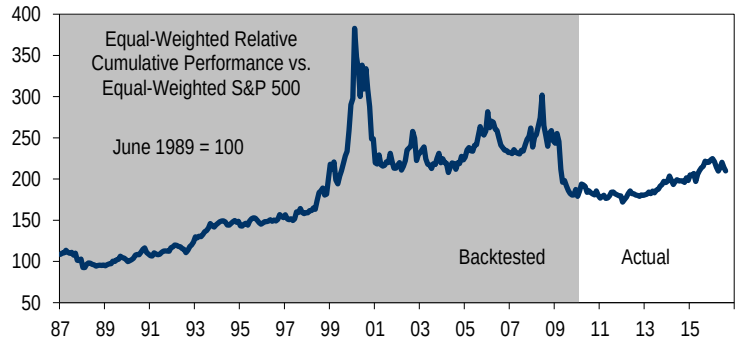
Screen for September

Mo. In Scrn.	Company	Ticker	Price/200D	Price 08/31/2016
12	NVIDIA Corporati	NVDA	1.5	61.34
New	Chesapeake Energ	CHK	1.4	6.35
6	Applied Material	AMAT	1.4	29.84
5	ONEOK, Inc.	OKE	1.4	46.89
5	Southwestern Ene	SWN	1.3	13.91
New	NetApp Inc.	NTAP	1.3	34.59
New	Micron Technolog	MU	1.3	16.49
New	Devon Energy	DVN	1.3	43.33
New	Urban Outfitters	URBN	1.3	35.85
7	Newmont Mining C	NEM	1.3	38.24
New	Williams Cos Inc	WMB	1.3	27.94
2	Hewlett-Packard	HPE	1.3	21.48
New	Cintas Corporati	CTAS	1.3	117.51
New	Microchip	MCHP	1.3	61.91
2	Linear Technolog	LLTC	1.3	58.24
2	United Rentals I	URI	1.2	82.31
New	Cimarex Energy C	XEC	1.2	132.18
2	eBay	EBAY	1.2	32.16
New	Symantec Corpora	SYMC	1.2	24.13
New	Pioneer Natural	PXD	1.2	179.05
2	XYLEM INC	XYL	1.2	50.86
New	Best Buy Co., In	BBY	1.2	38.48
New	DUN & BRADSTREET CORP	DNB	1.2	137.65
2	Edwards Lifescie	EW	1.2	115.16
2	S&P GLOBAL INC	SPGI	1.2	123.54
New	PVH CORP	PVH	1.2	107.76
New	Yahoo!	YHOO	1.2	42.75
New	Kinder Morgan, I	KMI	1.2	21.85
2	ALBEMARLE CORP	ALB	1.2	79.97
2	TYSON FOODS INC -CL A	TSN	1.2	75.57
2	QUALCOMM Inc.	QCOM	1.2	63.07
4	Newfield Explora	NFX	1.2	43.36
5	ULTA SALON COSMETCS & FRAG	ULTA	1.2	247.21
New	Broadcom Limited	AVGO	1.2	176.42
New	Concho Resources	CXO	1.2	129.20
2	Garmin	GRMN	1.2	49.08
New	International Pa	IP	1.2	48.49
New	NAVIENT CORP	NAVI	1.2	14.38
New	Marathon Oil Cor	MRO	1.2	15.02
New	WestRock	WRK	1.2	47.90
2	TransDigm Group	TDG	1.2	285.19
New	Teradata Corpora	TDC	1.2	31.73
2	Texas Instrument	TXN	1.2	69.54
New	CUMMINS INC	CMI	1.2	125.61
New	Zions Bancorpora	ZION	1.2	30.59
New	Autodesk Inc.	ADSK	1.2	67.40
2	Newell Brands In	NWL	1.2	53.08
New	ILLINOIS TOOL WORKS	ITW	1.2	118.85
New	HP Inc.	HPQ	1.2	14.37
2	FIDELITY NATIONAL INFO SVCS	FIS	1.2	79.33

Price Return – 12-Month Performance

Top 50 S&P 500 Companies By 12-month price return





Absolute Returns

Last 1 Month	-1.94%
Last 3 Months	2.28%
Last 6 Months	9.06%
Last 12 Months	7.28%
2016 YTD	2.86%

Source: BofA Merrill Lynch US Quantitative Strategy

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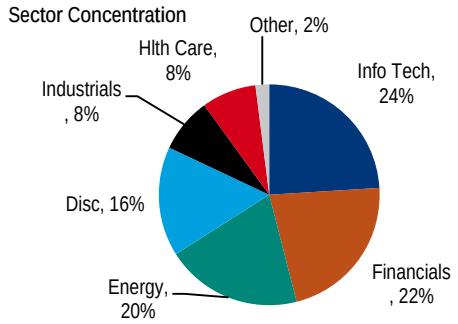
Screen for September

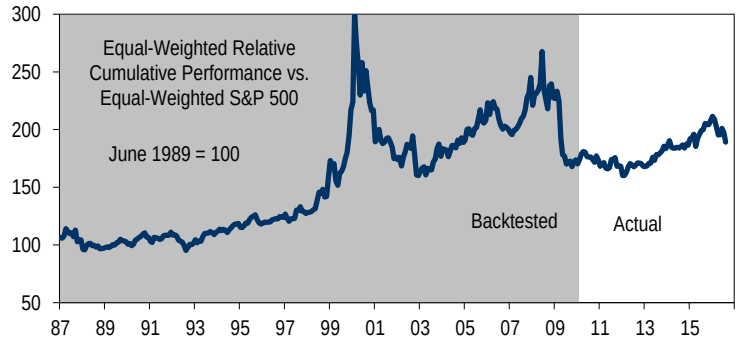
Mo. In Scrn.	Company	Ticker	Price Return	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 08/31/2016
12	NVIDIA Corporati	NVDA	172.9%	61.34	11	Facebook	FB	41.0%	126.12
3	Newmont Mining C	NEM	124.0%	38.24	2	ILLINOIS TOOL WORKS	ITW	40.6%	118.85
2	Applied Material	AMAT	85.5%	29.84	2	Broadcom Limited	AVGO	40.0%	176.42
9	TYSON FOODS INC -CL A	TSN	78.7%	75.57	2	Prologis, Inc.	PLD	39.8%	53.11
2	ALBEMARLE CORP	ALB	76.9%	79.97	8	NASDAQ INC	NDAQ	39.1%	71.21
9	Edwards Lifescie	EW	63.5%	115.16	New	Cintas Corporati	CTAS	38.3%	117.51
2	XYLEM INC	XYL	56.7%	50.86	2	KLA-Tencor Corp.	KLAC	38.2%	69.26
4	Digital Realty T	DLR	56.5%	99.09	11	Equinix Inc.	EQIX	36.7%	368.65
5	ULTA SALON COSMETCS & FRAG	ULTA	56.4%	247.21	New	Raytheon Co.	RTN	36.6%	140.13
6	Molson Coors Bre	TAP	50.3%	102.32	5	GLOBAL PAYMENTS INC	GPN	36.4%	75.95
14	Amazon.com	AMZN	50.0%	769.16	New	Paychex	PAYX	35.8%	60.67
5	CINCINNATI FINANCIAL CORP	CINF	47.4%	77.11	2	IRON MOUNTAIN INC	IRM	35.5%	38.41
5	Realty Income	O	47.1%	65.73	2	MASCO CORP	MAS	35.3%	35.48
2	Microchip	MCHP	45.7%	61.91	New	Dupont	DD	35.1%	69.60
New	Pioneer Natural	PXD	45.5%	179.05	2	EQUIFAX INC	EFX	34.7%	131.90
2	Texas Instrument	TXN	45.4%	69.54	5	Intuitive Surgic	ISRG	34.3%	686.42
2	Linear Technolog	LLTC	44.6%	58.24	2	ALLIANT ENERGY CORP	LNT	33.9%	37.95
12	Activision Blizz	ATVI	44.5%	41.37	6	SCANA CORP	SCG	33.6%	70.65
New	Autodesk Inc.	ADSK	44.2%	67.40	New	Avery Dennison C	AVY	33.3%	77.44
2	NISOURCE INC	NI	42.6%	23.94	2	FORTUNE BRANDS HOME & SECUR	FBHS	32.8%	63.56
6	American Water W	AWK	42.5%	73.99	New	Yahoo!	YHOO	32.6%	42.75
2	Boston Scientifi	BSX	42.3%	23.82	New	Ventas Inc.	VTR	32.1%	72.67
2	MATTEL INC	MAT	41.4%	33.13	New	MICROSOFT CORP	MSFT	32.0%	57.46
4	ACUITY BRANDS INC	AYI	41.2%	275.12	New	Corning Inc.	GLW	31.8%	22.69
2	L-3 Communicatio	LLL	41.1%	148.82	2	Garmin	GRMN	30.5%	49.08

BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Price Return – 9-Month Performance

Top 50 S&P 500 Companies By 9-month price return.





Absolute Returns

Last 1 Month	-4.14%
Last 3 Months	0.65%
Last 6 Months	4.01%
Last 12 Months	4.18%
2016 YTD	-0.62%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

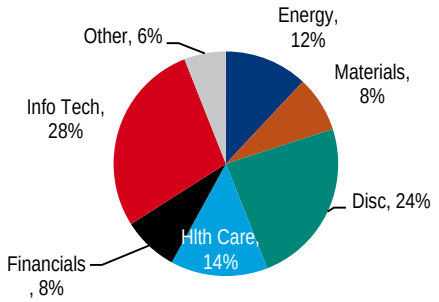
Screen for September

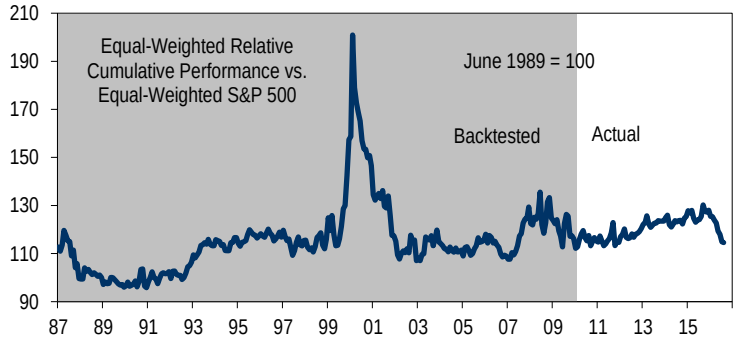
Mo. In Scrn.	Company	Ticker	Price Return	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 08/31/2016
5	Newmont Mining C	NEM	107.7%	38.24	2	Garmin	GRMN	29.7%	49.08
12	NVIDIA Corporati	NVDA	93.4%	61.34	New	QUALCOMM Inc.	QCOM	29.3%	63.07
New	Urban Outfitters	URBN	60.0%	35.85	New	Zimmer Holdings,	ZBH	28.3%	129.61
3	ONEOK, Inc.	OKE	59.1%	46.89	New	Cintas Corporati	CTAS	28.3%	117.51
4	Applied Material	AMAT	59.0%	29.84	New	Microchip	MCHP	28.2%	61.91
2	Southwestern Ene	SWN	54.4%	13.91	6	American Water W	AWK	28.1%	73.99
10	TYSON FOODS INC -CL A	TSN	51.1%	75.57	2	S&P GLOBAL INC	SPGI	28.1%	123.54
2	ALBEMARLE CORP	ALB	49.3%	79.97	New	DUN & BRADSTREET CORP	DNB	27.7%	137.65
5	ULTA SALON COSMETCS & FRAG	ULTA	48.0%	247.21	2	Linear Technolog	LLTC	27.4%	58.24
2	Hewlett-Packard	HPE	44.5%	21.48	New	ILLINOIS TOOL WORKS	ITW	26.5%	118.85
4	WYNN RESORTS LTD	WYNN	42.3%	89.32	New	Yahoo!	YHOO	26.4%	42.75
5	Edwards Lifescie	EW	41.3%	115.16	New	CINCINNATI FINANCIAL CORP	CINF	26.2%	77.11
2	IRON MOUNTAIN INC	IRM	38.3%	38.41	New	Sysco Corporatio	SYY	26.2%	51.86
4	Digital Realty T	DLR	37.4%	99.09	2	ALLIANT ENERGY CORP	LNT	26.1%	37.95
5	XYLEM INC	XYL	36.3%	50.86	New	Freeport-McMoRan	FCX	25.8%	10.29
2	Ventas Inc.	VTR	36.2%	72.67	New	CUMMINS INC	CMI	25.1%	125.61
New	Spectra Energy	SE	36.0%	35.62	New	Yum! Brands, Inc	YUM	25.1%	90.71
2	Broadcom Limited	AVGO	35.2%	176.42	New	EQT CORP	EQT	25.0%	71.50
3	Range Resources	RRC	35.0%	38.57	5	NISOURCE INC	NI	24.8%	23.94
7	MATTEL INC	MAT	33.3%	33.13	New	FIDELITY NATIONAL INFO SVCS	FIS	24.6%	79.33
3	CENTERPOINT ENERGY INC	CNP	32.6%	22.47	2	Exelon Corporati	EXC	24.5%	34.00
8	Realty Income	O	32.5%	65.73	New	Equinix Inc.	EQIX	24.3%	368.65
3	Intuitive Surgic	ISRG	32.0%	686.42	2	Prologis, Inc.	PLD	24.2%	53.11
New	Cabot Oil & Gas	COG	30.8%	24.63	3	Baxter Healthcar	BAX	24.1%	46.73
5	Boston Scientifi	BSX	30.3%	23.82	New	TYCO INTERNATIONAL PLC	TYC	23.7%	43.68

Price Return – 3-Month Performance

Top 50 S&P 500 Companies By 3-month price return.

Sector Concentration





Absolute Returns

Last 1 Month	-0.24%
Last 3 Months	-0.11%
Last 6 Months	4.99%
Last 12 Months	0.62%
2016 YTD	-2.11%

Source: BofA Merrill Lynch US Quantitative Strategy

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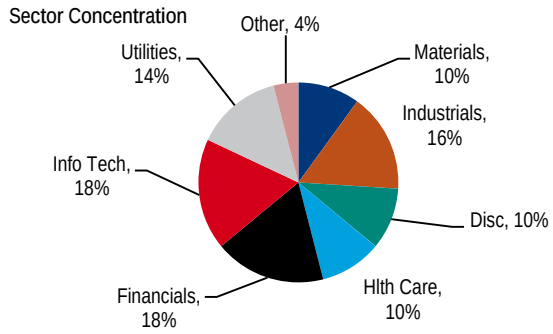
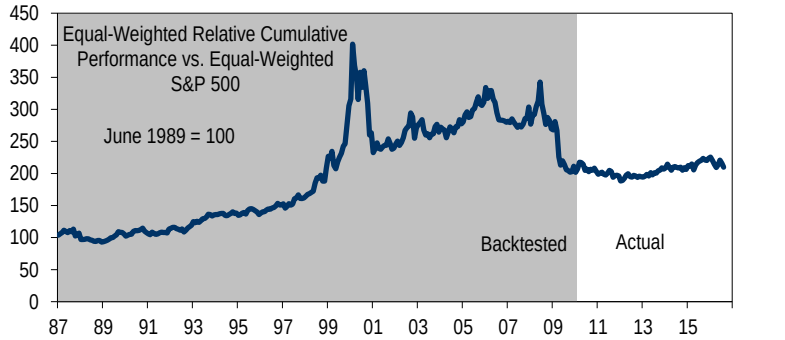
Screen for September

Mo. In Scrn.	Company	Ticker	Price Return	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 08/31/2016
2	Seagate Technolo	STX	49.6%	33.74	2	United Rentals I	URI	18.1%	82.31
New	Chesapeake Energ	CHK	48.0%	6.35	New	HARRIS CORP	HRS	18.0%	92.98
2	Symantec Corpora	SYMC	39.0%	24.13	7	Newmont Mining C	NEM	18.0%	38.24
New	Gap Inc.	GPS	38.2%	24.87	New	MALLINCKRODT PLC	MNK	17.6%	74.54
New	NetApp Inc.	NTAP	35.5%	34.59	New	NEWS CORP	NWSA	17.6%	14.06
New	Nordstrom	JWN	32.9%	50.46	New	Foot Locker	FL	17.4%	65.64
2	eBay	EBAY	31.5%	32.16	New	MORGAN STANLEY	MS	17.1%	32.06
4	NVIDIA Corporati	NVDA	31.3%	61.34	New	Edwards Lifescie	EW	16.9%	115.16
New	Endo Internation	ENDP	30.9%	20.70	New	ROSS STORES INC	ROST	16.6%	62.24
3	Micron Technolog	MU	29.6%	16.49	2	Hewlett-Packard	HPE	16.3%	21.48
4	Williams Cos Inc	WMB	26.1%	27.94	2	Illumina, Inc.	ILMN	16.2%	168.34
New	Urban Outfitters	URBN	25.7%	35.85	New	SL Green Realty	SLG	16.1%	117.72
2	Cintas Corporati	CTAS	24.0%	117.51	2	VARIAN MEDICAL SYSTEMS INC	VAR	16.1%	96.13
New	Kohl's	KSS	23.1%	44.38	New	CERNER CORP	CERN	16.1%	64.54
2	Linear Technolog	LLTC	23.1%	58.24	New	AmerisourceBerge	ABC	16.0%	86.97
2	Applied Material	AMAT	22.2%	29.84	New	Host Hotels & Re	HST	15.7%	17.82
New	Marathon Petrole	MPC	22.0%	42.51	New	Autodesk Inc.	ADSK	15.7%	67.40
New	WestRock	WRK	20.9%	47.90	2	Garmin	GRMN	15.4%	49.08
New	Kinder Morgan, I	KMI	20.9%	21.85	New	Tiffany & Co.	TIF	15.2%	71.37
New	Devon Energy	DVN	20.1%	43.33	New	International Pa	IP	15.0%	48.49
New	Microchip	MCHP	19.8%	61.91	New	Marathon Oil Cor	MRO	14.9%	15.02
New	HCP, Inc.	HCP	19.7%	39.33	New	PVH CORP	PVH	14.9%	107.76
New	Best Buy Co., In	BBY	19.6%	38.48	2	QUALCOMM Inc.	QCOM	14.8%	63.07
New	The Mosaic Compa	MOS	19.2%	30.07	2	Texas Instrument	TXN	14.8%	69.54
New	TYSON FOODS INC -CL A	TSN	18.5%	75.57	New	Michael Kors Hol	KORS	14.6%	48.95

Price Return – 11-Month Performance

Top 50 S&P 500 Companies By 11-month price return.





Absolute Returns

Last 1 Month	-2.69%
Last 3 Months	2.39%
Last 6 Months	9.40%
Last 12 Months	4.81%
2016 YTD	2.54%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

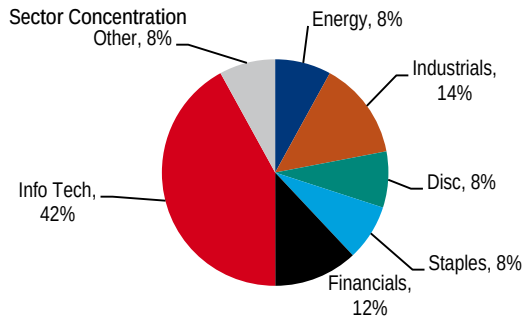
Screen for September

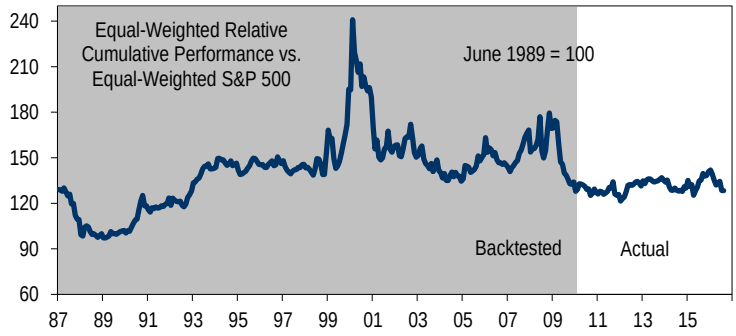
Mo. In Scrn.	Company	Ticker	Price Return	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Price Return	Price 08/31/2016
4	Newmont Mining C	NEM	157.8%	38.24	2	ALLIANT ENERGY CORP	LNT	42.1%	37.95
11	NVIDIA Corporati	NVDA	154.0%	61.34	6	SCANA CORP	SCG	41.7%	70.65
2	ALBEMARLE CORP	ALB	86.2%	79.97	12	Activision Blizz	ATVI	40.3%	41.37
8	TYSON FOODS INC -CL A	TSN	74.1%	75.57	2	Kimco Realty Cor	KIM	39.3%	30.05
5	ULTA SALON COSMETCS & FRAG	ULTA	65.2%	247.21	New	MASCO CORP	MAS	39.1%	35.48
4	Digital Realty T	DLR	65.0%	99.09	New	Facebook	FB	38.6%	126.12
2	Applied Material	AMAT	63.4%	29.84	New	Ventas Inc.	VTR	38.4%	72.67
7	Edwards Lifescie	EW	62.6%	115.16	3	NASDAQ INC	NDAQ	38.2%	71.21
5	Realty Income	O	59.9%	65.73	11	Equinix Inc.	EQIX	38.2%	368.65
6	American Water W	AWK	59.0%	73.99	3	CMS ENERGY CORP	CMS	37.8%	41.97
2	NISOURCE INC	NI	52.8%	23.94	New	ILLINOIS TOOL WORKS	ITW	36.5%	118.85
3	KLA-Tencor Corp.	KLAC	51.1%	69.26	4	WEC ENERGY GROUP INC	WEC	36.2%	59.88
5	Molson Coors Bre	TAP	50.0%	102.32	New	Intuitive Surgic	ISRG	36.2%	686.42
New	Linear Technolog	LLTC	48.9%	58.24	New	Raytheon Co.	RTN	36.0%	140.13
14	Amazon.com	AMZN	47.9%	769.16	4	EQUIFAX INC	EFX	35.3%	131.90
2	XYLEM INC	XYL	47.3%	50.86	New	ACUITY BRANDS INC	AYI	34.7%	275.12
New	Texas Instrument	TXN	45.8%	69.54	New	Dupont	DD	34.3%	69.60
2	IRON MOUNTAIN INC	IRM	45.4%	38.41	New	Avery Dennison C	AVY	34.1%	77.44
4	Boston Scientifi	BSX	45.0%	23.82	5	GLOBAL PAYMENTS INC	GPN	34.1%	75.95
New	Garmin	GRMN	44.5%	49.08	New	Johnson & Johnso	JNJ	33.3%	119.34
2	L-3 Communicatio	LLL	43.8%	148.82	2	Paychex	PAYX	32.7%	60.67
New	Prologis, Inc.	PLD	43.4%	53.11	New	Agilent Technolo	A	32.5%	46.98
6	CINCINNATI FINANCIAL CORP	CINF	42.7%	77.11	3	Pinnacle West Ca	PNW	32.5%	75.04
2	Coach Inc.	COH	42.5%	38.18	New	Jacobs Engineeri	JEC	32.4%	52.69
2	MATTEL INC	MAT	42.5%	33.13	6	Vulcan Materials	VMC	32.4%	113.87

BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Price Return – 12-Month and 1-Month Performance

Top 50 S&P 500 Companies By average rank of 12-month and 1-month price return.





Absolute Returns

Last 1 Month	-0.11%
Last 3 Months	-0.01%
Last 6 Months	5.91%
Last 12 Months	4.47%
2016 YTD	-0.36%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for September

Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 08/31/2016
2	Applied Material	AMAT	1.9	29.84	New	Electronic Arts	EA	18.6	81.23
2	Autodesk Inc.	ADSK	4.1	67.40	New	Urban Outfitters	URBN	18.9	35.85
2	Microchip	MCHP	4.6	61.91	New	Assurant Inc.	AIZ	19.1	89.55
2	Pioneer Natural	PXD	5.1	179.05	New	HARRIS CORP	HRS	19.1	92.98
2	NVIDIA Corporati	NVDA	5.8	61.34	New	Lam Research	LRCX	19.1	93.32
New	Yahoo!	YHOO	7.1	42.75	New	INTL FLAVORS & FRAGRANCES	IFF	19.6	138.58
New	Broadcom Limited	AVGO	7.6	176.42	New	Paychex	PAYX	20.1	60.67
2	Cintas Corporati	CTAS	7.6	117.51	2	Amazon.com	AMZN	21.0	769.16
2	XYLEM INC	XYL	8.5	50.86	2	Facebook	FB	21.0	126.12
New	Fortive Corporat	FTV	8.6	52.67	New	GLOBAL PAYMENTS INC	GPN	21.6	75.95
2	ACUITY BRANDS INC	AYI	12.6	275.12	2	Corning Inc.	GLW	22.1	22.69
New	DUN & BRADSTREET CORP	DNB	13.1	137.65	New	AFLAC INC	AFL	22.6	74.18
2	Xilinx Inc.	XLNX	14.1	54.21	New	Marsh & McLennan	MMC	22.6	67.63
New	CINCINNATI FINANCIAL CORP	CINF	15.0	77.11	New	The Western Unio	WU	23.0	21.52
3	TYSON FOODS INC -CL A	TSN	15.4	75.57	New	Intel Corporatio	INTC	23.1	35.89
New	Ball Corp.	BLL	16.0	79.19	2	Edwards Lifescie	EW	23.4	115.16
New	ONEOK, Inc.	OKE	16.1	46.89	New	Merck & Co.	MRK	23.6	62.79
New	Activision Blizz	ATVI	16.6	41.37	New	LKQ CORP	LKQ	23.6	36.09
New	Adobe Systems In	ADBE	16.6	102.31	New	Kraft Heinz Comp	KHC	23.6	89.49
New	Intercontinental	ICE	16.6	282.02	2	MICROSOFT CORP	MSFT	24.0	57.46
New	Symantec Corpora	SYMC	17.5	24.13	New	Norfolk Southern	NSC	24.6	93.90
2	ILLINOIS TOOL WORKS	ITW	17.6	118.85	2	NASDAQ INC	NDAQ	25.0	71.21
New	OMNICOM GROUP	OMC	17.6	86.13	New	HORMEL FOODS CORP	HRL	25.1	38.26
New	Cimarex Energy C	XEC	18.1	132.18	New	Molson Coors Bre	TAP	25.4	102.32
New	MOTOROLA SOLUTIONS INC	MSI	18.6	76.99	New	EOG Resources In	EOG	26.0	88.49

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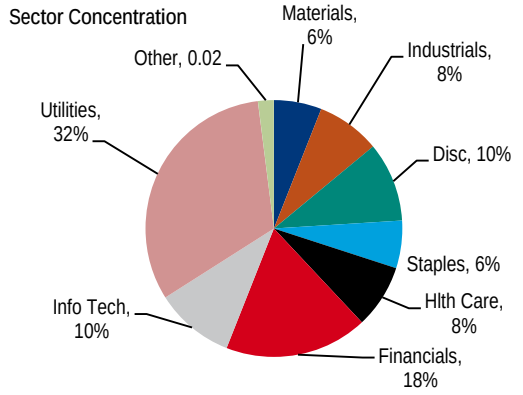
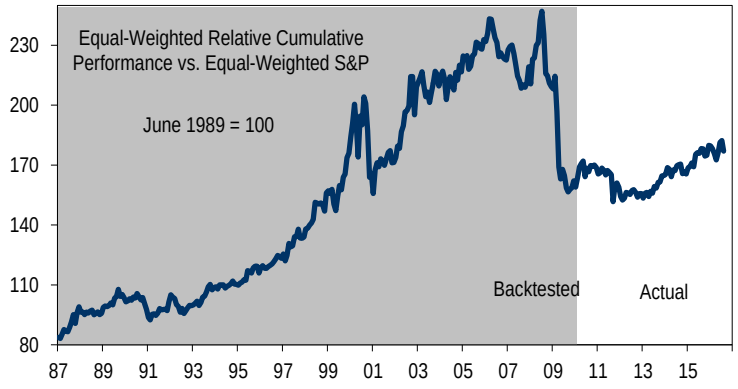
Price Return – 12-Month and 1-Month Reversal

Top 50 S&P 500 Companies By avg. rank of 12-m and reversal 1-m price return.





Absolute Returns

Last 1 Month	-2.91%
Last 3 Months	4.64%
Last 6 Months	14.05%
Last 12 Months	9.32%
2016 YTD	7.60%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end January 2010. The unshaded portion represents actual performance since February 2010. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for September

Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Avg Percent Rank	Price 08/31/2016
New	Newmont Mining C	NEM	1.2	38.24	New	Johnson & Johnso	JNJ	18.3	119.34
2	American Water W	AWK	4.3	73.99	2	Pinnacle West Ca	PNW	18.3	75.04
New	Realty Income	O	5.3	65.73	New	Prologis, Inc.	PLD	18.7	53.11
New	KLA-Tencor Corp.	KLAC	6.8	69.26	2	NextEra Energy	NEE	18.8	120.94
New	Garmin	GRMN	7.4	49.08	2	XCEL ENERGY INC	XEL	18.8	41.36
2	NISOURCE INC	NI	7.8	23.94	New	FISERV INC	FISV	18.8	103.05
New	ULTA SALON COSMETCS & FRAG	ULTA	9.7	247.21	New	MASCO CORP	MAS	19.2	35.48
New	IRON MOUNTAIN INC	IRM	9.8	38.41	2	AT&T Inc.	T	19.3	40.88
New	Coach Inc.	COH	9.9	38.18	2	AMEREN CORP	AEE	19.3	49.42
New	ALBEMARLE CORP	ALB	10.2	79.97	2	Waste Management	WM	20.2	63.94
2	Digital Realty T	DLR	10.2	99.09	2	CENTERPOINT ENERGY INC	CNP	20.3	22.47
New	Kimco Realty Cor	KIM	11.8	30.05	New	Boston Scientifi	BSX	20.7	23.82
2	CMS ENERGY CORP	CMS	11.8	41.97	2	American Electri	AEP	20.8	64.57
2	SCANA CORP	SCG	12.3	70.65	New	L-3 Communicatio	LLL	21.2	148.82
2	ALLIANT ENERGY CORP	LNT	12.8	37.95	New	Dr Pepper Snappl	DPS	21.8	93.70
2	WEC ENERGY GROUP INC	WEC	12.8	59.88	2	Consolidated Edi	ED	21.8	75.25
New	Vulcan Materials	VMC	15.8	113.87	New	Agilent Technolo	A	22.7	46.98
New	CSRA INC	CSRA	16.0	25.39	New	PG&E Corporation	PCG	22.7	61.94
New	Ventas Inc.	VTR	16.3	72.67	New	General Growth P	GGP	22.8	29.14
New	Henry Schein	HSIC	16.3	163.79	2	Northrop Grumman	NOC	23.2	212.07
New	Linear Technolog	LLTC	16.7	58.24	2	Campbell Soup	CPB	23.2	60.72
2	Edison Internati	EIX	16.8	72.72	New	Simon Property G	SPG	23.2	215.47
New	Federal Realty I	FRT	17.3	159.00	New	Citrix Systems I	CTXS	23.7	87.20
2	SMUCKER (JM) CO	SJM	17.3	141.79	2	EVERSOURCE ENERGY	ES	23.7	53.97
New	WYNN RESORTS LTD	WYNN	17.8	89.32	New	MATTEL INC	MAT	24.2	33.13

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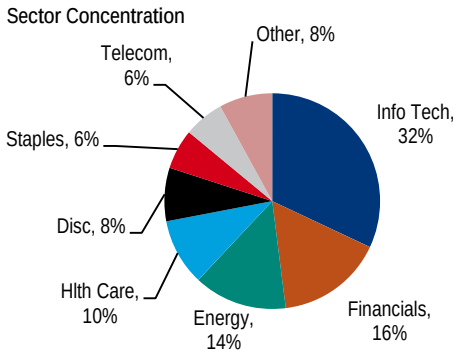
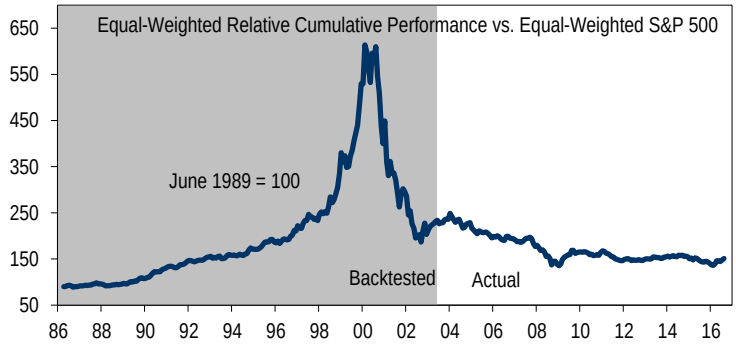
Most Active

Top 50 S&P 500 Companies By Most Actively Traded Stocks.

Most Actively Traded Stocks: Stocks have the highest monthly share trading volume.





Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end August 2003. The unshaded portion represents actual performance since September 2003. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Absolute Returns

Last 1 Month	2.16%
Last 3 Months	7.63%
Last 6 Months	27.40%
Last 12 Months	15.86%
2016 YTD	17.32%

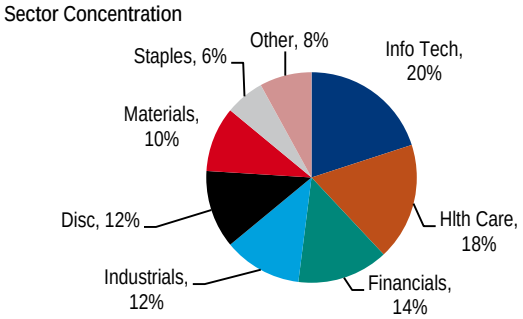
Screen for September

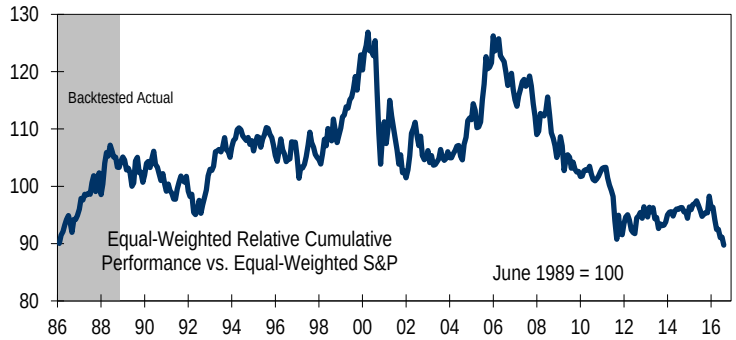
Mo. In Scrn	Company	Ticker	Trading Volume (In Mils)	Price 08/31/2016	Mo. In Scrn	Company	Ticker	Trading Volume (In Mils)	Price 08/31/2016
145	BANK OF AMERICA CORP	BAC	1877	16.14	52	APPLIED MATERIAL	AMAT	302	29.84
23	CHESAPEAKE ENERG	CHK	1165	6.35	95	ALCOA INC.	AA	299	10.08
140	FORD MOTOR CO	F	787	12.60	9	WILLIAMS COS INC	WMB	290	27.94
55	APPLE INC.	AAPL	658	106.10	39	GENERAL MOTORS	GM	278	31.92
24	FREEPORT-MCMORAN	FCX	612	10.29	119	JPMORGAN CHASE &	JPM	277	67.50
157	GENERAL ELECTRIC	GE	588	31.24	2	21ST CENTURY FOX	FOXA	273	24.54
157	CISCO SYSTEMS	CSCO	571	31.44	14	MORGAN STANLEY	MS	269	32.06
89	MICRON TECHNOLOG	MU	552	16.49	84	VERIZON COMMUNIC	VZ	267	52.33
157	PFIZER INC.	PFE	501	34.80	New	MERCK & CO.	MRK	267	62.79
157	MICROSOFT CORP	MSFT	498	57.46	157	EXXONMOBIL CORP.	XOM	259	87.14
11	KEYCORP	KEY	463	12.56	New	CORNING INC.	GLW	253	22.69
16	FRONTIER COMMUNI	FTR	457	4.60	49	THE COCA COLA CO	KO	252	43.43
130	AT&T INC.	T	439	40.88	New	THE KROGER CO.	KR	252	31.99
14	MARATHON OIL COR	MRO	422	15.02	12	SOUTHWESTERN ENE	SWN	251	13.91
157	INTEL CORPORATIO	INTC	409	35.89	2	GILEAD SCIENCES	GILD	248	78.38
3	HUNTINGTON BANCS	HBAN	402	10.01	New	SYMANTEC CORPORA	SYMC	245	24.13
33	FACEBOOK	FB	401	126.12	157	YAHOO!	YHOO	244	42.75
New	BRISTOL-MYERS SQ	BMY	393	57.39	New	NVIDIA CORPORATI	NVDA	243	61.34
64	CITIGROUP INC.	C	384	47.74	4	ABBOTT LABORATOR	ABT	241	42.02
110	WELLS FARGO & CO	WFC	369	50.80	157	ORACLE CORP	ORCL	236	41.22
89	REGIONS FINANCIA	RF	367	9.97	5	DELTA AIR LINES,	DAL	231	36.75
5	EMC CORPORATION	EMC	343	28.99	New	MACY'S	M	221	36.18
7	TRANSOCEAN	RIG	337	9.70	New	WAL*MART STORES	WMT	219	71.44
15	KINDER MORGAN, I	KMI	315	21.85	New	HEWLETT-PACKARD	HPE	218	21.48
10	HP INC.	HPQ	309	14.37	New	ACTIVISION BLIZZ	ATVI	207	41.37

GROWTH STRATEGIES: Earnings Momentum

Top 50 S&P 500 Companies By EPS MOMENTUM

Earnings Momentum: The difference between 12-month trailing EPS and year-ago12-month trailing EPS divided by year-ago 12-month trailing EPS.





Absolute Returns

Last 1 Month	-1.53%
Last 3 Months	0.93%
Last 6 Months	6.97%
Last 12 Months	4.27%
2016 YTD	-0.13%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

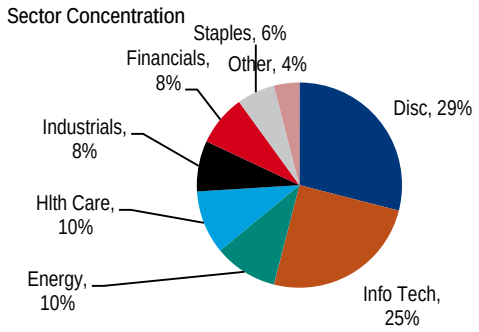
Screen for September

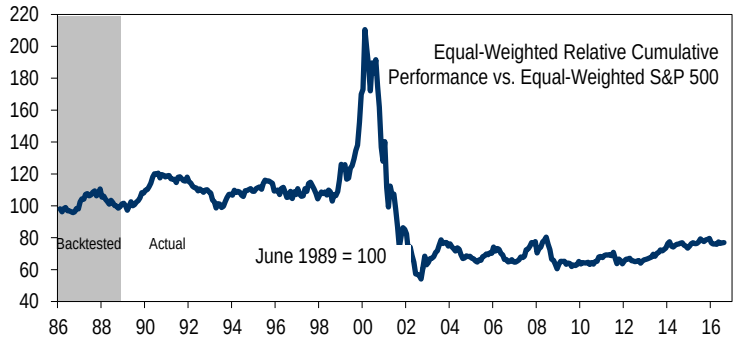
Mo. In Scrn.	Company	Ticker	EPS Momentum	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	EPS Momentum	Price 08/31/2016
11	AMAZON.COM	AMZN	1076.2	769.16	7	EQUINIX INC.	EQIX	128.9	368.65
3	OWENS-ILLINOIS I	OI	1053.8	17.93	2	INGERSOLL-RAND P	IR	124.2	67.99
7	LEVEL 3 COMMUNIC	LVLT	1034.8	49.63	8	AT&T INC.	T	121.0	40.88
5	BAXTER HEALTHCAR	BAX	837.6	46.73	5	FIRST SOLAR, INC	FSLR	117.7	37.82
5	S&P GLOBAL INC	SPGI	811.3	123.54	2	FACEBOOK	FB	112.0	126.12
2	SL GREEN REALTY	SLG	593.4	117.72	4	INTUIT INC.	INTU	109.5	111.45
7	AMERISOURCEBERGE	ABC	498.0	86.97	7	DOW CHEMICAL	DOW	103.1	53.64
5	GENERAL ELECTRIC	GE	460.0	31.24	8	FORD MOTOR CO	F	100.9	12.60
5	EQUITY RESIDENTI	EQR	363.1	64.87	New	DOLLAR TREE, INC	DLTR	100.7	82.70
10	MALLINCKRODT PLC	MNK	304.4	74.54	5	KLA-TENCOR CORP.	KLAC	100.0	69.26
11	SALESFORCE.COM,	CRM	300.0	79.42	6	HOLOGIC, INC.	HOLX	95.8	38.42
11	MONDELEZ INTERNA	MDLZ	268.0	45.02	2	GARMIN	GRMN	87.9	49.08
8	JUNIPER NETWORKS	JNPR	267.3	23.08	New	MARTIN MARIETTA	MLM	84.6	183.03
7	MOTOROLA SOLUTIONS INC	MSI	211.4	76.99	12	DARDEN RESTAURAN	DRI	83.1	61.64
New	TERADATA CORPORA	TDC	210.0	31.73	2	ASSURANT INC.	AIZ	82.6	89.55
4	VULCAN MATERIALS	VMC	205.6	113.87	18	AMERICAN AIRLINE	AAL	78.2	36.30
2	KIMBERLY-CLARK C	KMB	204.5	128.06	3	FEDEX CORPORATIO	FDX	78.1	164.93
2	ALBEMARLE CORP	ALB	198.7	79.97	3	SMUCKER (JM) CO	SJM	76.5	141.79
7	GENERAL MOTORS	GM	183.0	31.92	New	NVIDIA CORPORATI	NVDA	74.0	61.34
8	ABBVIE	ABBV	170.5	64.10	11	STRYKER CORP	SYK	73.3	115.66
8	DELTA AIR LINES,	DAL	166.4	36.75	New	NISOURCE INC	NI	73.1	23.94
12	UNITED CONTINENT	UAL	151.8	50.41	2	QUEST DIAGNOSTIC	DGX	70.0	82.82
7	UNUM GROUP	UNM	144.3	35.61	7	PRUDENTIAL FINAN	PRU	69.6	79.38
12	ADOBE SYSTEMS IN	ADBE	143.2	102.31	7	REGENERON PHARMA	REGN	63.8	392.55
7	TRANSOCEAN	RIG	139.9	9.70	2	VERTEX PHARMACEU	VRTX	63.5	94.51

Projected Five-Year EPS Growth

Top 50 S&P 500 Companies By PROJ. 5-YR EPS GROWTH

Projected 5-Year EPS Growth: The five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exist, then the IBES Mean Long Term Growth Estimate is used.





Absolute Returns

Last 1 Month	0.31%
Last 3 Months	3.45%
Last 6 Months	16.24%
Last 12 Months	8.26%
2016 YTD	5.75%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

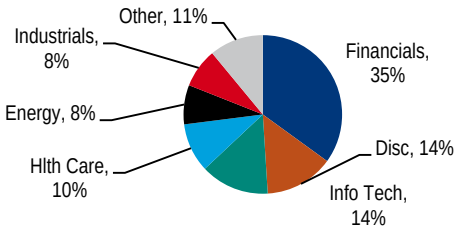
Screen for September

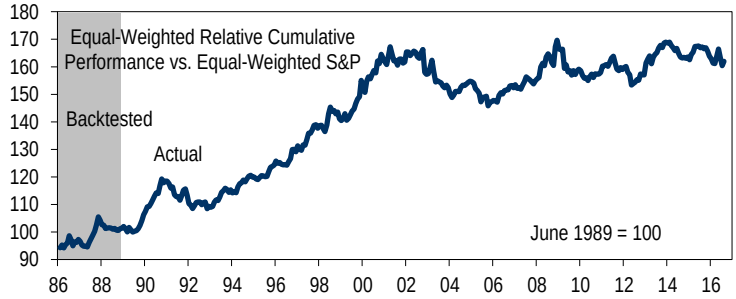
Mo. In Scrn	Company	Ticker	EPS Gr Next 5Yr	Price 08/31/2016	Mo. In Scrn	Company	Ticker	EPS Gr Next 5Yr	Price 08/31/2016
7	DISCOVERY COMMUN	DISCA	265.2	25.51	28	UNDER ARMOUR INC	UA	22.8	39.63
4	WILLIAMS COS INC	WMB	70.8	27.94	6	CENTENE CORPORAT	CNC	22.2	68.29
17	VERTEX PHARMACEU	VRTX	66.9	94.51	14	KLA-TENCOR CORP.	KLAC	21.2	69.26
23	AMAZON.COM	AMZN	62.6	769.16	New	UNITED RENTALS I	URI	20.6	82.31
New	CIMAREX ENERGY C	XEC	55.8	132.18	5	ULTA SALON COSMETCS & FRAG	ULTA	20.4	247.21
17	CABOT OIL & GAS	COG	47.3	24.63	44	FIFTH THIRD BANC	FITB	20.2	20.16
New	BAKER HUGHES INC	BHI	45.9	49.13	3	ROYAL CARIBBEAN CRUISES LTD	RCL	20.0	71.11
33	FACEBOOK	FB	43.1	126.12	16	BRISTOL-MYERS SQ	BMY	20.0	57.39
4	HARRIS CORP	HRS	41.8	92.98	20	DOLLAR TREE, INC	DLTR	20.0	82.70
18	EQUINIX INC.	EQIX	40.4	368.65	14	PAYPAL	PYPL	20.0	37.15
23	VULCAN MATERIALS	VMC	35.5	113.87	20	RED HAT INC.	RHT	20.0	72.98
7	NEWFIELD EXPLORA	NFX	33.1	43.36	20	STARBUCKS CORP	SBUX	20.0	56.23
62	NETFLIX, INC.	NFLX	30.0	97.45	20	PRICELINE.COM	PCLN	20.0	1416.73
7	KRAFT HEINZ COMP	KHC	27.9	89.49	18	SKYWORKS SOLUTIO	SWKS	19.7	74.86
4	LKQ CORP	LKQ	26.8	36.09	2	ACTIVISION BLIZZ	ATVI	19.7	41.37
23	MARTIN MARIETTA	MLM	26.4	183.03	13	INTUIT INC.	INTU	19.7	111.45
34	CBS CORP CL-B	CBS	26.0	51.03	43	CHARLES SCHWAB C	SCHW	19.6	31.46
4	AUTODESK INC.	ADSK	25.2	67.40	4	ACUITY BRANDS INC	AYI	19.5	275.12
96	SALESFORCE.COM,	CRM	25.0	79.42	29	CELGENE CORP.	CELG	19.4	106.74
4	APPLIED MATERIAL	AMAT	24.7	29.84	New	QUANTA SERVICES INC	PWR	18.7	25.73
10	MASCO CORP	MAS	24.6	35.48	5	FLIR SYSTEMS INC	FLIR	18.5	30.83
5	GLOBAL PAYMENTS INC	GPN	23.7	75.95	4	LOWE'S COMPANIES	LOW	18.3	76.56
6	PULTEGROUP INC.	PHM	23.5	21.37	4	TYSON FOODS INC -CL A	TSN	18.2	75.57
4	WYNN RESORTS LTD	WYNN	23.2	89.32	9	EDWARDS LIFESCIE	EW	18.0	115.16
15	MONSTER BEVERAGE	MNST	22.9	153.89	7	LEUCADIA NATIONAL CORP	LUK	18.0	19.15
					9	URBAN OUTFITTERS	URBN	18.0	35.85

Forecast Positive Earnings Surprise

Top S&P 500 Companies By POSITIVE EPS SURPRISE

Sector Concentration





Absolute Returns

Last 1 Month	0.98%
Last 3 Months	1.25%
Last 6 Months	15.32%
Last 12 Months	6.67%
2016 YTD	8.08%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

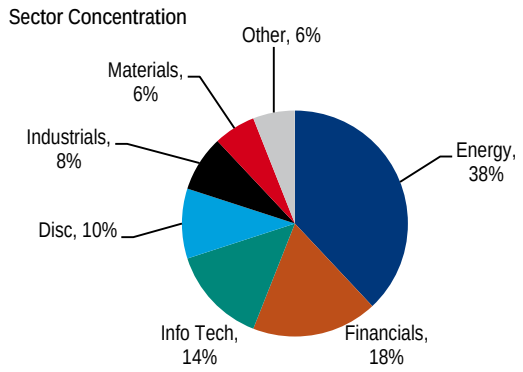
Screen for September

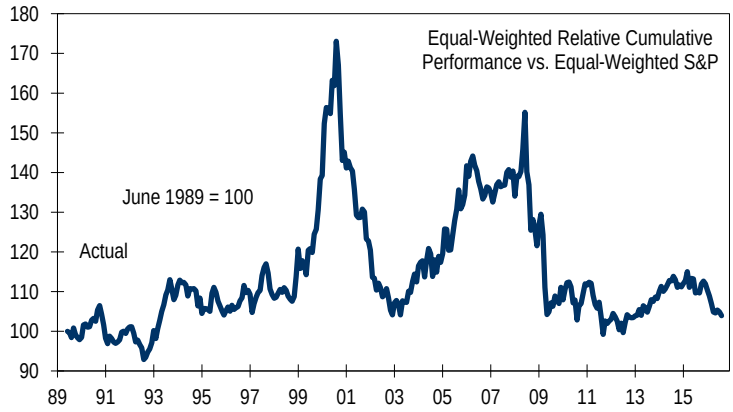
Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 08/31/2016
2	AES CORPORATION	AES	1	12.07	2	BIOGEN INC.	BIIB	2	305.63
32	AMAZON.COM	AMZN	1	769.16	2	BLACKROCK, INC.	BLK	2	372.81
New	AMERICAN TOWER C	AMT	1	113.38	3	CATERPILLAR INC	CAT	2	81.95
New	APARTMENT INVEST	AIV	1	45.18	8	CHEVRON CORP.	CVX	2	100.58
27	AUTOZONE INC.	AZO	1	741.80	8	DEVON ENERGY	DVN	2	43.33
New	AVALONBAY COMMUN	AVB	1	175.01	4	DOMINION RESOURC	D	2	74.16
2	BB&T CORPORATION	BBT	1	38.50	2	E*TRADE FINANCIA	ETFC	2	26.38
New	CARDINAL HEALTH	CAH	1	79.67	8	ELECTRONIC ARTS	EA	2	81.23
2	COMERICA INCORPO	CMA	1	47.29	New	EMERSON	EMR	2	52.68
2	DELTA AIR LINES,	DAL	1	36.75	3	EXXONMOBIL CORP.	XOM	2	87.14
New	DOLLAR GENERAL C	DG	1	73.41	2	F5 NETWORKS, INC	FFIV	2	122.73
New	EXTRA SPACE STOR	EXR	1	80.55	3	FACEBOOK	FB	2	126.12
New	HCP, INC.	HCP	1	39.33	3	GILEAD SCIENCES	GILD	2	78.38
New	HP INC.	HPQ	1	14.37	New	HARTFORD FINANCI	HIG	2	41.07
2	INVESCO	IVZ	1	31.19	5	HUNTINGTON BANCS	HBAN	2	10.01
New	KIMCO REALTY COR	KIM	1	30.05	New	INTERCONTINENTAL	ICE	2	282.02
5	LEGG MASON INC	LM	1	34.59	4	LABORATORY CORPO	LH	2	136.93
New	MALLINCKRODT PLC	MNK	1	74.54	6	LENNAR CORPORATI	LEN	2	47.30
New	NEWS CORP	NWSA	1	14.06	4	LEVEL 3 COMMUNIC	LVLT	2	49.63
27	NVIDIA CORPORATI	NVDA	1	61.34	5	LYONDELLBASELL I	LYB	2	78.89
16	NETFLIX, INC.	NFLX	1	97.45	5	MICROSOFT CORP	MSFT	2	57.46
New	PERRIGO COMPANY	PRGO	1	90.99	5	MORGAN STANLEY	MS	2	32.06
2	PROLOGIS, INC.	PLD	1	53.11	5	NORTHERN TRUST C	NTRS	2	70.59
5	PULTEGROUP INC.	PHM	1	21.37	New	OCCIDENTAL PETRO	OXY	2	76.85
2	REGIONS FINANCIA	RF	1	9.97	6	PHILIP MORRIS IN	PM	2	99.93
3	SALESFORCE.COM,	CRM	1	79.42	2	PIONEER NATURAL	PXD	2	179.05
11	SPECTRA ENERGY	SE	1	35.62	3	PRINCIPAL FINANC	PFG	2	49.07
New	THE MACERICH CO.	MAC	1	81.89	New	STAPLES, INC.	SPLS	2	8.56
New	THE WESTERN UNIO	WU	1	21.52	2	T. ROWE PRICE GR	TROW	2	69.54
3	WALGREENS BOOTS	WBA	1	80.71	2	TE CONNECTIVITY	TEL	2	63.57
2	WATERS CORPORATI	WAT	1	157.31	2	TEXTRON	TXT	2	40.85
2	AIR PRODUCTS	APD	2	155.62	3	THE KROGER CO.	KR	2	31.99
2	ALASKA AIR GROUP	ALK	2	67.53	2	THE PNC FINANCIA	PNC	2	90.10
4	AMERICAN INTERNA	AIG	2	59.83	2	WALT DISNEY CO.	DIS	2	94.46
2	APPLE INC.	AAPL	2	106.10	New	WASTE MANAGEMENT	WM	2	63.94
23	AUTONATION, INC.	AN	2	47.35	New	WILLIS TOWERS WA	WLTW	2	124.01

Earnings Estimate Revision

Top 50 S&P 500 Companies By UPWARD EPS EST. REVISION

EPS Estimate Revision: The difference between the I/B/E/S FY1 estimate and that of three months ago divided by the absolute value of the I/B/E/S FY1 estimate of three months ago.





Source: BofA Merrill Lynch US Quantitative Strategy
The performance chart represents actual returns since July 1989. There are no back tested results.

Absolute Returns

Last 1 Month	-0.87%
Last 3 Months	3.37%
Last 6 Months	9.63%
Last 12 Months	4.08%
2016 YTD	1.54%

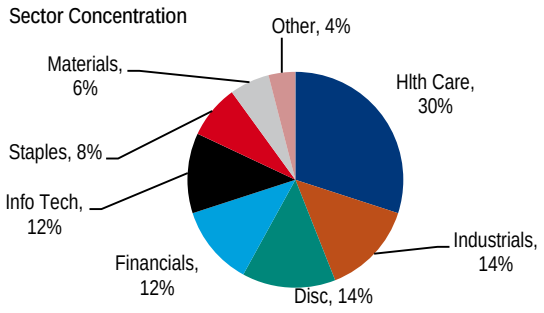
Screen for September

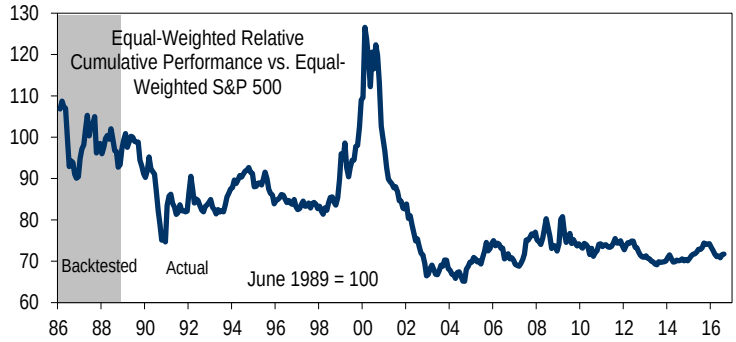
Mo. In Scrn.	Company	Ticker	EPS Est. Revision	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	EPS Est. Revision	Price 08/31/2016
3	LEUCADIA NATIONAL CORP	LUK	2.833	19.15	4	MARATHON OIL COR	MRO	0.183	15.02
New	NEWFIELD EXPLORA	NFX	2.409	43.36	13	NVIDIA CORPORATI	NVDA	0.182	61.34
New	APARTMENT INVEST	AIV	1.714	45.18	New	AUTODESK INC.	ADSK	0.163	67.40
3	CONCHO RESOURCES	CXO	1.526	129.20	New	OCCIDENTAL PETRO	OXY	0.161	76.85
4	SOUTHWESTERN ENE	SWN	1.217	13.91	New	ESSEX PROPERTY T	ESS	0.154	227.10
4	PIONEER NATURAL	PXD	0.754	179.05	2	NBL	NBL	0.145	34.48
4	DEVON ENERGY	DVN	0.737	43.33	New	KIMCO REALTY COR	KIM	0.126	30.05
4	TRANSOCEAN	RIG	0.556	9.70	New	HCP, INC.	HCP	0.109	39.33
New	SEAGATE TECHNOLO	STX	0.545	33.74	10	FACEBOOK	FB	0.104	126.12
4	RANGE RESOURCES	RRC	0.540	38.57	2	GARMIN	GRMN	0.099	49.08
5	CHESAPEAKE ENERG	CHK	0.450	6.35	New	MICROCHIP	MCHP	0.080	61.91
3	CABOT OIL & GAS	COG	0.448	24.63	4	AMAZON.COM	AMZN	0.078	769.16
6	NEWMONT MINING C	NEM	0.365	38.24	4	HESS CORP.	HES	0.073	54.30
5	MURPHY OIL CORP	MUR	0.350	26.72	4	WYNN RESORTS LTD	WYNN	0.071	89.32
3	NUCOR	NUE	0.340	48.51	New	ACTIVISION BLIZZ	ATVI	0.071	41.37
New	ENTERGY CORPORAT	ETR	0.311	78.20	2	CHEVRON CORP.	CVX	0.070	100.58
3	EQT CORP	EQT	0.309	71.50	2	FORTUNE BRANDS HOME & SECUR	FBHS	0.068	63.56
4	APACHE CORPORATI	APA	0.297	49.70	New	BOSTON PROPERTIE	BXP	0.068	140.13
7	APPLIED MATERIAL	AMAT	0.293	29.84	New	VENTAS INC.	VTR	0.067	72.67
New	PROLOGIS, INC.	PLD	0.277	53.11	New	BEST BUY CO., IN	BBY	0.064	38.48
New	VORNADO REALTY T	VNO	0.277	103.31	2	BIOGEN INC.	BIIB	0.063	305.63
2	EOG RESOURCES IN	EOG	0.240	88.49	New	NORDSTROM	JWN	0.063	50.46
3	ALCOA INC.	AA	0.225	10.08	New	LOCKHEED MARTIN	LMT	0.058	242.97
2	ANADARKO PETROLE	APC	0.210	53.47	New	DEERE & CO	DE	0.054	84.55
3	SMUCKER (JM) CO	SJM	0.202	141.79	New	UNITED RENTALS I	URI	0.054	82.31

Equity Duration

Top 50 S&P 500 Companies By HIGH DURATION

Equity Duration: An adaptation of our Dividend Discount Model that measures the interest-rate sensitivity of a stock. Longer duration (higher numbers) suggests more interest-rate sensitivity.





Absolute Returns

Last 1 Month	0.18%
Last 3 Months	4.70%
Last 6 Months	13.54%
Last 12 Months	7.80%
2016 YTD	5.65%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988.The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

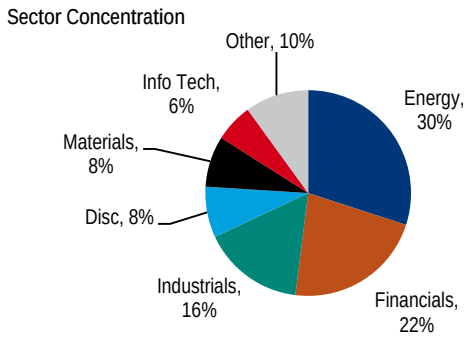
Screen for September

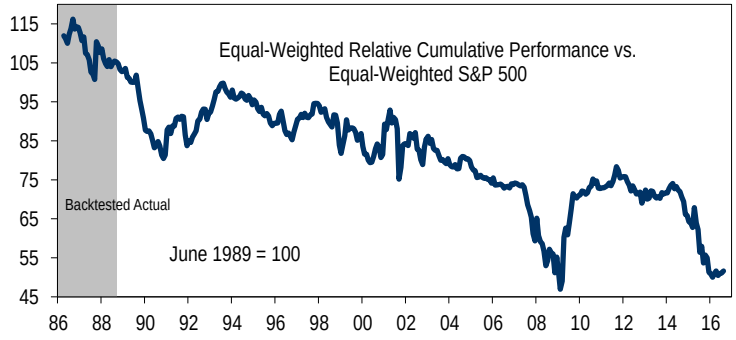
Mo. In Scrn.	Company	Ticker	Equity Duration	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Equity Duration	Price 08/31/2016
2	PIONEER NATURAL	PXD	85.3	179.05	3	TRANSDIGM GROUP	TDG	43.2	285.19
8	PENTAIR PLC	PNR	80.9	64.05	2	CINTAS CORPORATI	CTAS	43.1	117.51
New	AON CORP	AON	80.4	111.35	4	ADVANCE AUTO PAR	AAP	43.1	157.38
10	TRIPADVISOR LLC	TRIP	52.8	61.00	7	EXPEDIA INC	EXPE	43.0	109.12
36	ADOBE SYSTEMS IN	ADBE	52.1	102.31	9	CHURCH & DWIGHT	CHD	43.0	99.42
8	INTUITIVE SURGIC	ISRG	49.5	686.42	19	BOSTON PROPERTIE	BXP	42.9	140.13
2	FORTIVE CORPORAT	FTV	49.4	52.67	24	COSTCO WHOLESALE	COST	42.7	162.09
2	AMERICAN TOWER C	AMT	49.0	113.38	10	REGENERON PHARMA	REGN	42.6	392.55
2	BALL CORP.	BLL	48.8	79.19	76	SALESFORCE.COM,	CRM	42.6	79.42
2	DANAHER CORPORAT	DHR	48.3	81.41	11	VERISK ANALYTICS	VRSK	42.2	83.05
7	ILLUMINA, INC.	ILMN	48.2	168.34	12	COLGATE-PALMOLIV	CL	42.2	74.34
2	SPECTRA ENERGY	SE	48.1	35.62	9	BED BATH & BEYON	BBBY	42.0	46.37
4	NVIDIA CORPORATI	NVDA	47.4	61.34	20	PERKINELMER, INC	PKI	41.7	53.25
20	AMPHENOL CORPORA	APH	47.1	62.31	5	VORNADO REALTY T	VNO	41.6	103.31
14	NETFLIX, INC.	NFLX	46.2	97.45	5	ALLERGAN PLC.	AGN	41.6	234.54
32	BROWN-FORMAN COR	BF.B	44.8	48.55	5	JACOBS ENGINEERI	JEC	41.5	52.69
32	PERRIGO COMPANY	PRGO	44.8	90.99	7	SEALED AIR CORP.	SEE	41.4	47.13
32	DAVITA HEALTHCAR	DVA	44.1	64.63	6	HOLOGIC, INC.	HOLX	41.4	38.42
4	SYMANTEC CORPORA	SYMC	44.1	24.13	2	EBAY	EBAY	41.3	32.16
20	BOSTON SCIENTIFI	BSX	44.0	23.82	2	EDWARDS LIFESCIE	EW	41.3	115.16
20	BIOGEN INC.	BIIB	43.8	305.63	7	AETNA INC	AET	41.3	117.12
24	UNIVERSAL HEALTH	UHS	43.6	120.53	8	ALCOA INC.	AA	41.1	10.08
7	PVH CORP	PVH	43.6	107.76	New	NEWS CORP	NWSA	41.0	14.06
6	TEXTRON	TXT	43.5	40.85	12	CR BARD INC	BCR	40.9	220.84
4	WILLIS TOWERS WA	WLTW	43.4	124.01	7	FEDERAL REALTY I	FRT	40.7	159.00

GROWTH (NEGATIVE) STRATEGIES: Earnings Torpedo

Top S&P 500 Companies By LOW EPS TORPEDO

Earnings Torpedo: I/B/E/S FY2 estimate less latest actual annual EPS divided by month-end price.





Absolute Returns

Last 1 Month	1.10%
Last 3 Months	6.43%
Last 6 Months	18.60%
Last 12 Months	-1.86%
2016 YTD	10.14%

Source: BofA Merrill Lynch US Quantitative Strategy

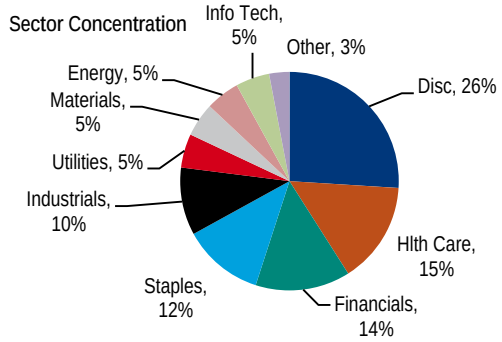
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988.The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

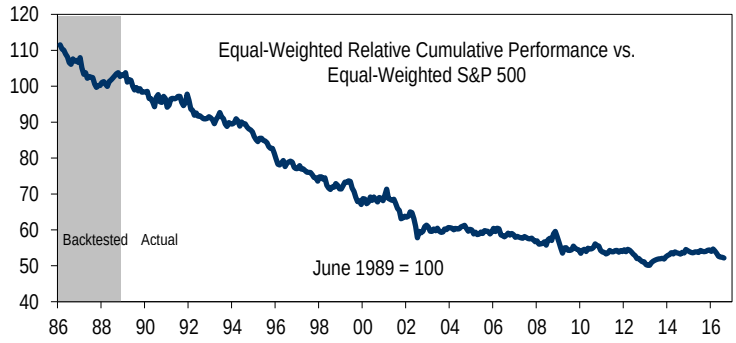
Screen for September

Mo. In Scrn.	Company	Ticker	EPS Torpedo	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	EPS Torpedo	Price 08/31/2016
29	TRANSOCEAN	RIG	-0.419	9.70	8	DEERE & CO	DE	-0.023	84.55
15	MICRON TECHNOLOG	MU	-0.130	16.49	New	APARTMENT INVEST	AIV	-0.019	45.18
8	AMERICAN AIRLINE	AAL	-0.117	36.30	7	SCHLUMBERGER	SLB	-0.018	79.00
29	DIAMOND OFFSHORE	DO	-0.112	18.47	7	FIFTH THIRD BANC	FITB	-0.016	20.16
8	UNITED CONTINENT	UAL	-0.104	50.41	7	FRANKLIN RESOURC	BEN	-0.015	36.50
7	CF INDUSTRIES	CF	-0.104	26.00	6	HALLIBURTON COMP	HAL	-0.015	43.01
7	TESORO CORP.	TSO	-0.104	75.42	New	EQUITY RESIDENTI	EQR	-0.015	64.87
19	NATIONAL OILWELL	NOV	-0.095	33.54	4	GAP INC.	GPS	-0.015	24.87
7	FIRST SOLAR, INC	FSLR	-0.080	37.82	7	PACCAR INC	PCAR	-0.014	59.84
8	VALERO ENERGY CO	VLO	-0.072	55.35	7	CATERPILLAR INC	CAT	-0.013	81.95
21	HELMERICH & PAYN	HP	-0.070	60.46	13	AUTODESK INC.	ADSK	-0.012	67.40
7	THE MOSAIC COMPA	MOS	-0.061	30.07	8	FLUOR CORP	FLR	-0.012	51.90
7	MARATHON PETROLE	MPC	-0.058	42.51	2	GILEAD SCIENCES	GILD	-0.012	78.38
16	FRONTIER COMMUNI	FTR	-0.048	4.60	7	CENTURYLINK INC	CTL	-0.012	27.80
19	FMC TECHNOLOGIES	FTI	-0.046	28.20	5	CHIPOTLE MEXICAN	CMG	-0.011	413.73
New	KIMCO REALTY COR	KIM	-0.042	30.05	New	PROLOGIS, INC.	PLD	-0.011	53.11
23	NBL	NBL	-0.032	34.48	7	ENTERGY CORPORAT	ETR	-0.011	78.20
New	CROWN CASTLE INT	CCI	-0.031	94.77	8	FLOWSERVE CORP.	FLS	-0.010	48.37
3	VIACOM INC. (CL.	VIAB	-0.029	40.34	7	CONCHO RESOURCES	CXO	-0.009	129.20
20	DEVON ENERGY	DVN	-0.028	43.33	7	THE TRAVELERS CO	TRV	-0.009	118.71
New	UDR, INC.	UDR	-0.028	36.18	7	LYONDELLBASELL I	LYB	-0.009	78.89
4	PHILLIPS 66	PSX	-0.027	78.45	4	MACY'S	M	-0.008	36.18
7	WESTROCK	WRK	-0.025	47.90	8	AES CORPORATION	AES	-0.008	12.07
New	GENERAL GROWTH P	GGP	-0.024	29.14	21	RANGE RESOURCES	RRC	-0.008	38.57
New	THE MACERICH CO.	MAC	-0.023	81.89	7	CUMMINS INC	CMI	-0.008	125.61

Forecast Negative Earnings Surprise

Top S&P 500 Companies By NEGATIVE EPS SURPRISE





Absolute Returns

Last 1 Month	-0.36%
Last 3 Months	3.16%
Last 6 Months	9.59%
Last 12 Months	6.27%
2016 YTD	4.85%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

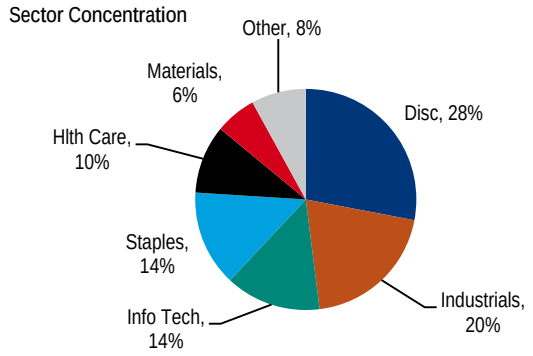
Screen for September

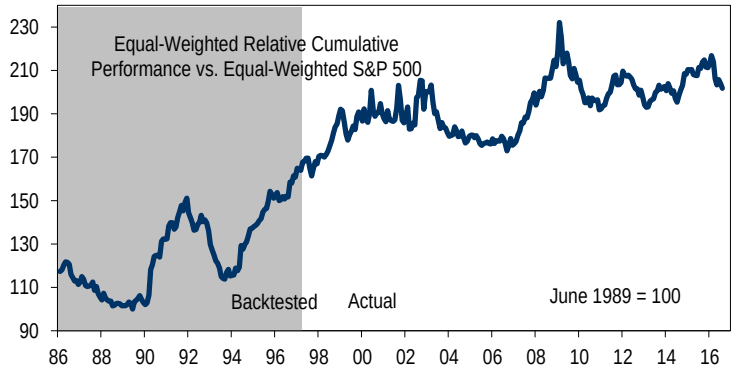
Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	ML vs. Con	Price 08/31/2016
New	ALLERGAN PLC.	AGN	10	234.54	3	AFFILIATED MANAG	AMG	9	142.05
New	ALTRIA GROUP, IN	MO	10	66.09	5	ASSURANT INC.	AIZ	9	89.55
2	ANADARKO PETROLE	APC	10	53.47	5	BED BATH & BEYON	BBBY	9	46.37
2	BAXTER HEALTHCAR	BAX	10	46.73	New	BOSTON SCIENTIFI	BSX	9	23.82
New	CBRE GROUP	CBG	10	29.89	2	BROWN-FORMAN COR	BF.B	9	48.55
10	CF INDUSTRIES	CF	10	26.00	New	CENTURYLINK INC	CTL	9	27.80
2	CHIPOTLE MEXICAN	CMG	10	413.73	8	CAMPBELL SOUP	CPB	9	60.72
17	COACH INC.	COH	10	38.18	2	CITIGROUP INC.	C	9	47.74
12	CONAGRA FOODS, I	CAG	10	46.61	New	CLOROX CO.	CLX	9	131.04
3	DISCOVER FINANCI	DFS	10	60.00	2	CONSOLIDATED EDI	ED	9	75.25
17	DR PEPPER SNAPPL	DPS	10	93.70	5	DOW CHEMICAL	DOW	9	53.64
New	ENTERGY CORPORAT	ETR	10	78.20	New	DTE ENERGY COMPA	DTE	9	92.90
2	EXPRESS SCRIPTS	ESRX	10	72.70	New	DELPHI AUTOMOTIV	DLPH	9	70.66
New	FIFTH THIRD BANC	FITB	10	20.16	New	DOLLAR TREE, INC	DLTR	9	82.70
New	FOOT LOCKER	FL	10	65.64	3	ELI LILLY & CO.	LLY	9	77.75
New	FRONTIER COMMUNI	FTR	10	4.60	New	ESTEE LAUDER	EL	9	89.23
10	GAP INC.	GPS	10	24.87	11	FLUOR CORP	FLR	9	51.90
2	HESS CORP.	HES	10	54.30	New	FIRST SOLAR, INC	FSLR	9	37.82
26	INTUITIVE SURGIC	ISRG	10	686.42	2	GENERAL MOTORS	GM	9	31.92
2	KANSAS CITY SOUT	KSU	10	96.72	5	GENUINE PARTS CO	GPC	9	102.82
4	L BRANDS INC	LB	10	76.21	2	J.B. HUNT TRANSP	JBHT	9	79.39
2	M&T BANK CORP	MTB	10	118.33	New	KELLOGG CO	K	9	82.21
13	MARSH & MCLENNAN	MMC	10	67.63	5	NASDAQ INC	NDAQ	9	71.21
2	MCDONALD'S CORPO	MCD	10	115.66	New	NEWFIELD EXPLORA	NFX	9	43.36
3	MEDTRONIC, INC	MDT	10	87.03	6	NIKE	NKE	9	57.64
11	MERCK & CO.	MRK	10	62.79	New	NORTHROP GRUMMAN	NOC	9	212.07
3	MICHAEL KORS HOL	KORS	10	48.95	2	NUCOR	NUE	9	48.51
11	MICRON TECHNOLOG	MU	10	16.49	13	ROSS STORES INC	ROST	9	62.24
4	MYLAN INC.	MYL	10	42.36	7	REGENERON PHARMA	REGN	9	392.55
New	RAYTHEON CO.	RTN	10	140.13	2	STARBUCKS CORP	SBUX	9	56.23
2	ROCKWELL	ROK	10	115.93	2	SCRIPPS NETWORKS	SNI	9	63.37
4	SOUTHERN COMPANY	SO	10	51.33	10	SYNCHRONY FINANC	SYF	9	27.83
New	TESORO CORP.	TSO	10	75.42	24	TJX COMPANIES, I	TJX	9	77.44
2	THE COCA COLA CO	KO	10	43.43	New	TARGET CORP.	TGT	9	70.19
5	UPS	UPS	10	109.22	New	THE MOSAIC COMPA	MOS	9	30.07
New	URBAN OUTFITTERS	URBN	10	35.85	New	THERMO FISHER SC	TMO	9	152.19
4	WYNN RESORTS LTD	WYNN	10	89.32	2	U.S. BANCORP	USB	9	44.15
4	WESTERN DIGITAL	WDC	10	46.67	4	UNIVERSAL HEALTH	UHS	9	120.53
New	ACTIVISION BLIZZ	ATVI	9	41.37	2	VERISK ANALYTICS	VRSK	9	83.05

QUALITY STRATEGIES: One-Year Return on Equity

Top 50 S&P 500 Companies By ROE (1-Yr Average)

Return on Equity One-Year Average: Net income divided by average equity provided.





Absolute Returns

Last 1 Month	-1.02%
Last 3 Months	3.25%
Last 6 Months	6.89%
Last 12 Months	5.36%
2016 YTD	4.45%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance.

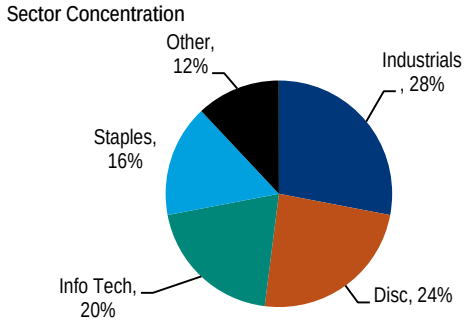
Screen for September

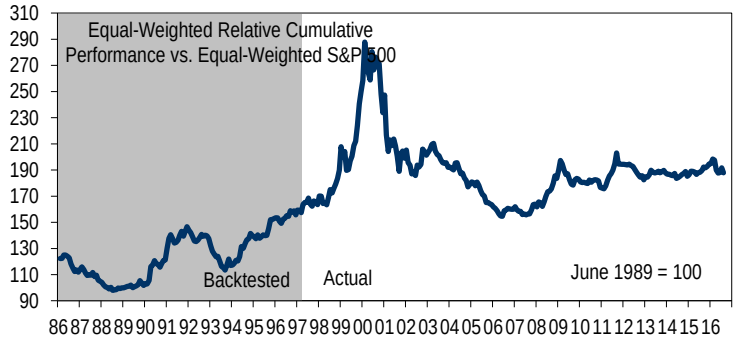
Mo. In Scrn.	Company	Ticker	ROE	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	ROE	Price 08/31/2016
8	KIMBERLY-CLARK C	KMB	550.8	128.06	14	BROWN-FORMAN COR	BF.B	69.5	48.55
2	MEAD JOHNSON	MJN	524.1	85.07	86	THE WESTERN UNIO	WU	63.8	21.52
31	CLOROX CO.	CLX	312.3	131.04	19	WYNDHAM WORLDWIDE CORP	WYN	63.0	70.79
169	YUM! BRANDS, INC	YUM	241.7	90.71	53	MASTERCARD, INC	MA	62.2	96.63
New	UPS	UPS	218.0	109.22	34	VIACOM INC. (CL.	VIAB	59.4	40.34
5	ALLEGION	ALLE	211.8	71.22	New	BAXTER HEALTHCAR	BAX	58.0	46.73
41	PITNEY BOWES INC	PBI	209.5	18.76	62	ACCENTURE PLC	ACN	58.0	115.00
5	S&P GLOBAL INC	SPGI	206.7	123.54	26	LYONDELLBASELL I	LYB	57.8	78.89
89	ALTRIA GROUP, IN	MO	190.7	66.09	23	O'REILLY AUTOMOT	ORLY	54.5	279.95
17	AMERICAN AIRLINE	AAL	166.7	36.30	103	TJX COMPANIES, I	TJX	53.3	77.44
8	KLA-TENCOR CORP.	KLAC	126.9	69.26	New	ZOETIS INC.	ZTS	50.5	51.10
113	LOCKHEED MARTIN	LMT	124.3	242.97	9	BLOCK H & R INC	HRB	48.9	21.66
19	SHERWIN-WILLIAMS	SHW	111.3	283.71	8	SCRIPPS NETWORKS	SNI	46.8	63.37
7	UNITED CONTINENT	UAL	109.9	50.41	45	DELPHI AUTOMOTIV	DLPH	46.3	70.66
80	BOEING CO.	BA	108.5	129.45	4	INTUIT INC.	INTU	46.1	111.45
28	GILEAD SCIENCES	GILD	102.7	78.38	New	STARBUCKS CORP	SBUX	46.1	56.23
New	ABBVIE	ABBV	102.7	64.10	4	OMNICOM GROUP	OMC	45.3	86.13
32	THE HOME DEPOT,	HD	97.3	134.12	8	DELTA AIR LINES,	DAL	44.8	36.75
4	AMERISOURCEBERGE	ABC	95.4	86.97	23	C.H. ROBINSON WO	CHRW	44.5	69.42
29	VERIZON COMMUNIC	VZ	94.2	52.33	163	CAMPBELL SOUP	CPB	43.5	60.72
7	MOTOROLA SOLUTIONS INC	MSI	93.4	76.99	2	SEALED AIR CORP.	SEE	42.3	47.13
New	MCDONALD'S CORPO	MCD	84.5	115.66	2	MICHAEL KORS HOL	KORS	42.2	48.95
110	INTERNATIONAL BU	IBM	81.2	158.88	42	ROSS STORES INC	ROST	42.1	62.24
58	THE HERSHEY COMP	HSY	79.2	99.89	7	LEVEL 3 COMMUNIC	LVLT	41.5	49.63
16	ONEOK, INC.	OKE	75.2	46.89	2	UNITED RENTALS I	URI	41.3	82.31

Five-Year Return on Equity

Top 50 S&P 500 Companies By ROE (5-Yr Average)

Return on Equity Five-year Average: Five-year average return on equity.





Absolute Returns

Last 1 Month	-1.97%
Last 3 Months	4.19%
Last 6 Months	8.76%
Last 12 Months	9.14%
2016 YTD	5.61%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for September

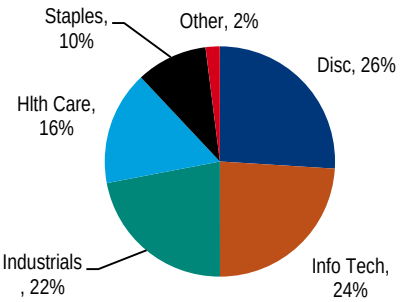
Mo. In Scrn	Company	Ticker	5-Yr Avg ROE	Price 08/31/2016	Mo. In Scrn	Company	Ticker	5-Yr Avg ROE	Price 08/31/2016
43	MOODY'S CORP	MCO	728.8	108.69	66	GILEAD SCIENCES	GILD	60.6	78.38
7	ALLEGION	ALLE	501.6	71.22	114	THE HERSHEY COMP	HSY	60.2	99.89
111	PITNEY BOWES INC	PBI	489.8	18.76	19	SHERWIN-WILLIAMS	SHW	56.8	283.71
102	PHILIP MORRIS IN	PM	460.0	99.93	25	SEAGATE TECHNOLO	STX	53.7	33.74
31	MEAD JOHNSON	MJN	292.3	85.07	184	TJX COMPANIES, I	TJX	52.5	77.44
7	AMERICAN AIRLINE	AAL	198.8	36.30	19	GOODYEAR TIRE & RUBBER CO	GT	50.6	29.35
79	LOCKHEED MARTIN	LMT	191.6	242.97	19	MARRIOTT INTERNA	MAR	49.3	71.33
11	VERISK ANALYTICS	VRSK	166.5	83.05	7	VERISIGN INC	VRSN	47.1	74.45
164	COLGATE-PALMOLIV	CL	151.6	74.34	34	MICHAEL KORS HOL	KORS	46.5	48.95
78	ALTRIA GROUP, IN	MO	128.6	66.09	31	MASTERCARD, INC	MA	46.2	96.63
33	ALLIANCE DATA SYSTEMS CORP	ADS	112.7	204.58	31	DELPHI AUTOMOTIV	DLPH	46.1	70.66
42	L BRANDS INC	LB	105.4	76.21	6	THE HOME DEPOT,	HD	46.0	134.12
78	KIMBERLY-CLARK C	KMB	104.8	128.06	66	ROSS STORES INC	ROST	45.1	62.24
5	S&P GLOBAL INC	SPGI	97.8	123.54	85	LINEAR TECHNOLOG	LLTC	43.3	58.24
31	THE WESTERN UNIO	WU	96.1	21.52	111	KELLOGG CO	K	42.9	82.21
19	DELTA AIR LINES,	DAL	91.4	36.75	7	WYNN RESORTS LTD	WYNN	41.6	89.32
42	ABBVIE	ABBV	87.0	64.10	7	MASCO CORP	MAS	41.6	35.48
90	INTERNATIONAL BU	IBM	86.2	158.88	66	C.H. ROBINSON WO	CHRW	40.8	69.42
42	UPS	UPS	84.7	109.22	3	TRANSDIGM GROUP	TDG	40.8	285.19
43	FORD MOTOR CO	F	78.4	12.60	7	VERIZON COMMUNIC	VZ	40.6	52.33
91	BOEING CO.	BA	74.1	129.45	New	KLA-TENCOR CORP.	KLAC	40.3	69.26
111	YUM! BRANDS, INC	YUM	74.1	90.71	111	ROCKWELL COLLINS	COL	40.2	83.69
24	UNITED RENTALS I	URI	68.1	82.31	10	VIACOM INC. (CL.	VIAB	39.6	40.34
111	CAMPBELL SOUP	CPB	64.2	60.72	14	J.B. HUNT TRANSP	JBHT	39.3	79.39
62	ACCENTURE PLC	ACN	62.0	115.00	46	APPLE INC.	AAPL	39.0	106.10

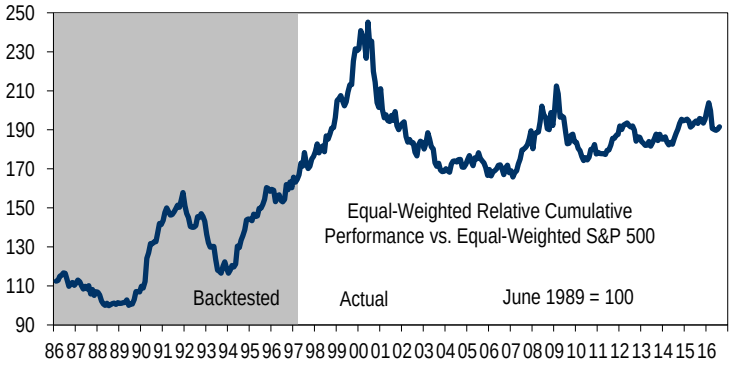
One-Year Return on Equity (Adjusted for Debt)

Top 50 S&P 500 Companies By ROE (1-Yr Avg. Adj. for Debt)

Return on Equity One-Year Average (Adjusted for Debt): The ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

Sector Concentration





Absolute Returns

Last 1 Month	0.63%
Last 3 Months	4.80%
Last 6 Months	7.92%
Last 12 Months	9.13%
2016 YTD	7.21%

Source: BofA Merrill Lynch US Quantitative Strategy

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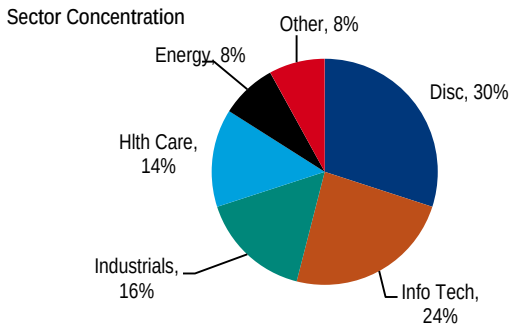
Screen for September

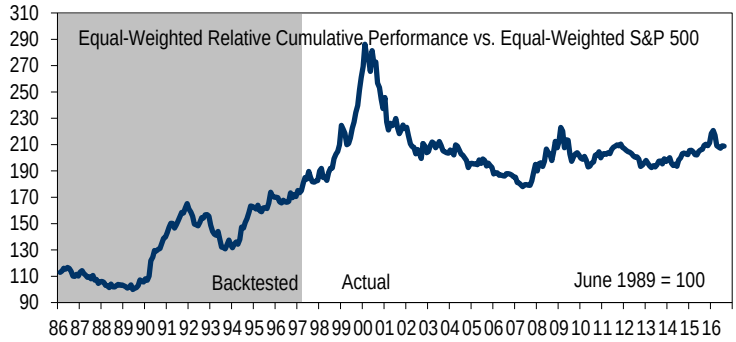
Mo. In Scrn.	Company	Ticker	Debt Adj ROE	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Debt Adj ROE	Price 08/31/2016
36	ACCENTURE PLC	ACN	57.8	115.00	103	AUTOMATIC DATA P	ADP	17.7	89.81
New	BAXTER HEALTHCAR	BAX	43.7	46.73	38	APPLE INC.	AAPL	17.3	106.10
42	ROSS STORES INC	ROST	35.7	62.24	14	V F CORP	VFC	17.1	62.05
56	ROBERT HALF INTL	RHI	35.0	38.33	26	EDWARDS LIFESCIE	EW	16.8	115.16
213	TJX COMPANIES, I	TJX	33.9	77.44	4	BEST BUY CO., IN	BBY	15.6	38.48
4	ALASKA AIR GROUP	ALK	30.2	67.53	7	SNAP-ON INC	SNA	15.3	153.29
86	MASTERCARD, INC	MA	27.0	96.63	19	COGNIZANT TECHNO	CTSH	15.0	57.44
34	C.H. ROBINSON WO	CHRW	26.9	69.42	4	CHURCH & DWIGHT	CHD	14.9	99.42
4	INTUIT INC.	INTU	26.7	111.45	11	ALPHABET INC	GOOGL	14.8	789.85
32	TRACTOR SUPPLY C	TSCO	25.3	83.95	11	MONDELEZ INTERNA	MDLZ	14.7	45.02
113	NIKE	NKE	25.2	57.64	61	ESTEE LAUDER	EL	14.4	89.23
20	ELECTRONIC ARTS	EA	24.0	81.23	4	ACUITY BRANDS INC	AYI	14.4	275.12
14	SOUTHWEST AIRLIN	LUV	22.7	36.88	4	COSTCO WHOLESALE	COST	13.9	162.09
14	FASTENAL CO	FAST	22.5	43.11	New	JOHNSON & JOHNSO	JNJ	13.8	119.34
20	TEXAS INSTRUMENT	TXN	21.4	69.54	5	CERNER CORP	CERN	13.8	64.54
7	NVIDIA CORPORATI	NVDA	20.6	61.34	2	BIOGEN INC.	BIIB	13.6	305.63
3	FOOT LOCKER	FL	20.5	65.64	8	WALT DISNEY CO.	DIS	13.4	94.46
New	STARBUCKS CORP	SBUX	20.3	56.23	7	XILINX INC.	XLNX	13.4	54.21
59	GENUINE PARTS CO	GPC	19.9	102.82	28	CUMMINS INC	CMI	13.2	125.61
17	GENERAL DYNAMICS	GD	19.7	152.22	2	MOHAWK INDUSTRIES INC	MHK	13.1	212.78
8	DELTA AIR LINES,	DAL	19.4	36.75	2	BED BATH & BEYON	BBBY	13.0	46.37
26	HORMEL FOODS CORP	HRL	18.9	38.26	2	HONEYWELL INTERN	HON	12.9	116.71
35	VARIAN MEDICAL SYSTEMS INC	VAR	18.5	96.13	9	HENRY SCHEIN	HSIC	12.9	163.79
13	REGENERON PHARMA	REGN	18.3	392.55	2	PUBLIC STORAGE,	PSA	12.5	223.94
6	URBAN OUTFITTERS	URBN	17.9	35.85	5	FIRST SOLAR, INC	FSLR	12.4	37.82

Five-Year Return on Equity (Adjusted by Debt)

Top 50 S&P 500 Companies By ROE (5-Yr Avg. Adj. for Debt)

Return on Equity Five-year Average (Adjusted for Debt): The average five year ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.





Absolute Returns

Last 1 Month	-0.10%
Last 3 Months	4.46%
Last 6 Months	8.68%
Last 12 Months	11.41%
2016 YTD	8.11%

Source: BofA Merrill Lynch US Quantitative Strategy

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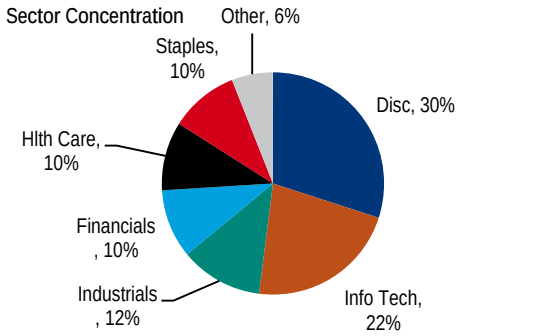
Screen for September

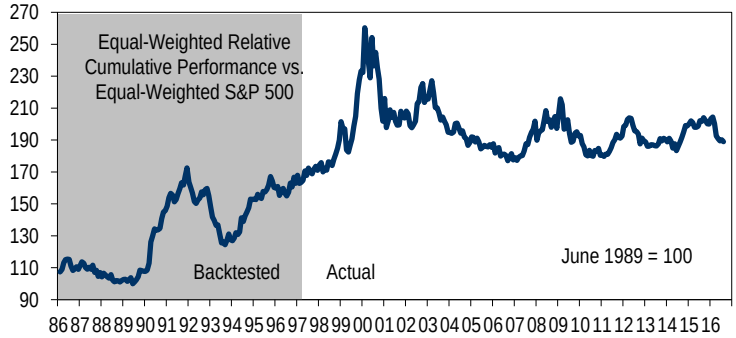
Mo. In Scrn.	Company	Ticker	Debt Adj 5Yr ROE	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Debt Adj 5Yr ROE	Price 08/31/2016
36	ACCENTURE PLC	ACN	61.8	115.00	5	FOOT LOCKER	FL	17.3	65.64
14	DELTA AIR LINES,	DAL	39.6	36.75	151	EXXONMOBIL CORP.	XOM	16.9	87.14
81	ROSS STORES INC	ROST	38.2	62.24	34	HORMEL FOODS CORP	HRL	16.9	38.26
118	TJX COMPANIES, I	TJX	33.4	77.44	13	URBAN OUTFITTERS	URBN	16.6	35.85
39	ROBERT HALF INTL	RHI	28.1	38.33	16	TEXAS INSTRUMENT	TXN	15.8	69.54
50	TRIPADVISOR LLC	TRIP	27.2	61.00	11	ALPHABET INC	GOOGL	15.7	789.85
34	C.H. ROBINSON WO	CHRW	24.6	69.42	37	ESTEE LAUDER	EL	14.8	89.23
32	TRACTOR SUPPLY C	TSCO	23.9	83.95	13	V F CORP	VFC	14.7	62.05
31	CHIPOTLE MEXICAN	CMG	23.8	413.73	4	INTUIT INC.	INTU	13.8	111.45
17	COACH INC.	COH	23.2	38.18	5	SNAP-ON INC	SNA	13.8	153.29
35	VARIAN MEDICAL SYSTEMS INC	VAR	23.0	96.13	5	AUTOMATIC DATA P	ADP	13.8	89.81
4	ALASKA AIR GROUP	ALK	22.9	67.53	2	ROCKWELL COLLINS	COL	13.7	83.69
14	FASTENAL CO	FAST	21.8	43.11	11	AFLAC INC	AFL	13.7	74.18
162	NIKE	NKE	21.3	57.64	22	STARBUCKS CORP	SBUX	13.4	56.23
19	COGNIZANT TECHNO	CTSH	20.0	57.44	31	POLO RALPH LAURE	RL	13.3	103.62
79	MASTERCARD, INC	MA	20.0	96.63	6	NVIDIA CORPORATI	NVDA	13.2	61.34
43	GENUINE PARTS CO	GPC	19.8	102.82	231	JOHNSON & JOHNSO	JNJ	13.1	119.34
19	EDWARDS LIFESCIE	EW	19.5	115.16	31	INTEL CORPORATIO	INTC	13.0	35.89
7	REGENERON PHARMA	REGN	19.2	392.55	13	XILINX INC.	XLNX	13.0	54.21
109	CUMMINS INC	CMI	19.1	125.61	7	HELMERICH & PAYN	HP	12.8	60.46
10	BAXTER HEALTHCAR	BAX	18.5	46.73	2	CERNER CORP	CERN	12.7	64.54
10	ADVANCE AUTO PAR	AAP	18.1	157.38	13	FMC TECHNOLOGIES	FTI	12.6	28.20
38	APPLE INC.	AAPL	17.8	106.10	2	PHILLIPS 66	PSX	12.6	78.45
31	FRANKLIN RESOURC	BEN	17.7	36.50	New	QUALCOMM INC.	QCOM	12.3	63.07
40	GAP INC.	GPS	17.4	24.87	2	HENRY SCHEIN	HSIC	12.2	163.79

Return on Assets

Top 50 S&P 500 Companies by ROA

Return on Assets: Net income plus interest and taxes as a percent of average total assets.





Absolute Returns

Last 1 Month	-0.63%
Last 3 Months	3.08%
Last 6 Months	6.18%
Last 12 Months	3.17%
2016 YTD	3.33%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

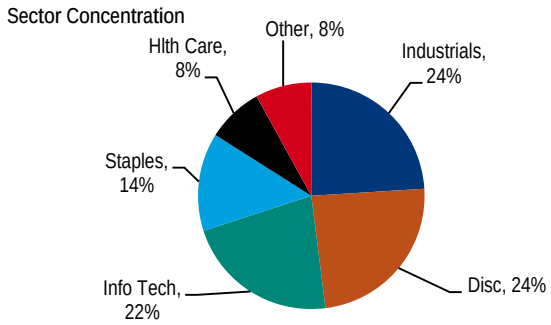
Screen for September

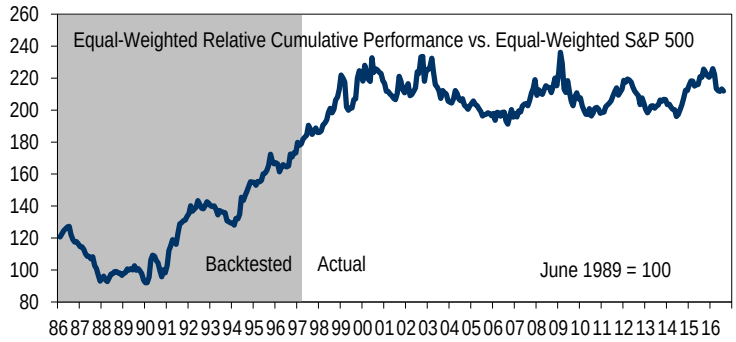
Mo. In Scrn.	Company	Ticker	ROA	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	ROA	Price 08/31/2016
29	GILEAD SCIENCES	GILD	36.7	78.38	7	YUM! BRANDS, INC	YUM	17.3	90.71
34	MICHAEL KORS HOL	KORS	30.9	48.95	32	LYONDELLBASELL I	LYB	17.1	78.89
18	SKYWORKS SOLUTIO	SWKS	26.2	74.86	14	VERISIGN INC	VRSN	17.0	74.45
155	LINEAR TECHNOLOG	LLTC	25.1	58.24	19	THE HOME DEPOT,	HD	16.9	134.12
82	MASTERCARD, INC	MA	24.1	96.63	80	APPLE INC.	AAPL	16.5	106.10
49	BROWN-FORMAN COR	BF.B	23.2	48.55	5	S&P GLOBAL INC	SPGI	16.5	123.54
42	ROSS STORES INC	ROST	21.0	62.24	7	UNITED CONTINENT	UAL	16.4	50.41
44	ROBERT HALF INTL	RHI	20.8	38.33	5	ULTA SALON COSMETCS & FRAG	ULTA	16.3	247.21
New	BAXTER HEALTHCAR	BAX	20.8	46.73	7	LEVEL 3 COMMUNIC	LVLT	15.8	49.63
62	ACCENTURE PLC	ACN	20.7	115.00	13	EXPEDITORS INTL WASH INC	EXPD	15.8	50.65
89	TJX COMPANIES, I	TJX	20.2	77.44	20	F5 NETWORKS, INC	FFIV	15.7	122.73
New	STARBUCKS CORP	SBUX	20.0	56.23	19	C.H. ROBINSON WO	CHRW	15.6	69.42
41	BIOGEN INC.	BIIB	20.0	305.63	23	3M COMPANY	MMM	15.2	179.24
96	FASTENAL CO	FAST	19.5	43.11	13	CLOROX CO.	CLX	14.9	131.04
91	PHILIP MORRIS IN	PM	19.3	99.93	5	FOOT LOCKER	FL	14.9	65.64
5	EQUITY RESIDENTI	EQR	19.0	64.87	16	AUTOZONE INC.	AZO	14.7	741.80
4	ELECTRONIC ARTS	EA	18.7	81.23	82	PRICELINE.COM	PCLN	14.5	1416.73
20	TEXAS INSTRUMENT	TXN	18.5	69.54	2	KLA-TENCOR CORP.	KLAC	14.4	69.26
14	ALTRIA GROUP, IN	MO	17.9	66.09	2	O'REILLY AUTOMOT	ORLY	14.4	279.95
80	T. ROWE PRICE GR	TROW	17.9	69.54	2	PUBLIC STORAGE,	PSA	14.0	223.94
181	MOODY'S CORP	MCO	17.7	108.69	New	MCDONALD'S CORPO	MCD	13.9	115.66
45	NIKE	NKE	17.5	57.64	4	REGENERON PHARMA	REGN	13.8	392.55
4	INTUIT INC.	INTU	17.5	111.45	2	EDWARDS LIFESCIE	EW	13.8	115.16
32	TRACTOR SUPPLY C	TSCO	17.4	83.95	New	MARRIOTT INTERNA	MAR	13.5	71.33
16	SHERWIN-WILLIAMS	SHW	17.4	283.71	New	THE HERSHEY COMP	HSY	13.5	99.89

Return on Capital

Top 50 S&P 500 Companies By ROC

Return on Capital: The sum of net income, interest expense and minority interest, as a percent of average total invested capital which is inclusive of long-term debt, preferred stock, common equity, and minority interest.





Absolute Returns

Last 1 Month	-0.58%
Last 3 Months	3.96%
Last 6 Months	7.75%
Last 12 Months	5.82%
2016 YTD	5.09%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end April 1997. The unshaded portion represents actual performance since May 1997. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for September

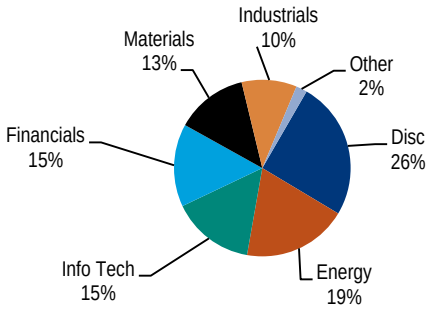
Mo. In Scrn.	Company	Ticker	Ret on Cap	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Ret on Cap	Price 08/31/2016
5	VERISIGN INC	VRSN	303%	74.45	7	YUM! BRANDS, INC	YUM	33%	90.71
47	MARRIOTT INTERNA	MAR	245%	71.33	14	AMERICAN AIRLINE	AAL	32%	36.30
62	ACCENTURE PLC	ACN	59%	115.00	4	AMERISOURCEBERGE	ABC	32%	86.97
102	PHILIP MORRIS IN	PM	56%	99.93	4	BAXTER HEALTHCAR	BAX	32%	46.73
34	DUN & BRADSTREET CORP	DNB	54%	137.65	31	BOEING CO.	BA	32%	129.45
26	GILEAD SCIENCES	GILD	52%	78.38	23	STARBUCKS CORP	SBUX	32%	56.23
31	SHERWIN-WILLIAMS	SHW	48%	283.71	18	THE HOME DEPOT,	HD	32%	134.12
95	AUTOZONE INC.	AZO	45%	741.80	4	ALASKA AIR GROUP	ALK	31%	67.53
86	MASTERCARD, INC	MA	45%	96.63	115	C.H. ROBINSON WO	CHRW	31%	69.42
5	S&P GLOBAL INC	SPGI	45%	123.54	94	LOCKHEED MARTIN	LMT	30%	242.97
11	UNITED CONTINENT	UAL	44%	50.41	14	O'REILLY AUTOMOT	ORLY	30%	279.95
34	MICHAEL KORS HOL	KORS	42%	48.95	8	DELTA AIR LINES,	DAL	29%	36.75
109	PAYCHEX	PAYX	41%	60.67	4	ELECTRONIC ARTS	EA	29%	81.23
16	UPS	UPS	41%	109.22	New	FORTIVE CORPORAT	FTV	29%	52.67
53	ALTRIA GROUP, IN	MO	40%	66.09	98	LINEAR TECHNOLOG	LLTC	29%	58.24
98	TJX COMPANIES, I	TJX	39%	77.44	26	LYONDELLBASELL I	LYB	29%	78.89
7	INTUIT INC.	INTU	37%	111.45	14	SKYWORKS SOLUTIO	SWKS	29%	74.86
55	CLOROX CO.	CLX	36%	131.04	14	F5 NETWORKS, INC	FFIV	28%	122.73
74	MOODY'S CORP	MCO	36%	108.69	2	AUTOMATIC DATA P	ADP	27%	89.81
81	ROSS STORES INC	ROST	36%	62.24	13	NIKE	NKE	27%	57.64
9	BROWN-FORMAN COR	BF.B	35%	48.55	32	TRACTOR SUPPLY C	TSCO	27%	83.95
38	ROBERT HALF INTL	RHI	35%	38.33	83	APPLE INC.	AAPL	26%	106.10
2	KIMBERLY-CLARK C	KMB	34%	128.06	20	BIOGEN INC.	BIIB	26%	305.63
42	L BRANDS INC	LB	34%	76.21	New	COLGATE-PALMOLIV	CL	26%	74.34
2	THE HERSHEY COMP	HSY	33%	99.89	New	SOUTHWEST AIRLIN	LUV	26%	36.88

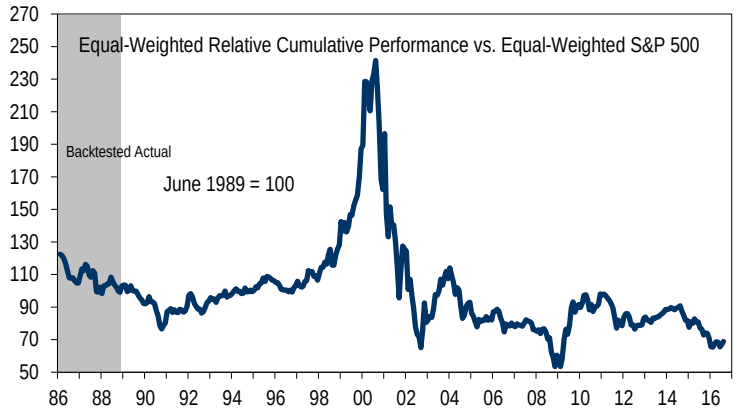
RISK STRATEGIES: Beta

Top 50 S&P 500 Companies By BETA

Beta: A measure of non-diversifiable risk. It is calculated using a regression incorporating 60 months of price performance versus that of the S&P 500.

Sector Concentration





Absolute Returns

Last 1 Month	2.90%
Last 3 Months	5.05%
Last 6 Months	21.06%
Last 12 Months	-0.66%
2016 YTD	6.29%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

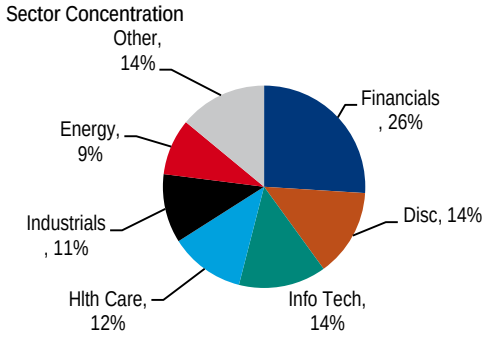
Screen for September

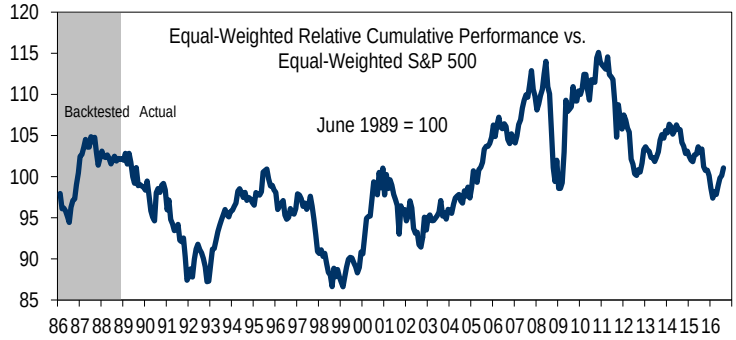
Mo. In Scrn.	Company	Ticker	Beta	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Beta	Price 08/31/2016
31	FREEPORT-MCMORAN	FCX	2.20	10.29	86	CBS CORP CL-B	CBS	1.59	51.03
50	SEAGATE TECHNOLO	STX	1.97	33.74	75	E*TRADE FINANCIA	ETFC	1.59	26.38
24	UNITED RENTALS I	URI	1.92	82.31	61	METLIFE INC.	MET	1.59	43.40
20	TRIPADVISOR LLC	TRIP	1.90	61.00	2	ALBEMARLE CORP	ALB	1.58	79.97
39	MARATHON PETROLE	MPC	1.80	42.51	29	CITRIX SYSTEMS I	CTXS	1.58	87.20
31	MORGAN STANLEY	MS	1.79	32.06	26	FIRST SOLAR, INC	FSLR	1.58	37.82
95	LINCOLN NATIONAL	LNC	1.77	48.03	11	TRANSOCEAN	RIG	1.58	9.70
13	HARMAN INTERNATIONAL INDS	HAR	1.76	84.69	New	CF INDUSTRIES	CF	1.57	26.00
15	MURPHY OIL CORP	MUR	1.73	26.72	5	FLUOR CORP	FLR	1.57	51.90
11	MARATHON OIL COR	MRO	1.73	15.02	31	INTERPUBLIC GROUP OF COS	IPG	1.57	23.14
29	TESORO CORP.	TSO	1.72	75.42	107	GOODYEAR TIRE & RUBBER CO	GT	1.55	29.35
23	TIFFANY & CO.	TIF	1.71	71.37	31	JUNIPER NETWORKS	JNPR	1.55	23.08
29	AUTODESK INC.	ADSK	1.69	67.40	11	DUPONT	DD	1.54	69.60
89	OWENS-ILLINOIS I	OI	1.68	17.93	15	MICRON TECHNOLOG	MU	1.53	16.49
11	NEWS CORP	NWSA	1.67	14.06	8	WESTROCK	WRK	1.53	47.90
12	WYNN RESORTS LTD	WYNN	1.67	89.32	16	APPLIED MATERIAL	AMAT	1.52	29.84
9	DEVON ENERGY	DVN	1.66	43.33	New	FLOWSERVE CORP.	FLS	1.52	48.37
79	STARWOOD HOTELS	HOT	1.66	77.46	4	LEVEL 3 COMMUNIC	LVLT	1.52	49.63
22	VALERO ENERGY CO	VLO	1.66	55.35	8	NETFLIX, INC.	NFLX	1.52	97.45
31	INVESCO	IVZ	1.65	31.19	New	FRANKLIN RESOURC	BEN	1.50	36.50
5	BORGWARNER INC.	BWA	1.63	34.39	13	LYONDELLBASELL I	LYB	1.50	78.89
59	CBRE GROUP	CBG	1.62	29.89	9	GENERAL MOTORS	GM	1.49	31.92
26	F5 NETWORKS, INC	FFIV	1.62	122.73	2	RYDER SYSTEM INC	R	1.49	65.52
2	CHESAPEAKE ENERG	CHK	1.61	6.35	14	CIMAREX ENERGY C	XEC	1.48	132.18
64	CITIGROUP INC.	C	1.61	47.74	New	HESS CORP.	HES	1.48	54.30
14	MASCO CORP	MAS	1.60	35.48	New	WHIRLPOOL CORP	WHR	1.48	178.64

Variability of Earnings

Top S&P 500 Companies By HIGH VARIABILITY OF EPS

Variability of EPS: The degree of variability in quarterly EPS over the past 5 yrs, ranked from 10 (high) to 1(low).





Absolute Returns

Last 1 Month	0.93%
Last 3 Months	6.26%
Last 6 Months	19.19%
Last 12 Months	7.66%
2016 YTD	10.37%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

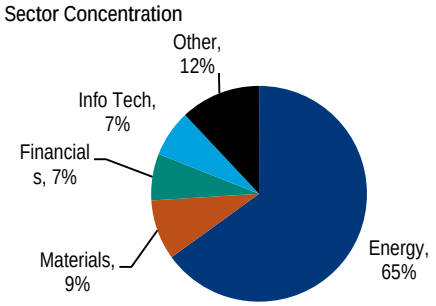
Mo. In Scrn	Company	Ticker	EPS Risk	Price 08/31/2016
19	AES CORPORATION	AES	10	12.07
2	ALLEGION	ALLE	10	71.22
20	AMERISOURCEBERGE	ABC	10	86.97
22	APPLIED MATERIAL	AMAT	10	29.84
8	BANK OF AMERICA CORP	BAC	10	16.14
5	BAXTER HEALTHCAR	BAX	10	46.73
6	CENTENE CORPORAT	CNC	10	68.29
8	CONAGRA FOODS, I	CAG	10	46.61
29	DELTA AIR LINES,	DAL	10	36.75
4	ELECTRONIC ARTS	EA	10	81.23
2	EQUITY RESIDENTI	EQR	10	64.87
22	FACEBOOK	FB	10	126.12
7	GOODYEAR TIRE & RUBBER CO	GT	10	29.35
26	HARTFORD FINANCI	HIG	10	41.07
2	HOST HOTELS & RE	HST	10	17.82
8	KINDER MORGAN, I	KMI	10	21.85
30	LEUCADIA NATIONAL CORP	LUK	10	19.15
New	LOEWS CORP	L	10	41.86
51	LAM RESEARCH	LRCX	10	93.32
29	MORGAN STANLEY	MS	10	32.06
10	NBL	NBL	10	34.48
44	NETFLIX, INC.	NFLX	10	97.45
55	PERKINELMER, INC	PKI	10	53.25
2	PULTEGROUP INC.	PHM	10	21.37
21	ROYAL CARIBBEAN CRUISES LTD	RCL	10	71.11
18	SL GREEN REALTY	SLG	10	117.72
34	STARBUCKS CORP	SBUX	10	56.23
46	STAPLES, INC.	SPLS	10	8.56
40	THE MACERICH CO.	MAC	10	81.89
32	VERIZON COMMUNIC	VZ	10	52.33
29	WASTE MANAGEMENT	WM	10	63.94
2	XL GROUP PLC	XL	10	34.23

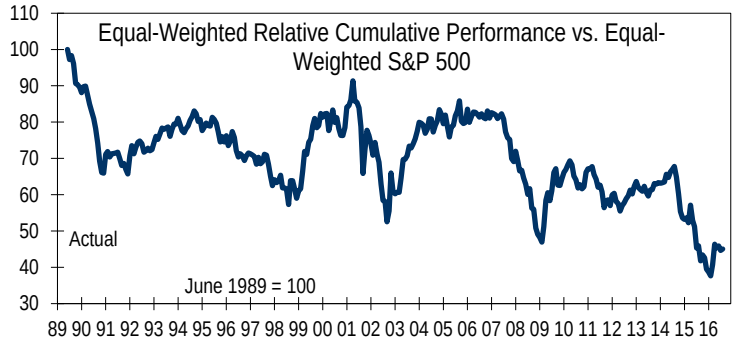
Mo. In Scrn	Company	Ticker	EPS Risk	Price 08/31/2016
85	YAHOO!	YHOO	10	42.75
4	21ST CENTURY FOX	FOXA	9	24.54
32	AT&T INC.	T	9	40.88
29	ABBOTT LABORATOR	ABT	9	42.02
3	ALEXION PHARMACE	ALXN	9	125.86
32	AVALONBAY COMMUN	AVB	9	175.01
3	BROADCOM LIMITED	AVGO	9	176.42
17	CR BARD INC	BCR	9	220.84
5	CHEVRON CORP.	CVX	9	100.58
7	CONCHO RESOURCES	CXO	9	129.20
32	CONSTELLATION BR	STZ	9	164.05
29	D.R. HORTON, INC	DHI	9	32.06
11	FMC CORPORATION	FMC	9	46.94
22	FIRSTENERGY	FE	9	32.73
8	GENERAL ELECTRIC	GE	9	31.24
11	HALLIBURTON COMP	HAL	9	43.01
New	IRON MOUNTAIN INC	IRM	9	38.41
27	LENNAR CORPORATI	LEN	9	47.30
31	LINCOLN NATIONAL	LNC	9	48.03
86	METLIFE INC.	MET	9	43.40
5	MONDELEZ INTERNA	MDLZ	9	45.02
25	PRUDENTIAL FINAN	PRU	9	79.38
3	QUANTA SERVICES INC	PWR	9	25.73
50	SEAGATE TECHNOLO	STX	9	33.74
4	SYMANTEC CORPORA	SYMC	9	24.13
3	TRANSDIGM GROUP	TDG	9	285.19
104	UPS	UPS	9	109.22
20	UNUM GROUP	UNM	9	35.61
12	WELLTOWER	HCN	9	76.75
8	WESTROCK	WRK	9	47.90
2	WESTERN DIGITAL	WDC	9	46.67
20	WILLIAMS COS INC	WMB	9	27.94
5	ZIMMER HOLDINGS,	ZBH	9	129.61

Estimate Dispersion

Top S&P 500 Companies By EPS ESTIMATE DISPERSION

EPS Estimate Dispersion: The coefficient of variation among I/B/E/S FY2 ESTIMATES. Presented as a decile rank.





Source: BofA Merrill Lynch US Quantitative Strategy
The performance chart represents actual returns since July 1989. There are no back tested results.

Absolute Returns

Last 1 Month	0.82%
Last 3 Months	3.32%
Last 6 Months	37.49%
Last 12 Months	8.00%
2016 YTD	24.73%

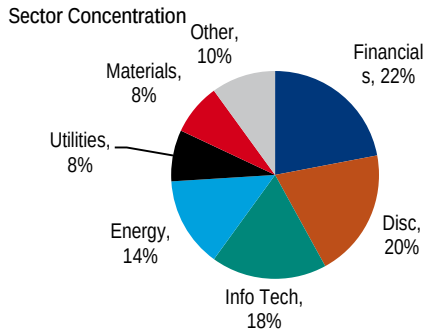
Screen for September

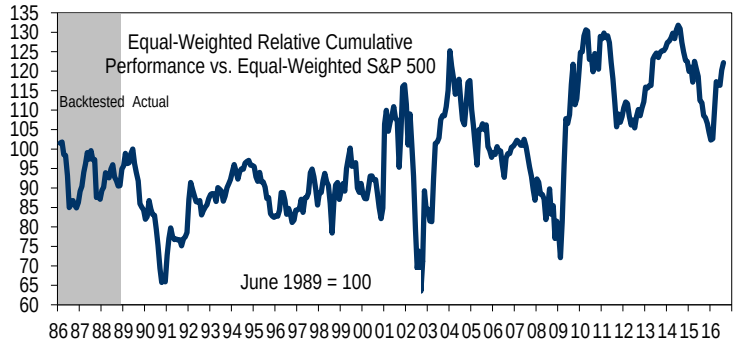
Mo. In Scrn	Company	Ticker	EPS Est. Dispers.	Price 08/31/2016
23	ANADARKO PETROLE	APC	10	53.47
25	APACHE CORPORATI	APA	10	49.70
19	AUTODESK INC.	ADSK	10	67.40
21	BAKER HUGHES INC	BHI	10	49.13
22	CONOCOPHILLIPS	COP	10	41.05
31	CABOT OIL & GAS	COG	10	24.63
24	CHESAPEAKE ENERG	CHK	10	6.35
7	CONCHO RESOURCES	CXO	10	129.20
21	DEVON ENERGY	DVN	10	43.33
23	EOG RESOURCES IN	EOG	10	88.49
21	EQT CORP	EQT	10	71.50
31	FRONTIER COMMUNI	FTR	10	4.60
21	HELMERICH & PAYN	HP	10	60.46
33	HESS CORP.	HES	10	54.30
23	MURPHY OIL CORP	MUR	10	26.72
27	MARATHON OIL COR	MRO	10	15.02
9	MICRON TECHNOLOG	MU	10	16.49
11	NATIONAL OILWELL	NOV	10	33.54
26	NBL	NBL	10	34.48
33	NRG ENERGY, INC.	NRG	10	12.11
22	OCCIDENTAL PETRO	OXY	10	76.85
23	PIONEER NATURAL	PXD	10	179.05
90	RANGE RESOURCES	RRC	10	38.57
30	TRANSOCEAN	RIG	10	9.70
New	APARTMENT INVEST	AIV	9	45.18
3	CF INDUSTRIES	CF	9	26.00
14	CHEVRON CORP.	CVX	9	100.58
24	CIMAREX ENERGY C	XEC	9	132.18
20	DIAMOND OFFSHORE	DO	9	18.47
2	FIRST SOLAR, INC	FSLR	9	37.82
29	FREEPORT-MCMORAN	FCX	9	10.29
New	GENERAL GROWTH P	GGP	9	29.14
6	HALLIBURTON COMP	HAL	9	43.01
59	NETFLIX, INC.	NFLX	9	97.45
64	NEWFIELD EXPLORA	NFX	9	43.36
2	NEWMONT MINING C	NEM	9	38.24
New	PROLOGIS, INC.	PLD	9	53.11
22	SOUTHWESTERN ENE	SWN	9	13.91
3	TESORO CORP.	TSO	9	75.42
5	THE MOSAIC COMPA	MOS	9	30.07
5	VERTEX PHARMACEU	VRTX	9	94.51
17	WYNN RESORTS LTD	WYNN	9	89.32
20	WILLIAMS COS INC	WMB	9	27.94

Price

Top 50 S&P 500 Companies By LOW PRICE

Low Price: Absolute price level of the stock at month-end.





Absolute Returns

Last 1 Month	1.60%
Last 3 Months	8.82%
Last 6 Months	36.75%
Last 12 Months	20.23%
2016 YTD	28.14%

Source: BofA Merrill Lynch US Quantitative Strategy

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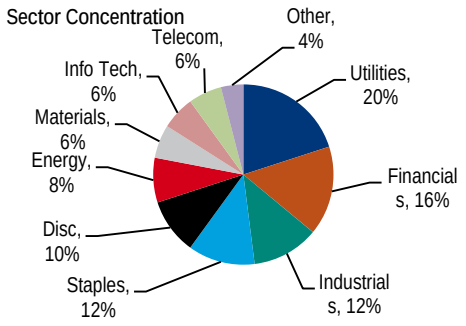
Screen for September

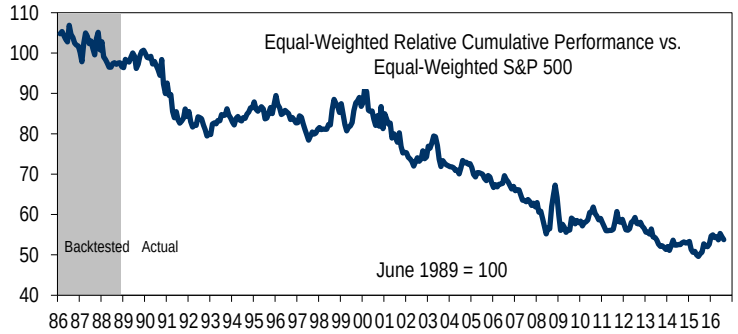
Mo. In Scrn.	Company	Ticker	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Price 08/31/2016
89	FRONTIER COMMUNI	FTR	4.60	29	LEUCADIA NATIONAL CORP	LUK	19.15
26	CHESAPEAKE ENERG	CHK	6.35	74	FIFTH THIRD BANC	FITB	20.16
59	STAPLES, INC.	SPLS	8.56	6	TEGNA INC	TGNA	20.26
22	TRANSOCEAN	RIG	9.70	4	ENDO INTERNATION	ENDP	20.70
97	XEROX CORP	XRX	9.85	39	PULTEGROUP INC.	PHM	21.37
93	REGIONS FINANCIA	RF	9.97	10	HEWLETT-PACKARD	HPE	21.48
93	HUNTINGTON BANCS	HBAN	10.01	47	THE WESTERN UNIO	WU	21.52
65	ALCOA INC.	AA	10.08	5	BLOCK H & R INC	HRB	21.66
22	FREEPORT-MCMORAN	FCX	10.29	10	KINDER MORGAN, I	KMI	21.85
81	AES CORPORATION	AES	12.07	33	CENTERPOINT ENERGY INC	CNP	22.47
21	NRG ENERGY, INC.	NRG	12.11	60	CORNING INC.	GLW	22.69
89	KEYCORP	KEY	12.56	6	JUNIPER NETWORKS	JNPR	23.08
68	FORD MOTOR CO	F	12.60	148	INTERPUBLIC GROUP OF COS	IPG	23.14
20	SOUTHWESTERN ENE	SWN	13.91	86	BOSTON SCIENTIFI	BSX	23.82
38	NEWS CORP	NWSA	14.06	2	NISOURCE INC	NI	23.94
10	HP INC.	HPQ	14.37	35	SYMANTEC CORPORA	SYMC	24.13
28	NAVIENT CORP	NAVI	14.38	New	21ST CENTURY FOX	FOXA	24.54
16	MARATHON OIL COR	MRO	15.02	2	CABOT OIL & GAS	COG	24.63
71	BANK OF AMERICA CORP	BAC	16.14	7	CITIZENS FINANCI	CFG	24.77
71	PEOPLE'S UNITED FINL INC	PBCT	16.25	5	GAP INC.	GPS	24.87
15	MICRON TECHNOLOG	MU	16.49	New	CSRA INC	CSRA	25.39
47	HOST HOTELS & RE	HST	17.82	2	DISCOVERY COMMUN	DISCA	25.51
24	OWENS-ILLINOIS I	OI	17.93	13	QUANTA SERVICES INC	PWR	25.73
3	DIAMOND OFFSHORE	DO	18.47	3	CF INDUSTRIES	CF	26.00
27	PITNEY BOWES INC	PBI	18.76	3	E*TRADE FINANCIA	ETFC	26.38

MISCELLANEOUS STRATEGIES: Neglect-Institutional Ownership

Top 50 S&P 500 Companies By Low Institutional holdings

Neglect: Those companies with the lowest proportions of float-adjusted shares held by institutional owners are considered more neglected.





Absolute Returns

Last 1 Month	-1.24%
Last 3 Months	4.13%
Last 6 Months	12.32%
Last 12 Months	16.81%
2016 YTD	11.77%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

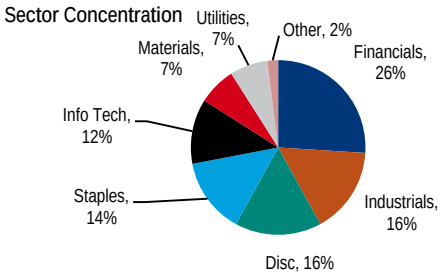
Screen for September

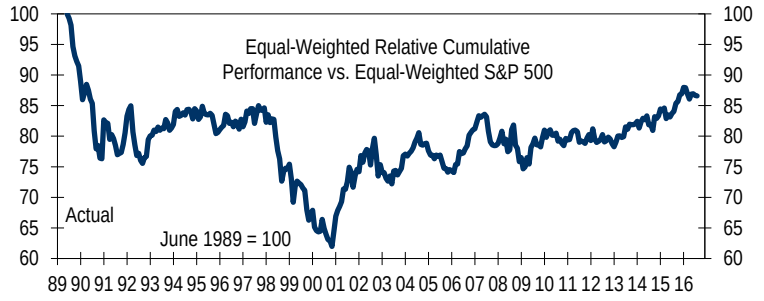
Mo. In Scrn.	Company	Ticker	% Held By Inst	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	% Held By Inst	Price 08/31/2016
6	BERKSHIRE HATHAWAY	BRK.B	46.6%	150.49	101	SCANA CORP	SCG	68.1%	70.65
75	EXXONMOBIL CORP.	XOM	53.4%	87.14	2	ALLIANT ENERGY CORP	LNT	68.4%	37.95
115	SOUTHERN COMPANY	SO	53.8%	51.33	138	DTE ENERGY COMPA	DTE	68.5%	92.90
41	BROWN-FORMAN COR	BF.B	56.6%	48.55	6	INTEL CORPORATIO	INTC	68.6%	35.89
55	AT&T INC.	T	56.8%	40.88	6	3M COMPANY	MMM	68.6%	179.24
79	GENERAL ELECTRIC	GE	57.4%	31.24	6	JOHNSON & JOHNSON	JNJ	69.0%	119.34
New	HUNTINGTON BANCS	HBAN	57.7%	10.01	New	KEYCORP	KEY	69.0%	12.56
61	CONSOLIDATED EDI	ED	58.6%	75.25	6	FRONTIER COMMUNI	FTR	69.2%	4.60
50	APPLE INC.	AAPL	58.8%	106.10	4	FREEPORT-MCMORAN	FCX	69.3%	10.29
70	DUKE ENERGY	DUK	59.1%	79.66	New	LEGGETT & PLATT INC	LEG	69.7%	52.48
64	FORD MOTOR CO	F	59.7%	12.60	19	KINDER MORGAN, I	KMI	70.2%	21.85
186	WAL*MART STORES	WMT	62.0%	71.44	6	DOW CHEMICAL	DOW	70.6%	53.64
15	GARMIN	GRMN	62.0%	49.08	6	AFLAC INC	AFL	70.6%	74.18
109	PROCTER & GAMBLE	PG	62.3%	87.31	6	PUBLIC SERVICE E	PEG	70.7%	42.76
48	ALTRIA GROUP, IN	MO	63.4%	66.09	6	UPS	UPS	70.9%	109.22
34	BANK OF AMERICA CORP	BAC	63.8%	16.14	New	MCDONALD'S CORPO	MCD	70.9%	115.66
50	PACCAR INC	PCAR	65.0%	59.84	6	NORFOLK SOUTHERN	NSC	71.2%	93.90
38	CHEVRON CORP.	CVX	65.4%	100.58	6	ALCOA INC.	AA	71.2%	10.08
106	BB&T CORPORATION	BBT	65.4%	38.50	6	AMERICAN ELECTRI	AEP	71.3%	64.57
19	WALT DISNEY CO.	DIS	65.8%	94.46	4	CINCINNATI FINANCIAL CORP	CINF	71.7%	77.11
25	PRUDENTIAL FINAN	PRU	66.6%	79.38	6	KIMBERLY-CLARK C	KMB	71.7%	128.06
23	CONOCOPHILLIPS	COP	66.6%	41.05	New	AMEREN CORP	AEE	71.7%	49.42
37	INTERNATIONAL BU	IBM	66.8%	158.88	37	HORMEL FOODS CORP	HRL	71.7%	38.26
32	DOMINION RESOURC	D	66.8%	74.16	4	ABBVIE	ABBV	71.9%	64.10
29	VERIZON COMMUNIC	VZ	67.4%	52.33	4	CATERPILLAR INC	CAT	72.0%	81.95

Neglect-Analyst Coverage

Top 50 S&P 500 Companies By Low Analyst Coverage

Neglect: Those companies with the lowest number of analysts submitting ratings to FirstCall.





Source: BofA Merrill Lynch US Quantitative Strategy
The performance chart represents actual returns since July 1989. There are no back tested results.

Absolute Returns

Last 1 Month	-0.09%
Last 3 Months	3.69%
Last 6 Months	13.12%
Last 12 Months	13.44%
2016 YTD	8.92%

Screen for September

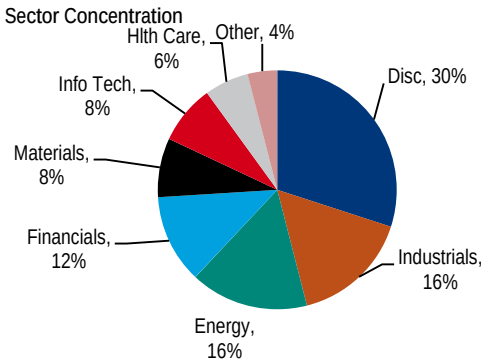
Mo. In Scrn.	Company	Ticker	No. of Analyst Coverage	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	No. of Analyst Coverage	Price 08/31/2016
9	LEUCADIA NATIONAL CORP	LUK	1	19.15	69	GOODYEAR TIRE & RUBBER CO	GT	9	29.35
167	LOEWS CORP	L	4	41.86	3	PEOPLE'S UNITED FINL INC	PBCT	9	16.25
31	ASSURANT INC.	AIZ	5	89.55	45	SCANA CORP	SCG	9	70.65
108	CINCINNATI FINANCIAL CORP	CINF	5	77.11	29	ALTRIA GROUP, IN	MO	10	66.09
20	IRON MOUNTAIN INC	IRM	5	38.41	50	INTL FLAVORS & FRAGRANCES	IFF	10	138.58
34	VERISIGN INC	VRSN	5	74.45	27	WYNDHAM WORLDWIDE CORP	WYN	10	70.79
10	CSRA INC	CSRA	6	25.39	34	AMEREN CORP	AEE	11	49.42
129	LEGGETT & PLATT INC	LEG	6	52.48	2	ALASKA AIR GROUP	ALK	11	67.53
150	PITNEY BOWES INC	PBI	6	18.76	33	ALLEGION	ALLE	11	71.22
59	CBRE GROUP	CBG	7	29.89	83	BLOCK H & R INC	HRB	11	21.66
28	NAVIENT CORP	NAVI	7	14.38	19	BALL CORP.	BLL	11	79.19
2	ALLIANT ENERGY CORP	LNT	8	37.95	2	L-3 COMMUNICATION	LLL	11	148.82
11	AMERIPRISE FINANCIAL INC	AMP	8	101.08	3	LKQ CORP	LKQ	11	36.09
86	AVERY DENNISON C	AVY	8	77.44	4	LEGG MASON INC	LM	11	34.59
20	FLIR SYSTEMS INC	FLIR	8	30.83	28	MCCORMICK & CO INC	MKC	11	101.96
45	HARRIS CORP	HRS	8	92.98	2	RYDER SYSTEM INC	R	11	65.52
53	HORMEL FOODS CORP	HRL	8	38.26	31	REYNOLDS AMERICA	RAI	11	49.57
60	MOLSON COORS BRE	TAP	8	102.32	11	TE CONNECTIVITY	TEL	11	63.57
167	SNAP-ON INC	SNA	8	153.29	15	TEGNA INC	TGNA	11	20.26
26	AFFILIATED MANAG	AMG	9	142.05	2	TYSON FOODS INC -CL A	TSN	11	75.57
69	DUN & BRADSTREET CORP	DNB	9	137.65	2	VARIAN MEDICAL SYSTEMS INC	VAR	11	96.13
					3	WHIRLPOOL CORP	WHR	11	178.64

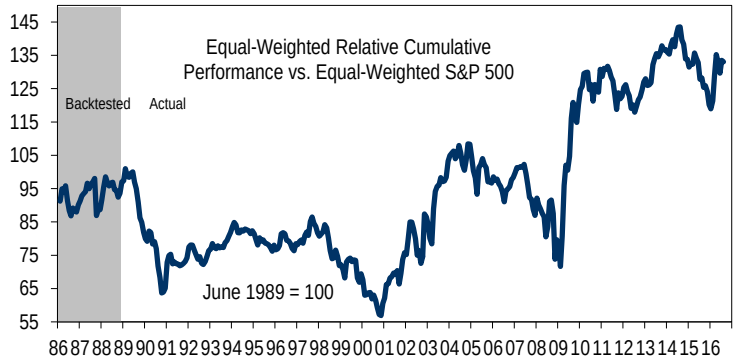
BofA Merrill Lynch is connected to Moslon-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Size

Top 50 S&P 500 Companies By SMALL SIZE

Firm Size: Month-end market value.





Absolute Returns

Last 1 Month	-0.29%
Last 3 Months	4.22%
Last 6 Months	25.93%
Last 12 Months	14.28%
2016 YTD	21.10%

Source: BofA Merrill Lynch US Quantitative Strategy

The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end December 1988. The unshaded portion represents actual performance since January 1989. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

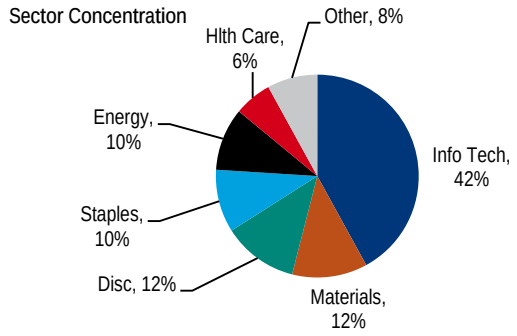
Screen for September

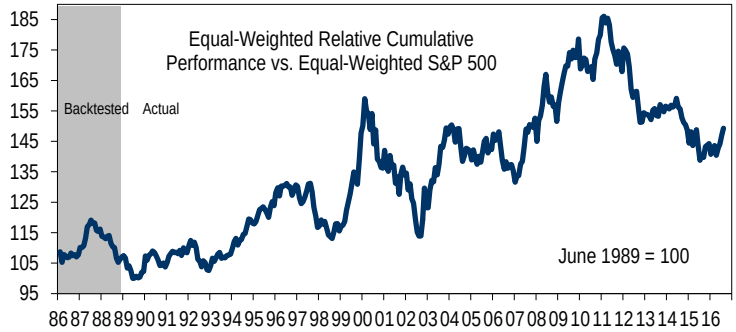
Mo. In Scrn.	Company	Ticker	Market Value	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Market Value	Price 08/31/2016
38	DIAMOND OFFSHORE	DO	1191	18.47	5	FRONTIER COMMUNI	FTR	5396	4.60
6	FIRST SOLAR, INC	FSLR	2900	37.82	5	STAPLES, INC.	SPLS	5532	8.56
32	OWENS-ILLINOIS I	OI	2903	17.93	54	ASSURANT INC.	AIZ	5546	89.55
42	URBAN OUTFITTERS	URBN	3107	35.85	5	GAP INC.	GPS	5641	24.87
21	TRANSOCEAN	RIG	3330	9.70	6	GARMIN	GRMN	5757	49.08
50	AUTONATION, INC.	AN	3369	47.35	90	PERKINELMER, INC	PKI	5806	53.25
10	CSRA INC	CSRA	3483	25.39	7	POLO RALPH LAURE	RL	5909	103.62
91	RYDER SYSTEM INC	R	3519	65.52	8	HARMAN INTERNATIONAL INDS	HAR	5975	84.69
56	PITNEY BOWES INC	PBI	3539	18.76	7	SCRIPPS NETWORKS	SNI	6022	63.37
58	LEGG MASON INC	LM	3646	34.59	4	CF INDUSTRIES	CF	6060	26.00
15	CHESAPEAKE ENERG	CHK	3714	6.35	36	ZIONS BANCORPORA	ZION	6259	30.59
12	NRG ENERGY, INC.	NRG	3814	12.11	14	FMC CORPORATION	FMC	6278	46.94
72	PATTERSON COMPAN	PDCO	3829	46.00	14	FLOWSERVE CORP.	FLS	6306	48.37
22	QUANTA SERVICES INC	PWR	3886	25.73	4	FMC TECHNOLOGIES	FTI	6383	28.20
19	TERADATA CORPORA	TDC	4125	31.73	10	LEUCADIA NATIONAL CORP	LUK	6384	19.15
6	ENDO INTERNATION	ENDP	4240	20.70	3	SIGNET JEWELERS	SIG	6395	81.98
53	FLIR SYSTEMS INC	FLIR	4243	30.83	24	JACOBS ENGINEERI	JEC	6424	52.69
14	MURPHY OIL CORP	MUR	4325	26.72	5	NORDSTROM	JWN	6476	50.46
9	TEGNA INC	TGNA	4408	20.26	2	HELMERICH & PAYN	HP	6532	60.46
14	NAVIENT CORP	NAVI	4753	14.38	2	RANGE RESOURCES	RRC	6547	38.57
6	BLOCK H & R INC	HRB	4861	21.66	12	SOUTHWESTERN ENE	SWN	6584	13.91
49	DUN & BRADSTREET CORP	DNB	4991	137.65	9	PULTEGROUP INC.	PHM	6729	21.37
7	ROBERT HALF INTL	RHI	5033	38.33	2	ALLEGION	ALLE	6818	71.22
37	PEOPLE'S UNITED FINL INC	PBCT	5051	16.25	New	AVERY DENNISON C	AVY	6906	77.44
12	NEWS CORP	NWSA	5351	14.06	New	TRIPADVISOR LLC	TRIP	6972	61.00

Foreign Exposure

Top 50 S&P 500 Companies By FOREIGN EXPOSURE

Foreign Exposure: The ratio of foreign sales to total sales.





Absolute Returns

Last 1 Month	1.57%
Last 3 Months	8.80%
Last 6 Months	20.71%
Last 12 Months	17.18%
2016 YTD	13.18%

Source: BofA Merrill Lynch US Quantitative Strategy

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Screen for September

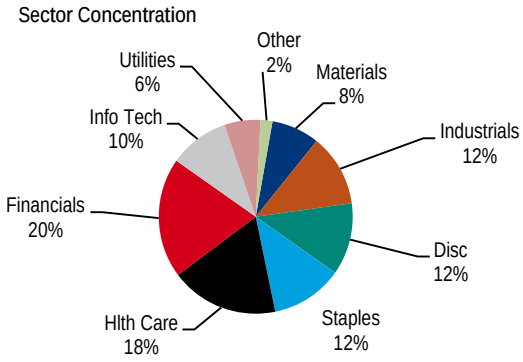
Mo. In Scrn.	Company	Ticker	Foreign Exposure	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Foreign Exposure	Price 08/31/2016
4	ACUITY BRANDS INC	AYI	100.0%	275.12	57	BORGWARNER INC.	BWA	75.3%	34.39
4	LKQ CORP	LKQ	100.0%	36.09	35	TRANSOCEAN	RIG	74.4%	9.70
51	PHILIP MORRIS IN	PM	100.0%	99.93	51	COLGATE-PALMOLIV	CL	74.3%	74.34
178	QUALCOMM INC.	QCOM	99.0%	63.07	5	NEWMONT MINING C	NEM	74.1%	38.24
18	SKYWORKS SOLUTIO	SWKS	97.9%	74.86	54	AVERY DENNISON C	AVY	74.1%	77.44
90	MOLSON COORS BRE	TAP	97.4%	102.32	5	FMC CORPORATION	FMC	74.0%	46.94
5	BROADCOM LIMITED	AVGO	88.9%	176.42	61	XILINX INC.	XLNX	73.7%	54.21
210	TEXAS INSTRUMENT	TXN	87.6%	69.54	30	MEAD JOHNSON	MJN	73.4%	85.07
178	NVIDIA CORPORATI	NVDA	87.2%	61.34	50	EXPEDITORS INTL WASH INC	EXPD	73.3%	50.65
31	PRICELINE.COM	PCLN	85.0%	1416.73	50	SEAGATE TECHNOLO	STX	73.2%	33.74
130	MICRON TECHNOLOG	MU	84.2%	16.49	87	FMC TECHNOLOGIES	FTI	72.9%	28.20
108	MICROCHIP	MCHP	84.0%	61.91	72	LINEAR TECHNOLOG	LLTC	72.3%	58.24
196	APPLIED MATERIAL	AMAT	83.1%	29.84	5	SCHLUMBERGER	SLB	72.0%	79.00
51	LAM RESEARCH	LRCX	83.1%	93.32	81	THE WESTERN UNIO	WU	71.1%	21.52
196	INTL FLAVORS & FRAGRANCES	IFF	82.8%	138.58	90	CORNING INC.	GLW	70.2%	22.69
42	STARWOOD HOTELS	HOT	82.6%	77.46	5	AGILENT TECHNOLO	A	70.1%	46.98
15	QORVO INC.	QRVO	82.0%	57.43	139	AFLAC INC	AFL	69.6%	74.18
234	INTEL CORPORATIO	INTC	79.9%	35.89	5	AMPHENOL CORPORA	APH	69.5%	62.31
42	MONDELEZ INTERNA	MDLZ	79.7%	45.02	2	ALBEMARLE CORP	ALB	69.4%	79.97
86	WESTERN DIGITAL	WDC	79.0%	46.67	31	ABBOTT LABORATOR	ABT	69.3%	42.02
65	DIAMOND OFFSHORE	DO	78.8%	18.47	33	TE CONNECTIVITY	TEL	68.8%	63.57
42	YUM! BRANDS, INC	YUM	76.3%	90.71	127	HARMAN INTERNATIONAL INDS	HAR	68.6%	84.69
215	AES CORPORATION	AES	76.0%	12.07	35	AUTODESK INC.	ADSK	67.9%	67.40
25	KLA-TENCOR CORP.	KLAC	75.4%	69.26	29	WATERS CORPORATI	WAT	67.9%	157.31
18	NATIONAL OILWELL	NOV	75.3%	33.54	92	OWENS-ILLINOIS I	OI	66.6%	17.93

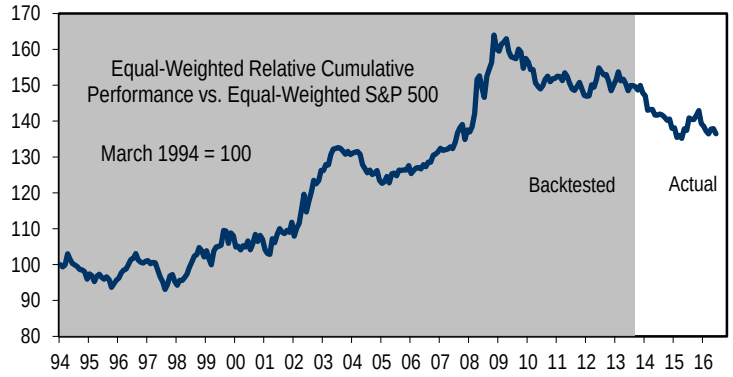
BofA Merrill Lynch is connected to Anheuser-Busch InBev SA/NV with its proposed acquisition of SABMiller Plc, which was announced on 16 September 2015. The proposed transaction is subject to approval by shareholders of Anheuser-Busch InBev SA/NV and SABMiller Plc. This deal will be subject to the UK Takeover Panel code. This research report is not intended to (1) provide voting advice, (2) serve as an endorsement of the proposed transaction, or (3) result in the procurement, withholding or revocation of a proxy.

Short Interest

Top 50 S&P 500 Companies By DECLINING SHORT INTEREST

Declining Short Interest: The Z-Score of the most recent number of shorted shares vs. its 12 month history.





Absolute Returns

Last 1 Month	-1.04%
Last 3 Months	4.09%
Last 6 Months	12.50%
Last 12 Months	9.36%
2016 YTD	5.34%

Source: BofA Merrill Lynch US Quantitative Strategy

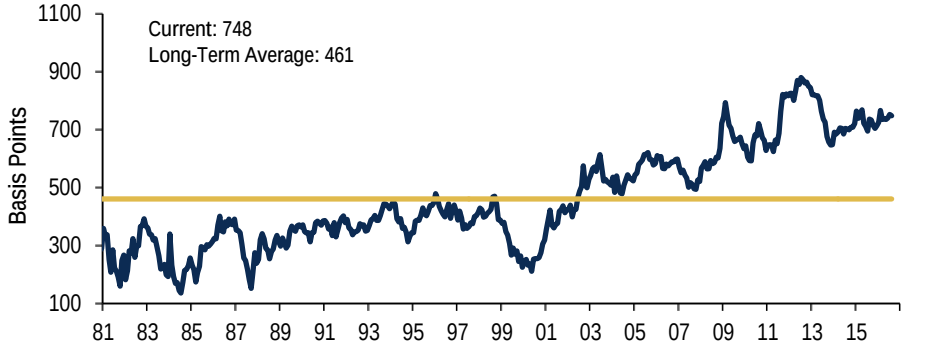
The shaded area in performance chart shows back tested results during the period from month end March 1986 to month end September 2013. The unshaded portion represents actual performance since October 2013. Back tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance

Screen for September

Mo. In Scrn.	Company	Ticker	Short. Interest Z-Score	Price 08/31/2016	Mo. In Scrn.	Company	Ticker	Short. Interest Z-Score	Price 08/31/2016
3	Martin Marietta	MLM	-2.74	183.03	New	S&P GLOBAL INC	SPGI	-1.47	123.54
5	Intuit Inc.	INTU	-2.56	111.45	New	Northrop Grumman	NOC	-1.47	212.07
New	Linear Technolog	LLTC	-2.52	58.24	New	MOODY'S CORP	MCO	-1.45	108.69
New	Hologic, Inc.	HOLX	-2.44	38.42	New	Facebook	FB	-1.45	126.12
4	Bristol-Myers Sq	BMY	-2.34	57.39	New	McDonald's Corpo	MCD	-1.45	115.66
New	FASTENAL CO	FAST	-2.16	43.11	2	The Hershey Comp	HSY	-1.45	99.89
3	Textron	TXT	-2.12	40.85	4	CME Group Inc.	CME	-1.41	108.35
New	Boston Scientifi	BSX	-1.99	23.82	New	Republic Service	RSG	-1.40	50.52
5	Lennar Corporati	LEN	-1.93	47.30	2	Citigroup Inc.	C	-1.40	47.74
5	Celgene Corp.	CELG	-1.86	106.74	New	MALLINCKRODT PLC	MNK	-1.39	74.54
6	Federal Realty I	FRT	-1.86	159.00	11	21st Century Fox	FOXA	-1.38	24.54
3	MCCORMICK & CO INC	MKC	-1.85	101.96	4	MasterCard, Inc	MA	-1.37	96.63
3	Praxair	PX	-1.77	122.04	New	The Coca Cola Co	KO	-1.36	43.43
2	Equinix Inc.	EQIX	-1.76	368.65	3	Intel Corporatio	INTC	-1.36	35.89
3	Realty Income	O	-1.74	65.73	New	ECOLAB INC	ECL	-1.35	123.05
2	PPL Corporation	PPL	-1.74	34.78	6	Sysco Corporatio	SYY	-1.32	51.86
6	TYSON FOODS INC -CL A	TSN	-1.71	75.57	New	Walt Disney Co.	DIS	-1.32	94.46
5	ConAgra Foods, I	CAG	-1.67	46.61	5	CONOCOPHILLIPS	COP	-1.31	41.05
5	Waste Management	WM	-1.66	63.94	4	Progressive Corp	PGR	-1.31	32.56
New	Amazon.com	AMZN	-1.66	769.16	10	M&T Bank Corp	MTB	-1.31	118.33
7	HASBRO INC	HAS	-1.63	81.74	7	Becton, Dickinso	BDX	-1.30	177.21
2	UnitedHealth Gro	UNH	-1.62	136.05	6	Eli Lilly & Co.	LLY	-1.29	77.75
New	SCANA CORP	SCG	-1.55	70.65	New	Air Products	APD	-1.28	155.62
5	EVERSOURCE ENERGY	ES	-1.52	53.97	New	DEERE & CO	DE	-1.26	84.55
New	CIGNA CORP	CI	-1.49	128.26	New	Wells Fargo & Co	WFC	-1.24	50.80

Valuation Backdrop

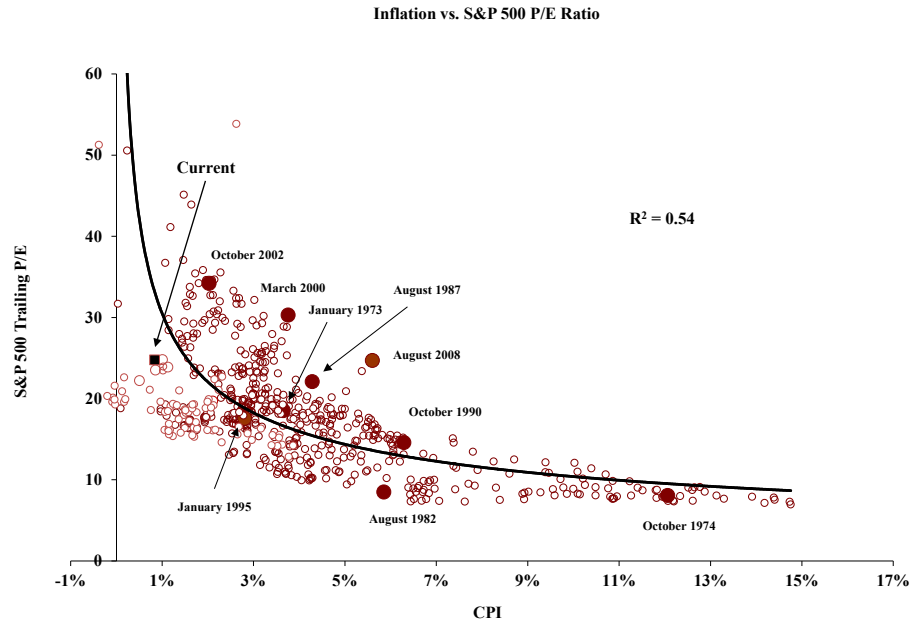
S&P 500 Risk Premium (DDM Expected Return less AAA Corporate Bond Rate)



Source: BofA Merrill Lynch US Quantitative Strategy

Note: In the Chart 2 below we exclude deflationary points from trend line calculation. Historically, the relationship between inflation and valuation breaks down during deflationary periods. For example, from 1949 to1950 S&P 500 valuation was below average, and from 1954 to 1955, valuation was well above average.

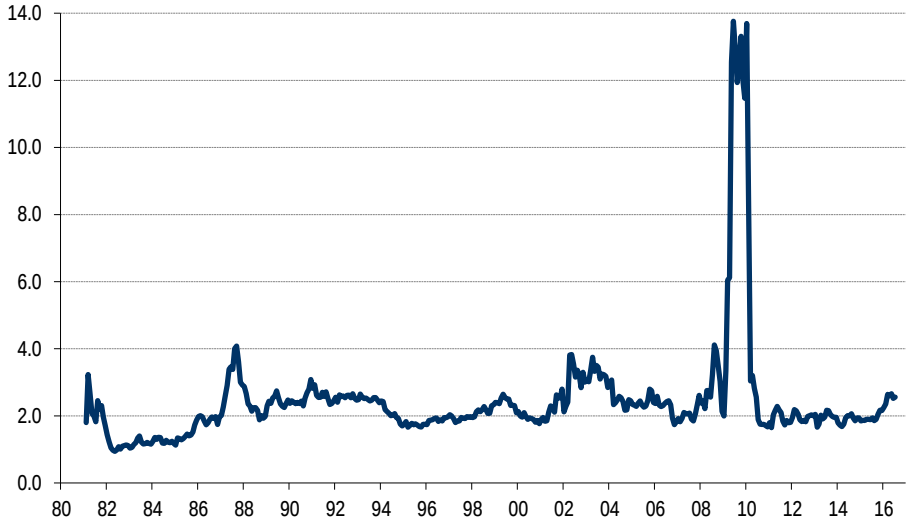
Chart 2: Inflation vs. P/E Model (1965 to Present)



Source: BofA Merrill Lynch US Quantitative Strategy

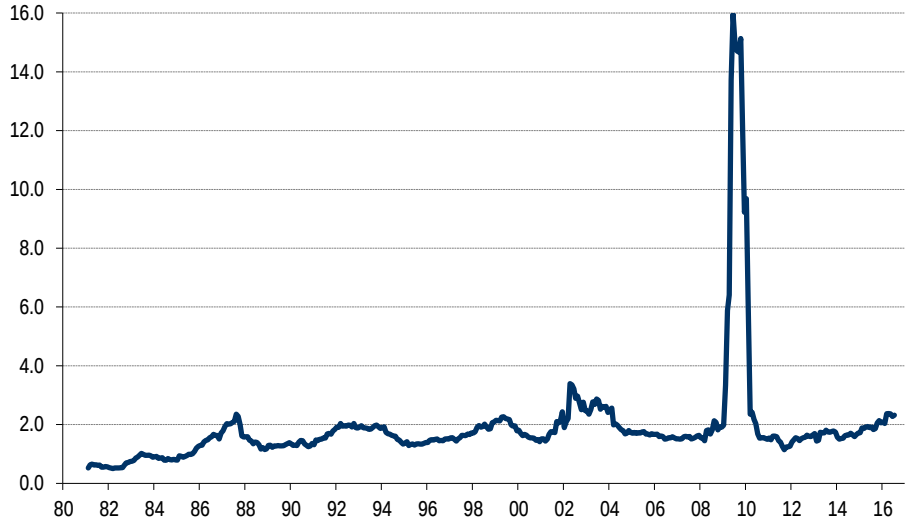
Bank of America Merrill Lynch

S&P 500 Real PE-to-Growth Ratio (Trailing P/E Divided by Proj. 5-Yr EPS Growth less Inflation)



Source: BofA Merrill Lynch US Quantitative Strategy

Chart 3: S&P 500 PE-to-Growth Ratio (Trailing P/E Divided by Proj. 5-Yr EPS Growth)



Source: BofA Merrill Lynch US Quantitative Strategy

BofAML Universe Sector/Industry Factor Evaluation

			Valuation Analysis								Expectation Analysis							
												Earnings (Decile)				PR 5yr	EPS Growth	
	# of Comp	% Univ BOFAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	Growth	2016E	2017E
Economic Sectors																		
Energy	131	8.06	9.4	12.1	-2.7	40.5	1.13	29.2	1.76	3.5	4	7	5	9	6	2.7	-46	162
Materials	55	3.11	10.7	13.1	-2.4	33.6	1.24	17.5	3.33	2.0	7	5	6	5	5	9.4	1	18
Industrials	125	9.22	10.6	11.5	-0.9	32.3	1.07	16.6	3.58	2.2	6	5	5	4	6	8.6	0	6
Consumer Discretionary	182	12.46	11.4	11.4	0	31.6	1.06	18.1	4.04	1.5	5	4	6	4	5	24.9	13	13
Consumer Staples	49	9.29	9.8	8.3	1.5	34.3	0.74	20.7	4.47	2.6	6	4	5	2	6	8.8	4	10
Health Care	164	14.54	10.5	9.8	0.7	34.7	0.90	16.5	3.67	1.6	6	5	6	3	5	10.4	9	11
Financials	262	15.22	10.9	12.0	-1.1	31.3	1.12	13.6	1.39	2.7	5	5	5	4	6	7.7	1	11
Information Technology	157	22.50	11.4	11.5	-0.1	32.4	1.07	17.2	4.46	1.3	4	4	6	5	4	14.5	6	14
Telecommunication Services	13	2.80	10.0	6.9	3.1	30.1	0.59	15.5	2.72	3.9	4	9	5	3	6	7.5	-1	4
Utilities	47	2.80	9.5	6.2	3.3	32.9	0.53	17.8	1.87	3.6	6	5	4	2	5	4.4	30	6
Capitalization Sectors ($ Million)																		
50 To 1438	237	0.85	12.3	13.8	-1.5	30.2	1.31	26.3	1.37	2.7	5	7	6	7	6	18.9	nm	51
1441 To 3304	237	2.65	10.8	12.4	-1.6	33.6	1.17	21.3	1.98	2.0	6	6	5	6	5	14.0	3	26
3309 To 7065	237	5.63	10.8	11.5	-0.7	33.9	1.07	17.7	2.14	2.1	6	6	6	5	5	10.6	13	15
7075 To 19235	237	13.39	10.6	11.8	-1.2	34.7	1.10	17.9	2.38	1.9	6	5	5	5	5	12.1	-4	14
19281 To 581154	237	77.48	10.8	10.6	0.2	32.4	0.97	17	2.99	2.2	5	5	5	4	5	11.4	3	14
Risk Sectors																		
-1.14 To 0.80	186	21.80	9.9	7.3	2.6	33.9	0.64	18.4	3.46	2.9	6	5	5	3	5	7.9	5	8
0.81 To 0.99	189	24.82	11.3	9.9	1.4	32.2	0.90	17.3	3.13	1.9	5	5	6	4	5	11.9	9	14
1.00 To 1.16	182	25.97	10.6	11.5	-0.9	33.1	1.07	17.3	3.62	2.0	4	5	5	5	5	11.8	3	15
1.17 To 1.40	186	13.30	11.2	13.4	-2.2	32.2	1.27	16.7	2.30	1.9	5	5	6	5	6	12.2	0	17
1.41 To 3.50	185	8.81	12.0	16.2	-4.2	29.6	1.56	14.5	1.39	2.1	6	6	5	6	5	12.2	-10	25
Uncoded	257	5.30	10.9			34.5		20.1	2.17	1.4	5	6	6	6	6	20.7	10	17
DDM Alpha																		
Most Undervalued	131	15.40	12.3	8.4	3.9	27.7	0.75	18.2	3.35	2.3	5	5	6	4	5	23.7	10	12
Undervalued	132	15.50	10.7	9.3	1.4	32.5	0.84	16.7	3.75	2.2	6	4	5	3	5	10.2	6	10
Fair Value	131	22.81	10.5	10.5	0	34.0	0.97	18.1	3.86	1.6	5	4	6	4	5	10.7	8	11
Overvalued	132	15.38	10.8	12.4	-1.6	32.5	1.17	14.1	2.97	2.1	4	5	5	4	6	9.3	3	12
Most Overvalued	131	8.57	9.6	14.2	-4.6	37.8	1.35	16.2	1.86	2.0	5	5	5	5	5	8.0	-1	14
Uncoded	528	22.35	10.9	11.7	-0.8	34.5	1.09	19.6	1.94	2.5	5	6	5	6	6	7.6	-7	29

Source: BofA Merrill Lynch US Equity and US Quant Strategy

BofAML Universe Sector/Industry Factor Evaluation (cont'd)

			Valuation Analysis								Expectation Analysis							
												Earnings (Decile)				PR 5yr	EPS Growth	
	# of Comp	% Univ BOFAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	Growth	2016E	2017E
Duration																		
9.56 To 27.00	152	10.90	14.2	11.7	2.5	22.8	1.09	13.4	2.17	2.5	5	6	6	5	5	19.2	7	14
27.01 To 31.44	152	20.30	11.2	10.5	0.7	29.0	0.97	15.8	3.30	2.6	5	5	6	4	6	11.2	4	11
31.48 To 34.95	152	25.31	10.4	10.7	-0.3	33.4	0.99	16.1	3.11	1.9	5	4	5	4	5	9.3	6	11
34.95 To 39.50	152	13.79	9.6	9.7	-0.1	36.8	0.88	18.5	3.31	2.0	6	4	5	3	5	7.7	5	8
39.56 To 85.32	152	8.83	8.7	10.6	-1.9	45.6	0.97	22.9	3.71	0.8	5	5	5	4	5	9.3	6	12
Uncoded	425	20.87		11.7			1.10	21.1	2.05	2.5	5	6	5	7	6	14.2	-8	nm
Growth Sectors																		
Growth	427	31.45	11.4	11.3	0.1	33.3	1.05	19.9	3.49	1.2	5	4	6	5	5	17.1	8	16
Growth Cyclical	280	20.39	10.8	11.8	-1	32.6	1.11	15.7	2.90	2.1	5	5	5	4	6	9.9	6	11
Growth Defensive	130	12.48	9.9	9.6	0.3	34.3	0.87	18.4	3.04	2.9	6	5	5	4	6	9.0	7	11
Cyclical	215	15.26	11.4	12.6	-1.2	30.6	1.18	14.9	1.80	2.2	6	5	5	5	6	11.0	-8	18
Defensive	133	20.41	10.2	8.6	1.6	32.8	0.77	16.9	2.73	3.1	5	6	5	3	5	6.6	3	16
EPS Surprise																		
Most Optimistic	196	21.99	11.3	11.3	0	32.1	1.05	16.9	2.85	2.2	2	6	5	6	5	15.0	5	20
Optimistic	197	18.88	11.1	10.4	0.7	31.5	0.96	15	2.74	2.4	4	5	5	4	6	10.2	4	9
Neutral	197	21.32	11.1	10.9	0.2	32.0	1.01	17.5	3.08	1.8	5	4	6	4	5	11.9	7	15
Less Optimistic	197	16.36	10.3	11.0	-0.7	33.8	1.02	19.4	2.48	2.1	7	5	5	4	5	11.7	-2	18
Not Optimistic	196	14.55	10.3	10.2	0.1	33.7	0.93	17.5	2.56	2.1	10	5	5	4	6	8.1	-2	12
Uncoded	202	6.90	9.2	11.1	-1.9	38.2	1.03	20.3	3.05	2.3		5	4	6	6	9.6	5	14
Quality Rank																		
A+	21	5.57	10.6	9.9	0.7	32.4	0.91	16.5	4.89	2.2	5	2	5	3	6	9.6	4	9
A	44	11.37	9.8	9.0	0.8	34.8	0.81	19.5	4.63	2.4	7	3	4	2	6	7.6	4	7
A-	70	17.71	11.3	10.5	0.8	30.9	0.96	17.4	3.42	1.9	5	4	5	4	5	10.6	3	16
B+	183	25.04	10.5	10.9	-0.4	33.1	1.01	15	2.79	2.3	5	5	5	4	5	7.8	3	11
B	179	12.59	10.5	10.9	-0.4	33.6	1.01	16.1	2.27	2.5	5	7	5	5	5	7.9	3	16
B-	148	8.75	10.9	13.1	-2.2	34.1	1.24	20.9	1.80	1.4	5	8	6	7	4	18.5	-7	27
C & D	60	1.51	11.3	14.0	-2.7	37.3	1.33	49	4.44	0.0	5	10	7	7	5	27.2	nm	200
Not Rated	480	17.47	11.9	11.2	0.7	31.4	1.04	18.3	2.32	2.1	5	6	6	5	6	19.1	7	18
B+ or Better	318	59.68	10.6	10.3	0.3	32.7	0.95	16.6	3.35	2.2	5	4	5	4	5	8.8	3	11
B or Worse	867	40.32	11.2	11.6	-0.4	32.8	1.09	18.4	2.20	2.0	5	7	6	6	5	15.7	3	20
BofAML Universe	1185	100.00	10.8	10.8	0	32.8	1.00	19	2.77	2.1						11.4	3	15
S&P 500	505	92.86	10.8	10.7	0.1	32.6	0.99	18.4	2.78	2.1						10.0	2	14

Source: BofA Merrill Lynch US Equity and US Quant Strategy

BofAML Universe Sector/Industry Factor Evaluation (cont'd)

						Valuation Analysis						Expectation Analysis						
	# of Comp	% Univ BofAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Earnings (Decile) Risk	Torp	Disp	Est. Rev.	PR 5yr Growth	EPS Growth 2016E	2017E
ENERGY	131	8.06	9.4	12.10	-2.7	40.5	1.13	29.2	1.76	3.5	4	7	5	9	6	2.6	-46	162
ENERGY EQUIP & SVS	19	1.00	10.7	14.10	-3.4	35.0	1.34	106.2	1.45	1.9	6	7	1	9	7	-1.2	-81	40
OIL & GAS	112	7.06	9.2	11.80	-2.6	41.6	1.11	26.5	1.82	3.7	4	7	5	9	6	3.1	-39	168
MATERIALS	55	3.11	10.7	13.10	-2.4	33.6	1.24	17.5	3.33	2.0	7	5	6	5	5	9.2	1	18
CHEMICALS	17	1.86	10.7	13.20	-2.5	31.9	1.24	17.3	4.27	2.4	7	5	5	4	6	9.3	-7	14
CONSTR MATERIALS	3	0.14	14.4	13.00	1.4	26.6	1.23	22.5	3.03	0.8	5	5	9	5	8	30.4	49	40
CONTAINERS & PCKG	16	0.53	9.6	13.00	-3.4	40.6	1.23	16.4	3.75	2.0	6	6	5	5	6	5.1	-1	7
METALS & MINING	15	0.54	10.5	13.10	-2.6	35.2	1.24	18.5	1.89	1.2	7	5	8	9	2	8.1	49	43
PAPER & FOREST PROD	4	0.04	13.3	14.90	-1.6	27.4	1.43	15.6	1.50	1.8	7	9	6	8	2	3.4	33	12
INDUSTRIALS	125	9.22	10.6	11.50	-0.9	32.3	1.07	16.6	3.58	2.2	6	5	5	4	6	8.6	0	6
AEROSPACE & DEF	21	2.10	10.4	10.10	0.3	34.0	0.93	17.3	4.33	2.2	7	3	5	4	5	8.9	2	5
BLDGS PRODUCTS	4	0.13	11.9	14.50	-2.6	33.0	1.39	18.4	3.69	0.9	6	9	8	4	4	17.6	21	17
CONSTR. & ENGR	4	0.10	10.4	15.90	-5.5	37.4	1.53	13.5	1.67	0.8	6	5	3	5	5	-1.5	-4	-2
ELECTRICAL EQUIP	9	0.49	11.4	13.30	-1.9	29.7	1.26	21.3	3.15	2.7	5	4	3	2	7	5.9	-8	4
IND CONGLOMERATES	3	2.33	9.8	11.50	-1.7	32.0	1.07	19.2	4.11	2.7	6	6	6	4	5	7.8	12	9
MACHINERY	28	1.23	10.8	14.10	-3.3	33.2	1.34	19.1	3.01	2.2	5	6	3	5	5	7.9	-13	5
TRADING COMPANIES	11	0.16	13.9	15.80	-1.9	26.5	1.52	10.5	1.69	1.0	6	7	6	6	5	21.7	-1	4
COMMERCIAL SVS	8	0.34	9.9	9.00	0.9	35.5	0.81	20.7	3.92	1.8	3	6	5	2	4	10.4	9	11
PROFESSIONAL SVS	11	0.34	10.9	11.30	-0.4	33.8	1.05	17.7	4.22	1.0	5	4	7	3	5	12.4	10	10
AIR FREIGHT & LOGIS	3	0.61	10.9	10.90	0	31.0	1.01	16.2	7.79	2.2	7	8	6	3	6	10.4	9	9
AIRLINES	10	0.54	12.2	10.00	2.2	30.6	0.91	7.4	2.66	1.1	3	7	5	7	8	0.4	-10	-2
MARINE	1	0.01	13.5	11.50	2	26.4	1.07	18.0	1.20	0.0	2	4	1	7	9	15.0	-35	11
ROAD & RAIL	11	0.81	11.5	11.50	0	29.5	1.07	17.0	2.97	2.1	5	2	4	4	7	11.7	-6	12
TRANSPORT INFRA	1	0.03		11.00			1.02	47.4	2.20	6.3		10	10	8	1	0.0	199	34
CONSUMER DISCR	182	12.46	11.4	11.40	0	31.6	1.06	18.1	4.04	1.5	5	4	6	4	5	24.5	13	13
AUTO COMP	9	0.26	11.1	13.50	-2.4	33.1	1.28	10.7	3.29	1.6	7	4	8	4	6	8.2	11	10
AUTOMOBILES	3	0.60	14.5	13.80	0.7	21.5	1.31	7.6	1.76	3.6	5	8	6	7	7	69.8	9	8
HOUSEHOLD DURABLES	14	0.48	12.7	12.90	-0.2	28.5	1.22	13.1	2.07	1.4	4	7	8	4	5	15.7	22	13
TEXTILES, APPAREL	13	0.77	10.1	9.00	1.1	37.0	0.81	20.5	5.14	1.2	8	3	5	3	7	11.5	3	12
HOTELS, RESTAURANTS & LEISURE	42	2.15	11.2	10.70	0.5	30.1	0.99	22.3	4.79	2.3	7	6	6	4	6	12.7	12	15
DIV CONSUMER SVS	9	0.10	10.9	9.80	1.1	35.7	0.90	17.6	3.81	0.7	6	5	6	3	5	13.2	9	13
MEDIA	25	2.82	11.3	12.40	-1.1	32.9	1.16	16.7	2.71	1.3	4	3	7	4	6	25.5	14	12
DISTRIBUTORS	1	0.07	8.8	10.40	-1.6	38.5	0.96	20.7	4.73	2.6	9	1	4	1	7	4.2	2	9
INTERNET & CATALOG RETAIL	9	2.10	11.0	12.60	-1.6	37.1	1.18	41.3	14.23	0.0	2	5	7	7	3	49.4	50	35
MULTILINE RETAIL	9	0.55	11.5	8.70	2.8	29.4	0.78	14.4	3.20	2.4	6	4	6	4	6	10.7	11	10
SPECIALTY RETAIL	48	2.56	11.4	10.40	1	30.8	0.96	17.3	6.59	1.6	7	2	6	2	6	13.3	9	12

Source: BofA Merrill Lynch US Equity and US Quant Strategy

BofAML Universe Sector/Industry Factor Evaluation (cont'd)

			Valuation Analysis								Expectation Analysis							
												Earnings (Decile)				PR 5yr	EPS Growth	
	# of Comp	% Univ BofAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj ßeta	P/E Ratio	Price/ Book	Yield	Surprise	Risk	Torp	Disp	Est. Rev.	Growth	2016E	2017E
CONSUMER STAPLES	49	9.29	9.8	8.30	1.5	34.3	0.74	20.7	4.47	2.6	6	4	5	2	6	8.7	4	10
FOOD & STAPLES RETAILING	12	2.13	10.2	8.60	1.6	34.6	0.77	17.2	3.44	1.9	4	3	5	3	5	9.3	4	9
BEVERAGES	8	2.11	9.0	8.10	0.9	37.5	0.71	23.4	7.57	2.6	8	3	4	2	6	6.7	0	10
FOOD PRODUCTS	14	1.48	10.9	8.40	2.5	32.0	0.75	21.2	2.93	2.2	6	7	6	3	5	13.0	9	15
TOBACCO	3	1.57	10.3	9.00	1.3	28.7	0.81	20.5	10.96	3.9	6	3	5	1	5	8.8	7	10
HOUSEHOLD PRODUCTS	7	1.86	9.2	7.50	1.7	36.9	0.66	22.6	4.39	2.7	7	4	4	2	7	6.9	0	8
PERSONAL PRODUCTS	5	0.16	9.5	11.20	-1.7	38.2	1.04	23.6	6.03	1.1	8	2	5	3	6	8.3	11	14
HEALTH CARE	164	14.54	10.5	9.80	0.7	34.7	0.90	16.5	3.67	1.6	6	5	6	3	5	10.3	9	11
HEALTH CARE EQUIP	34	2.75	9.9	10.20	-0.3	37.1	0.94	21.1	3.31	1.2	8	6	6	2	6	11.1	8	10
HEALTH CARE PROV	44	2.66	11.4	9.50	1.9	32.9	0.86	14.2	2.76	0.9	6	4	7	2	5	12.1	13	12
HEALTH CARE TECH	3	0.03	9.8	9.80	0	41.6	0.89	42.0	5.30	0.0	5	7	4	6	3	19.1	8	22
BIOTECH	45	3.19	11.3	11.50	-0.2	32.4	1.07	15.5	7.14	1.4	3	5	6	6	5	11.4	8	10
PHARMACEUTICALS	26	5.13	10.1	8.80	1.3	34.6	0.79	16.0	3.38	2.4	6	5	6	3	5	8.0	7	10
LIFE SCIENCES	12	0.78	9.5	10.60	-1.1	42.9	0.98	21.0	3.75	0.3	6	4	6	2	4	11.2	10	11
FINANCIALS	262	15.22	10.9	12.00	-1.1	31.3	1.12	13.6	1.39	2.7	5	5	5	4	6	7.7	1	11
BANKS	40	4.73	11.5	12.70	-1.2	28.6	1.20	11.9	1.08	2.4	6	4	4	3	6	6.2	-2	8
THRIFTS & MORTGAGE FINANCE	5	0.07	10.6	11.50	-0.9	33.7	1.07	12.8	1.45	2.6	4	3	5	5	7	9.5	24	13
DIV FINANCIALS	3	0.03	16.1	13.80	2.3	21.7	1.31	9.1	0.44	1.2	7		8	3	6	18.0	0	43
CONSUMER FINANCE	9	0.78	11.5	12.90	-1.4	29.9	1.21	10.1	1.41	1.8	7	2	6	3	7	8.8	6	6
CAPITAL MARKETS	49	2.54	11.8	13.80	-2	29.4	1.31	14.2	1.53	2.4	4	5	6	4	6	12.0	5	16
INSURANCE	32	2.60	10.4	12.30	-1.9	35.2	1.16	12.0	1.07	2.3	5	6	6	3	7	8.7	2	19
REITS	119	4.37	9.8	9.40	0.4	33.5	0.85	18.6	2.57	3.8	3	7	4	7	5	5.7	2	5
REAL ESTATE MGMT & DEV	5	0.10	12.2	15.00	-2.8	30.9	1.44	16.4	2.30	0.7	9	3	5	6	7	13.0	-8	8
INFO TECH	157	22.50	11.4	11.50	-0.1	32.4	1.07	17.2	4.46	1.3	4	4	6	5	4	14.4	6	14
INTERNET SOFTWARE	24	6.51	12.9	10.70	2.2	31.4	0.99	22.2	5.31	0.0	4	3	7	5	3	22.6	23	20
IT SERVICES	24	3.18	10.4	10.60	-0.2	34.7	0.97	17.9	7.32	1.6	5	4	5	2	5	10.7	3	11
SOFTWARE	38	4.46	11.2	11.90	-0.7	32.3	1.11	20.9	5.75	1.5	4	6	6	5	5	16.3	10	15
COMMUNICA. EQUIP	11	1.03	11.3	13.40	-2.1	30.9	1.27	13.7	2.76	2.6	6	4	5	4	6	11.2	6	8
COMPUTERS & PERIPH	10	3.54	10.3	12.00	-1.7	33.3	1.12	11.5	3.57	2.2	2	4	3	6	6	4.5	-5	12
ELECTR EQUIP & INSTR	14	0.52	11.0	13.00	-2	34.2	1.23	14.0	2.04	1.4	5	5	6	4	5	10.2	7	11
SEMICONDUCTORS	36	3.27	11.1	12.00	-0.9	31.1	1.12	16.3	3.27	2.0	6	5	6	5	3	11.8	3	12
TELECOMMUNICATION SERVICES	13	2.80	10.0	6.90	3.1	30.1	0.59	15.5	2.72	3.9	4	9	5	3	6	7.3	-1	4
DIVERSIFIED TELECOM SVS	11	2.49	10.0	6.60	3.4	30.1	0.56	14.1	2.94	4.4	4	9	4	2	6	5.3	-5	6
WIRELESS TELECOM SVS	2	0.30		9.30			0.84	91.3	1.70	0.0	6		9	9	3	24.1	309	-96
UTILITIES	47	2.80	9.5	6.20	3.3	32.9	0.53	17.8	1.87	3.6	6	5	4	2	5	4.3	30	6
ELECTRIC UTILITIES	14	1.69	9.6	5.80	3.8	32.1	0.48	16.6	1.73	3.7	7	5	3	2	5	4.2	5	4
GAS UTILITIES	13	0.24	9.2	7.80	1.4	36.2	0.68	20.5	2.51	3.7	5	5	4	4	6	5.1	2	9
MULTI-UTILITIES	8	0.68	9.3	6.00	3.3	33.3	0.50	18.5	2.13	3.5	5	5	3	2	6	3.8	2	2
WATER UTILITIES	1	0.06	9.2			38.2		24.8	2.61	2.0	6	1	4	1	5	8.2	6	8
INDEP POWER PROD & ENERGY TRAD	11	0.12	10.6	11.70	-1.1	31.0	1.09	27.6	1.49	3.3	2	10	5	7	7	6.0	113	146
BofAML UNIVERSE	1185	100.00	10.8	10.80	0	32.8	1.00	19.0	2.77	2.1						11.4	3	15
S&P 500	505	92.86	10.8	10.70	0.1	32.6	0.99	18.4	2.78	2.1						10.0	2	14

Source: BofA Merrill Lynch US Equity and US Quant Strategy

Performance Calculation Methodology

For each of the strategies represented in this report, rebalancing and performance calculations are conducted each month, using data and closing prices corresponding to the market's close on the last business day of each month. The performance of each index is computed on the basis of price return. The performance is presented relative to the benchmark which consists of the equal weighted price performance of stocks in the S&P 500 as of the last business day of each month. For Alpha Surprise model, the performance is also represented as relative to the market capitalization-weighted S&P 500 benchmark.

The results of quantitative strategies presented here may differ from the S&P 500 in that they are significantly less diversified, and, as such, their performance is more exposed to specific stock or sector results. Therefore investors following these strategies may experience greater volatility in their returns.

The performance results do not reflect transaction costs, tax withholdings or any investment advisory fees. Had these costs been reflected, the performance would have been lower. The performance results of individuals following the strategies presented here will differ from the performance contained in this report for a variety of reasons, including differences related to incurring transaction costs and/or investment advisory fees, as well as differences in the time and price that securities were acquired and disposed of, and differences in the weighting of such securities. The performance results of individuals following these strategies will also differ based on differences in treatment of dividends received, including the amount received and whether and when such dividends were reinvested.

Dividend Yield and Dividend Growth Strategies

We also provide total returns for dividend oriented strategies (high dividend yield strategy and high dividend growth strategy). The total return performance calculation assumes that dividends paid on securities in a portfolio are deposited in a cash account on the ex-dividend date, and are not reinvested. The performance is presented relative to the equal weighted total returns index of stocks in the S&P 500 as of the last business day of each month.

This report includes strategies for informational or descriptive purposes, and inclusion here is not equivalent to a recommendation of the strategy or portfolio.

Past performance should not and cannot be viewed as an indicator of future performance. A complete performance record is available upon request.

Advances & Declines

Advances and declines are based on the price returns of each stock for each relevant period. The portfolio rebalancing done each month constitutes the start of a new period for each stock in the portfolio. The performance period for the stock being removed will end when the stock is removed from the portfolio. For the stock being added, the performance period will begin when it is added to the portfolio.

Definitions

Absolute return: Absolute return is calculated based on monthly returns and reflects simple price appreciation (depreciation) over the stated period. Stocks in each screen are equally weighted. Returns do not reflect dividend or transaction costs.

Alpha Surprise Model: A 25%/75% combination of the Dividend Discount Model "Alpha" and the Positive EPS "Surprise" Models.

P/E-to-Growth: Trailing twelve months P/E divided by the five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exists, then the IBES Mean Long Term Growth Estimate is used.

Dividend Discount Model Alpha: The implied return from the BofAML Quantitative Strategy three-stage dividend discount model less the required return from a Capital Asset Pricing Model. Presented as a decile rank.

Earnings Yield: Trailing 12-month EPS divided by month-end price

Forward Earnings Yield: Rolling 12-month forward EPS divided by month-end price

Price/Book Value: Month-end price divided by the most recently reported book value per share.

Price/Cash Flow: Month-end price divided by the most recently reported cash flow. Cash flow is defined as earnings post extraordinary items plus depreciation.

Price/Free Cash Flow: Month-end price divided by most recently reported free cash flow. Free Cash flow is defined as earnings post extraordinary items plus depreciation minus capital expenditures.

Price/Sales: Month-end market value divided by most recently reported sales.

EV/EBITDA: Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents) divided by EBITDA (Reported Net Income + Special Items – Minority Interest + Interest Expense + Income Tax Expense + Depreciation and Amortization) – most recently reported.

Free Cash Flow/EV: Free Cash Flow divided by Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents). Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.

Dividend Yield: Indicated dividend divided by month-end price.

Dividend Growth: The growth between trailing 4-quarter total common dividends and year-ago trailing 4-quarter total common dividends.

Share Repurchase: The year-to-year change in shares outstanding

Rel Str – 30Wk/75Wk MA: The ratio of the 30-week moving average of price to the 75-week moving average.

Rel Str – 5Wk/30Wk MA: The ratio of the 5-week moving average of price to the 30-week moving average.

Rel Str – 10Wk/40Wk MA: The ratio of the 10-week moving average of price to the 40-week moving average.

Price/200-Day Moving Average: A ratio between month-end closing price and average closing price over the last 200 days.

Price Return – 12-Month Performance: Absolute price return over the last twelve months.

Price Return – 9-Month Performance: Absolute price return over the last nine months.

Price Return – 3-Month Performance: Absolute price return over the last three months.

Price Return – 11-Month Performance: Absolute price return from one year ago, ignoring the most recent month.

Price Return – 12-Month and 1-Month Performance: Equal weighted rank of stocks by (1) highest price return over the last twelve months and (2) highest price return over the most recently ended month.

Price Return – 12-Month and 1-Month Reversal: Equal weighted rank of stocks by (1) highest price return over the last twelve months and (2) lowest price return over the last one month.

Most Active: Stocks have the highest monthly share trading volume.

Earnings Momentum: The difference between 12-month trailing EPS and year-ago 12-month trailing EPS divided by year-ago 12-month trailing EPS.

Projected 5-Year EPS Growth: The five-year EPS growth rate estimated by BofAML Fundamental Equity Research. If no BofAML estimate exist, then I/B/E/S Mean Long Term Growth Estimate is used.

Forecast Earnings Surprise: A forecast earnings surprise variable which compares BofAML estimates to those of the consensus after adjusting for the range of estimates. Stocks are ranked from 1 to 10, with 1 being among the most optimistic, relative to the consensus, 10 being among the most pessimistic. Consensus estimated earnings data are courtesy of I/B/E/S.

Positive (Negative) Forecast Earnings Surprise: The companies ranked 1 or 2 (9 or 10) by Forecast Earnings Surprise.

EPS Estimate Revision: The difference between the I/B/E/S FY1 estimate and that of three months ago divided by the absolute value of I/B/E/S FY1 estimate of three months ago.

Equity Duration: An adaptation of our Dividend Discount Model which measures the interest-rate sensitivity of a stock. Longer durations (higher numbers) suggest more interest-rate sensitivity.

Earnings Torpedo: I/B/E/S FY2 estimate less latest actual annual EPS divided by month-end price.

Return on Equity One-Year Average: Net income divided by average equity provided.

Return on Equity Five-Year Average: Five-year average return on equity.

Return on Equity One-Year Average (Adjusted for Debt): The ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

Return on Equity Five-Year Average (Adjusted for Debt): The average five year ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

Return on Assets: Net income plus interest and taxes as a percent of average total assets.

Return on Capital: The sum of net income, interest expense and minority interest, as a percent of average total invested capital which is inclusive of long-term debt, preferred stock, common equity, and minority interest.

Beta: A measure of non-diversifiable risk. It is calculated using regression Strategy incorporating 60 months of price performance versus that of the S&P 500.

Variability of EPS: The degree of variability in quarterly EPS over the past 5 years. Stocks are ranked from 10 to 1 with 10 being the most variable.

EPS Estimate Dispersion: The coefficient of variation among I/B/E/S FY2 estimates. Presented as a decile rank.

Price: Absolute price level of the stock at month-end.

Neglect-Institutional Ownership: Those companies with the lowest proportions of float-adjusted shares held by institutional owners are considered more neglected.

Neglect-Analyst Coverage: Those companies with the lowest number of analysts submitting ratings to FirstCall.

Firm Size: Month-end market value.

Foreign Exposure: The ratio of foreign sales to total sales.

Short Interest 12-mth Z-Score: (Most recent number of short shares – 12mth average of short shares)/ 12mth standard deviation of short shares.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

* Ratings dispersions may vary from time to time where BofA Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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UTIL DEBT SPREADS, ML IMPLIED MRP, VOLATILITY & MKT INDICES

	"AA"/"AA2" Debt Cost	"A" /"A2" Debt Cost	"BBB"/"Baa2" Debt Cost	30 Year Treas.	AA/Aa2 Vs Treas	A/A2 Vs Treas	BBB/Baa2 Vs Treas	Spread A vs BBB	Merrill Lynch	Implied MRP	VIX INDEX	S&P 500	DJU
Jan-09	6.01	6.39	7.90	3.13	**2.88**	**3.26**	**4.77**	**1.51**	12.00	8.82	45.56	874	369
Feb-09	6.11	6.30	7.74	3.59	**2.52**	**2.71**	**4.15**	**1.44**	12.25	9.12	46.95	805	353
Mar-09	6.14	6.42	8.00	3.64	**2.50**	**2.78**	**4.36**	**1.58**	12.90	9.31	46.02	750	314
Apr-09	6.20	6.48	8.03	3.76	**2.44**	**2.72**	**4.27**	**1.55**	12.75	9.11	39.64	836	333
May-09	6.23	6.49	7.76	4.23	**2.00**	**2.26**	**3.53**	**1.27**	12.55	8.79	31.73	898	342
Jun-09	6.13	6.20	7.30	4.52	**1.61**	**1.68**	**2.78**	**1.10**			28.90	923	350
Jul-09	5.63	5.97	6.87	4.41	**1.22**	**1.56**	**2.46**	**0.90**	12.40	7.88	28.03	933	361
Aug-09	5.33	5.71	6.36	4.37	**0.96**	**1.34**	**1.99**	**0.65**	12.05	7.64	25.49	1,009	374
Sep-09	5.15	5.53	6.12	4.19	**0.96**	**1.34**	**1.93**	**0.59**	11.95	7.58	26.03	1,036	376
Oct-09	5.23	5.55	6.14	4.19	**1.04**	**1.36**	**1.95**	**0.59**	11.85	7.66	25.85	1,061	375
Nov-09	5.33	5.64	6.18	4.31	**1.02**	**1.33**	**1.87**	**0.54**	11.95	7.76	25.95	1,072	371
Dec-09	5.52	5.79	6.26	4.49	**1.03**	**1.30**	**1.77**	**0.47**			21.88	1,108	395
Jan-10	5.55	5.77	6.16	4.60	**0.95**	**1.17**	**1.56**	**0.39**	11.60	7.11	22.44	1,111	391
Feb-10	5.69	5.87	6.25	4.62	**1.07**	**1.25**	**1.63**	**0.38**	11.75	7.15	24.27	1,078	373
Mar-10	5.64	5.84	6.22	4.64	**1.00**	**1.20**	**1.58**	**0.38**	11.45	6.83	18.06	1,143	376
Apr-10	5.62	5.81	6.19	4.69	**0.93**	**1.12**	**1.50**	**0.38**	11.30	6.66	19.22	1,195	385
May-10	5.29	5.50	5.97	4.29	**1.00**	**1.21**	**1.68**	**0.47**	11.30	6.61	33.91	1,123	371
Jun-10	5.22	5.46	6.18	4.13	**1.09**	**1.33**	**2.05**	**0.72**	11.60	7.31	30.13	1,080	370
Jul-10	4.99	5.26	5.98	3.99	**1.00**	**1.27**	**1.99**	**0.72**	11.80	7.67	29.72	1,066	375
Aug-10	4.75	5.01	5.55	3.80	**0.95**	**1.21**	**1.75**	**0.54**	11.60	7.61	25.14	1,085	390
Sep-10	4.74	5.01	5.53	3.77	**0.97**	**1.24**	**1.76**	**0.52**	11.80	8.00	22.99	1,104	396
Oct-10	4.89	5.10	5.62	3.87	**1.02**	**1.23**	**1.75**	**0.52**	11.60	7.83	21.12	1,164	406
Nov-10	5.12	5.37	5.85	4.19	**0.93**	**1.18**	**1.66**	**0.48**	11.50	7.63	20.80	1,200	399
Dec-10	5.32	5.56	6.04	4.42	**0.90**	**1.14**	**1.62**	**0.48**	11.65	7.46	19.04	1,225	400
Jan-11	5.29	5.57	6.06	4.52	**0.77**	**1.05**	**1.54**	**0.49**	11.45	7.03	17.73	1,281	410
Feb-11	5.42	5.68	6.10	4.65	**0.77**	**1.03**	**1.45**	**0.42**	11.65	7.13	18.42	1,317	412
Mar-11	5.33	5.56	5.97	4.51	**0.82**	**1.05**	**1.46**	**0.41**	11.85	7.20	24.18	1,291	408
Apr-11	5.32	5.55	5.98	4.50	**0.82**	**1.05**	**1.48**	**0.43**	11.75	7.24	16.67	1,330	418
May-11	5.08	5.32	5.74	4.29	**0.79**	**1.03**	**1.45**	**0.42**	11.55	7.05	17.55	1,342	434
Jun-11	5.04	5.26	5.67	4.23	**0.81**	**1.03**	**1.44**	**0.41**	11.70	7.41	20.27	1,302	428
Jul-11	5.05	5.27	5.70	4.27	**0.78**	**1.00**	**1.43**	**0.43**	11.55	7.32	20.53	1,320	435
Aug-11	4.44	4.69	5.22	3.65	**0.79**	**1.04**	**1.57**	**0.53**	11.90	7.63	35.23	1,205	409
Sep-11	4.24	4.48	5.11	3.18	**1.06**	**1.30**	**1.93**	**0.63**	12.00	8.35	37.15	1,172	432
Oct-11	4.21	4.52	5.24	3.13	**1.08**	**1.39**	**2.11**	**0.72**	12.30	9.12	35.66	1,184	435
Nov-11	3.92	4.25	4.93	3.02	**0.90**	**1.23**	**1.91**	**0.68**	12.15	9.02	32.28	1,219	439
Dec-11	4.00	4.33	5.07	2.98	**1.02**	**1.35**	**2.09**	**0.74**	12.15	9.13	25.63	1,236	454
Jan-12	4.03	4.34	5.06	3.03	**1.00**	**1.31**	**2.03**	**0.72**	12.10	9.12	20.27	1,296	454
Feb-12	4.02	4.36	5.02	3.11	**0.91**	**1.25**	**1.91**	**0.66**	12.15	9.12	19.04	1,345	452
Mar-12	4.16	4.48	5.13	3.28	**0.88**	**1.20**	**1.85**	**0.65**	12.20	9.09	17.45	1,380	455
Apr-12	4.10	4.40	5.11	3.18	**0.92**	**1.22**	**1.93**	**0.71**	12.05	8.77	18.04	1,390	460
May-12	3.92	4.20	4.97	2.93	**0.99**	**1.27**	**2.04**	**0.77**	12.35	9.17	20.74	1,354	468
Jun-12	3.79	4.08	4.91	2.70	**1.09**	**1.38**	**2.21**	**0.83**	12.50	9.57	22.25	1,315	475
Jul-12	3.58	3.93	4.85	2.59	**0.99**	**1.34**	**2.26**	**0.92**	12.20	9.50	18.23	1,359	487
Aug-12	3.65	4.00	4.88	2.77	**0.88**	**1.23**	**2.11**	**0.88**	12.20	9.61	16.28	1,391	483
Sep-12	3.69	4.02	4.81	2.88	**0.81**	**1.14**	**1.93**	**0.79**	12.20	9.43	16.24	1,436	472
Oct-12	3.68	3.91	4.54	2.90	**0.78**	**1.01**	**1.64**	**0.63**	12.10	9.22	16.66	1,437	480
Nov-12	3.60	3.84	4.42	2.80	**0.80**	**1.04**	**1.62**	**0.58**	12.15	9.25	17.09	1,389	459
Dec-12	3.75	4.00	4.56	2.88	**0.87**	**1.12**	**1.68**	**0.56**	12.15	9.35	19.07	1,423	453
Jan-13	3.90	4.15	4.66	3.08	**0.82**	**1.07**	**1.58**	**0.51**	12.05	9.17	14.11	1,468	466
Feb-13	3.95	4.18	4.74	3.17	**0.78**	**1.01**	**1.57**	**0.56**	12.15	9.07	15.68	1,508	476
Mar-13	3.90	4.15	4.66	3.16	**0.74**	**0.99**	**1.50**	**0.51**	12.20	9.03	13.94	1,536	493
Apr-13	3.74	4.00	4.49	2.93	**0.81**	**1.07**	**1.56**	**0.49**	12.20	9.04	15.10	1,567	523
May-13	3.91	4.17	4.65	3.11	**0.80**	**1.06**	**1.54**	**0.48**	12.00	9.07	16.30	1,631	482
Jun-13	4.27	4.53	5.08	3.4	**0.87**	**1.13**	**1.68**	**0.55**	12.00	8.89	16.86	1,606	486
Jul-13	4.44	4.68	5.21	3.61	**0.83**	**1.07**	**1.60**	**0.53**	12.00	8.60	13.45	1,686	504
Aug-13	4.53	4.73	5.28	3.76	**0.77**	**0.97**	**1.52**	**0.55**	11.85	8.24	17.01	1,633	478
Sep-13	4.58	4.80	5.31	3.79	**0.79**	**1.01**	**1.52**	**0.51**	11.95	8.19	16.60	1,682	482
Oct-13	4.48	4.70	3.17	3.68	**0.80**	**1.02**	**-0.51**	**-1.53**	11.55	7.76	13.75	1,757	500
Nov-13	4.56	4.77	5.24	3.80	**0.76**	**0.97**	**1.44**	**0.47**	11.30	7.62	13.70	1,806	487
Dec-13	4.59	4.81	5.25	3.89	**0.70**	**0.92**	**1.36**	**0.44**	11.30	7.50	13.72	1,848	491
Jan-14	4.44	4.63	5.09	3.77	**0.67**	**0.86**	**1.32**	**0.46**	11.30	7.41	18.41	1,783	506
Feb-14	4.38	4.53	5.01	3.66	**0.72**	**0.87**	**1.35**	**0.48**	11.65	7.88	14.00	1,859	519
Mar-14	4.40	4.51	5.00	3.62	**0.78**	**0.89**	**1.38**	**0.49**	11.50	7.84	13.88	1,872	532
Apr-14	4.30	4.41	4.85	3.52	**0.78**	**0.89**	**1.33**	**0.44**	11.50	7.88	13.41	1,884	554
May-14	4.16	4.26	4.69	3.39	**0.77**	**0.87**	**1.30**	**0.43**	11.40	7.88	11.40	1,924	545
Jun-14	4.23	4.29	4.73	3.42	**0.81**	**0.87**	**1.31**	**0.44**	11.30	7.91	11.57	1,960	576
Jul-14	4.16	4.23	4.66	3.33	**0.83**	**0.90**	**1.33**	**0.43**	11.25	7.83	16.95	1,931	539
Aug-14	4.07	4.13	4.65	3.2	**0.87**	**0.93**	**1.45**	**0.52**	11.30	7.97	12.09	2,003	564
Sep-14	4.18	4.24	4.79	3.26	**0.92**	**0.98**	**1.53**	**0.55**	11.15	7.95	16.31	1,972	551
Oct-14	3.98	4.06	4.67	3.04	**0.94**	**1.02**	**1.63**	**0.61**	11.15	7.89	14.03	2,018	597
Nov-14	4.03	4.09	4.75	3.04	**0.99**	**1.05**	**1.71**	**0.66**	11.05	8.01	13.33	2,068	600
Dec-14	3.90	3.95	4.70	2.83	**1.07**	**1.12**	**1.87**	**0.75**	11.00	7.96	19.20	2,059	618
Jan-15	3.52	3.58	4.36	2.46	**1.06**	**1.12**	**1.90**	**0.78**	11.00	8.17	20.97	1,995	637
Feb-15	3.62	3.67	4.44	2.57	**1.05**	**1.10**	**1.87**	**0.77**	11.10	8.64	13.34	2,104	594
Mar-15	3.67	3.74	4.51	2.63	**1.04**	**1.11**	**1.88**	**0.77**	11.00	8.43	15.29	2,068	587
Apr-15	3.63	3.75	4.51	2.59	**1.04**	**1.16**	**1.92**	**0.76**	11.10	8.47	14.55	2,086	587
May-15	4.05	4.17	4.91	2.96	**1.09**	**1.21**	**1.95**	**0.74**	11.30	8.71	13.84	2,107	587
Jun-15	4.29	4.39	5.13	3.11	**1.18**	**1.28**	**2.02**	**0.74**	11.20	8.24	18.23	2,063	550
Jul-15	4.27	4.4	5.22	3.07	**1.20**	**1.33**	**2.15**	**0.82**	11.35	8.24	12.12	2,104	584
Aug-15	4.13	4.25	5.23	2.86	**1.27**	**1.39**	**2.37**	**0.98**	11.10	8.03	28.43	1,972	562
Sep-15	4.25	4.39	5.42	2.95	**1.30**	**1.44**	**2.47**	**1.03**	11.35	8.49	24.50	1,920	577
Oct-15	4.13	4.29	5.47	2.89	**1.24**	**1.40**	**2.58**	**1.18**	11.35	8.40	15.07	2,079	581
Nov-15	4.22	4.4	5.57	3.03	**1.19**	**1.37**	**2.54**	**1.17**	11.05	8.16	16.13	2,080	611
Dec-15	4.16	4.35	5.55	2.97	**1.19**	**1.38**	**2.58**	**1.20**	11.15	8.12	18.21	2,044	621
Jan-16	4.09	4.27	5.49	2.86	**1.23**	**1.41**	**2.63**	**1.22**	11.05	8.08	20.20	1,940	611
Feb-16	3.94	4.11	5.28	2.62	**1.32**	**1.49**	**2.66**	**1.17**	11.15	8.29	20.55	1,923	620
Mar-16	3.93	4.16	5.12	2.68	**1.25**	**1.48**	**2.44**	**0.96**	11.35	8.73	13.95	2,060	669
Apr-16	3.74	4.00	4.79	2.62	**1.12**	**1.38**	**2.17**	**0.79**	11.00	8.32	15.70	2,065	654
May-16	3.65	3.93	4.6	2.63	**1.02**	**1.30**	**1.97**	**0.67**	11.10	8.48	14.19	2,097	659
Jun-16	3.56	3.78	4.47	2.45	**1.11**	**1.33**	**2.02**	**0.69**	10.95	8.32	15.63	2,099	717
Jul-16	3.36	3.57	4.16	2.23	**1.13**	**1.34**	**1.93**	**0.59**	10.88	8.43	11.87	2,174	711
Aug-16	3.39	3.59	4.2	2.26	**1.13**	**1.33**	**1.94**	**0.61**	10.75	8.52	13.42	2,171	667
Sep-16	3.47	3.66	4.27	2.35	**1.12**	**1.31**	**1.92**	**0.61**	10.75	8.49	13.29	2,168	668
Avgs:September 2016													
3 mo. Avg	**3.41**	**3.61**	**4.21**	**2.28**	**1.13**	**1.33**	**1.93**	**0.60**	**10.79**	**8.48**	**12.86**		
6 mo. Avg:	**3.53**	**3.76**	**4.42**	**2.42**	**1.11**	**1.33**	**1.99**	**0.66**	**10.91**	**8.43**	**14.02**		
1 yr avg:	**3.80**	**4.01**	**4.91**	**2.63**	**1.17**	**1.38**	**2.28**	**0.91**	**11.04**	**8.36**	**15.68**		
2 yr avg:	**3.87**	**4.02**	**4.87**	**2.74**	**1.14**	**1.29**	**2.13**	**0.84**	**11.09**	**8.32**	**16.50**		
3 yr avg:	**4.03**	**4.17**	**4.83**	**3.01**	**1.02**	**1.16**	**1.83**	**0.66**	**11.19**	**8.14**	**15.70**		
5 yr avg:	**4.00**	**4.20**	**4.86**	**3.04**	**0.96**	**1.16**	**1.82**	**0.66**	**11.57**	**8.51**	**16.99**		