

STATE OF NEW YORK

PUBLIC SERVICE COMMISSION

CASE 11-W-_____

PROCEEDING ON THE MOTION OF THE COMMISSION AS TO THE

RATES, CHARGES, RULES AND REGULATIONS OF

LONG ISLAND WATER CORPORATION D/B/A

LONG ISLAND AMERICAN WATER FOR WATER SERVICE

EXHIBIT

TO ACCOMPANY THE

PREPARED REBUTTAL TESTIMONY

OF

PAULINE M. AHERN, CRRA

PRINCIPAL

AUS CONSULTANTS

October 3, 2011

Welcome, returnaas

[My Value Line](#)

Value Line®

The Most Trusted Name in Investment Research®

[Institutions & Advisors](#)[Individual Investors](#)[Stocks](#)[Funds](#)[Options](#)[Convertibles](#)[Products](#)[Markets](#)[Investment Tools](#)[Value Line](#)[My Value Line](#)**The Value Line Investment Survey - Standard Edition - Lookup Company Reports**

Enter the Ticker, Company or Industry Name:

Water Utility	Search By
	☐ Company ☒ Industry ☐ Ticker Symbol
Search	

Search Results (5)

Company (Ticker)	Alert	PDF	HTML	Industry	Time/Perf Rank	Report Date
Amer. States Water (AWR)				Water Utility	1 (T)	7/22/2011
Amer. Water Works (AWK)				Water Utility	2 (T)	7/22/2011
Aqua America (WTR)				Water Utility	3 (T)	7/22/2011
California Water (CWT)				Water Utility	3 (T)	7/22/2011
SJW Corp. (SJW)				Water Utility	3 (T)	7/22/2011

Factual material is obtained from sources believed to be reliable, but the publisher is not responsible for any errors or omissions, or for the results of actions taken based on information contained herein. Nothing herein should be construed as an offer to buy or sell securities or to give individual investment advice. © 2011 Value Line Publishing LLC RIGHTS OF REPRODUCTION AND DISTRIBUTION ARE RESERVED TO THE PUBLISHER. The Publisher does not give investment advice or act as an investment adviser. Value Line, Inc., its subsidiaries, its parent corporation and its subsidiaries, and their officers, directors or employees as well as certain investment companies or investment advisory accounts for which Value Line, Inc. acts as investment advisor, may own stocks that are mentioned on this Value Line Web site.

Copyright © 2011 Value Line, Inc. All rights reserved.

[Terms](#) | [Privacy](#) | [Support](#) | [Contact Us](#) | [Store](#) | [Sitemap](#) | [Disclaimers and Trademark Notice](#)

Site Search Search Get Quote

Welcome, returnus My Value Line



Value Line
The Most Trusted Name in Investment Research®

Institutions & Advisors

Individual Investors

Stocks

Funds

Options

Convertibles

Products

Markets

Investment Tools

Value Line

My Value Line

The VL Investment Survey - Small & Mid-Cap Edition - Lookup Company Reports

Enter the Ticker, Company or Industry Name:

Search By
☐ Company ☒ Industry ☐ Ticker Symbol

Search Results (5)

Company (Ticker)	Alert	PDF	HTML	Industry	Time/Perf Rank	Report Date
Artesian Res Corp (ARTNA)				Water Utility	3 (P)	7/22/2011
Conn. Water Services (CTWS)				Water Utility	3 (P)	7/22/2011
Middlesex Water (MSEX)				Water Utility	3 (P)	7/22/2011
Pennichuck Corp (PNNW)				Water Utility	N/A	7/22/2011
York Water Co (YORW)				Water Utility	3 (P)	7/22/2011

Factual material is obtained from sources believed to be reliable, but the publisher is not responsible for any errors or omissions, or for the results of actions taken based on information contained herein. Nothing herein should be construed as an offer to buy or sell securities or to give individual investment advice. © 2011 Value Line Publishing LLC RIGHTS OF REPRODUCTION AND DISTRIBUTION ARE RESERVED TO THE PUBLISHER. The Publisher does not give investment advice or act as an investment adviser. Value Line, Inc., its subsidiaries, its parent corporation and its subsidiaries, and their officers, directors or employees as well as certain investment companies or investment advisory accounts for which Value Line, Inc. acts as investment advisor, may own stocks that are mentioned on this Value Line Web site.

Copyright © 2011 Value Line, Inc. All rights reserved.

[Terms](#) | [Privacy](#) | [Support](#) | [Contact Us](#) | [Store](#) | [Sitemap](#) | [Disclaimers and Trademark Notice](#)

AMER. STATES WATER NYSE-AWR										RECENT PRICE	35.05	P/E RATIO	17.5 (Trailing: 16.5 Median: 22.0)	RELATIVE P/E RATIO	1.09	DIV'D YLD	3.2%	VALUE LINE	Target Price Range		
TIMELINESS	3	Raised 11/19/10	High: 25.3	26.4	29.0	29.0	26.8	34.6	43.8	46.1	42.0	38.8	39.6	36.4					2014	2015	2016
SAFETY	3	New 2/4/00	Low: 16.7	19.0	20.3	21.6	20.8	24.3	30.3	33.6	27.0	29.8	31.2	32.7							
TECHNICAL	3	Lowered 7/22/11	LEGENDS — 1.25 x Dividends p sh divided by Interest Rate Relative Price Strength 3-for-2 split 6/02 Options: No Shaded areas indicate recessions																		
BETA	.75	(1.00 = Market)																			
2014-16 PROJECTIONS			Ann'l Total																		
High	Price	Gain	14%																		
Low	55	(+55%)	7%																		
40	40	(+15%)																			
Insider Decisions			A S O N D J F M A																		
to Buy			2 0 0 0 0 0 0 0 0 0																		
Options			0 0 1 2 1 0 0 0 0 0																		
to Sell			0 1 1 2 0 0 0 0 0 0																		
Institutional Decisions			3Q2010 4Q2010 1Q2011																		
to Buy			53 59 51																		
to Sell			47 51 48																		
Hld's(000)			11195 11086 11214																		
			Percent shares traded 12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			12 8 4																		
			1																		

AMERICAN WATER NYSE-AWK				RECENT PRICE	29.56	P/E RATIO	17.4 (Trailing: 18.5 Median: NMF)	RELATIVE P/E RATIO	1.09	DIV'D YLD	3.1%	VALUE LINE	Target Price Range		
TIMELINESS	1	New 10/22/10											2014	2015	2016
SAFETY	3	New 7/25/08													
TECHNICAL	3	Raised 7/15/11													
BETA	.65	(1.00 = Market)													
2014-16 PROJECTIONS															
High	Price	Gain	Ann'l Total												
Low	50	(+70%)	16%												
	35	(+20%)	7%												
Insider Decisions															
A	S	O	N	D	J	F	M	A							
to Buy	0	0	0	0	0	0	1	0							
Options	0	0	0	0	0	0	1	1							
to Sell	0	0	0	0	0	0	0	1							
Institutional Decisions															
3Q2010	4Q2010	1Q2011													
to Buy	146	145	168												
to Sell	93	119	117												
Hld's(000)	149349	145430	145932												
Percent	21														
shares	14														
traded	7														
CAPITAL STRUCTURE as of 3/31/11															
Total Debt	\$5698.0 mill.	Due in 5 Yrs	\$201.9 mill.												
LT Debt	\$5362.3 mill.	LT Interest	\$280.0 mill.												
(Total interest coverage: 1.9x)		(56% of Cap'l)													
Leases, Uncapitalized: Annual rentals \$25.7 mill.															
Pension Assets-12/10	\$861.0 mill.	Oblig.	\$1285.5 mill.												
Pfd Stock	\$27.8 mill.	Pfd Div'd	NMF												
Common Stock 175,356,140 shs. as of 4/28/11															
MARKET CAP: \$5.2 billion (Mid Cap)															
CURRENT POSITION	2009	2010	3/31/11												
(\$MILL.)															
Cash Assets	22.3	13.1	13.5												
Other	476.8	521.2	1292.0												
Current Assets	499.1	534.3	1305.5												
Accts Payable	138.6	199.2	132.7												
Debt Due	173.6	44.8	335.7												
Other	295.2	530.5	666.5												
Current Liab.	607.4	774.5	1134.9												
Fix. Chg. Cov.	210%	237%	250%												
ANNUAL RATES of change (per sh)															
Past 10 Yrs.	Past 5 Yrs.	Est'd '08-'10	to '14-'16												
Revenues	--	--	3.5%												
"Cash Flow"	--	--	5.0%												
Earnings	--	--	8.5%												
Dividends	--	--	8.0%												
Book Value	--	--	-5%												
Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year										
	Mar.31	Jun.30	Sep.30	Dec.31											
2008	506.8	589.4	672.2	568.5	2336.9										
2009	550.2	612.7	680.0	597.8	2440.7										
2010	588.1	671.2	786.9	664.5	2710.7										
2011	610.9	705	810	724.1	2850										
2012	650	750	865	760	3025										
Cal-endar	EARNINGS PER SHARE A				Full Year										
	Mar.31	Jun.30	Sep.30	Dec.31											
2008	.04	.28	.55	.23	1.10										
2009	.19	.32	.52	.21	1.25										
2010	.18	.42	.71	.23	1.53										
2011	.24	.45	.75	.26	1.70										
2012	.24	.49	.79	.28	1.80										
Cal-endar	QUARTERLY DIVIDENDS PAID B				Full Year										
	Mar.31	Jun.30	Sep.30	Dec.31											
2007	--	--	--	--	--										
2008	--	--	--	--	.40										
2009	.20	.20	.21	.21	.82										
2010	.21	.21	.22	.22	.86										
2011	.22	.23													

(A) Diluted earnings. Excludes nonrecurring gains (losses): '08, (\$4.62); '09, (\$2.63). Discontinued operations: '06, (4c); '11, 1c. Next earnings report due early August.

Quarterly earnings may not sum due to rounding. (B) Dividends to be paid in February, May, August, and November. Div. reinvestment avail-

able. (C) In millions. (D) Includes intangibles. In 2010: \$1.251 billion, \$7.15/share.

Company's Financial Strength B
Stock's Price Stability 90
Price Growth Persistence NMF
Earnings Predictability 15

To subscribe call 1-800-833-0046.

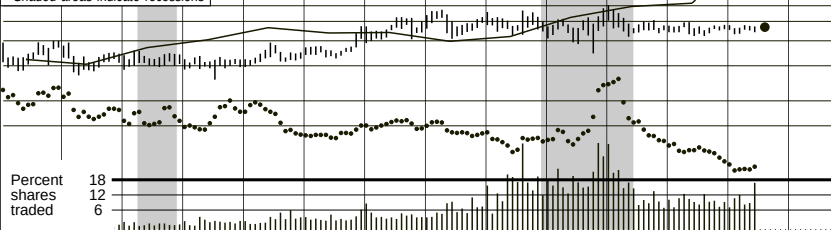
© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

AQUA AMERICA				NYSE-WTR		RECENT PRICE		22.39		P/E RATIO		21.3 (Trailing: 24.1 Median: 25.0)		RELATIVE P/E RATIO		1.33		DIV'D YLD		2.8%		VALUE LINE	
TIMELINESS				3 Lowered 1/21/11		High: 12.0		14.8		15.0		16.8		18.5		29.2		29.8		26.6		22.0	
SAFETY				3 Lowered 8/1/03		Low: 6.3		9.4		9.6		11.8		14.2		17.5		20.1		18.9		12.2	
TECHNICAL				3 Raised 6/10/11		LEGENDS		1.60 X Dividends p sh		divided by Interest Rate													
BETA				.65 (1.00 = Market)		5-for-4 split		12/00															
2014-16 PROJECTIONS						5-for-4 split		12/01															
						5-for-4 split		12/03															
						5-for-4 split		12/05															
						Options: Yes																	
						Shaded areas indicate recessions																	
High				Price		Gain		Ann'l Total															
Low				35		25		(+55%)		14%													
				25				(+10%)		6%													
Insider Decisions																							
to Buy				A		S		O		N		D		J		F		M		A			
Options				0		1		0		0		0		0		0		0		0			
to Sell				0		2		1		1		1		0		1		0		1			
				0		2		1		1		1		0		1		0		1			
Institutional Decisions																							
to Buy				3Q2010		4Q2010		1Q2011															
to Sell				90		101		81															
Hld's(000)				59791		55463		55308															
				Percent		shares		traded															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															
				5		10		5															
				15		10		5															

ARTESIAN RES. CORP. NDQ--ARTNA				RECENT PRICE	19.06	TRAILING P/E RATIO	20.9	RELATIVE P/E RATIO	1.19	DIV'D YLD	4.0%	VALUE LINE				
RANKS		19.83 13.08	20.04 15.18	22.62 17.20	22.33 17.90	20.67 18.26	19.31 13.00	18.73 12.81	19.59 16.43	19.99 17.69			High Low			
PERFORMANCE	3	LEGENDS — 12 Mos Mov Avg ... Rel Price Strength 3-for-2 split 7/03 3-for-2 split 7/06 Shaded area indicates recession														
Technical	3															
SAFETY	2															
BETA	.60	(1.00 = Market)														
Financial Strength	B+															
Price Stability	100															
Price Growth Persistence	45															
Earnings Predictability	90															
© VALUE LINE PUBLISHING LLC		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012/2013					
SALES PER SH		6.20	6.67	7.52	7.77	7.20	7.59	8.11	8.48	--						
"CASH FLOW" PER SH		1.28	1.42	1.56	1.75	1.57	1.65	1.84	1.92	--						
EARNINGS PER SH		.64	.72	.81	.97	.90	.86	.97	1.00	1.00 ^{A,B}	1.13 ^{C/NA}					
DIV'DS DECL'D PER SH		.53	.55	.58	.61	.66	.71	.72	.75	--						
CAP'L SPENDING PER SH		4.20	4.82	3.35	5.08	3.66	6.09	2.32	2.57	--						
BOOK VALUE PER SH		9.01	9.26	9.60	10.15	11.66	11.86	12.15	12.44	--						
COMMON SHS OUTST'G (MILL)		5.85	5.93	6.02	6.09	7.30	7.40	7.51	7.65	--						
AVG ANN'L P/E RATIO		24.7	25.4	24.2	20.3	21.5	20.1	16.4	18.2	19.1	16.9/NA					
RELATIVE P/E RATIO		1.41	1.34	1.28	1.10	1.14	1.21	1.09	1.16	--						
AVG ANN'L DIV'D YIELD		3.4%	3.0%	2.9%	3.1%	3.4%	4.1%	4.5%	4.1%	--						
SALES (\$MILL)		36.3	39.6	45.3	47.3	52.5	56.2	60.9	64.9	--						
OPERATING MARGIN		--	--	100.0%	45.6%	45.6%	45.1%	46.9%	46.5%	--						
DEPRECIATION (\$MILL)		3.6	4.0	4.4	4.6	5.2	5.8	6.6	7.0	--						
NET PROFIT (\$MILL)		3.9	4.4	5.0	6.1	6.3	6.4	7.3	7.6	--						
INCOME TAX RATE		37.9%	39.6%	39.9%	39.0%	39.8%	40.8%	40.1%	40.0%	--						
NET PROFIT MARGIN		10.8%	11.1%	11.1%	12.8%	11.9%	11.4%	11.9%	11.7%	--						
WORKING CAP'L (\$MILL)		d10.5	d8.7	d1.8	d8.8	2.5	d20.9	d23.3	d27.9	--						
LONG-TERM DEBT (\$MILL)		80.6	82.4	92.4	92.1	91.8	107.6	106.0	105.1	--						
SHR. EQUITY (\$MILL)		52.7	54.9	57.8	61.8	85.1	87.8	91.2	95.1	--						
RETURN ON TOTAL CAP'L		4.5%	5.1%	5.3%	5.8%	5.3%	4.7%	5.2%	5.6%	--						
RETURN ON SHR. EQUITY		7.4%	8.0%	8.7%	9.8%	7.4%	7.3%	8.0%	8.0%	--						
RETAINED TO COM EQ		1.4%	2.1%	2.7%	3.8%	2.1%	1.4%	2.1%	2.0%	--						
ALL DIV'DS TO NET PROF		81%	74%	69%	61%	71%	81%	74%	75%	--						
^A No. of analysts changing earn. est. in last 9 days: 0 up, 0 down, consensus 5-year earnings growth 3.6% per year. ^B Based upon 4 analysts' estimates. ^C Based upon 4 analysts' estimates.																
ANNUAL RATES						INDUSTRY: Water Utility										
of change (per share)		5 Yrs.	1 Yr.	ASSETS (\$mill.)		2009	2010	3/31/11	BUSINESS: Artesian Resources Corporation, through its subsidiaries, provides water, wastewater and other services on the Delmarva Peninsula. The company distributes and sells water, including water for public and private fire protection, to residential, commercial, industrial, municipal and utility customers throughout the states of Delaware, Maryland and Pennsylvania. It also provides wastewater services to customers in Delaware and has entered into purchase agreements to provide wastewater services in the state of Maryland. In addition, Artesian provides contract water and wastewater operations, water and sewer service line protection plans, wastewater management services, and design, construction and engineering services. Artesian Resources is the parent holding company of Artesian Water Company, Inc., Artesian Water Pennsylvania, Inc., Artesian Water Maryland, Inc., Artesian Wastewater Management, Inc., Artesian Wastewater Maryland, Inc. and three other entities. Has 238 employees. Chairman, C.E.O. & President: Dian C. Taylor. Address: 664 Churchmans Rd., Newark, DE 19702. Tel.: 302 453-6900. Internet: http://www.artesianwater.com. W.T.							
Sales		3.5%	4.5%	Cash Assets		.5	.2	.3								
"Cash Flow"		5.0%	4.0%	Receivables		9.0	5.1	8.2								
Earnings		5.5%	3.0%	Inventory		1.2	1.2	1.3								
Dividends		5.5%	4.5%	Other		2.5	7.5	2.0								
Book Value		5.5%	2.5%	Current Assets		13.2	14.0	11.8								
Fiscal Year	QUARTERLY SALES (\$mill.)				Full Year	Property, Plant & Equip, at cost		403.0	414.6	--	LIABILITIES (\$mill.) Accts Payable 3.7 3.4 3.6 Debt Due 27.7 30.6 27.6 Other 5.1 7.9 7.0 Current Liab 36.5 41.9 38.2					
12/31/09	13.9	15.4	16.1	15.5	60.9	Accum Depreciation		64.9	69.2	--						
12/31/10	15.0	16.0	18.0	15.9	64.9	Net Property		338.1	345.4	350.7						
12/31/11	14.8					Other		7.6	12.1	7.8						
12/31/12						Total Assets		358.9	371.5	370.3						
Fiscal Year	EARNINGS PER SHARE				Full Year	LONG-TERM DEBT AND EQUITY as of 3/31/11		TOTAL SHAREHOLDER RETURN Dividends plus appreciation as of 6/30/2011 3 Mos. 6 Mos. 1 Yr. 3 Yrs. 5 Yrs. -6.62% -3.02% 1.56% 11.47% 12.77%								
12/31/08	.13	.21	.35	.17	.86	Total Debt \$134.5 mill.								Due in 5 Yrs. NA		
12/31/09	.22	.27	.28	.20	.97	LT Debt \$106.9 mill.										
12/31/10	.22	.24	.38	.16	1.00	Including Cap. Leases NA										
12/31/11	.13	.24	.39	.22		(53% of Cap'l)										
12/31/12						Leases, Uncapitalized Annual rentals NA										
Cal-endar	QUARTERLY DIVIDENDS PAID				Full Year	Pension Liability \$5 mill. in '10 vs. \$.7 mill. in '09										
2008	.172	.178	.178	.178	.71	Pfd Stock None		Pfd Div'd Paid None								
2009	.178	.178	.178	.187	.72	Common Stock 7,665,000 shares		(47% of Cap'l)								
2010	.187	.188	.188	.189	.75											
2011	.189	.19														
INSTITUTIONAL DECISIONS																
		3Q'10	4Q'10	1Q'11												
to Buy		17	23	24												
to Sell		20	21	19												
Hld's(000)		2148	2190	2308												

©2011 Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-833-0046.

CALIFORNIA WATER NYSE-CWT										RECENT PRICE	18.73	P/E RATIO	18.7 (Trailing: 21.3 Median: 22.0)	RELATIVE P/E RATIO	1.17	DIV'D YLD	3.3%	VALUE LINE	Target Price Range		
TIMELINESS	3	Raised 7/22/11	High: 15.7	Low: 10.8	14.3	13.4	15.7	19.0	21.1	22.9	22.7	23.3	24.1	19.8	19.2				2014	2015	2016
SAFETY	3	Lowered 7/27/07	LEGENDS 1.33 x Dividends p sh divided by Interest Rate Relative Price Strength 2-for-1 split 1/98 2-for-1 split 6/11 Options: Yes Shaded areas indicate recessions 																		
TECHNICAL	3	Lowered 11/12/10																			
BETA	.70	(1.00 = Market)																			
2014-16 PROJECTIONS			Price Ann'l Total High 30 Gain 14% Low 20 (+5%) Return 5%																		
Insider Decisions			A S O N D J F M A to Buy 1 0 0 0 0 0 0 19 0 Options 0 2 0 1 0 0 0 0 0 to Sell 0 0 0 1 0 0 0 0 0																		
Institutional Decisions			3Q2010 4Q2010 1Q2011 to Buy 53 62 56 to Sell 53 48 49 Hld's(000) 19412 20250 21158																		
			Percent shares traded 18 12 6																		
			% TOT. RETURN 6/11 THIS STOCK VL ARTH+ 1 yr. 8.4 35.8 3 yr. 25.7 51.3 5 yr. 22.6 50.6																		
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	© VALUE LINE PUB. LLC 14-16			
6.58	7.24	7.74	7.38	7.98	8.08	8.13	8.67	8.18	8.59	8.72	8.10	8.88	9.90	10.82	11.05	11.35	11.80	Revenues per sh	13.40		
1.04	1.25	1.46	1.30	1.37	1.26	1.10	1.32	1.26	1.42	1.52	1.36	1.56	1.86	1.93	1.93	2.25	2.35	"Cash Flow" per sh	2.45		
.58	.75	.92	.73	.77	.66	.47	.63	.61	.73	.74	.67	.75	.95	.98	.91	1.00	1.10	Earnings per sh ^A	1.35		
.51	.52	.53	.54	.54	.55	.56	.56	.56	.57	.57	.58	.58	.59	.59	.60	.62	.64	Div'd Decl'd per sh ^B	.70		
1.09	1.41	1.30	1.37	1.72	1.23	2.04	2.91	2.19	1.87	2.01	2.14	1.84	2.41	2.66	2.97	3.05	3.00	Cap'l Spending per sh	3.10		
5.86	6.11	6.50	6.69	6.71	6.45	6.48	6.56	7.22	7.83	7.90	9.07	9.25	9.72	10.13	10.45	10.60	10.95	Book Value per sh ^C	12.35		
25.08	25.24	25.24	25.24	25.87	30.29	30.36	30.36	33.86	36.73	36.78	41.31	41.33	41.45	41.53	41.67	44.00	45.00	Common Shs Outst'g ^D	48.50		
13.7	11.9	12.6	17.8	17.8	19.6	27.1	19.8	22.1	20.1	24.9	29.2	26.1	19.8	19.7	20.3	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	20.0		
.92	.75	.73	.93	1.01	1.27	1.39	1.08	1.26	1.06	1.33	1.58	1.39	1.19	1.31	1.30			Relative P/E Ratio	1.35		
6.4%	5.8%	4.6%	4.2%	4.0%	4.3%	4.4%	4.5%	4.2%	3.9%	3.1%	2.9%	3.0%	3.1%	3.1%	3.2%			Avg Ann'l Div'd Yield	2.8%		
CAPITAL STRUCTURE as of 3/31/11						246.8	263.2	277.1	315.6	320.7	334.7	367.1	410.3	449.4	460.4	500	530	Revenues (\$mill) ^E	650		
Total Debt \$510.2 mill. Due in 5 Yrs \$48.8 mill.						14.4	19.1	19.4	26.0	27.2	25.6	31.2	39.8	40.6	37.7	47.0	52.0	Net Profit (\$mill)	63.0		
LT Debt \$479.0 mill. LT interest earned: 2.3x; total int. cov.: 2.2x						39.4%	39.7%	39.9%	39.6%	42.4%	37.4%	39.9%	37.7%	40.3%	39.5%	35.0%	36.5%	Income Tax Rate	39.0%		
(53% of Cap'l)						--	--	10.3%	3.2%	3.3%	10.6%	8.3%	8.6%	7.6%	4.2%	10.0%	10.0%	AFUDC % to Net Profit	10.0%		
Pension Assets-12/10 \$139.0 mill. Oblig. \$269.9 mill.						50.3%	55.3%	50.2%	48.6%	48.3%	43.5%	42.9%	41.6%	47.1%	52.4%	50.5%	51.5%	Long-Term Debt Ratio	50.5%		
Pfd Stock None						48.8%	44.0%	49.1%	50.8%	51.1%	55.9%	56.6%	58.4%	52.9%	47.6%	49.5%	48.5%	Common Equity Ratio	49.5%		
Common Stock 41,752,032 shs. (adj. for 2-for-1 split, paid 6/13/11)						402.7	453.1	498.4	565.9	568.1	670.1	674.9	690.4	794.9	914.7	945	1020	Total Capital (\$mill)	1210		
MARKET CAP: \$775 million (Small Cap)						624.3	697.0	759.5	800.3	862.7	941.5	1010.2	1112.4	1198.1	1294.3	1360	1440	Net Plant (\$mill)	1700		
CURRENT POSITION (SMILL.)						5.3%	5.9%	5.6%	6.1%	6.3%	5.2%	5.9%	7.1%	6.5%	5.5%	7.0%	7.0%	5.5%	Return on Total Cap'l	7.0%	
Cash Assets						7.2%	9.4%	7.8%	8.9%	9.3%	6.8%	8.1%	9.9%	9.6%	8.6%	10.0%	10.0%	10.0%	Return on Shr. Equity	10.5%	
Other						7.2%	9.5%	7.9%	9.0%	9.3%	6.8%	8.1%	9.9%	9.6%	8.6%	10.0%	10.0%	10.0%	Return on Com Equity	10.5%	
Current Assets						119%	90%	91%	77%	78%	86%	77%	61%	60%	66%	58%	55%	58%	Retained to Com Eq	5.5%	
Accts Payable																		All Div'ds to Net Prof	54%		
Debt Due																					
Other																					
Current Liab.																					
Fix. Chg. Cov.																					
ANNUAL RATES																					
Past 10 Yrs.																					
Past 5 Yrs.																					
Est'd '08-'10																					
of change (per sh)																					
Revenues																					
"Cash Flow"																					
Earnings																					
Dividends																					
Book Value																					
QUARTERLY REVENUES (\$mill.) ^F																					
Mar.31 Jun.30 Sep.30 Dec.31																					
Full Year																					
2008																					
2009																					
2010																					
2011																					
2012																					
EARNINGS PER SHARE ^A																					
Mar.31 Jun.30 Sep.30 Dec.31																					
Full Year																					
2008																					
2009																					
2010																					
2011																					
2012																					
QUARTERLY DIVIDENDS PAID ^B																					
Mar.31 Jun.30 Sep.30 Dec.31																					
Full Year																					
2007																					
2008																					
2009																					
2010																					
2011																					
2012																					

breakdown, '10: residential, 72%; business, 20%; public authorities, 4%; industrial, 4%. '10 reported depreciation rate: 2.3%. Has roughly 1,127 employees. Chairman: Robert W. Foy. President & CEO: Peter C. Nelson (4/11 Proxy). Inc.: Delaware. Address: 1720 North First Street, San Jose, California 95112-4598. Telephone: 408-367-8200. Internet: www.calwatergroup.com.

California Water Service Group issued a 2-for-1 stock split just a little over a month ago. (All the figures in our presentation have been adjusted accordingly). We believe that the water utility signed off on the move in an attempt to provide a more attractive entry point for investors and bring in some much-needed funds (see below for greater details). **Split-adjusted first-quarter results were as anticipated ...** The company reported share net of \$0.05, mirroring the year-before performance. Although sales continued to benefit from a complementary regulatory environment, the rising costs of doing business offset these gains. **... but we have revised our estimates downward, nonetheless.** Operating costs are expected to remain on the rise, and additional share and/or debt issuance is likely in the cards. They will have a dilutive effect on earnings, and we now look for a share gain of \$1.00 this year. **Financial constraints are not likely to subside, either.** The aforementioned financial maneuverings are just a Band-Aid on what we view as a gaping wound. Many of the country's pipelines and wells are old and in need of significant repair, if not overall replacing. The company's cash coffers are light, however, and it will probably need to look to outside financiers in the near future to meet the costs of doing business. It has already extended its line of credit to \$400 million and received authorization to issue another 15 million or so shares from the board of directors in case it needs to increase appropriations going forward. **Most investors will want to look elsewhere.** CWT shares are neutrally ranked for the year ahead, and do not stand out for 3- to 5-year price appreciation potential, either as we do not think that earnings growth will be able to keep pace with the accelerating costs of doing business. Although the income component is attractive at first blush, the capital requirements we envision persisting will likely bring the dividend yield back to a more reasonable level further out. Therefore, we believe that there are much better income-producing offerings to choose from in the Electric utility segment, especially on a risk-adjusted basis.

Andre J. Costanza

July 22, 2011

(A) Basic EPS. Excl. nonrecurring gain (loss): '00, (.76); '01, .4c; '02, 8c. Next earnings report due July 29th.

(B) Dividends historically paid in early Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.

(C) Incl. deferred charges. In '10: \$2.2 mill., \$0.11/sh.
(D) In millions, adjusted for split.
(E) Excludes non-reg. rev.

Company's Financial Strength B+
Stock's Price Stability 90
Price Growth Persistence 65
Earnings Predictability 85

CONN. WATER SERVICES				NDQ--CTWS	RECENT PRICE	25.66	TRAILING P/E RATIO	20.2	RELATIVE P/E RATIO	1.14	DIV'D YLD	3.6%	VALUE LINE	
RANKS		30.41 24.00	29.76 23.83	28.17 21.91	27.71 20.29	25.61 22.40	28.95 19.26	26.44 17.31	27.90 20.00	28.27 23.27				High Low
PERFORMANCE	3	LEGENDS — 12 Mos Mov Avg ... Rel Price Strength Shaded area indicates recession												
Technical	4													45
SAFETY	2													30
BETA	.80	(1.00 = Market)												22.5
Financial Strength	B+													13
Price Stability	95													9
Price Growth Persistence	25													6
Earnings Predictability	80													4
														3
														550
														VOL (thous.)
© VALUE LINE PUBLISHING LLC		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012/2013			
SALES PER SH		5.91	6.04	5.81	5.68	7.05	7.24	6.93	7.65	--				
"CASH FLOW" PER SH		1.89	1.91	1.62	1.52	1.90	1.95	1.93	2.04	--				
EARNINGS PER SH		1.15	1.16	.88	.81	1.05	1.11	1.19	1.13	1.34 ^{A,B}	1.37 ^C /NA			
DIV'DS DECL'D PER SH		.83	.84	.85	.86	.87	.88	.90	.92	--				
CAP'L SPENDING PER SH		1.49	1.58	1.96	1.96	2.24	2.44	3.28	3.06	--				
BOOK VALUE PER SH		10.46	10.94	11.52	11.60	11.95	12.23	12.67	13.05	--				
COMMON SHS OUTST'G (MILL)		7.97	8.04	8.17	8.27	8.38	8.46	8.57	8.68	--				
AVG ANN'L P/E RATIO		23.5	22.9	28.6	29.0	23.0	22.2	18.4	20.7	19.1	18.7/NA			
RELATIVE P/E RATIO		1.34	1.21	1.51	1.57	1.22	1.34	1.22	1.32	--				
AVG ANN'L DIV'D YIELD		3.0%	3.1%	3.4%	3.6%	3.6%	3.6%	4.1%	3.9%	--				
SALES (\$MILL)		47.1	48.5	47.5	46.9	59.0	61.3	59.4	66.4	--	Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.			
OPERATING MARGIN		52.1%	51.0%	48.3%	43.7%	40.8%	49.0%	35.8%	40.7%	--				
DEPRECIATION (\$MILL)		5.9	6.0	6.1	5.9	7.2	7.1	6.4	7.9	--				
NET PROFIT (\$MILL)		9.2	9.4	7.2	6.7	8.8	9.4	10.2	9.8	--				
INCOME TAX RATE		17.9%	22.9%	--	23.5%	32.4%	27.2%	19.5%	35.2%	--				
NET PROFIT MARGIN		19.5%	19.4%	15.1%	14.3%	14.9%	15.4%	17.2%	14.8%	--				
WORKING CAP'L (\$MILL)		d3.9	d.7	13.0	1.2	8.1	d3.3	d13.1	d14.7	--				
LONG-TERM DEBT (\$MILL)		64.8	66.4	77.4	77.3	92.3	92.2	112.0	111.7	--				
SHR. EQUITY (\$MILL)		84.2	88.7	94.9	96.7	100.9	104.2	109.3	114.0	--				
RETURN ON TOTAL CAP'L		7.5%	7.0%	5.0%	4.9%	5.5%	5.9%	5.5%	5.4%	--				
RETURN ON SHR. EQUITY		10.9%	10.6%	7.5%	6.9%	8.7%	9.0%	9.3%	8.6%	--				
RETAINED TO COM EQ		3.2%	3.1%	.3%	NMF	1.6%	1.9%	2.3%	1.6%	--				
ALL DIV'DS TO NET PROF		71%	71%	95%	105%	82%	79%	76%	81%	--				
^A No. of analysts changing earn. est. in last 9 days: 0 up, 0 down, consensus 5-year earnings growth 4.0% per year. ^B Based upon 6 analysts' estimates. ^C Based upon 6 analysts' estimates.														
ANNUAL RATES						ASSETS (\$mill.)			INDUSTRY: Water Utility					
of change (per share)						2009	2010	3/31/11	BUSINESS: Connecticut Water Service, Inc. primarily operates as a water utility provider. The company operates through three segments: Water Activities, Real Estate Transactions, and Services and Rentals. The Water Activities segment supplies public drinking water to its customers. Its Real Estate Transactions segment involves in the sale of its limited excess real estate holdings. The Services and Rentals segment provides contracted services to water and wastewater utilities and other clients, as well as leases certain properties to third parties. This segment's services include contract operations of water and wastewater facilities; Linebacker, its service line protection plan for public drinking water customers; and provision of bulk deliveries of emergency drinking water to businesses and residences via tanker truck. In April, Connecticut Water Service completed the acquisition of the Green Springs Water Company in Madison, Connecticut. Has 204 employees. Chairman, C.E.O. & President: Eric W. Thornburg, Inc.: CT. Address: 93 West Main Street, Clinton, CT 06413. Tel.: (860) 669-8636. Internet: http://www.ctwater.com . W.T. July 22, 2011					
5 Yrs.						5.4	1.0	1.2						
1 Yr.						6.5	10.1	15.4						
Sales						1.1	1.7	1.2						
"Cash Flow"						7.0	7.6	3.4						
Earnings						20.0	20.4	21.2						
Dividends						Property, Plant & Equip, at cost	448.2	471.6						--
Book Value						Accum Depreciation	123.0	127.4						--
						Net Property	325.2	344.2						350.3
						Other	70.1	60.6						55.5
						Total Assets	415.3	425.2						427.0
Fiscal Year	QUARTERLY SALES (\$mill.)				Full Year	LIABILITIES (\$mill.)			BUSINESS: Connecticut Water Service, Inc. primarily operates as a water utility provider. The company operates through three segments: Water Activities, Real Estate Transactions, and Services and Rentals. The Water Activities segment supplies public drinking water to its customers. Its Real Estate Transactions segment involves in the sale of its limited excess real estate holdings. The Services and Rentals segment provides contracted services to water and wastewater utilities and other clients, as well as leases certain properties to third parties. This segment's services include contract operations of water and wastewater facilities; Linebacker, its service line protection plan for public drinking water customers; and provision of bulk deliveries of emergency drinking water to businesses and residences via tanker truck. In April, Connecticut Water Service completed the acquisition of the Green Springs Water Company in Madison, Connecticut. Has 204 employees. Chairman, C.E.O. & President: Eric W. Thornburg, Inc.: CT. Address: 93 West Main Street, Clinton, CT 06413. Tel.: (860) 669-8636. Internet: http://www.ctwater.com . W.T. July 22, 2011					
	1Q	2Q	3Q	4Q		Accts Payable	6.5	6.6						4.6
12/31/09	13.4	15.2	16.6	14.2	59.4	Debt Due	25.0	26.3						26.3
12/31/10	13.8	15.9	21.0	15.7	66.4	Other	1.6	2.2						3.2
12/31/11	17.5					Current Liab	33.1	35.1						34.1
12/31/12						LONG-TERM DEBT AND EQUITY as of 3/31/11								
Fiscal Year	EARNINGS PER SHARE				Full Year	Total Debt \$137.8 mill. Due in 5 Yrs. NA								
	1Q	2Q	3Q	4Q		LT Debt \$111.5 mill.								
12/31/08	.20	.35	.34	.22	1.11	Including Cap. Leases NA								
12/31/09	.13	.27	.67	.12	1.19	(49% of Cap'l)								
12/31/10	.12	.27	.54	.20	1.13	Leases, Uncapitalized Annual rentals NA								
12/31/11	.26	.36	.48	.23		Pension Liability \$16.7 mill. in '10 vs. \$14.9 mill. in '09								
12/31/12						Pfd Stock \$8 mill. Pfd Div'd Paid NMF								
Cal-endar	QUARTERLY DIVIDENDS PAID				Full Year	Common Stock 8,705,000 shares (51% of Cap'l)								
	1Q	2Q	3Q	4Q										
2008	.218	.218	.222	.222	.88									
2009	.222	.222	.228	.228	.90									
2010	.228	.228	.233	.233	.92									
2011	.233	.233												
INSTITUTIONAL DECISIONS						TOTAL SHAREHOLDER RETURN								
						Dividends plus appreciation as of 6/30/2011								
						3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.				
						-2.02%	-6.54%	26.42%	28.45%	32.06%				

MIDDLESEX WATER NDQ--MSEX				RECENT PRICE	18.82	TRAILING P/E RATIO	18.5	RELATIVE P/E RATIO	1.05	DIV'D YLD	3.9%	VALUE LINE	
RANKS		21.23 15.77	21.81 16.65	23.47 17.07	20.50 16.50	20.24 16.93	19.83 12.05	17.91 11.64	19.31 14.74	19.31 17.35			High Low
PERFORMANCE	3	LEGENDS — 12 Mos Mov Avg Rel Price Strength 3-for-2 split 1/02 4-for-3 split 11/03 Shaded area indicates recession											
Technical	3												
SAFETY	2												
BETA	.75	(1.00 = Market)											
Financial Strength	B++												
Price Stability	95												
Price Growth Persistence	30												
Earnings Predictability	85												
© VALUE LINE PUBLISHING LLC		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012/2013		
SALES PER SH		6.12	6.25	6.44	6.16	6.50	6.79	6.75	6.60	--			
"CASH FLOW" PER SH		1.15	1.28	1.33	1.33	1.49	1.53	1.40	1.55	--			
EARNINGS PER SH		.61	.73	.71	.82	.87	.89	.72	.96	.98 ^{A,B}	1.04 ^{C/NA}		
DIV'DS DECL'D PER SH		.65	.66	.67	.68	.69	.70	.71	.72	--			
CAP'L SPENDING PER SH		1.87	2.54	2.18	2.31	1.66	2.12	1.49	1.90	--			
BOOK VALUE PER SH		7.60	8.02	8.26	9.52	10.05	10.03	10.33	11.13	--			
COMMON SHS OUTST'G (MILL)		10.48	11.36	11.58	13.17	13.25	13.40	13.52	15.57	--			
AVG ANN'L P/E RATIO		30.0	26.4	27.4	22.7	21.6	19.8	21.0	17.8	19.2	18.1/NA		
RELATIVE P/E RATIO		1.71	1.39	1.45	1.23	1.15	1.19	1.40	1.14	--			
AVG ANN'L DIV'D YIELD		3.5%	3.4%	3.5%	3.7%	3.7%	4.0%	4.7%	4.2%	--			
SALES (\$MILL)		64.1	71.0	74.6	81.1	86.1	91.0	91.2	102.7	--			Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.
OPERATING MARGIN		44.0%	44.4%	44.4%	47.4%	47.0%	46.9%	42.6%	46.7%	--			
DEPRECIATION (\$MILL)		5.6	6.4	7.2	7.8	8.2	8.5	9.2	10.0	--			
NET PROFIT (\$MILL)		6.6	8.4	8.5	10.0	11.8	12.2	10.0	14.3	--			
INCOME TAX RATE		32.8%	31.1%	27.6%	33.4%	32.6%	33.2%	34.1%	32.1%	--			
NET PROFIT MARGIN		10.3%	11.9%	11.4%	12.4%	13.8%	13.4%	10.9%	13.9%	--			
WORKING CAP'L (\$MILL)		d13.3	d11.8	d4.5	2.8	d9.6	d40.9	d38.6	d17.9	--			
LONG-TERM DEBT (\$MILL)		97.4	115.3	128.2	130.7	131.6	118.2	124.9	133.8	--			
SHR. EQUITY (\$MILL)		83.7	99.2	103.6	133.3	137.1	141.2	143.0	176.6	--			
RETURN ON TOTAL CAP'L		5.0%	5.1%	5.0%	5.1%	5.6%	5.8%	5.0%	5.7%	--			
RETURN ON SHR. EQUITY		7.9%	8.5%	8.2%	7.5%	8.6%	8.6%	7.0%	8.1%	--			
RETAINED TO COM EQ		NMF	.9%	.6%	1.3%	1.8%	2.0%	.1%	2.1%	--			
ALL DIV'DS TO NET PROF		106%	90%	94%	84%	79%	78%	98%	75%	--			
^A No. of analysts changing earn. est. in last 9 days: 0 up, 0 down, consensus 5-year earnings growth 3.0% per year. ^B Based upon 3 analysts' estimates. ^C Based upon 3 analysts' estimates.													
ANNUAL RATES						INDUSTRY: Water Utility							
<i>of change (per share)</i>						BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey and Delaware, and a regulated wastewater utility in NJ. The company offers contract operations services and a service line maintenance program through its nonregulated subsidiary, Utility Service Affiliates, Inc. Its water utility system treats, stores, and distributes water for residential, commercial, industrial, and fire prevention purposes. The New Jersey subsidiaries provide water services to approximately 60,000 retail customers, primarily in eastern Middlesex County, New Jersey and provides water under wholesale contracts. It also provides water treatment and pumping services to the Township of East Brunswick, New Jersey under contract. Middlesex Water's Delaware subsidiaries provide water services to approximately 34,000 retail customers for domestic, commercial and fire protection purposes in New Castle, Kent, and Sussex counties. Has 292 employees. Chairman, C.E.O. & President: Dennis W. Doll. Address: 1500 Ronson Rd, P.O. BOX 1500, Iselin, NJ 08830. Tel.: 732-634-1500. Internet: http://www.middlesexwater.com . W.T.							
5 Yrs. 1 Yr.													
Sales 1.5% -2.0%													
"Cash Flow" 3.5% 10.0%													
Earnings 4.5% 33.5%													
Dividends 1.5% 1.5%													
Book Value 5.5% 8.0%													
Fiscal Year	QUARTERLY SALES (\$mill.)				Full Year	LIABILITIES (\$mill.) Accts Payable 4.3 6.4 5.2 Debt Due 46.6 21.4 22.2 Other 9.8 12.9 14.3 Current Liab 60.7 40.7 41.7							
12/31/09	20.6	23.1	25.5	22.0	91.2								
12/31/10	21.6	26.5	29.6	25.0	102.7								
12/31/11	24.0												
12/31/12													
Fiscal Year	EARNINGS PER SHARE				Full Year	LONG-TERM DEBT AND EQUITY as of 3/31/11 Total Debt \$155.3 mill. Due in 5 Yrs. NA LT Debt \$133.0 mill. Including Cap. Leases NA (43% of Cap'l) Leases, Uncapitalized Annual rentals NA Pension Liability \$28.6 mill. in '10 vs. \$25.7 mill. in '09 Pfd Stock \$3.4 mill. Pfd Div'd Paid \$2 mill. (1% of Cap'l) Common Stock 15,587,000 shares (56% of Cap'l)							
12/31/08	.15	.26	.35	.13	.89								
12/31/09	.10	.21	.29	.12	.72								
12/31/10	.11	.31	.37	.17	.96								
12/31/11	.17	.28	.35	.18									
12/31/12													
Cal-endar	QUARTERLY DIVIDENDS PAID				Full Year	TOTAL SHAREHOLDER RETURN Dividends plus appreciation as of 6/30/2011 3 Mos. 6 Mos. 1 Yr. 3 Yrs. 5 Yrs. 3.14% 3.24% 22.05% 27.42% 19.09%							
2008	.175	.175	.175	.178	.70								
2009	.178	.178	.178	.18	.71								
2010	.18	.18	.18	.183	.72								
2011	.183	.183											
INSTITUTIONAL DECISIONS													
		3Q'10	4Q'10	1Q'11									
to Buy		30	39	25									
to Sell		24	21	25									
Hld's(000)		5930	6031	6200									

©2011 Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

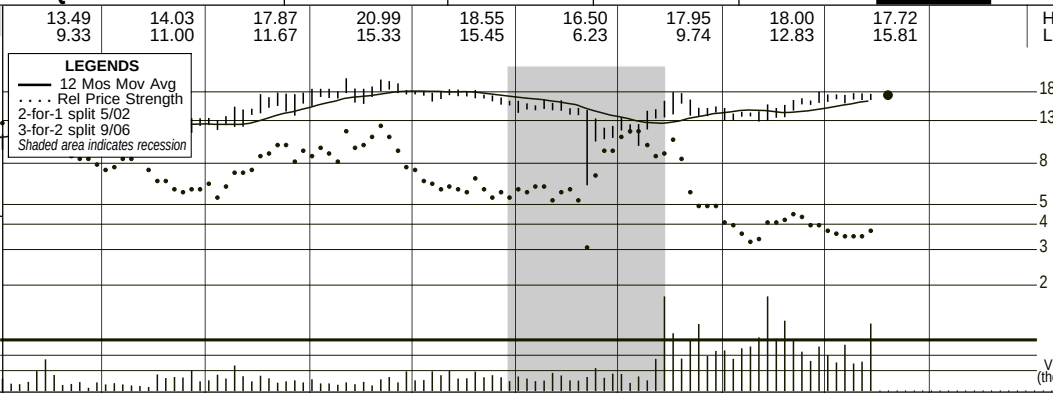
To subscribe call 1-800-833-0046.

PENNICHUCK CORP				NDQ--PNNW		RECENT PRICE	28.66	TRAILING P/E RATIO	37.2	RELATIVE P/E RATIO	2.11	DIV'D YLD	2.6%	VALUE LINE
RANKS		26.25 15.18	22.34 17.99	22.00 18.10	25.90 17.00	26.92 20.05	28.48 14.75	24.80 16.56	28.39 19.00	28.93 27.31				High Low
PERFORMANCE	★ Suspended	LEGENDS — 12 Mos Mov Avg ... Rel Price Strength 4-for-3 split 6/05 Shaded area indicates recession												
Technical	★ Suspended													
SAFETY	2 Above Average													
BETA	.50 (1.00 = Market)													
Financial Strength	B+													
Price Stability	90													
Price Growth Persistence	45													
Earnings Predictability	35													
© VALUE LINE PUBLISHING LLC		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012/2013			
SALES PER SH		6.69	7.15	5.67	5.81	6.99	7.29	7.05	7.80	--				
"CASH FLOW" PER SH		1.53	1.57	.89	.99	1.77	2.10	1.43	1.76	--				
EARNINGS PER SH		.62	.60	.13	.14	.84	1.11	.55	.80	.80 ^{A,B}	NA/NA			
DIV'DS DECL'D PER SH		.63	.65	.66	.66	.66	.66	.70	.73	--				
CAP'L SPENDING PER SH		2.25	1.69	2.60	5.08	4.25	3.45	1.76	1.82	--				
BOOK VALUE PER SH		9.44	9.37	10.89	10.57	10.78	11.24	11.87	12.01	--				
COMMON SHS OUTST'G (MILL)		3.19	3.22	4.19	4.21	4.23	4.25	4.65	4.68	--				
AVG ANN'L P/E RATIO		30.3	32.7	NMF	NMF	29.1	20.0	38.9	28.7	35.8	NA/NA			
RELATIVE P/E RATIO		1.73	1.73	NMF	NMF	1.54	1.20	2.59	1.83	--				
AVG ANN'L DIV'D YIELD		3.4%	3.3%	3.3%	3.2%	2.7%	3.0%	3.3%	3.2%	--				
SALES (\$MILL)		21.4	23.0	23.8	24.5	29.5	31.0	32.8	36.5	--	Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.			
OPERATING MARGIN		37.9%	40.7%	34.0%	30.7%	39.3%	47.0%	48.4%	50.9%	--				
DEPRECIATION (\$MILL)		2.9	3.1	3.3	3.6	3.9	4.2	4.3	4.5	--				
NET PROFIT (\$MILL)		2.0	1.9	.5	.6	3.6	4.7	2.4	3.8	--				
INCOME TAX RATE		38.9%	38.4%	38.0%	38.0%	39.2%	36.7%	39.6%	40.6%	--				
NET PROFIT MARGIN		9.2%	8.4%	2.0%	2.3%	12.1%	15.2%	7.3%	10.4%	--				
WORKING CAP'L (\$MILL)		.4	d11.0	19.2	3.2	2.9	d1.9	.6	4.8	--				
LONG-TERM DEBT (\$MILL)		26.9	16.9	41.3	47.7	58.0	59.6	54.3	59.7	--				
SHR. EQUITY (\$MILL)		30.2	30.2	45.6	44.6	45.6	47.8	55.2	56.2	--				
RETURN ON TOTAL CAP'L		5.1%	5.9%	1.7%	2.2%	4.8%	6.2%	3.9%	4.7%	--				
RETURN ON SHR. EQUITY		6.5%	6.4%	1.0%	1.3%	7.9%	9.9%	4.3%	6.7%	--				
RETAINED TO COM EQ		NMF	NMF	NMF	NMF	1.7%	4.0%	NMF	.7%	--				
ALL DIV'DS TO NET PROF		102%	107%	NMF	NMF	78%	59%	NMF	89%	--				
^A No. of analysts changing earn. est. in last 9 days: 0 up, 0 down, consensus 5-year earnings growth not available. ^B Based upon one analyst's estimate.														
ANNUAL RATES							INDUSTRY: Water Utility							
of change (per share)		5 Yrs.	1 Yr.											
Sales		2.5%	11.0%											
"Cash Flow"		6.0%	23.0%											
Earnings		12.5%	45.5%											
Dividends		1.5%	3.5%											
Book Value		3.5%	1.0%											
Fiscal Year	QUARTERLY SALES (\$mill.)	1Q	2Q	3Q	4Q	Full Year								
12/31/09	7.0	8.5	9.5	7.8	32.8									
12/31/10	7.4	9.1	11.8	8.2	36.5									
12/31/11	7.9													
12/31/12														
Fiscal Year	EARNINGS PER SHARE	1Q	2Q	3Q	4Q	Full Year								
12/31/08	.59	.19	.21	.12	1.11									
12/31/09	d.02	.18	.32	.07	.55									
12/31/10	.02	.21	.48	.09	.80									
12/31/11	d.01													
12/31/12														
Cal-endar	QUARTERLY DIVIDENDS PAID	1Q	2Q	3Q	4Q	Full Year								
2008	.165	.165	.165	.165	.66									
2009	.175	.175	.175	.175	.70									
2010	.18	.18	.18	.185	.73									
2011	.185	.185												
INSTITUTIONAL DECISIONS														
		3Q'10	4Q'10	1Q'11										
to Buy		9	21	19										
to Sell		14	16	13										
Hld's(000)		2107	2465	2186										
ASSETS (\$mill.)														
2009							2010	3/31/11						
1.6							2.4	2.4						
4.4							4.5	4.1						
.7							.7	.8						
2.8							2.1	.7						
9.5							9.7	8.0						
LIABILITIES (\$mill.)														
1.1							2.0	.9						
5.9							1.1	1.1						
1.9							1.8	1.4						
8.9							4.9	3.4						
LONG-TERM DEBT AND EQUITY as of 3/31/11														
Total Debt \$60.7 mill.							Due in 5 Yrs. NA							
LT Debt \$59.6 mill.														
Including Cap. Leases NA							(52% of Cap'l)							
Leases, Uncapitalized Annual rentals NA														
Pension Liability \$6.3 mill. in '10 vs. \$5.7 mill. in '09														
Pfd Stock None							Pfd Div'd Paid None							
Common Stock 4,681,000 shares							(48% of Cap'l)							
TOTAL SHAREHOLDER RETURN							Dividends plus appreciation as of 6/30/2011							
3 Mos.		6 Mos.	1 Yr.	3 Yrs.	5 Yrs.									
1.57%		6.46%	33.47%	36.41%	64.00%									

©2011 Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

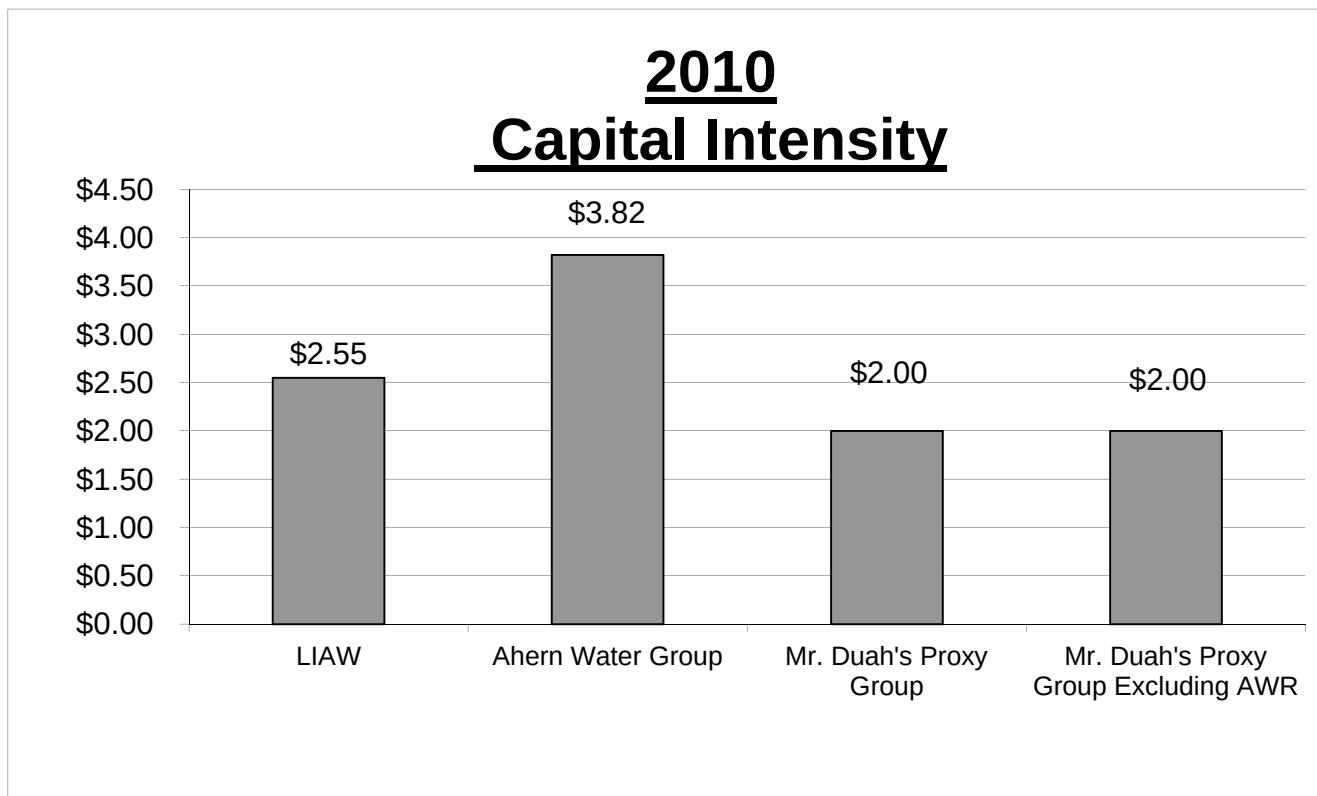
To subscribe call 1-800-833-0046.

SJW CORP. NYSE-SJW				RECENT PRICE	24.10	P/E RATIO	26.8 (Trailing: 29.4 Median: 22.0)	RELATIVE P/E RATIO	1.67	DIV'D YLD	2.9%	VALUE LINE	Target Price Range																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
TIMELINESS	4	New 4/22/11	High: 20.3	17.8	15.1	15.0	19.6	27.8	45.3	43.0	35.1	30.4	28.2	26.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
SAFETY	3	New 4/22/11	Low: 15.8	11.6	12.7	12.6	14.6	16.1	21.2	27.7	20.0	18.2	21.6	21.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
TECHNICAL	3	Lowered 6/24/11	LEGENDS 1.50 x Dividends p sh divided by Interest Rate Relative Price Strength 3-for-1 split 3/04 2-for-1 split 3/06 Options: No Shaded areas indicate recessions 																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</

YORK WATER CO				NDQ--YORW		RECENT PRICE	17.36	TRAILING P/E RATIO	23.8	RELATIVE P/E RATIO	1.35	DIV'D YLD	3.0%	VALUE LINE
RANKS				13.49 9.33	14.03 11.00	17.87 11.67	20.99 15.33	18.55 15.45	16.50 6.23	17.95 9.74	18.00 12.83	17.72 15.81		High Low
PERFORMANCE	3	Average		LEGENDS — 12 Mos Mov Avg ... Rel Price Strength 2-for-1 split 5/02 3-for-2 split 9/06 Shaded area indicates recession 										
Technical	3	Average												
SAFETY	2	Above Average												
BETA	.70	(1.00 = Market)												
Financial Strength														
Price Stability				90										
Price Growth Persistence				60										
Earnings Predictability				100										
© VALUE LINE PUBLISHING LLC				2003	2004	2005	2006	2007	2008	2009	2010	2011	2012/2013	
REVENUES PER SH				2.17	2.18	2.58	2.56	2.79	2.89	2.95	3.07	--		
"CASH FLOW" PER SH				.65	.65	.79	.77	.86	.88	.95	1.07	--		
EARNINGS PER SH				.47	.49	.56	.58	.57	.57	.64	.71	.76 ^{A,B}	.80 ^C /NA	
DIV'D DECL'D PER SH				.37	.39	.42	.45	.48	.49	.51	.52	--		
CAP'L SPENDING PER SH				1.07	2.50	1.69	1.85	1.69	2.17	1.18	.83	--		
BOOK VALUE PER SH				4.06	4.65	4.85	5.84	5.97	6.14	6.92	7.19	--		
COMMON SHS OUTST'G (MILL)				9.63	10.33	10.40	11.20	11.27	11.37	12.56	12.69	--		
AVG ANN'L P/E RATIO				24.5	25.7	26.3	31.2	30.3	24.6	21.9	20.7	22.8	21.7/NA	
RELATIVE P/E RATIO				1.40	1.36	1.39	1.68	1.61	1.48	1.46	1.32	--		
AVG ANN'L DIV'D YIELD				3.2%	3.1%	2.9%	2.5%	2.8%	3.5%	3.6%	3.5%	--		
REVENUES (\$MILL)				20.9	22.5	26.8	28.7	31.4	32.8	37.0	39.0	--	Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.	
NET PROFIT (\$MILL)				4.4	4.8	5.8	6.1	6.4	6.4	7.5	8.9	--		
INCOME TAX RATE				34.8%	36.7%	36.7%	34.4%	36.5%	36.1%	37.9%	38.5%	--		
AFUDC % TO NET PROFIT				--	--	--	7.2%	3.6%	10.1%	--	1.2%	--		
LONG-TERM DEBT RATIO				43.4%	42.5%	44.1%	48.3%	46.5%	54.5%	45.7%	48.3%	--		
COMMON EQUITY RATIO				56.6%	57.5%	55.9%	51.7%	53.5%	45.5%	54.3%	51.7%	--		
TOTAL CAPITAL (\$MILL)				69.0	83.6	90.3	126.5	125.7	153.4	160.1	176.4	--		
NET PLANT (\$MILL)				116.5	140.0	155.3	174.4	191.6	211.4	222.0	228.4	--		
RETURN ON TOTAL CAP'L				8.5%	7.6%	8.4%	6.2%	6.7%	5.7%	6.2%	6.5%	--		
RETURN ON SHR. EQUITY				11.4%	10.0%	11.6%	9.3%	9.5%	9.2%	8.6%	9.8%	--		
RETURN ON COM EQUITY				11.4%	10.0%	11.6%	9.3%	9.5%	9.2%	8.6%	9.8%	--		
RETAINED TO COM EQ				2.6%	2.1%	3.0%	2.2%	1.7%	1.4%	1.9%	2.7%	--		
ALL DIV'DS TO NET PROF				77%	79%	74%	77%	82%	85%	78%	72%	--		
^A No. of analysts changing earn. est. in last 9 days: 0 up, 0 down, consensus 5-year earnings growth 6.0% per year. ^B Based upon 4 analysts' estimates. ^C Based upon 4 analysts' estimates.														
ANNUAL RATES						INDUSTRY: Water Utility								
<i>of change (per share)</i>														
5 Yrs.														
1 Yr.														
Revenues														
"Cash Flow"														
Earnings														
Dividends														
Book Value														
Fiscal Year	QUARTERLY SALES (\$mill.)				Full Year									
	1Q	2Q	3Q	4Q										
12/31/09	8.8	9.2	9.8	9.2	37.0									
12/31/10	9.0	9.7	10.5	9.8	39.0									
12/31/11	9.6													
12/31/12														
Fiscal Year	EARNINGS PER SHARE				Full Year									
	1Q	2Q	3Q	4Q										
12/31/08	.11	.13	.15	.18	.57									
12/31/09	.13	.17	.18	.16	.64									
12/31/10	.15	.18	.21	.17	.71									
12/31/11	.17	.20	.22	.18										
12/31/12														
Cal-endar	QUARTERLY DIVIDENDS PAID				Full Year									
	1Q	2Q	3Q	4Q										
2008	.121	.121	.121	.121	.48									
2009	.126	.126	.126	.126	.50									
2010	.128	.128	.128	.128	.51									
2011	.131	.131	.131											
INSTITUTIONAL DECISIONS														
3Q'10														
4Q'10														
1Q'11														
to Buy														
to Sell														
Hld's(000)														
3078														
3107														
3080														
ASSETS (\$mill.)						2009	2010	3/31/11						
Cash Assets						.0	1.3	2.7						
Receivables						5.4	6.3	5.7						
Inventory (Avg cost)						.7	.6	.6						
Other						1.0	.6	1.1						
Current Assets						7.1	8.8	10.1						
Property, Plant & Equip, at cost						260.4	270.8	--						
Accum Depreciation						38.4	42.4	--						
Net Property						222.0	228.4	228.9						
Other						19.7	22.7	22.7						
Total Assets						248.8	259.9	261.7						
LIABILITIES (\$mill.)						2009	2010	3/31/11						
Accts Payable						1.4	1.2	1.1						
Debt Due						9.3	.0	.1						
Other						3.9	4.1	4.2						
Current Liab						14.6	5.3	5.4						
LONG-TERM DEBT AND EQUITY as of 3/31/11														
Total Debt \$85.2 mill.						Due in 5 Yrs. NA								
LT Debt \$85.0 mill.														
Including Cap. Leases NA						(48% of Cap'l)								
Leases, Uncapitalized						Annual rentals NA								
Pension Liability \$9.8 mill. in '10 vs. \$8.8 mill. in '09														
Pfd Stock None						Pfd Div'd Paid None								
Common Stock 12,715,000 shares						(52% of Cap'l)								
TOTAL SHAREHOLDER RETURN						Dividends plus appreciation as of 6/30/2011								
						3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.				
						-4.19%	-2.78%	20.21%	26.05%	21.95%				

Long Island Water Company
2010 Capital Intensity of Long Island American Water and
AUS Utility Reports Utility Companies Industry Averages

	Average Net Plant (\$ mill)	Average Operating Revenue (\$ mill)	Capital Intensity (\$)	Capital Intensity of LIAW v. Other Industries (times)
Long Island Water Company	\$ 121.19	\$ 47.55	\$ 2.55	- -
Ahern Water Group	\$ 2,031.79	\$ 531.64	\$ 3.82	66.75%
Mr. Duah's Proxy Group	\$ 11,575.81	\$ 5,792.56	\$ 2.00	127.50%
Mr. Duah's Proxy Group Exlcuding AWR	\$ 11,958.49	\$ 5,985.19	\$ 2.00	127.50%



Notes:

Capital Intensity is equal to Net Plant divided by Total Operating Revenue.

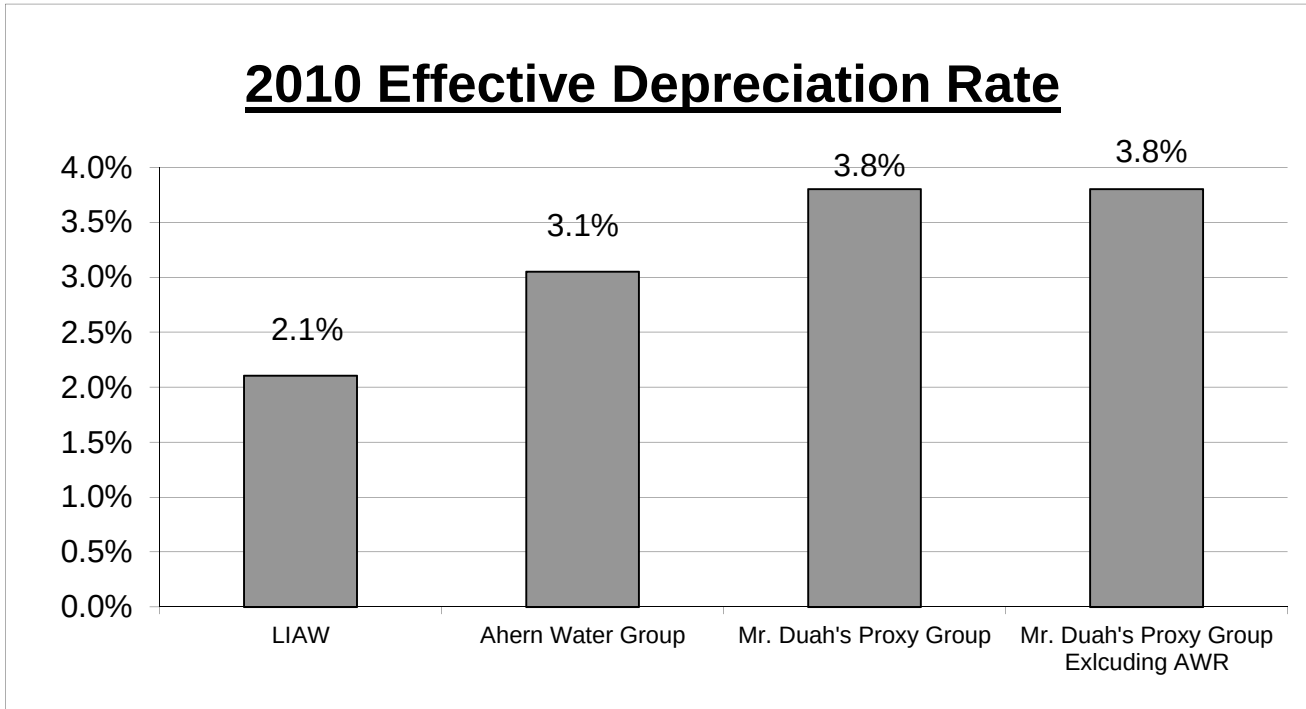
Source of Information:

EDGAR Online's I-Metrix Database
Company Annual Forms 10-K

AUS Utility Reports - September 2011
Published By AUS Consultants

Long Island Water Company
2010 Depreciation Rate of Long Island American Water and
AUS Utility Reports Utility Companies Industry Averages

	Depreciation Depletion & Amort. Expense (\$ mill)	Average Total Gross Plant Less CWIP (\$ mill)	Depreciation Rate (%)	Depreciation Rate of LIAW v. Other Industries (times)
Long Island Water Company	\$ 3.36	\$ 159.93	2.1%	- -
Ahern Water Group	\$ 68.08	\$ 2,231.87	3.1%	67.74%
Mr. Duah's Proxy Group	\$ 560.84	\$ 14,758.52	3.8%	55.26%
Mr. Duah's Proxy Group Exlcuding AWR	\$ 579.53	\$ 15,243.12	3.8%	55.26%



Notes:

Effective Depreciation Rate is equal to Depreciation, Depletion and Amortization Expense divided by average beginning and ending year's Gross Plant minus Construction Work in Progress.

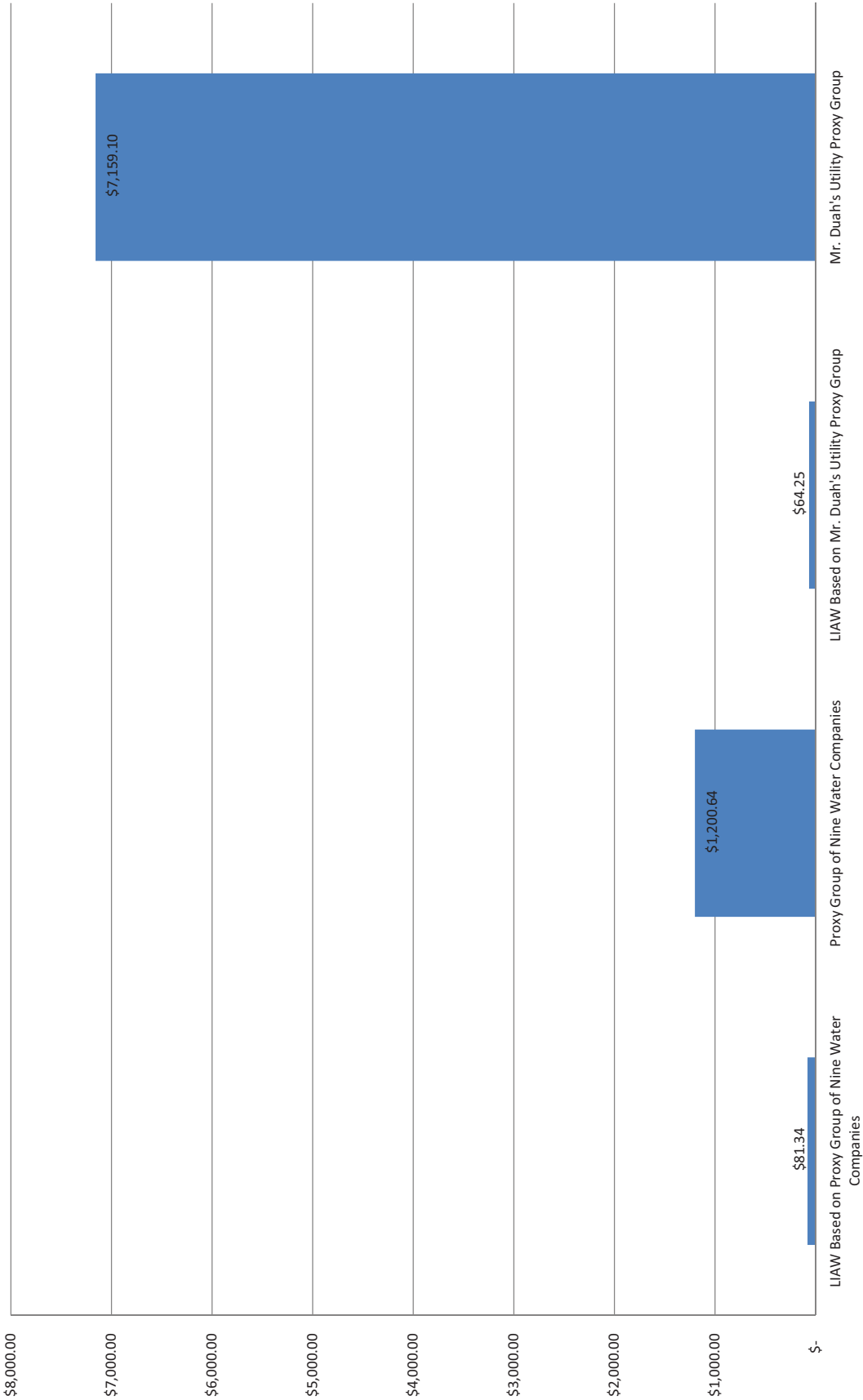
Source of Information:

EDGAR Online's I-Metrix Database
Company Annual Forms 10-K

AUS Utility Rpeort - September 2011

Published by AUS Consultants

Long Island American Water Company
Relative Market Capitalization (1)
(in Millions)



Notes:
(1) From page 2 of this Schedule.

Notes:

- (1) From page 3 of this Schedule.
- (2) Gleaned from Column (D) on the bottom of this page. The appropriate decile (Column (A)) corresponds to the market capitalization of the proxy group, which is found in Column 1.
- (3) Corresponding risk premium to the decile is provided on Column (E) on the bottom of this page.
- (4) Line No. 1a Column 3 – Line No. 2 Column 3 and Line No. 1b, Column 3 – Line No. 3 of Column 3 etc.. For example, the 4.51% in Column 4 Line No. 2 is derived as follows $4.51\% = 6.36\% - 1.85\%$.

Long Island American Water Company
Market Capitalization of Long Island American Water Company and
the Proxy Group of Nine Water Companies
and Mr. Duah's Utility Proxy Group

	1	2	3	4	5	6
Company	Common Stock Shares Outstanding at Fiscal Year End 2010 (millions)	Book Value per Share at Fiscal Year End 2010 (1)	Total Common Equity at Fiscal Year End 2010 (millions)	Closing Stock Market Price (2)	Market-to-Book Ratio (3)	Market Capitalization (4) (millions)
Long Island American Water Company	NA	NA	\$ 44,866 (6)	NA		
Based Upon the Proxy Group of Nine Water Companies					181.3 %	\$ 81,342
Based Upon the Mr. Duah's Utility Proxy Group					143.2 %	\$ 64,248
Proxy Group of Nine Water Companies						
American States Water Co.	18,631	\$ 20,264	\$ 377,541	\$ 34,177	168.7 %	\$ 636,740
American Water Works Co., Inc.	174,996	23,614	4,132,272	29,072	123.1	5,087,425
Aqua America, Inc.	138,449	8,481	1,174,254	21,890	258.1	3,030,649
Artesian Resources Corp.	7,517	12,657	95,146	18,718	147.9	140,708
California Water Service Group	41,666	10,453	435,526	18,375	175.8	765,613
Connecticut Water Service, Inc.	8,677	13,134	113,963	25,000	190.3	216,921
Middlesex Water Company	15,566	11,132	173,279	18,265	164.1	284,313
SIW Corporation	18,552	13,747	255,032	23,075	167.9	428,077
York Water Company	12,692	7,190	91,257	16,962	235.9	215,278
Average	48,527	\$ 13,408	\$ 760,919	\$ 22,837	181.3 %	\$ 1,200,636
Mr. Duah's Utility Proxy Group						
ALLETE, Inc.	35,800	\$ 27,263	\$ 976,000	40,020	146.8 %	\$ 1,432,716
Alliant Energy Corporation	110,894	27,751	3,077,400	40,380	145.5	4,477,896
Ameren Corporation	240,400	32,155	7,730,000	29,120	90.6	7,000,448
American Electric Power Co.	501,000	27,190	13,622,000	37,647	138.5	18,860,980
American States Water Co.	18,631	20,264	377,541	34,177	168.7	636,740
Avista Corporation	57,120	19,709	1,125,784	25,125	127.5	1,435,133
Black Hills Corporation	39,280	28,011	1,100,270	30,795	109.9	1,209,629
CenterPoint Energy	425,000	7,525	3,198,000	19,210	255.3	8,164,363
Cleco Corporation	60,256	21,860	1,317,178	34,775	159.1	2,095,407
Consolidated Edison, Inc.	272,025	41,445	11,274,000	52,987	127.8	14,413,691
DTE Energy Company	168,000	40,012	6,722,000	50,762	126.9	8,527,960
Edison International	325,811	32,482	10,583,000	38,895	119.7	12,672,427
Energy Corporation	33,721	32,820	8,590,400	67,989	201.6	17,320,430
Great Plains Energy Incorporated	254,753	42,830	5,829,800	20,627	48.2	2,807,577
Hawaiian Electric Industries, Inc.	136,114	15,668	1,483,637	24,512	156.4	2,321,074
IDACORP, Inc.	94,691	31,002	1,532,113	39,282	126.7	1,941,278
MGE Energy, Inc.	23,114	22,717	525,080	41,223	181.5	952,836
Pepco Holdings, Inc.	225,082	18,793	4,230,000	19,513	103.8	4,392,105
PG&E Corporation	395,227	28,546	11,282,000	43,100	151.0	17,034,293
Portland General Electric	75,316	21,137	1,592,000	25,357	120.0	1,909,788
SCANA Corporation	127,000	29,150	3,702,000	40,195	137.9	5,104,765
SEMPRA Energy	240,000	36,867	8,848,000	53,450	145.0	12,828,000
Southern Company	843,814	20,039	16,909,000	39,913	199.2	33,679,429
TECO Energy, Inc.	214,900	10,096	2,169,700	18,874	186.9	4,055,915
UIL Holdings Corporation	50,505	21,307	1,076,142	32,593	153.0	1,646,141
Vectren Corporation	81,700	17,612	1,438,900	27,782	157.7	2,269,762
Westar Energy, Inc.	112,128	21,251	2,382,867	26,795	126.1	3,004,472
Wisconsin Energy Corporation	116,886	32,788	3,832,500	31,210	95.2	3,647,999
Xcel Energy Inc.	482,334	16,759	8,083,519	24,403	145.6	11,770,557
Average	199,214	\$ 25,722	\$ 4,986,580	\$ 34,852	143.2 %	\$ 7,159,097

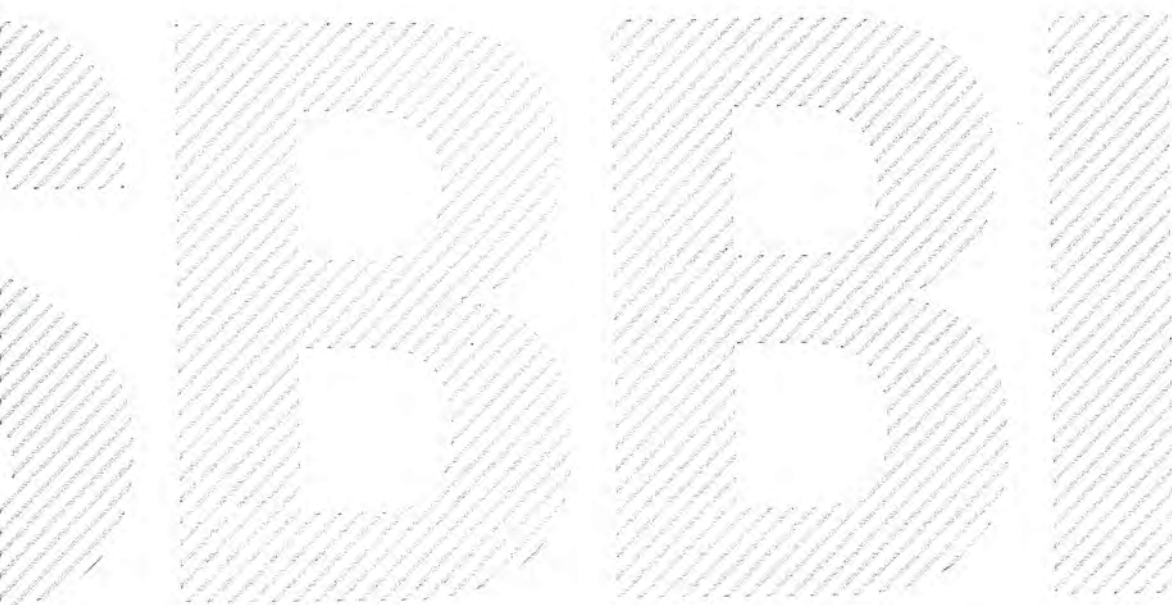
Notes: (1) Column 3 / Column 1.
(2) From Schedule KXD-14. The prices of the water group also reflect the three-month average ended July 2011.
(3) Column 4 / Column 2.
(4) Column 5 * Column 3.
(5) Long Island American Water Company's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio of each proxy group.

(6) From Schedule PMA-14, page 2.

Source of information: 2010 Annual Forms 10K
yahoo.finance.com

Ibbotson® SBBI®
2011 Valuation Yearbook

Market Results for
Stocks, Bonds, Bills, and Inflation
1926–2010



MORNINGSTAR®

2011 Ibbotson® Stocks, Bonds, Bills, and Inflation® Valuation Yearbook

Stocks, Bonds, Bills, and Inflation® and SBBi® are registered trademarks of Morningstar, Inc. Ibbotson® and Ibbotson Associates® are registered trademarks of Ibbotson Associates, a wholly owned subsidiary of Morningstar, Inc., and are used with permission.

The information presented in this publication has been obtained with the greatest of care from sources believed to be reliable, but is not guaranteed to be complete, accurate or timely. Morningstar and its affiliated companies expressly disclaim any liability, including incidental or consequential damages, arising from the use of this publication or any errors or omissions that may be contained in it.

©2011 Morningstar. All rights reserved. No part of this publication may be reproduced or used in any other form or by any other means—graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems—without Morningstar's prior, written permission. To obtain permission, please call Product Sales or write to the address below. Your request should specify the data or other information you wish to use and the manner in which you wish to use it. In addition, you will need to include copies of any charts, tables, and/or figures that you have created based on that information. There is a minimum \$1500 processing fee per request. There may be additional fees depending on your proposed usage.

Published by:
Morningstar, Inc.
22 W. Washington
Chicago, Illinois 60602

Main (312) 696-6000
Product Sales (888) 298-3647
Fax (312) 696-6010
global.morningstar.com/SBBiYearbooks

ISBN 978-0-9792402-9-4
ISSN 1523-343x

Ibbotson Associates® is a leading authority on asset allocation with expertise in capital market expectations and portfolio implementation. Approaching portfolio construction from the top-down through a research-based investment process, its experienced consultants and portfolio managers serve mutual fund firms, banks, broker-dealers, and insurance companies worldwide. Ibbotson Associates' methodologies and services address all investment phases, from accumulation to retirement and the transition between the two. Visit Ibbotson.com for contact information, published research, product fact sheets and other information.

For more information about Morningstar's software and data products for individuals, advisors, and institutions, see "Investment Tools and Resources" at the back of this book, or call (800) 735-0700.

Additional copies of the 2011 Ibbotson® SBBi® Valuation Yearbook may be obtained for \$175 per book, plus shipping and handling. Archived editions (2010 and prior) are available in limited quantities for \$200 per book, plus shipping and handling. For purchasing or other information related to volume discounts or companion publications, please call (888) 298-3647, or write to the address above.

Chapter 7

Firm Size and Return

The Firm Size Phenomenon

One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones. Many studies have looked at the effect of firm size on return.¹ In this chapter, the returns across the entire range of firm size are examined.

Size and Liquidity

Capitalization is not necessarily the underlying cause of the higher returns for smaller companies. While smaller companies are usually less liquid, with fewer shares traded on any given day, not all companies of the same size have the same liquidity. Stocks that are more liquid have higher valuations for the same cash flows because they have a lower cost of capital and commensurately lower returns on average. Stocks that are less liquid have a higher cost of capital and higher returns on average.²

While it would be very useful to estimate the equity cost of capital of companies that are not publicly traded, there is not a direct measure of liquidity for these companies because there are no public trades. Thus, there is usually no share turnover, no bid/ask spreads, etc. in which to measure liquidity. Even though liquidity is not directly observable, capitalization is; thus the size premium can serve as a partial measure of the increased cost of capital of a less liquid stock.

Size premiums presented in this book are measured from publicly traded companies of various sizes and therefore do not represent the full cost of capital for non-traded companies. The valuation for a non-publicly traded company should also reflect a discount for the very fact that it is not traded. This would be an liquidity discount and could be applied to the valuation directly, or alternatively reflected as an liquidity premium in the cost of capital.

This chapter does not tell you how to estimate this incremental liquidity valuation discount (or cost of capital liquidity premium) that is not covered by the size premium. At the end of this chapter, we show some empirical results on the impact of liquidity on stock returns.

Construction of the Decile Portfolios

The portfolios used in this chapter are those created by the Center for Research in Security Prices (CRSP) at the University of Chicago's Graduate School of Business. CRSP has refined the methodology of creating size-based portfolios and has applied this methodology to the entire universe of NYSE/AMEX/NASDAQ-listed securities going back to 1926.

The New York Stock Exchange universe excludes closed-end mutual funds, preferred stocks, real estate investment trusts, foreign stocks, American Depositary Receipts, unit investment trusts, and Americus Trusts. All companies on the NYSE are ranked by the combined market capitalization of their eligible equity securities. The companies are then split into 10 equally populated groups, or deciles. Eligible companies traded on the NYSE, the NYSE Amex Equities (AMEX), and the Nasdaq National Market (NASDAQ) are then assigned to the appropriate deciles according to their capitalization in relation to the NYSE breakpoints. The portfolios are rebalanced, using closing prices for the last trading day of March, June, September, and December. Securities added during the quarter are assigned to the appropriate portfolio when two consecutive month-end prices are available. If the final NYSE price of a security that becomes delisted is a month-end price, then that month's return is included in the quarterly return of the security's portfolio. When a month-end NYSE price is missing, the month-end value of the security is derived from merger terms, quotations on regional exchanges, and other sources. If a month-end value still is not determined, the last available daily price is used.

In October 2008, NYSE Euronext acquired the American Stock Exchange (AMEX) and rebranded the index as NYSE Amex Equities. To ease confusion, we will continue to refer to this index as AMEX through out this chapter.

Table 7-1: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Number of Companies, Historical and Recent Market Capitalization

Decile	Historical Average Percentage of Total Capitalization	Recent Number of Companies	Recent Decile Market Capitalization (in Thousands)	Recent Percentage of Total Capitalization
1-Largest	63.26%	168	8,586,385,656	62.30%
2	13.94	181	1,873,378,709	13.59
3	7.53	187	1,022,604,243	7.42
4	4.71	185	594,702,185	4.32
5	3.24	213	482,327,242	3.50
6	2.39	230	360,140,550	2.61
7	1.76	287	304,948,414	2.21
8	1.31	361	239,018,535	1.73
9	1.03	491	181,744,805	1.32
10-Smallest	0.83	1,320	136,119,075	0.99
Mid-Cap 3-5	15.48	585	2,099,633,670	15.24
Low-Cap 6-8	5.46	878	904,107,559	6.56
Micro-Cap 9-10	1.86	1,811	317,863,880	2.31

Data from 1926–2010. Source: Morningstar and CRSP. Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2011 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

Historical average percentage of total capitalization shows the average, over the last 85 years, of the decile market values as a percentage of the total NYSE/AMEX/NASDAQ calculated each month. Number of companies in deciles, recent market capitalization of deciles and recent percentage of total capitalization are as of September 30, 2010.

Table 7-2: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ.
Largest Company and Its Market Capitalization by Decile

Decile	Recent Market Capitalization (in Thousands)	Company Name
1-Largest	\$314,622,574	Exxon Mobil Corp.
2	15,079,529	H.J. Heinz Co.
3	6,793,876	Ameren Corp.
4	3,710,985	Timken Co.
5	2,509,152	Compass Minerals Intl Inc.
6	1,775,966	Trinity Industries Inc.
7	1,212,290	Delphi Financial Group
8	771,789	RSC Holdings Inc.
9	477,539	DSW Inc.
10-Smallest	235,647	McClatchy Co.

Source: Morningstar and CRSP. Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2011 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission. Market capitalization and name of largest company in each decile as of September 30, 2010.

Base security returns are monthly holding period returns. All distributions are added to the month-end prices, and appropriate price adjustments are made to account for stock splits and dividends. The return on a portfolio for one month is calculated as the weighted average of the returns for its individual stocks. Annual portfolio returns are calculated by compounding the monthly portfolio returns.

Size of the Deciles

Table 7-1 reveals that the top three deciles of the NYSE/AMEX/NASDAQ account for most of the total market value of its stocks. Nearly two-thirds of the market value is represented by the first decile, which currently consists of 165 stocks, while the smallest decile accounts for just over one percent of the market value. The data in the second column of Table 7-1 are averages across all 85 years. Of course, the proportion of market value represented by the various deciles varies from year to year.

Columns three and four give recent figures on the number of companies and their market capitalization, presenting a snapshot of the structure of the deciles as of September 30, 2010.

Table 7-2 gives the current breakpoints that define the composition of the NYSE/AMEX/NASDAQ size deciles. The largest company and its market capitalization are presented for each decile. Table 7-3 shows the historical breakpoints for each of the three size groupings presented throughout this chapter. Mid-cap stocks are defined here as the aggregate of deciles 3–5. Based on the most recent data (Table 7-2), companies within this mid-cap range have market capitalizations at or below \$6,793,876,000 but greater than \$1,775,966,000. Low-cap stocks include deciles 6–8 and currently include all companies in the NYSE/AMEX/NASDAQ with market capitalizations at or below \$1,775,966,000 but greater than \$477,539,000. Micro-cap stocks include deciles 9–10 and include companies with market capitalizations at or below \$477,539,000. The market capitalization of the smallest company included in the micro-capitalization group is currently \$1,222,000.

Presentation of the Decile Data

Summary statistics of annual returns of the 10 deciles over 1926–2010 are presented in Table 7-4. Note from this exhibit that both the average return and the total risk, or standard deviation of annual returns, tend to increase as one moves from the largest decile to the smallest. Furthermore, the serial correlations of returns are near zero for all but the smallest deciles. Serial correlations and their significance will be discussed in detail later in this chapter.

Table 7-3

Size-Decile Portfolios of the NYSE/AMEX/NASDAQ:
Largest and Smallest Company by Size Group (Continued)

Schedule PMA-17
Page 8 of 15

1926-1965

Date (Sept 30)	Capitalization of Largest Company (in Thousands)			Capitalization of Smallest Company (in Thousands)		
	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10
1926	\$62,865	\$14,128	\$4,188	\$14,363	\$4,200	\$31
1927	74,498	16,200	4,560	16,250	4,613	41
1928	89,494	21,350	5,976	21,500	6,028	82
1929	109,463	23,194	5,749	23,386	5,769	70
1930	59,033	11,550	2,413	11,557	2,422	24
1931	27,750	5,171	1,079	5,250	1,088	10
1932	26,240	4,175	1,006	4,187	1,013	49
1933	36,313	6,192	1,499	6,208	1,515	88
1934	32,663	5,813	1,440	5,875	1,443	63
1935	41,652	8,247	1,875	8,249	1,888	47
1936	53,606	12,917	3,294	13,031	3,325	90
1937	42,384	10,888	2,928	10,896	2,933	83
1938	40,140	8,574	2,213	8,660	2,235	53
1939	40,533	9,836	2,721	9,862	2,749	100
1940	32,813	8,832	2,100	8,867	2,112	93
1941	33,333	8,800	2,396	8,813	2,431	82
1942	28,091	7,308	2,040	7,372	2,052	145
1943	43,425	11,060	3,652	11,100	3,718	291
1944	45,659	13,466	4,820	13,500	4,875	328
1945	58,029	18,910	7,205	18,947	7,228	642
1946	59,575	18,070	7,080	18,075	7,132	613
1947	61,443	18,464	6,689	18,506	6,711	630
1948	58,468	17,216	6,281	17,224	6,297	665
1949	61,264	16,503	5,668	16,564	5,670	455
1950	72,628	20,904	7,326	21,021	7,363	605
1951	92,894	25,493	8,438	25,549	8,441	699
1952	94,051	25,114	8,366	25,118	8,428	480
1953	92,790	23,808	7,650	23,836	7,688	355
1954	134,699	31,612	9,328	31,625	9,444	509
1955	162,221	42,120	12,215	42,485	12,276	600
1956	178,589	45,750	13,283	45,765	13,298	601
1957	170,079	42,234	12,552	42,470	12,650	601
1958	219,269	52,572	15,513	52,601	15,561	800
1959	243,709	61,458	19,200	61,620	19,278	1,768
1960	240,600	58,590	18,340	58,591	18,480	775
1961	308,900	74,919	22,762	75,082	22,770	2,160
1962	252,500	60,771	19,327	61,053	19,346	236
1963	310,626	74,531	24,827	74,556	24,852	158
1964	358,730	81,950	27,931	82,429	28,092	278
1965	411,397	91,550	31,533	92,442	31,650	339

Table 7-3 (Continued)

Size-Decile Portfolios of the NYSE/AMEX/NASDAQ:

Largest and Smallest Company by Size Group (Continued)

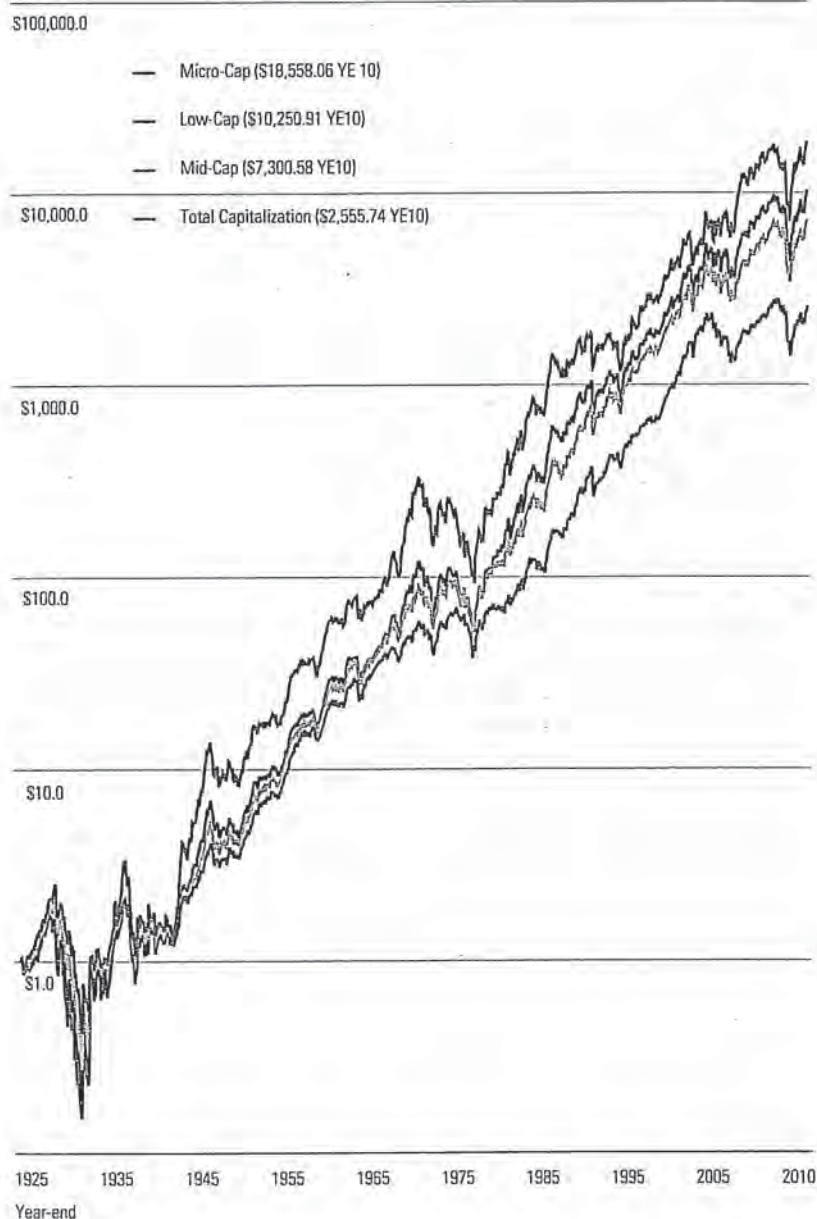
Schedule PMA-17

Page 9 of 15

1966-2010

Date (Sept 30)	Capitalization of Largest Company (in Thousands)			Capitalization of Smallest Company (in Thousands)		
	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10
1966	355,976	86,301	29,616	86,309	29,628	162
1967	494,221	132,178	48,139	132,271	48,182	519
1968	545,337	156,776	62,725	156,914	62,920	2,661
1969	496,371	141,542	48,785	142,010	48,840	1,384
1970	452,155	115,353	37,038	116,246	37,071	1,216
1971	540,926	140,357	44,888	140,397	44,907	908
1972	550,011	140,676	41,938	140,711	41,958	996
1973	507,165	116,042	33,930	116,087	33,941	593
1974	278,010	61,009	18,020	61,379	18,032	244
1975	413,863	90,766	25,638	90,787	25,692	468
1976	554,693	120,260	34,541	120,379	34,542	362
1977	567,353	138,534	39,245	138,707	39,398	617
1978	626,508	180,503	52,850	181,148	52,875	1,071
1979	722,753	196,852	56,404	197,312	56,420	798
1980	843,224	232,001	60,516	232,504	60,550	1,197
1981	848,189	221,008	58,385	223,672	58,451	1,248
1982	857,822	229,809	60,007	230,450	60,138	943
1983	1,223,644	360,242	99,038	360,591	99,444	1,689
1984	1,192,530	340,262	91,162	340,950	91,492	1,935
1985	1,328,504	341,504	90,773	342,770	91,018	750
1986	1,757,617	394,738	96,391	395,134	96,480	656
1987	2,145,644	499,940	116,458	500,270	116,553	811
1988	1,928,870	432,006	96,064	434,359	96,086	308
1989	2,332,567	515,156	103,620	517,276	104,005	391
1990	1,809,083	360,000	71,792	360,715	71,825	199
1991	2,321,976	492,945	90,285	493,636	90,317	166
1992	2,471,131	512,510	102,376	513,251	102,969	325
1993	2,835,393	614,015	147,083	619,625	147,276	559
1994	2,630,763	633,433	151,759	633,578	151,814	817
1995	2,999,061	690,600	168,873	692,893	168,877	749
1996	3,222,158	747,859	192,659	748,150	192,788	1,405
1997	3,936,936	942,616	260,119	944,497	260,269	1,650
1998	3,537,903	723,517	192,465	724,133	192,864	515
1999	3,715,994	801,711	201,787	803,529	201,817	1,123
2000	4,592,543	922,582	189,370	922,800	189,474	1,287
2001	4,169,705	913,122	211,085	913,428	211,101	418
2002	3,998,995	926,123	242,171	926,647	242,226	269
2003	5,180,303	1,241,508	365,091	1,243,618	365,772	1,563
2004	6,320,713	1,558,386	512,655	1,560,109	512,954	1,293
2005	7,590,867	1,806,555	593,522	1,810,905	593,581	1,611
2006	7,913,370	1,985,969	639,397	1,988,656	639,915	1,746
2007	8,677,165	2,292,931	631,865	2,293,645	631,888	1,422
2008	5,840,629	1,680,752	442,559	1,688,943	442,596	1,462
2009	5,936,147	1,600,169	431,256	1,602,429	432,175	1,007
2010	6,793,876	1,775,966	477,539	1,778,756	478,102	1,222

Graph 7-1: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Wealth Indices of Investments in Mid-, Low-, Micro-, and Total Capitalization Stocks
Index (Year-End 1925 = \$1.00)



Data from 1925–2010.

Graph 7-1 depicts the growth of one dollar invested in each of three NYSE/AMEX/NASDAQ groups broken down into mid-cap, low-cap, and micro-cap stocks. The index value of the entire NYSE/AMEX/NASDAQ is also included. All returns presented are value-weighted based on the market capitalizations of the deciles contained in each subgroup. The sheer magnitude of the size effect in some years is noteworthy. While the largest stocks actually declined 9 percent in 1977, the smallest stocks rose more

than 20 percent. A more extreme case occurred in the depression-recovery year of 1933, when the difference between the first and tenth decile returns was far more substantial, with the largest stocks rising 46 percent, and the smallest stocks rising 218 percent. This divergence in the performance of small and large company stocks is a common occurrence.

Table 7-4: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Summary Statistics of Annual Returns

Decile	Geometric Mean	Arithmetic Mean	Standard Deviation	Serial Correlation
1-Largest	9.1	10.9	19.3	0.07
2	10.5	12.9	22.3	0.01
3	10.9	13.6	23.8	-0.03
4	10.8	13.9	26.0	-0.02
5	11.4	14.8	26.8	-0.03
6	11.4	15.0	27.5	0.02
7	11.4	15.4	29.7	0.01
8	11.6	16.5	34.3	0.05
9	11.7	17.2	36.5	0.04
10-Smallest	13.3	21.0	44.9	0.14
Mid Cap	11.0	13.9	24.9	-0.03
Low Cap	11.5	15.4	29.3	0.02
Micro	12.3	18.4	39.0	0.07
NYSE/AMEX/ NASDAQ Total Value Weighted Index	9.7	11.7	20.4	0.02

Data from 1926–2010. Source: Morningstar and CRSP. Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2011 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

Results are for quarterly re-ranking for the deciles. The small company stock summary statistics presented in earlier chapters comprise a re-ranking of the portfolios every five years prior to 1982.

Aspects of the Firm Size Effect

The firm size phenomenon is remarkable in several ways. First, the greater risk of small stocks does not, in the context of the capital asset pricing model (CAPM), fully account for their higher returns over the long term. In the CAPM only systematic, or beta risk, is rewarded; small company stocks have had returns in excess of those implied by their betas.

Second, the calendar annual return differences between small and large companies are serially correlated. This suggests that past annual returns may be of some value in predicting future annual returns. Such serial correlation, or autocorrelation, is practically unknown in the market for large stocks and in most other equity markets but is evident in the size premia.

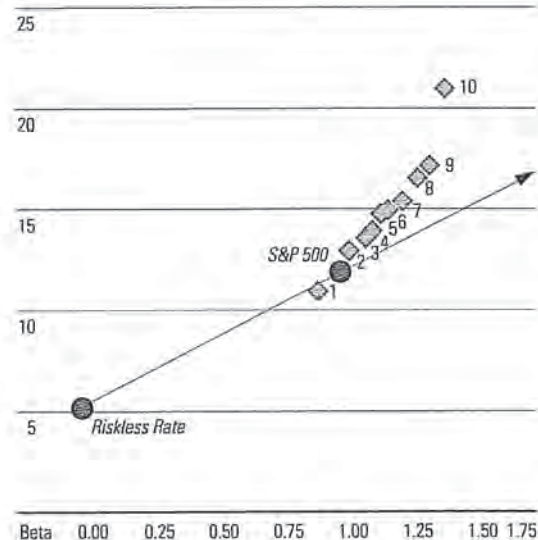
Table 7-5: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Long-Term Returns in Excess of CAPM

Decile	Beta*	Arithmetic Mean Return (%)	Actual Return in Excess of Riskless Rate** (%)	CAPM Return in Excess of Riskless Rate [†] (%)	Size Premium (Return in Excess of CAPM) (%)
1-Largest	0.91	10.92	5.76	6.14	-0.38
2	1.03	12.92	7.76	6.95	0.81
3	1.10	13.56	8.39	7.39	1.01
4	1.12	13.91	8.75	7.55	1.20
5	1.16	14.75	9.59	7.77	1.81
6	1.19	14.95	9.78	7.96	1.82
7	1.24	15.38	10.21	8.34	1.88
8	1.30	16.54	11.37	8.73	2.65
9	1.35	17.16	11.99	9.05	2.94
10-Smallest	1.41	20.97	15.81	9.45	6.36
Mid-Cap, 3-5	1.12	13.87	8.71	7.51	1.20
Low-Cap, 6-8	1.23	15.38	10.22	8.24	1.98
Micro-Cap, 9-10	1.36	18.37	13.20	9.12	4.07

Data from 1926–2010.

*Betas are estimated from monthly returns in excess of the 30-day U.S. Treasury bill total return, January 1926–December 2010.

**Historical riskless rate measured by the 85-year arithmetic mean income return component of 20-year government bonds (5.17).

[†]Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.88 percent) minus the arithmetic mean income return component of 20-year government bonds (5.17 percent) from 1926–2010.**Graph 7-2: Security Market Line Versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ**

Data from 1926–2010.

Source: Morningstar and CRSP. Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2011 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

Third, the firm size effect is seasonal. For example, small company stocks outperformed large company stocks in the month of January in a large majority of the years. Such predictability is surprising and suspicious in light of modern capital market theory. These three aspects of the firm size effect—long-term returns in excess of systematic risk, serial correlation, and seasonality—will be analyzed thoroughly in the following sections.

Long-Term Returns in Excess of Systematic Risk

The capital asset pricing model (CAPM) does not fully account for the higher returns of small company stocks. Table 7-5 shows the returns in excess of systematic risk over the past 85 years for each decile of the NYSE/AMEX/NASDAQ. Recall that the CAPM is expressed as follows:

$$k_s = r_f + (\beta_s \times ERP)$$

Table 7-5 uses the CAPM to estimate the return in excess of the riskless rate and compares this estimate to historical performance. According to the CAPM, the expected return on a security should consist of the riskless rate plus an additional return to compensate for the systematic risk of the security. The return in excess of the riskless rate is estimated in the context of the CAPM by multiplying the equity risk premium by β (beta). The equity risk premium is the return that compensates investors for taking on risk equal to the risk of the market as a whole (systematic risk).³ Beta measures the extent to which a security or portfolio is exposed to systematic risk.⁴ The beta of each decile indicates the degree to which the decile's return moves with that of the overall market.

A beta greater than one indicates that the security or portfolio has greater systematic risk than the market; according to the CAPM equation, investors are compensated for taking on this additional risk. Yet, Table 7-5 illustrates that the smaller deciles have had returns that are not fully explained by their higher betas. This return in excess of that predicted by CAPM increases as one moves from the largest companies in decile 1 to the smallest in decile 10. The excess return is especially pronounced for micro-cap stocks (deciles 9–10). This size-related phenomenon has prompted a revision to the CAPM, which includes a size premium. Chapter 4 presents this modified CAPM theory and its application in more detail.

Table 7-6: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
10th Decile Sub-Portfolios

Decile	Recent Number of Companies	Market Capitalization of Largest Company (in Thousands)	Company Name
10a	388	235,647	McClatchy Company
10w	221	235,647	McClatchy Company
10x	167	179,316	Furmanite Corporation
10b	1,294	143,379	Callon Petroleum Company
10y	304	143,379	Callon Petroleum Company
10z	990	85,670	Visteon Corporation

Note: These numbers may not aggregate to equal decile 10 figures.

Source: Morningstar and CRSP. Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2011 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

Market capitalization and name of largest company in each decile as of September 30, 2010.

This phenomenon can also be viewed graphically, as depicted in Graph 7-2. The security market line is based on the pure CAPM without adjustment for the size premium. Based on the risk (or beta) of a security, the expected return lies on the security market line. However, the actual historic returns for the smaller deciles of the NYSE/AMEX/NASDAQ lie above the line, indicating that these deciles have had returns in excess of that which is appropriate for their systematic risk.

Further Analysis of the 10th Decile

The size premia presented thus far do a great deal to explain the return due solely to size in publicly traded companies. However, by splitting the 10th decile into further size groupings we can get a closer look at the smallest companies. This magnification of the smallest companies will demonstrate whether the company size to size premia relationship continues to hold true.

Ibbotson first split the 10th decile into 10a and 10b in the 2001 Ibbotson SBBI Valuation Yearbook. In the 2010 Ibbotson SBBI Valuation Yearbook, we introduced an even closer look at the smallest companies by splitting 10a into 10w and 10x, and splitting 10b into 10y and 10z.

As previously discussed, the method for determining the size groupings for size premia analysis was to take the stocks traded on the NYSE and break them up into 10 deciles, after which stocks traded on the NYSE AMEX and NASDAQ were allocated into the same size groupings. This same methodology was used to split the 10th decile into four parts: 10w, 10x (sub-portfolios of 10a), and 10y, and 10z (sub-portfolios of 10b). Splitting the 10th decile into 10a and 10b is equivalent to breaking the stocks down into

20 size groupings, with portfolios 19 and 20 representing 10a and 10b. Further splitting 10a into 10w and 10x and 10b into 10y and 10z is equivalent to breaking the stocks down into 40 size groupings, with portfolios 37 and 38 representing 10w and 10x, and portfolios 39 and 40 representing 10y and 10z.

Table 7-7 shows that the pattern continues; as companies get smaller their size premium increases. There is a noticeable increase in size premium from 10a to 10b, and the portfolio made up of the smallest companies, 10z, has the largest size premium, which is demonstrated visually in Graph 7-3. This can be useful information in valuing companies that are extremely small. Table 7-6 presents the size, composition, and breakpoints of each size category. First, the recent number of companies and total decile market capitalization are presented for each of the portfolios. Then the market capitalization and name of the largest company is presented. Breaking the smallest decile down lowers the significance of the results compared to results for the 10th decile taken as a whole, however. There are always going to be more companies included in the Micro-cap than in the 10th decile, and more companies in the 10th decile than in the 10b category. The more stocks included in a sample, the more significance can be placed on the results. The 10th decile gets as small as 49 companies back in March of 1926. This is still significant.

While this is not as much of a factor with the recent years of data, these size premia are constructed with data back to 1926. By breaking the 10th decile down into smaller components we have cut the number of stocks included in each grouping. The change over time of the number of stocks included in the 10th decile for the NYSE/AMEX/NASDAQ is presented in Table 7-8. With fewer stocks included in the analysis early on, there is a strong possibility that just a few stocks can dominate the returns for those early years. While the number of companies included in the 10th decile for the early years of our analysis is low, it is not too low to demonstrate that the company size to size premia relationship continues to hold true, even when broken down into subdivisions 10a, 10w, 10x, 10b, 10y, and 10z.

All things considered, size premia developed for these portfolios are significant and can be used in cost of capital analysis. These size premia should greatly enhance the development of cost of capital analysis for very small companies.

Overlapping Size Categories

A common question among valuation practitioners is about how to use the various size premium metrics that Morningstar provides when size-based category breakpoints overlap. This issue is magnified now that we have published even more granularity for the 10th decile.

There are going to be cases when the estimated equity value for a subject could categorize it in a number of size premium buckets. This range of potential size premium choices would have a tremendous effect on the firm's enterprise value. There are two decision paths when making this choice. The improper path is to choose the size premium that achieves the self-serving goal of influencing the enterprise value in the direction most desired. In many cases this leads to choosing the highest size premium number (12.06% in Table 7-7), because this will lead to the lowest enterprise value for tax purposes, marital dissolution, acquisition valuation, etc. The proper path is to choose the size premium that is most statistically relevant for your application.

Choosing the Right Size Premium

There are two primary factors in determining which size premium to use. First, identify how close to a size category boundary your subject company falls. Second, determine how confident you are in your estimate of equity value.

Let's say you have an example where the estimated equity value is close to the top breakpoint of the 10b category, toward the middle of the 10th decile, and toward the bottom of the Micro-cap. In this case, the statistically conservative choice is the 10th decile. We need to balance the confidence that our subject firm actually falls within a particular size category with the need to tailor that size grouping as tight as possible to make the peers relevant to our analysis. The Micro-cap category is too broad for this case, since the subject firm falls in the lower range of the category, and 10b is too narrow since our subject company would barely squeeze in under the top breakpoint before sliding into 10a. We can say with confidence that the 10th decile puts our company among the most peers of similar size.

Since estimating equity value for the purpose of size premium categorization is a circular challenge, it makes sense to use as many quality metrics that are available to perform this estimate. In doing so, you may find that the equity estimates cross a number of size premium categories. In this case, it is advisable to sacrifice granularity for statistical confidence. For example, if you have three equity estimates indicating that your firm would fall in the middle of 10x, bottom of 10x, and middle of 10y categories, the overall 10th decile size premium would be the best category to capture the size of similar peer companies while acknowledging that the imperfections and circular nature of the size bucketing process.

Table 7-7: Long-Term Returns in Excess of CAPM Estimation for Decile Portfolios of the NYSE/AMEX/NASDAQ, with 10th Decile Split

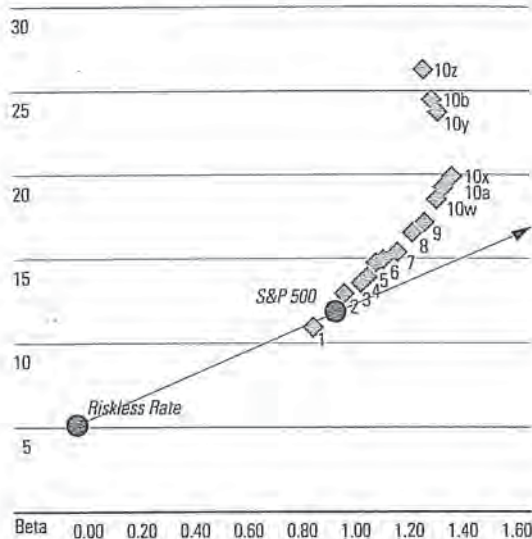
	Beta*	Arithmetic Mean Return (%)	Realized Return in Excess of Riskless Rate** (%)	Estimated Return in Excess of Riskless Rate' (%)	Size Premium (Return in Excess of CAPM) (%)
1	0.91	10.92	5.76	6.14	-0.38
2	1.03	12.92	7.76	6.95	0.81
3	1.10	13.56	8.39	7.39	1.01
4	1.12	13.91	8.75	7.55	1.20
5	1.16	14.75	9.59	7.77	1.81
6	1.19	14.95	9.78	7.96	1.82
7	1.24	15.38	10.21	8.34	1.88
8	1.30	16.54	11.37	8.73	2.65
9	1.35	17.16	11.99	9.05	2.94
10a	1.42	19.24	14.08	9.53	4.55
10w	1.39	18.52	13.35	9.36	3.99
10x	1.45	19.88	14.72	9.75	4.96
10b	1.38	24.46	19.30	9.24	10.06
10y	1.40	23.72	18.55	9.40	9.15
10z	1.34	26.25	21.08	9.03	12.06
Mid-Cap, 3-5	1.12	13.87	8.71	7.51	1.20
Low-Cap, 6-8	1.23	15.38	10.22	8.24	1.98
Micro-Cap, 9-10	1.36	18.37	13.20	9.12	4.07

Data from 1926–2010. Source: Morningstar and CRSP. Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2011 Center for Research in Security Prices (CRSP®). The University of Chicago Booth School of Business. Used with permission.

*Betas are estimated from monthly portfolio total returns in excess of the 30-day U.S. Treasury bill total return versus the S&P 500 total returns in excess of the 30-day U.S. Treasury bill, January 1926–December 2010.

**Historical riskless rate is measured by the 85-year arithmetic mean income return component of 20-year government bonds (5.17 percent).

†Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.88 percent) minus the arithmetic mean income return component of 20-year government bonds (5.17 percent) from 1926–2010.

Graph 7-3: Security Market Line versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ, with 10th Decile Split

Data from 1926–2010.

Table 7-8: Historical Number of Companies for NYSE/AMEX/NASDAQ Decile 10

Sept.	Number of Companies
1926	52*
1930	72
1940	78
1950	100
1960	109
1970	865
1980	685
1990	1,814
2000	1,927
2005	1,746
2006	1,744
2007	1,775
2008	1,626
2009	1,415
2010	1,320

Source: Morningstar and CRSP. Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2011 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

*The fewest number of companies was 49 in March, 1926

Alternative Methods of Calculating the Size Premia

The size premia estimation method presented above makes several assumptions with respect to the market benchmark and the measurement of beta. The impact of these assumptions can best be examined by looking at some alternatives. In this section we will examine the impact on the size premia of using a different market benchmark for estimating the equity risk premium and beta. We will also examine the effect on the size premia study of using sum beta or an annual beta.⁵

Changing the Market Benchmark

In the original size premia study, the S&P 500 is used as the market benchmark in the calculation of the realized historical equity risk premium and of each size group's beta. The NYSE total value-weighted index is a common alternative market benchmark used to calculate beta. Table 7-9 uses this market benchmark in the calculation of beta. In order to isolate the size effect, we require an equity risk premium based on a large company stock benchmark. The NYSE deciles 1–2 large company index offers a mutually exclusive set of portfolios for the analysis of the smaller company groups: mid-cap deciles 3–5, low-cap deciles 6–8, and micro-cap deciles 9–10. The size premia analyses using these benchmarks are summarized in Table 7-9 and depicted graphically in Graph 7-4.

Table 7-9: Long-Term Returns in Excess of CAPM Estimation for Decile Portfolios of the NYSE/AMEX/NASDAQ, with NYSE Market Benchmarks

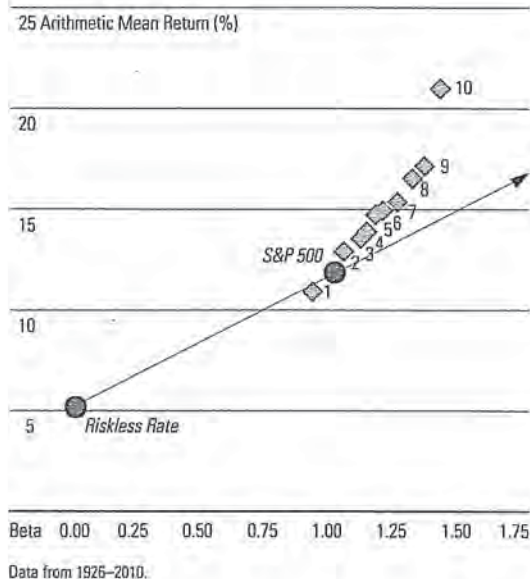
	Beta*	Arithmetic Mean Return (%)	Realized Return in Excess of Riskless Rate** (%)	Estimated Return in Excess of Riskless Rate [†] (%)	Size Premia (Return in Excess of CAPM) (%)
1	0.99	10.92	5.76	5.91	-0.15
2	1.11	12.92	7.76	6.66	1.10
3	1.17	13.56	8.39	7.02	1.38
4	1.20	13.91	8.75	7.19	1.56
5	1.23	14.75	9.59	7.36	2.22
6	1.26	14.95	9.78	7.53	2.25
7	1.32	15.38	10.21	7.88	2.33
8	1.38	16.54	11.37	8.25	3.12
9	1.42	17.16	11.99	8.52	3.46
10	1.48	20.97	15.81	8.87	6.94
Mid-Cap, 3-5	1.19	13.87	8.71	7.13	1.58
Low-Cap, 6-8	1.30	15.38	10.22	7.79	2.43
Micro-Cap, 9-10	1.43	18.37	13.20	8.58	4.61

Data from 1926–2010. Source: Morningstar and CRSP. Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2011 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

*Betas are estimated from monthly portfolio total returns in excess of the 30-day U.S. Treasury bill total return versus the CRSP Deciles 1–2 total returns in excess of the 30-day U.S. Treasury bill, January 1926–December 2010.

**Historical riskless rate is measured by the 85-year arithmetic mean income return component of 20-year government bonds (5.17 percent).

[†]Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the CRSP Deciles 1–2 (11.15 percent) minus the arithmetic mean income return component of 20-year government bonds (5.17 percent) from 1926–2010.

Graph 7-4: Security Market Line versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ, with NYSE Market Benchmarks

For the entire period analyzed, 1926–2010, the betas obtained using the NYSE total value-weighted index are higher than those obtained using the S&P 500. Since smaller companies had higher betas using the NYSE benchmark, one would expect the size premia to shrink. However, as was illustrated in Chapter 5, the equity risk premium calculated using the NYSE deciles 1–2 benchmark results in a value of 5.99, as opposed to 6.72 when using the S&P 500. The effect of the higher betas and lower equity risk premium cancel each other out, and the resulting size premia in Table 7-9 are slightly higher than those resulting from the original study.

Measuring Beta with Sum Beta

The sum beta method attempts to provide a better measure of beta for small stocks by taking into account their lagged price reaction to movements in the market. [See Chapter 6.] Table 7-10 shows that using this method of beta estimation results in larger betas for the smaller size deciles of the NYSE/AMEX/NASDAQ while those of the larger size deciles remain relatively stable. From these results, it appears that the sum beta method corrects for possible errors that are made when estimating small company betas without adjusting for the lagged price reaction of small stocks. However, the sum beta, when applied to the CAPM, still does not account for all of the returns in excess of the riskless rate historically found for small stocks. Table 7-10

demonstrates that a size premium is still necessary to estimate the expected returns using sum beta in conjunction with the CAPM, though the premium is smaller than that needed when using the typical calculation of beta.

Graph 7-5 compares the 10 deciles of the NYSE/AMEX/NASDAQ to the security market line. There are two sets of decile portfolios—one set is plotted using the single variable regression method of calculating beta, as in Graph 7-2, and the second set uses the sum beta method. The portfolios plotted using sum beta more closely resemble the security market line. Again, this demonstrates that the sum beta method results in the desired effect: a higher estimate of returns for small companies. Yet the smaller portfolios still lie above the security market line, indicating that an additional premium may be required.

Table 7-10: Long-Term Returns in Excess of CAPM Estimation for Decile Portfolios of the NYSE/AMEX/NASDAQ, with Sum Beta

	Beta*	Arithmetic Mean Return (%)	Realized Return in Excess of Riskless Rate** (%)	Estimated Return in Excess of Riskless Rate† (%)	Size Premium (Return in Excess of CAPM) (%)
1-Largest	0.91	10.92	5.76	6.13	-0.37
2	1.06	12.92	7.76	7.09	0.66
3	1.13	13.56	8.39	7.60	0.79
4	1.20	13.91	8.75	8.05	0.69
5	1.24	14.75	9.59	8.30	1.29
6	1.30	14.95	9.78	8.73	1.05
7	1.38	15.38	10.21	9.27	0.94
8	1.49	16.54	11.37	10.04	1.34
9	1.56	17.16	11.99	10.45	1.54
10-Smallest	1.71	20.97	15.81	11.47	4.34
Mid-Cap, 3-5	1.17	13.87	8.71	7.86	0.84
Low-Cap, 6-8	1.36	15.38	10.22	9.16	1.05
Micro-Cap, 9-10	1.60	18.37	13.20	10.74	2.46

Data from 1926–2010. Source: Morningstar and CRSP. Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2011 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

*Betas are estimated from monthly portfolio total returns in excess of the 30-day U.S. Treasury bill total return versus the S&P 500 total returns in excess of the 30-day U.S. Treasury bill, January 1926–December 2010.

**Historical riskless rate is measured by the 85-year arithmetic mean income return component of 20-year government bonds (5.17 percent).

†Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.88 percent) minus the arithmetic mean income return component of 20-year government bonds (5.17 percent) from 1926–2010.

**NEW
REGULATORY
FINANCE**

Roger A. Morin, PhD

**2006
PUBLIC UTILITIES REPORTS, INC.
Vienna, Virginia**

Chapter 9: Discounted Cash Flow Application

expectations relative to history, historical growth rates become suspect as a measure of investor expectations.

Yet another issue associated with historical growth is that reliance on history to measure investor expectations renders the replication of that growth a self-fulfilling prophecy. Reliance on forecast growth rates avoids this inherent circularity.

The major point of all this is that it is perilous to apply historical growth when a utility is in a transition between growth paths. When payout ratios, equity return, and market-to-book ratios are changing, reliance on historical growth is hazardous. Such transitions can occur under variable inflation environments, and under fundamental structural shifts, such as deregulation.

Given the choice of variables, length of historical period, and the choice of statistical methodologies, the number of permutations and combinations of historical growth rates is such that other methods and proxies for expected growth must be explored. Historical growth rates constitute a useful starting point and provide useful information as long as the necessary conditions and assumptions outlined in this section are not dramatically violated. Although historical information provides a primary foundation for expectations, investors use additional information to supplement past growth rates. Extrapolating past history alone without consideration of historical trends and anticipated economic events would assume either that past rates will persist over time or that investors' expectations are based entirely on history.

9.4 Growth Estimates: Analysts' Forecasts

Since investor growth expectations are the quantities desired in the DCF model, the use of forecast growth published by investment services merits serious consideration. The growth rates assumed by investors can be determined by a study of the analyses of future earnings and projected long-run growth rates made by the investment community. The anticipated long-run growth rates actually used by institutional investors to determine the desirability of investing in different securities influence investors' growth anticipations.

Typically, growth forecasts are in the form of earnings per share over periods ranging from one to 5 years, and are supported by extensive financial analysis.¹⁰

¹⁰ Analysts do not generally disseminate their methods of forecasting and do not generally recommend the purchase or sale of a security based on any single growth variable or growth estimating technique. A professional financial analyst is reluctant to reveal the premises and methods of his professional judgment and recommendations. Moreover, analysts' buy/sell recommendations result from complex judgments that cannot be reduced to a single variable or to simple mechanistic equations or models. Several methods and algorithms, involving both quantitative and qualitative factors, are likely to be used in arriving at a final growth forecast, including historical indicators.

New Regulatory Finance

The average growth rate estimate from all the analysts that follow the company measures the consensus expectation of the investment community for that company. In most cases, it is necessary to use earnings forecasts rather than dividend forecasts due to the extreme scarcity of dividend forecasts compared to the widespread availability of earnings forecasts. Given the paucity and variability of dividend forecasts, using the latter would produce unreliable DCF results. In any event, the use of the DCF model prospectively assumes constant growth in both earnings and dividends. Moreover, as discussed below, there is an abundance of empirical research that shows the validity and superiority of earnings forecasts relative to historical estimates when estimating the cost of capital.

The uniformity of growth projections is a test of whether they are typical of the market as a whole. If, for example, 10 out of 15 analysts forecast growth in the 7%–9% range, the probability is high that their analysis reflects a degree of consensus in the market as a whole. As a side note, the lack of uniformity in growth projections is a reasonable indicator of higher risk. Chapter 3 alluded to divergence of opinion amongst analysts as a valid risk indicator.

Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of g . The accuracy of these forecasts in the sense of whether they turn out to be correct is not at issue here, as long as they reflect widely held expectations. As long as the forecasts are typical and/or influential in that they are consistent with current stock price levels, they are relevant. The use of analysts' forecasts in the DCF model is sometimes denounced on the grounds that it is difficult to forecast earnings and dividends for only one year, let alone for longer time periods. This objection is unfounded, however, because it is present investor expectations that are being priced; it is the consensus forecast that is embedded in price and therefore in required return, and not the future as it will turn out to be.

Empirical Literature on Earnings Forecasts

Published studies in the academic literature demonstrate that growth forecasts made by security analysts represent an appropriate source of DCF growth rates, are reasonable indicators of investor expectations and are more accurate than forecasts based on historical growth. These studies show that investors rely on analysts' forecasts to a greater extent than on historic data only.

Academic research confirms the superiority of analysts' earnings forecasts over univariate time-series forecasts that rely on history. This latter category

Chapter 9: Discounted Cash Flow Application

includes many *ad hoc* forecasts from statistical models, ranging from the naive methods of simple averages, moving averages, etc. to the sophisticated time-series techniques such as the Box-Jenkins modeling techniques. The literature suggests that analysts' earnings forecasts incorporate all the public information available to the analysts and the public at the time the forecasts are released. This finding implies that analysts have already factored historical growth trends into their forecast growth rates, making reliance on historical growth rates somewhat redundant and, at worst, potentially double counting growth rates which are irrelevant to future expectations. Furthermore, these forecasts are statistically more accurate than forecasts based solely on historical earnings, dividends, book value equity, and the like.

Summary of Empirical Research

Important papers include Brown and Rozeff (1978), Cragg and Malkiel (1968, 1982), Harris (1986), Vander Weide and Carleton (1988), Lys and Sohn (1990), and Easterwood and Nutt (1999).

The study by Brown and Rozeff (1978) shows that analysts, as proxied by Value Line analysts, make better forecasts than could be obtained using only historical data, because analysts have available not only past data but also a knowledge of such crucial factors as rate case decisions, construction programs, new products, cost data, and so on. Brown and Rozeff test the accuracy of analysts' forecasts versus forecasts based on past data only, and conclude that their evidence of superior analyses means that analysts' forecasts should be used in studies of cost of capital. Their evidence supports the hypothesis that Value Line analysts consistently make better predictions than historical time-series models.

Using the IBES consensus earnings forecasts as proxies for investor expectation, Harris (1986) estimates the cost of equity using expected rather than historical earnings growth rates. In his review of the literature on financial analysts' forecasts, Harris concludes that a growing body of knowledge shows that analysts' earnings forecasts are indeed reflected in stock prices. Elton, Gruber, and Gultekin (1981) show that stock prices react more to changes in analysts' forecasts of earnings than they do to changes in earnings themselves, suggesting the usefulness of analysts' forecasts as surrogates for market expectations. In an extensive National Bureau of Economic Research study using analysts' earnings forecasts, Cragg and Malkiel (1982) present detailed empirical evidence that the average analyst's expectation is more similar to expectations being reflected in the marketplace than historical growth rates, and that it is the best possible source of DCF growth rates. The authors show that historical growth rates do not contain any information that is not already impounded in analysts' growth forecasts. They conclude that the expectations formed by Wall Street professionals get quickly and thoroughly impounded

New Regulatory Finance

into the prices of securities and that the company valuations made by analysts are reflected in security prices.

Vander Weide and Carleton (1988) update the Cragg and Malkiel study and find overwhelming evidence that the consensus analysts' forecasts of future growth is superior to historically oriented growth measures in predicting the firm's stock price. Their results also are consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions. A study by Timme and Eisman (1989) produced similar results.

Using virtually all publicly available analyst earnings forecasts for a large sample of companies (over 23,000 individual forecasts by 100 analyst firms), Lys and Sohn (1990) show that stock returns respond to individual analyst earnings forecasts, even when they are closely preceded by earnings forecasts made by other analysts or by corporate accounting disclosures. Using actual and IBES data from 1982–1995, Easterwood and Nutt (1999) regress the analysts' forecast errors against either historical earnings changes or analysts' forecasting errors in the prior years. Results show that analysts tend to underreact to negative earnings information, but overreact to positive earnings information.

The more recent studies provide evidence that analysts make biased forecasts and misinterpret the impact of new information.¹¹ For example, several studies in the early 1990s suggest that analysts either systematically underreact or overreact to new information. Easterwood and Nutt (1999) discriminate between these different reactions and reported that analysts underreact to negative information, but overreact to positive information. The recent studies do not necessarily contradict the earlier literature. The earlier research focused on whether analysts' earnings forecasts are better at forecasting future earnings than historical averages, whereas the recent literature investigates whether the analysts' earnings forecasts are unbiased estimates of future earnings. It is possible that even if the analysts' forecasts are biased, they are still closer to future earnings than the historical averages, although this hypothesis has not been tested in the recent studies. One way to assess the concern that analysts' forecasts may be biased upward is to incorporate into the analysis the growth forecasts of independent research firms, such as Value Line, in addition to the analyst consensus forecast. Unlike investment banking firms and stock brokerage firms, independent research firms such as Value Line have no incentive to distort earnings growth estimates in order to bolster interest in common stocks.

¹¹ Other relevant papers corroborating the superiority of analysts' forecasts as predictors of future returns versus historical growth rates include: Fried and Givoly (1982), Moyer, Chatfield and Kelley (1985), and Gordon, Gordon and Gould (1989).

Chapter 9: Discounted Cash Flow Application

Some argue that analysts tend to forecast earnings growth rates that exceed those actually achieved and that this optimism biases the DCF results upward. The magnitude of the optimism bias for large rate-regulated companies in stable segments of an industry is likely to be very small. Empirically, the severity of the optimism problem is unclear for regulated utilities, if a problem exists at all. It is interesting to note that Value Line forecasts for utility companies made by independent analysts with no incentive for over- or understating growth forecasts are not materially different from those published by analysts in security firms with incentives not based on forecast accuracy, and may in fact be more robust. If the optimism problem exists at all, it can be circumvented by relying on multiple-stage DCF models that substitute long-term economic growth for analysts' growth forecasts in the second and/or third stages of the model.

Empirical studies have also been conducted showing that investors who rely primarily on data obtained from several large reputable investment research houses and security dealers obtain better results than those who do not.¹² Thus, both empirical research and common sense indicate that investors rely primarily on analysts' growth rate forecasts rather than on historical growth rates alone.

Ideally, one could decide which analysts make the most reliable forecasts and then confine the analysis to those forecasts. This would be impractical since reliable data on past forecasts are generally not available. Moreover, analysts with poor track records are replaced by more competent analysts, so that a poor forecasting record by a particular firm is not necessarily indicative of poor future forecasts. In any event, analysts working for large brokerage firms typically have a following, and investors who heed a particular analyst's recommendations do exert an influence on the market. So, an average of all the available forecasts from large reputable investment houses is likely to produce the best DCF growth rate.

Growth rate forecasts are available online from several sources. For example, Value Line Investment Analyzer, IBES (Institutional Brokers' Estimate System), Zacks Investment Research, Reuters, First Call, Yahoo Finance, and Multex Web sites provide analysts' earnings forecasts on a regular basis by reporting on the results of periodic (usually monthly) surveys of the earnings growth forecasts of a large number of investment advisors, brokerage houses, and other firms that engage in fundamental research on U.S. corporations. These firms include most large institutional investors, such as pension funds, banks, and insurance companies. Representative of industry practices, the Zacks Investment Research Web site is a central location whereby investors

¹² Examples of these studies include Stanley, Lewellen and Schlarbaum (1981) and Touche Ross Co. (1982).

New Regulatory Finance

are able to research the different analyst estimates for any given stock without necessarily searching for each individual analyst. Zacks gathers and compiles the different estimates made by stock analysts on the future earnings for the majority of U.S. publicly traded companies. Estimates of earnings per share for the upcoming 2 fiscal years, and a projected 5-year growth rate in such earnings per share are available at monthly intervals. The forecast 5-year growth rates are normalized in order to remove short-term distortions. Forecasts are updated when analysts formally change their stated predictions.

Exclusive reliance on a single analyst's growth forecast runs the risk of being unrepresentative of investors' consensus forecast. One would expect that averages of analysts' growth forecasts, such as those contained in IBES or Zacks, are more reliable estimates of investors' consensus expectations likely to be impounded in stock prices.¹³ Averages of analysts' growth forecasts rather than a single analyst's growth forecasts are more reliable estimates of investors' consensus expectations.

One problem with the use of published analysts' forecasts is that some forecasts cover only the next one or two years. If these are abnormal years, they may not be indicative of longer-run average growth expectations. Another problem is that forecasts may not be available in sufficient quantities or may not be available at all for certain utilities, for example water utilities, in which case alternate methods of growth estimation must be employed.

Some financial economists are uncomfortable with the assumption that the DCF growth rates are perpetual growth rates, and argue that above average growth can be expected to prevail for a fixed number of years and then the growth rate will settle down to a steady-state, long-run level, consistent with that of the economy. The converse also can be true whereby below-average growth can be expected to prevail for a fixed number of years and then the growth rate will resume a higher steady-state, long-run level. Extended DCF models are available to accommodate such assumptions, and were discussed in Chapter 8.

Earnings versus Dividend Forecasts

Casual inspection of the Zacks Investment Research, First Call Thompson, and Multex Web sites reveals that earnings per share forecasts dominate the information provided. There are few, if any, dividend growth forecasts. Only Value Line provides comprehensive long-term dividend growth forecasts. The wide availability of earnings forecasts is not surprising. There is an abundance of evidence attesting to the importance of earnings in assessing investors'

¹³ The earnings growth rates published by Zacks, First Call, Reuters, Value Line, and IBES contain significant overlap since all rely on virtually the same population of institutional analysts who provide such forecasts.

Chapter 9: Discounted Cash Flow Application

expectations. The sheer volume of earnings forecasts available from the investment community relative to the scarcity of dividend forecasts attests to their importance. The fact that these investment information providers focus on growth in earnings rather than growth in dividends indicates that the investment community regards earnings growth as a superior indicator of future long-term growth. Surveys of analytical techniques actually used by analysts reveal the dominance of earnings and conclude that earnings are considered far more important than dividends. Finally, Value Line's principal investment rating assigned to individual stocks, Timeliness Rank, is based primarily on earnings, accounting for 65% of the ranking.

Historical Growth Rates Versus Analysts' Forecasts

Obviously, historical growth rates as well as analysts' forecasts provide relevant information to the investor with regard to growth expectations. Each proxy for expected growth brings information to the judgment process from a different light. Neither proxy is without blemish; each has advantages and shortcomings. Historical growth rates are available and easily verifiable, but may no longer be applicable if structural shifts have occurred. Analysts' growth forecasts may be more relevant since they encompass both history and current changes, but are nevertheless imperfect proxies.

9.5 Growth Estimates: Sustainable Growth Method

The third method of estimating the growth component in the DCF model, alternately referred to as the "sustainable growth" or "retention ratio" method, can be used by investment analysts to predict future growth in earnings and dividends. In this method, the fraction of earnings expected to be retained by the company, b , is multiplied by the expected return on book equity, r , to produce the growth forecast. That is,

$$g = b \times r$$

The conceptual premise of the method, enunciated in Chapter 8, Section 8.4, is that future growth in dividends for existing equity can only occur if a portion of the overall return to investors is reinvested into the firm instead of being distributed as dividends.

For example, if a company earns 12% on equity, and pays all the earnings out in dividends, the retention factor, b , is zero and earnings per share will not grow for the simple reason that there are no increments to the asset base (rate base). Conversely, if the company retains all its earnings and pays no dividends, it would grow at an annual rate of 12%. Or again, if the company earns 12% on equity and pays out 60% of the earnings in dividends, the

New Regulatory Finance

retention factor is 40%, and earnings growth will be $40\% \times 12\% = 4.8\%$ per year.

In implementing the method, both 'b' and 'r' should be the rate that the market expects to prevail in the future. If no explicit forecast of 'b' is available, it is reasonable to assume that the utility's future retention ratio will, on average, remain unchanged from its present level. Or, it can be estimated by taking a weighted average of past retention ratios as a proxy for the future on the grounds that utilities' target retention ratios are usually, although not always, stable.¹⁴

Both historical and forecast values of 'r' can be used to estimate g, although forecast values are superior. The use of historical realized book returns on equity rather than the expected return on equity is questionable since reliance on achieved results involves circular reasoning. Realized returns are the results of the regulatory process itself, and are also subject to tests of fairness and reasonableness. As a gauge of the expected return on book equity, either direct published analysts' forecasts of the long-run expected return on equity, or authorized rates of return in recent regulatory cases can be used as a guide. As a floor estimate, it seems reasonable for investors to expect allowed equity returns by state regulatory commissions to be in excess of the current cost of debt to the utility in question.

Another way of obtaining the expected 'r' is to examine its fundamental determinants. Since earnings per share, E, can be stated as dividends per share, D, divided by the payout ratio (1 - b), the earnings per share capitalized by investors can be inferred by dividing the current dividend by an expected payout ratio. Provided that a utility company follows a fairly stable dividend policy, the possibility of error is less when estimating the payout than when estimating the expected return on equity or the expected growth rate. Using this approach, and denoting book value per share by B, the expected return on equity is:

$$r = E/B = (D/(1 - b)) / B \quad (9-9)$$

Estimates of the expected payout ratio can be inferred from historical 10-year average payout ratio data for utilities, assuming a stable dividend policy has been pursued. Since individual averages frequently tend to regress toward the grand mean, the historical payout ratio needs to be adjusted for this tendency, using statistical techniques for predicting future values based on this tendency of individual values to regress toward the grand mean over time.

An application of the sustainable growth method is shown in example 9-1.

¹⁴ Statistically superior predictions of future averages are made by weighting individual past averages with the grand mean, with the variance within the individual averages and the variance across individual averages serving as weights.

Chapter 9: Discounted Cash Flow Application

EXAMPLE 9-1

Southeastern Electric's sustainable growth rate is required for upcoming rate case testimony. As a gauge of the expected return on equity, authorized rates of return in recent decisions for eastern U.S. electric utilities as reported by Value Line for 2005 and 2006 averaged 11%, with a standard deviation of 1%. In other words, the majority of utilities were authorized to earn 11%, with the allowed return on equity ranging from 10% to 12%. As a gauge of the expected retention ratio, the average 2006 payout ratio of 34 eastern electric utilities as compiled by Value Line was 60%, which indicates an average retention ratio of 40%, with a standard deviation of 5%. This was consistent with the long-run target retention ratio indicated by the management of Southeastern Electric. It is therefore reasonable to postulate that investors expect a retention ratio ranging from 35% to 45% for the company with a likely value of 40%. In Table 9-4 below, expected retention ratios of 35% to 45% and assumed returns on equity from 10% to 12% are multiplied to produce sustainable growth rates ranging from 3.8% to 5.4% with a likely value of 4.6%.

TABLE 9-4
SUSTAINABLE GROWTH METHOD ILLUSTRATION

Expected Retention Ratio (b)	Expected Return on Book Equity (r)		
	10%	11%	12%
35%	3.5%	3.9%	4.2%
40%	4.0%	4.4%	4.8%
45%	4.5%	5.0%	5.4%

It should be pointed out that published forecasts of the expected return on equity by analysts such as Value Line are sometimes based on end-of-period book equity rather than on average book equity. The following formula¹⁵

¹⁵ The return on year-end common equity, r , is defined as $r = E/B_t$, where E is earnings per share, and B_t is the year-end book value per share. The return on average common equity, r_a , is defined as: $r_a = E/B_a$ where B_a = average book value per share. The latter is by definition: $B_a = (B_t + B_{t-1})/2$ where B_t is the year-end book equity per share and B_{t-1} is the beginning-of-year book equity per share. Dividing r by r_a and substituting:

$$\frac{r}{r_a} = \frac{E/B_t}{E/B_a} = \frac{B_a}{B_t} = \frac{B_t + B_{t-1}}{2B_t}$$

Solving for r_a , a formula for translating the return on year-end equity into the return on average equity is obtained, using reported beginning-of-the-year and end-of-year common equity figures:

$$r_a = r \frac{2B_t}{B_t + B_{t-1}}$$

New Regulatory Finance

adjusts the reported end-of-year values so that they are based on average common equity, which is the common regulatory practice:

$$r_a = r_t \frac{2B_t}{B_t + B_{t-1}} \quad (9-10)$$

The sustainable growth method can also be extended to include external financing. From Chapter 8, the expanded growth estimate is given by:

$$g = br + sv$$

where b and r are defined as previously, s is the expected percent growth in number of shares to finance investment, and v is the profitability of the equity investment. The variable s measures the long-run expected stock financing that the utility will undertake. If the utility's investments are growing at a stable rate and if the earnings retention rate is also stable, then s will grow at a stable rate. The variable s can be estimated by taking a weighted average of past percentage increases in the number of shares. This measurement is difficult, however, owing to the sporadic and episodic nature of stock financing, and smoothing techniques must be employed. The variable v is the profitability of the equity investment and can be measured as the difference of market price and book value per share divided by the latter, as discussed in Chapter 8.

There are three problems in the practical application of the sustainable growth method. The first is that it may be even more difficult to estimate what b , r , s , and v investors have in mind than it is to estimate what g they envisage. It would appear far more economical and expeditious to use available growth forecasts and obtain g directly instead of relying on four individual forecasts of the determinants of such growth. It seems only logical that the measurement and forecasting errors inherent in using four different variables to predict growth far exceed the forecasting error inherent in a direct forecast of growth itself.

Second, there is a potential element of circularity in estimating g by a forecast of b and ROE for the utility being regulated, since ROE is determined in large part by regulation. To estimate what ROE resides in the minds of investors is equivalent to estimating the market's assessment of the outcome of regulatory hearings. Expected ROE is exactly what regulatory commissions set in determining an allowed rate of return. In other words, the method requires an estimate of return on equity before it can even be implemented. Common sense would dictate the inconsistency of a return on equity recom-

Chapter 9: Discounted Cash Flow Application

mentation that is different than the expected ROE that the method assumes the utility will earn forever. For example, using an expected return on equity of 11% to determine the growth rate and using the growth rate to recommend a return on equity of 9% is inconsistent. It is not reasonable to assume that this regulated utility company is expected to earn 11% forever, but recommend a 9% return on equity. The only way this utility can earn 11% is that rates be set by the regulator so that the utility will in fact earn 11%. One is assuming, in effect, that the company will earn a return rate exceeding the recommended cost of equity forever, but then one is recommending that a different rate be granted by the regulator. In essence, using an ROE in the sustainable growth formula that differs from the final estimated cost of equity is asking the regulator to adopt two different returns.

The circularity problem is somewhat dampened by the self-correcting nature of the DCF model. If a high equity return is granted, the stock price will increase in response to the unanticipated favorable return allowance, lowering the dividend yield component of market return in compensation for the high g induced by the high allowed return. At the next regulatory hearing, more conservative forecasts of r would prevail. The impact on the dual components of the DCF formula, yield and growth, are at least partially offsetting.

Third, the empirical finance literature discussed earlier demonstrates that the sustainable growth method of determining growth is not as significantly correlated to measures of value, such as stock price and price/earnings ratios, as other historical growth measures or analysts' growth forecasts. Other proxies for growth, such as historical growth rates and analysts' growth forecasts, outperform retention growth estimates. See for example Timme and Eisman (1989).

In summary, there are three proxies for the expected growth component of the DCF model: historical growth rates, analysts' forecasts, and the sustainable growth method. Criteria in choosing among the three proxies should include ease of use, ease of understanding, theoretical and mathematical correctness, and empirical validation. The latter two are crucial. The method should be logically valid and consistent, and should possess an adequate track record in predicting and explaining security value. The retention growth method is the weakest of the three proxies on both conceptual and empirical grounds. The research in this area has shown that the first two growth proxies do a better job of explaining variations in market valuation (M/B and P/E ratios) and are more highly correlated to measures of value than is the retention growth proxy.

Long Island Water Company
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for
the Proxy Group of Nine Water Companies

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
	2010	05/11 -	Dividend	Growth	Adjusted	Indicated
Mr. Duah's Utility Proxy Group	DPS (1)	Average Price (1)	Yield (2)	Rate(3)	Dividend Yield (4)	Common Equity Cost Rate (5)
ALLETE, Inc.	1.78	\$40.02	4.45 %	4.50 %	4.55 %	9.05 %
Alliant Energy Corporation	1.70	\$40.38	4.21	7.00	4.36	11.36
Ameren Corporation	1.54	\$29.12	5.29	(2.00)	5.24	NA
American Electric Power Co.	1.84	\$37.65	4.89	4.50	5.00	9.50
American States Water Co.	1.10	\$34.18	3.22	5.50	3.31	8.81
Avista Corporation	1.10	\$25.13	4.38	4.50	4.48	8.98
Black Hills Corporation	1.46	\$30.80	4.74	8.50	4.94	13.44
CenterPoint Energy	0.79	\$19.21	4.11	3.00	4.17	7.17
Cleco Corporation	1.09	\$34.78	3.13	6.00	3.23	9.23
Consolidated Edison, Inc.	2.40	\$52.99	4.53	3.00	4.60	7.60
DTE Energy Company	2.32	\$50.76	4.57	3.50	4.65	8.15
Edison International	1.29	\$38.90	3.32	(1.00)	3.30	NA
Entergy Corporation	3.32	\$67.99	4.88	1.50	4.92	6.42
Great Plains Energy Incorporated	0.83	\$20.63	4.02	6.00	4.14	10.14
Hawaiian Electric Industries, Inc.	1.24	\$24.51	5.06	11.00	5.34	16.34
IDACORP, Inc.	1.20	\$39.28	3.05	4.00	3.12	7.12
MGE Energy, Inc.	1.52	\$41.22	3.69	4.00	3.76	7.76
Pepco Holdings, Inc.	1.08	\$19.51	5.53	2.50	5.60	8.10
PG&E Corporation	1.82	\$43.10	4.22	6.00	4.35	10.35
Portland General Electric	1.06	\$25.36	4.18	7.50	4.34	11.84
SCANA Corporation	1.94	\$40.20	4.83	3.00	4.90	7.90
SEMPRA Energy	1.92	\$53.45	3.59	3.50	3.66	7.16
Southern Company	1.87	\$39.91	4.69	6.00	4.83	10.83
TECO Energy, Inc.	0.85	\$18.87	4.50	10.50	4.74	15.24
UIL Holdings Corporation	1.73	\$32.59	5.31	3.00	5.39	8.39
Vectren Corporation	1.39	\$27.78	5.00	5.00	5.13	10.13
Westar Energy, Inc.	1.28	\$26.80	4.78	8.50	4.98	13.48
Wisconsin Energy Corporation	1.04	\$31.21	3.33	8.50	3.47	11.97
Xcel Energy Inc.	1.03	\$24.40	4.22	5.00	4.33	9.33
Average						<u>9.84 %</u>
Median						<u>9.23 %</u>

NA = Not Applicable

Notes:

- (1) From KXD-15.
- (2) Column 1 / Column 2.
- (3) From Value Line Standard Edition May 27, June 24, and August 5, 2011.
- (4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 4) x column 3 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for ALLETE, Inc., $4.45\% \times (1 + (1/2 \times 4.50\%)) = 4.55\%$.
- (5) Column 4 + column 5.

Long Island Water Company
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for
the Proxy Group of Nine Water Companies

	1	2	3	4	5	6	7	8
	Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Reuters Mean Consensus Projected Five Year Growth Rate in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth in EPS (3)	Adjusted Dividend Yield (4)	Indicated Common Equity Cost Rate (5)
Mr. Duah's Utility Proxy Group								
ALLETE, Inc.	4.55 %	4.50 %	6.00 %	5.00 %	6.00 %	5.38 %	4.67 %	10.05 %
Alliant Energy Corporation	4.31	7.00	5.70	6.00	6.50	6.30	4.45	10.75
Ameren Corporation	4.15	(2.00)	3.00	4.00	1.00	2.67	4.21	6.88
American Electric Power Co.	5.39	4.50	4.20	4.00	3.97	4.17	5.50	9.67
American States Water Co.	3.79	5.50	7.10	12.00	7.15	7.94	3.94	11.88
Avista Corporation	4.48	4.50	4.60	4.70	4.67	4.62	4.58	9.20
Black Hills Corporation	4.91	8.50	6.00	5.00	5.00	6.13	5.06	11.19
CenterPoint Energy	4.10	3.00	5.60	5.70	5.95	5.06	4.20	9.26
Cleco Corporation	3.17	6.00	3.00	7.00	3.00	4.75	3.25	8.00
Consolidated Edison, Inc.	4.47	3.00	3.80	3.00	3.55	3.34	4.54	7.88
DTE Energy Company	4.76	4.50	3.50	5.00	3.47	4.12	4.86	8.98
Edison International	3.46	(1.00)	3.50	5.00	2.90	3.80	3.53	7.33
Entergy Corporation	5.10	1.50	3.30	(0.20)	(1.09)	2.40	5.16	7.56
Great Plains Energy Incorporated	4.40	6.00	5.80	9.00	5.80	6.65	4.55	11.20
Hawaiian Electric Industries, Inc.	5.29	11.00	7.00	8.60	8.60	8.80	5.52	14.32
IDACORP, Inc.	3.16	4.00	4.60	4.70	4.67	4.49	3.23	7.72
MGE Energy, Inc.	3.74	4.00	4.00	4.00	4.00	4.00	3.81	7.81
Pepco Holdings, Inc.	5.75	2.50	3.20	4.30	7.50	4.38	5.88	10.26
PG&E Corporation	4.48	6.00	5.10	5.00	3.81	4.98	4.59	9.57
Portland General Electric	4.34	7.50	5.50	5.00	5.32	5.83	4.47	10.30
SCANA Corporation	5.02	3.00	4.50	4.30	4.82	4.16	5.12	9.28
SEMPRA Energy	3.76	3.50	7.90	7.00	6.77	6.29	3.88	10.17
Southern Company	4.66	6.00	5.00	5.00	6.01	5.50	4.79	10.29
TECO Energy, Inc.	4.70	10.50	6.00	4.70	5.81	6.75	4.86	11.61
UIL Holdings Corporation	5.40	3.00	4.00	4.00	4.05	3.76	5.50	9.26
Vectren Corporation	5.21	5.50	5.50	5.00	5.35	5.34	5.35	10.69
Westar Energy, Inc.	4.99	8.50	5.90	6.10	5.18	6.42	5.15	11.57
Wisconsin Energy Corporation	3.38	8.50	8.10	8.00	7.13	7.93	3.51	11.44
Xcel Energy Inc.	4.29	5.00	5.00	4.90	5.05	4.99	4.40	9.39
Average								<u>9.78 %</u>
Median								<u>9.67 %</u>

NA= Not Available
NMF = Not Meaningful Figure

Notes:

- (1) Indicated dividend at 9/16/2011 divided by the average closing price of the last 60 trading days ending 9/16/2011 for each company.
- (2) From pages 4 through 32 of this Schedule.
- (3) Average of columns 2 through 5 excluding negative growth rates.
- (4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 6) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for ALLETE, Inc. , $4.55\% \times (1 + (1/2 \times 5.38\%)) = 4.67\%$.
- (5) Column 6 + column 7.

Source of Information:

Value Line Investment Survey: July 22, August 5, August 26 and September 23, 2011
www.reuters.com Downloaded on 09/16/2011
www.zacks.com Downloaded on 09/16/2011
www.yahoo.com Downloaded on 09/16/2011

Long Island Water Company
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for
the Proxy Group of Nine Water Companies

	1	2	3	4	5	6	7	8
	Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Reuters Mean Consensus Projected Five Year Growth Rate in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth in EPS (3)	Adjusted Dividend Yield (4)	Indicated Common Equity Cost Rate (5)
<u>Proxy Group of Nine Water Companies</u>								
American States Water Co.	3.28 %	5.50 %	7.10 %	12.00 %	7.15 %	7.94 %	3.41 %	11.35 %
American Water Works Co., Inc.	3.06	8.50	11.00	8.10	8.13	8.93	3.20	12.13
Aqua America, Inc.	2.87	10.50	7.20	8.30	6.37	8.09	2.99	11.08
Artesian Resources Corp.	4.22	3.60	5.00	NA	4.00	4.20	4.31	8.51
California Water Service Group	3.37	6.00	6.00	10.00	10.00	8.00	3.50	11.50
Connecticut Water Service, Inc.	3.61	4.00	8.00	4.00	3.00	4.75	3.70	8.45
Middlesex Water Company	4.04	3.00	(5.00)	3.00	3.00	3.00	4.10	7.10
SJW Corporation	3.00	5.50	14.00	NA	14.00	11.17	3.17	14.34
York Water Company	3.07	6.00	6.00	6.00	6.00	6.00	3.16	9.16
Average								<u>10.40 %</u>
Median								<u>11.08 %</u>

NA= Not Available
NMF = Not Meaningful Figure

Notes:

- (1) Indicated dividend at 9/16/2011 divided by the average closing price of the last 60 trading days ending 9/16/2011 for each company.
- (2) From Schedule PMA-16.
- (3) Average of columns 2 through 5 excluding negative growth rates.
- (4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 6) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for American States Water Co. , $3.28\% \times (1 + (1/2 \times 7.94\%)) = 3.41\%$.
- (5) Column 6 + column 7.

Source of Information:

Value Line Investment Survey: July 22, 2011
www.reuters.com Downloaded on 09/16/2011
www.zacks.com Downloaded on 09/16/2011
www.yahoo.com Downloaded on 09/16/2011

ALLETE NYSE-ALE										RECENT PRICE	37.51	P/E RATIO	14.8	(Trailing: 16.2 Median: NMF)	RELATIVE P/E RATIO	1.10	DIV'D YLD	4.8%	VALUE LINE									
TIMELINESS	3	Lowered 8/12/11								High:	37.5	51.7	49.3	51.3	49.0	35.3	37.9	42.1		Target Price Range	2014	2015	2016					
SAFETY	2	New 10/1/04								Low:	30.8	35.7	42.6	38.2	28.3	23.3	30.0	35.5										
TECHNICAL	2	Raised 9/23/11																										
BETA	.70	(1.00 = Market)																										
2014-16 PROJECTIONS																												
	Price	Gain	Ann'l Total																									
High	45	(+20%)	9%																									
Low	35	(-5%)	3%																									
Insider Decisions																												
	O	N	D	J	F	M	A	M	J																			
to Buy	0	0	0	0	0	0	0	0	0																			
Options	0	0	0	0	0	1	0	0	0																			
to Sell	0	0	0	0	0	2	1	0	1																			
Institutional Decisions																												
	4Q2010	1Q2011	2Q2011							Percent	15																	
to Buy	65	59	74							shares	10																	
to Sell	51	61	57							traded	5																	
Mid's(000)	20479	21297	21760																									
ALLETE, in its current configuration, began trading on September 21, 2004, the day after it spun off its automotive services business, ADESA (now KAR Auction Services, NYSE: KAR), to shareholders and effected a 1-for-3 reverse stock split. ALLETE shareholders received one share of ADESA for each ALLETE share held. Data for the "old" ALLETE are not shown because they are not comparable.										2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	© VALUE LINE PUB. LLC 14-16						
CAPITAL STRUCTURE as of 6/30/11 Total Debt \$786.1 mill. Due in 5 Yrs \$128.4 mill. LT Debt \$770.7 mill. LT Interest \$42.5 mill. (LT interest earned: 3.6x) Leases, Uncapitalized Annual rentals \$8.1 mill.										--	--	--	25.30	24.50	25.23	27.33	24.57	21.57	25.34	25.55	26.05	Revenues per sh	29.00					
Pension Assets-12/10 \$382.0 mill. Oblig. \$525.6 mill.										--	--	--	2.97	3.85	4.14	4.42	4.23	3.57	4.35	4.95	5.00	"Cash Flow" per sh	6.00					
Pfd Stock None										--	--	--	1.35	2.48	2.77	3.08	2.82	1.89	2.19	2.65	2.65	Earnings per sh ^A	3.25					
Common Stock 36,454,263 shs.										--	--	--	.30	1.25	1.45	1.64	1.72	1.76	1.76	1.78	1.80	Div'd Decl'd per sh ^B +	1.95					
MARKET CAP: \$1.4 billion (Mid Cap)										--	--	--	2.12	1.95	3.37	6.82	9.24	9.05	6.95	7.50	11.50	Cap'l Spending per sh	3.00					
ELECTRIC OPERATING STATISTICS										--	--	--	21.23	20.03	21.90	24.11	25.37	26.41	27.26	28.45	29.55	Book Value per sh ^C	32.75					
% Change Retail Sales (KWH)										--	--	--	29.70	30.10	30.40	30.80	32.60	35.20	35.80	37.00	38.20	Common Shs Outst'g ^D	40.00					
Avg. Indust. Use (MWH)										--	--	--	25.2	17.9	16.5	14.8	13.9	16.1	16.0	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	12.5					
Avg. Indust. Revs. per KWH (\$)										--	--	--	1.33	.95	.89	.79	.84	1.07	1.03			Relative P/E Ratio	.85					
Capacity at Peak (MW)										--	--	--	.9%	2.8%	3.2%	3.6%	4.4%	5.8%	5.0%			Avg Ann'l Div'd Yield	4.8%					
Peak Load, Winter (MW)										--	--	--	751.4	737.4	767.1	841.7	801.0	759.1	907.0	945	995	Revenues (\$mill)	1155					
Annual Load Factor (%)										--	--	--	38.5	68.0	77.3	87.6	82.5	61.0	75.3	95.0	100	Net Profit (\$mill)	125					
% Change in Revenues (ag)										--	--	--	38.8%	28.4%	37.5%	34.8%	34.3%	33.7%	37.2%	25.0%	30.0%	Income Tax Rate	30.0%					
Fixed Charge Cov. (%)										--	--	--	1.8%	.4%	1.4%	6.6%	5.8%	12.8%	8.9%	4.0%	3.0%	AFUDC % to Net Profit	2.0%					
ANNUAL RATES										--	--	--	38.2%	39.1%	35.1%	35.6%	41.6%	42.8%	44.2%	45.0%	44.5%	Long-Term Debt Ratio	41.5%					
of change (per sh) 10 Yrs. 5 Yrs. to '14-'16										--	--	--	61.8%	60.9%	64.9%	64.4%	58.4%	57.2%	55.8%	55.0%	55.5%	Common Equity Ratio	58.5%					
Revenues										--	--	--	1020.7	990.6	1025.6	1153.5	1415.4	1625.3	1747.6	1910	2040	Total Capital (\$mill)	2250					
"Cash Flow"										--	--	--	883.1	860.4	921.6	1104.5	1387.3	1622.7	1805.6	2000	2345	Net Plant (\$mill)	2400					
Earnings										--	--	--	5.1%	8.0%	8.6%	8.6%	6.7%	4.8%	5.4%	6.0%	6.0%	Return on Total Cap'l	6.5%					
Dividends										--	--	--	6.1%	11.3%	11.6%	11.8%	10.0%	6.6%	7.7%	9.0%	9.0%	Return on Shr. Equity	9.5%					
Book Value										--	--	--	6.1%	11.3%	11.6%	11.8%	10.0%	6.6%	7.7%	9.0%	9.0%	Return on Com Equity ^E	9.5%					
QUARTERLY REVENUES (\$mill.)										--	--	--	4.7%	5.2%	5.0%	5.8%	3.9%	.5%	1.5%	3.0%	3.0%	Retained to Com Eq	3.5%					
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year					--	--	--	23%	54%	57%	51%	61%	93%	81%	67%	68%	All Div'ds to Net Prof	62%					
2008	213.4	189.8	201.7	196.1	801.0																							
2009	199.6	164.7	178.8	216.0	759.1																							
2010	233.6	211.2	224.1	238.1	907.0																							
2011	242.2	219.9	235	247.9	945																							
2012	255	230	250	260	995																							
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year																							
2008	.82	.37	.85	.78	2.82																							
2009	.55	.29	.49	.56	1.89																							
2010	.68	.57	.56	.38	2.19																							
2011	1.07	.48	.60	.50	2.65																							
2012	.95	.50	.65	.55	2.65																							
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year																							
2007	.41	.41	.41	.41	1.64																							
2008	.43	.43	.43	.43	1.72																							
2009	.44	.44	.44	.44	1.76																							
2010	.44	.44	.44	.44	1.76																							
2011	.445	.445	.445	.445	1.76																							
BUSINESS: ALLETE, Inc. is the parent company of Minnesota Power, which supplies electricity to 146,000 customers in north-eastern MN, & Superior Water, Light & Power in northwestern WI. Electric revenue breakdown: taconite mining/processing, 24%; paper/wood products, 9%; other industrial, 10%; residential, 13%; commercial, 14%; wholesale, 13% other, 17%. Has real estate op-										eration in FL. Discont. water-utility ops. in '01. Spun off automotive remarketing operation in '04. Generating sources: coal & lignite, 55%; hydro, 3%; other, 3%; purchased, 39%. '10 deprec. rate: 2.9%. Has 1,500 employees. Chairman, President & CEO: Alan R. Hodnik, Inc.: MN. Address: 30 West Superior St., Duluth, MN 55802-2093. Tel.: 218-279-5000. Internet: www.allete.com.																		
ALLETE's Minnesota Power subsidiary has three wind projects in various stages of development. Bison 1 is under construction at an expected cost of \$177 million. This 82-megawatt project should be in service by yearend. The utility plans to expand its renewable capacity by building Bison 2 and Bison 3, each of which would add 105 mw at an expected cost of \$157 million. These projects will be built concurrently and are expected on line in 2012. This is why capital spending will be much higher than usual next year, and will require some debt and equity financing. These three projects will enable Minnesota Power to come close to meeting the state's renewable energy requirement. Importantly, they will also increase the company's earning power because state regulatory law allows immediate recovery of renewable energy capital spending via riders on customers' rates. Bison 3 had not been announced when our last report went to press in June, so we have raised our 2012 earnings estimate by \$0.10 a share, to \$2.65.										cludes \$0.18 of tax benefits in the first quarter and \$0.08 in the second quarter that were for reversals of charges taken in previous years. ALLETE is excluding the second-quarter credit in its earnings guidance of \$2.40-\$2.60 a share, which is why our estimate exceeds the upper end of the targeted range.																		
We are sticking with our 2011 profit estimate of \$2.65 a share, which in-										The company has begun a nonregulated subsidiary, ALLETE Clean Energy, which will acquire or develop renewable energy projects. ALLETE Clean Energy will target projects of \$50 million-\$150 million, primarily wind. The company has 60,000 acres in North Dakota that have excellent wind resources, as well as the needed transmission capacity. This operation will consider solar, biomass, or cleaner fossil fuels, too. Any start-up expenses will be negligible because most costs will be capitalized. ALLETE stock offers a dividend yield that is fractionally above the utility average. Although we project modest dividend growth over the 3- to 5-year period, total returns are not likely to exceed the industry average.																		
Paul E. Debbas, CFA										September 23, 2011																		

(A) Diluted EPS. Excl. nonrec. gain (loss): '04, 2¢; '05, (\$1.84); gain (losses) on disc. ops.: '04, \$2.57, '05, (16¢); '06, (2¢); loss from accounting change: '04, 27¢. Next eggs. report due late Oct. (B) Div'ds historically paid in early Mar., June, Sept., and Dec. (C) Div'd reinvestment plan avail. (D) Shareholder investment plan avail. (E) Incl. deferred chgs. In '10: \$8.66/sh. (F) In mill. (

ALLIANT ENERGY

NYSE-LNT

RECENT PRICE

39.08

P/E RATIO

13.9

(Trailing: 13.0)

RELATIVE P/E RATIO

1.04

DIV YLD

4.6%

VALUE LINE

TIMELINESS

3

Lowered 2/25/11

SAFETY

2

Raised 9/28/07

TECHNICAL

3

Lowered 9/3/11

BETA

.70

(1.00 = Market)

High

Low

37.8

25.8

33.2

27.5

31.0

14.3

25.1

15.0

28.8

23.5

30.6

25.6

40.0

27.5

46.5

34.9

42.4

22.8

31.5

20.3

37.7

29.2

42.1

33.9

LEGENDS

1.00 x Dividends p sh

divided by Interest Rate

Relative Price Strength

Options: Yes

Shaded areas indicate recessions

2014-16 PROJECTIONS

Price

Gain

Ann'l Total Return

High

Low

55

40

(+40%)

(N/I)

13%

5%

Insider Decisions

to Buy

Options

to Sell

402010

140

94

58108

102011

122

121

61697

202011

129

126

64023

Percent

shares

traded

12

8

4

Institutional Decisions

to Buy

Options

to Sell

402010

140

94

58108

102011

122

121

61697

202011

129

126

64023

Percent

shares

traded

12

8

4

% TOT. RETURN 8/11

THIS STOCK

VL ARITH.

1 yr.

3 yr.

5 yr.

21.0

34.6

37.8

19.4

26.8

33.1

2001

2002

2003

2004

2005

2006

2007

2008

2009

2010

2011

2012

© VALUE LINE PUB. LLC

14-16

30.97

28.26

28.19

25.56

28.02

28.93

31.15

33.33

31.02

30.81

32.60

33.65

Revenues per sh

41.40

5.82

4.52

4.19

4.69

5.46

4.33

5.12

4.56

4.21

5.37

5.70

5.95

"Cash Flow" per sh

7.05

2.42

1.18

1.57

1.85

2.21

2.06

2.69

2.54

1.89

2.75

2.90

3.00

Earnings per sh A

3.60

2.00

2.00

1.00

1.02

1.05

1.15

1.27

1.40

1.50

1.58

1.70

1.80

Div'd Decl'd per sh B +

2.70

9.13

7.12

7.69

5.55

4.51

3.42

4.91

7.96

10.87

7.51

6.45

8.15

Cap'l Spending per sh

11.20

21.39

19.89

21.37

22.13

20.85

22.83

24.30

25.56

25.07

26.09

26.45

27.00

Book Value per sh C

30.15

89.68

92.30

110.96

115.74

117.04

116.13

110.36

110.45

110.66

110.89

112.00

113.00

Common Shs Outst'g D

116.00

12.6

19.9

12.7

14.0

12.6

16.8

15.1

13.4

13.9

12.5

12.5

12.5

Avg Ann'l P/E Ratio

13.0

.65

1.09

.72

.74

.67

.91

.80

.81

.93

.81

.93

.81

Relative P/E Ratio

.85

6.6%

8.5%

5.0%

3.9%

3.8%

3.3%

3.1%

4.1%

5.7%

4.6%

4.6%

4.6%

Avg Ann'l Div'd Yield

4.5%

2777.3

2608.8

3128.2

2958.7

3279.6

3359.4

3437.6

3681.7

3432.8

3416.1

3650

3800

Revenues (\$mill)

4800

194.9

113.1

176.6

229.5

337.8

260.1

320.8

280.0

208.6

303.9

320

335

Net Profit (\$mill)

420

23.5%

24.2%

28.9%

26.7%

19.0%

43.8%

44.4%

33.4%

33.4%

32.0%

32.0%

30.0%

Income Tax Rate

30.0%

5.7%

6.8%

11.7%

8.1%

3.0%

3.1%

2.4%

--

8.8%

6.0%

6.0%

6.0%

AFUDC % to Net Profit

6.0%

54.7%

56.4%

44.8%

45.0%

41.6%

31.4%

32.4%

36.3%

44.3%

46.3%

46.5%

46.0%

Long-Term Debt Ratio

45.5%

42.7%

39.2%

50.0%

50.2%

53.1%

62.9%

61.9%

58.6%

51.2%

49.5%

50.0%

50.5%

Common Equity Ratio

51.5%

4490.2

4679.1

4738.4

5104.7

4599.1

4218.4

4329.5

4815.6

5423.0

5841.0

5915

6055

Total Capital (\$mill)

6805

3862.8

3729.2

4432.6

5284.6

4866.2

4944.9

4679.9

5353.5

6203.0

6730.6

6900

7100

Net Plant (\$mill)

8000

6.2%

4.1%

5.7%

6.1%

8.9%

7.5%

8.6%

7.0%

5.1%

6.9%

7.0%

7.0%

Return on Total Cap'l

8.0%

9.6%

5.5%

6.8%

8.2%

12.6%

9.0%

11.0%

9.1%

6.9%

9.7%

10.0%

10.5%

Return on Shr. Equity

11.5%

9.8%

5.8%

6.7%

8.2%

13.1%

9.1%

11.3%

9.3%

6.8%

10.5%

11.0%

11.0%

Return on Com Equity E

12.0%

1.6%

NMF

2.5%

3.8%

8.1%

4.0%

5.9%

3.8%

.9%

3.8%

4.0%

4.0%

Retained to Com Eq

4.5%

85%

NMF

67%

58%

42%

59%

50%

62%

88%

64%

63%

64%

All Div's to Net Prof

61%

2008

2009

2010

% Change Retail Sales (KWh)

-1.2

-6.8

-2.8

Avg. Indust. Use. per (KWh)

124.90

109.48

112.13

Avg. Indust. Revs. per (KWh) (¢)

5.86

6.33

6.80

Capacity at Peak (MW)

5491

5491

5425

Peak Load, Summer (MW)

5491

5491

5425

Annual Load Factor (%)

N/A

N/A

N/A

% Change Customers (y-end)

+1

+1

+2

Fixed Charge Cov. (%)

300

256

306

ANNUAL RATES

Past 10 Yrs.

Past 5 Yrs.

Est'd '08-'10 to '14-'16

of change (per sh)

1.0%

3.0%

4.5%

Revenues

-1.5%

0.5%

7.0%

"Cash Flow"

3.0%

9.0%

7.0%

Earnings

-3.5%

0.5%

6.0%

Dividends

1.0%

3.5%

3.0%

Book Value

Cal-endar

QUARTERLY REVENUES (\$ mill.)

Full Year

Mar.31

Jun.30

Sep.30

Dec.31

2008

992.0

827.4

980.3

882.0

3681.7

2009

949.9

742.3

885.7

854.9

3432.8

2010

890.2

741.6

951.7

832.6

3416.1

2011

945.0

819.5

1040

845.5

3650

2012

975

860

1085

880

3800

Cal-endar

EARNINGS PER SHARE A

Full Year

Mar.31

Jun.30

Sep.30

Dec.31

2008

.62

.47

.99

.46

2.54

2009

.30

.34

.77

.48

1.89

2010

.45

.44

1.31

.55

2.75

2011

.68

.44

1.35

.43

2.90

2012

.60

.50

1.40

.50

3.00

Cal-endar

QUARTERLY DIVIDENDS PAID B +

Full Year

Mar.31

Jun.30

Sep.30

Dec.31

2007

.318

.318

.318

.318

1.27

2008

.35

.35

.35

.35

1.40

2009

.375

.375

.375

.375

1.50

2010

.395

.395

.395

.395

1.58

2011

.425

.425

.425

.425

1.68

(A) Diluted EPS. Excl. nonrecr. gains (losses): '01, (.28¢); '03, net 24¢; '04, (.58¢); '05, (\$1.05); '06, 83¢; '07, \$1.09; '08, 7¢; '09, (.88¢); '10, (.15¢). Next exp. rpt. due late October.

(B) Div's historically paid in mid-Feb., May, Aug., and Nov. ÷ Div'd reinvest. plan avail. † shareholder invest. plan avail. (C) Incl. deferred chgs. in '10: \$137.7 mill. \$124.5¢. (D) In mill.

(E) Rate base: Orig. cost. Regul. Clim.: WI, Above Avg.; IA, Below Avg.

pipeline of wind and solar projects augurs well for RMT. Nevertheless, bottom-line results should prove somewhat mixed. We expect a favorable comparison for the September period, though fourth-quarter share net will likely fall short of the impressive results of the prior-year period. Overall, we anticipate a moderate share earnings advance for full-year 2011, largely due to the favorable comparison from the first quarter. Growth may well continue in 2012. That said, much depends upon the strength of the broader economy, and our 2012 estimates may prove optimistic should material weakness reemerge. These shares are ranked to track the broader market for the coming six to 12 months. Looking further out, we anticipate higher revenues, share earnings, and dividends by 2014-2016. Moreover, Alliant earns good marks for Safety, Price Stability, and Earnings Predictability. From the present quotation, this stock has decent total return potential, on a risk-adjusted basis. Income-seeking investors may find this equity's healthy dividend yield attractive.

Michael Napoli, CFA

September 23, 2011

Company's Financial Strength

A

Stock's Price Stability

95

Price Growth Persistence

95

Earnings Predictability

75

AMEREN NYSE-AEE		RECENT PRICE	29.46	P/E RATIO	11.7 (Trailing: 11.4 Median: 15.0)	RELATIVE P/E RATIO	0.87	DIV'D YLD	5.2%	VALUE LINE	Target Price Range									
TIMELINESS	3 Raised 8/27/10	High: 46.9	46.0	45.3	46.5	50.4	56.8	55.2	55.0	54.3	35.3	29.9	30.5				Target Price	Range		
SAFETY	3 Lowered 6/26/09	Low: 27.6	36.5	34.7	37.4	40.6	47.5	48.0	47.1	25.5	19.5	23.1	25.5				2014	2015	2016	
TECHNICAL	3 Lowered 9/2/11																			
BETA	.80 (1.00 = Market)																			
2014-16 PROJECTIONS		Price	35	Gain	(+20%)	Ann'l Total Return	9%													
		Low	25		(-15%)	2%														
Insider Decisions		O	N	D	J	F	M	A	M	J										
to Buy		0	0	0	0	0	0	0	0	0										
Options		0	0	0	0	0	0	0	0	0										
to Sell		0	0	0	0	1	0	0	0	0										
Institutional Decisions		402010	102011	202011																
to Buy		179	129	151																
to Sell		151	177	152																
Hld's(000)		137716	141870	141320																
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	© VALUE LINE PUB. LLC 14-16		
20.59	22.13	24.24	24.18	25.68	28.10	32.64	24.93	28.20	26.43	33.12	33.30	36.23	36.92	29.87	31.77	31.15	31.15	Revenues per sh	32.50	
5.14	5.12	4.96	5.36	5.36	6.11	6.33	5.28	6.29	5.57	6.10	6.02	6.76	6.44	6.06	6.33	6.00	6.10	"Cash Flow" per sh	6.50	
2.95	2.86	2.44	2.82	2.81	3.33	3.41	2.66	3.14	2.82	3.13	2.66	2.98	2.88	2.78	2.77	2.40	2.40	Earnings per sh	2.50	
2.46	2.51	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	1.54	1.54	1.54	1.54	Div'd Decl'd per sh	1.54	
3.05	3.18	2.77	2.37	4.16	6.77	7.99	5.11	4.19	4.13	4.63	4.99	6.96	9.75	7.51	4.66	4.80	5.25	Cap'l Spending per sh	5.75	
22.71	23.06	22.00	22.27	22.52	23.30	24.26	24.93	26.73	29.71	31.09	31.86	32.41	32.80	33.08	32.15	32.65	33.45	Book Value per sh	36.00	
102.12	102.12	137.22	137.22	137.22	137.22	138.05	154.10	162.90	195.20	204.70	206.60	208.30	212.30	237.40	240.40	244.00	247.00	Common Shs Outst'g	256.00	
12.6	13.8	15.5	14.2	13.5	11.0	12.1	15.8	13.5	16.3	16.7	19.4	17.4	14.2	9.3	9.7	9.7	9.7	Avg Ann'l P/E Ratio	12.5	
.84	.86	.89	.74	.77	.72	.62	.86	.77	.86	.89	1.05	.92	.85	.62	.62	.62	.62	Relative P/E Ratio	.85	
6.6%	6.3%	6.7%	6.3%	6.7%	6.9%	6.2%	6.1%	6.0%	5.5%	4.9%	4.9%	4.9%	6.2%	6.0%	5.8%	5.8%	5.8%	Avg Ann'l Div'd Yield	5.0%	
CAPITAL STRUCTURE as of 6/30/11																				
Total Debt \$7396.0 mill. Due in 5 Yrs \$1538.0 mill.																				
LT Debt \$7054.0 mill. LT Interest \$455.0 mill.																				
(LT interest earned: 3.1x)																				
Leases, Uncapitalized Annual rentals \$39.0 mill.																				
Pension Assets-12/10 \$2.72 bill. Oblig. \$3.45 bill.																				
Pfd Stock \$142.0 mill. Pfd Div'd \$8.0 mill.																				
807,595 shs. \$3.50 to \$5.50 cum. (no par), \$100																				
stated value, redeemable at \$102.176-\$110/sh.;																				
616,323 shs. 4.00% to 6.625%, \$100 par,																				
redeemable at \$100-\$104/sh.																				
Common Stock 241,148,657 shs.																				
as of 4/29/11																				
MARKET CAP: \$7.1 billion (Large Cap)																				
ELECTRIC OPERATING STATISTICS																				
		2008	2009	2010																
% Change Retail Sales (KWH)		-1.6	-4.1	+8.5																
Avg. Indust. Use (MWH)		N/A	N/A	N/A																
Avg. Indust. Revs. per KWH (¢)		4.43	4.45	4.63																
Capacity at Peak (Mw)		N/A	N/A	N/A																
Peak Load, Summer (Mw)		N/A	N/A	N/A																
Annual Load Factor (%)		N/A	N/A	N/A																
% Change Customers (y-end)		N/A	N/A	N/A																
Fixed Charge Cov. (%)		296	266	293																
ANNUAL RATES		Past 10 Yrs.	Past 5 Yrs.	Past Est'd '08-'10																
of change (per sh)		10 Yrs.	5 Yrs.	to '14-'16																
Revenues		2.5%	2.5%	Nil																
"Cash Flow"		1.0%	1.0%	.5%																
Earnings		-5%	-1.5%	-2.0%																
Dividends		-3.0%	-6.0%	-3.0%																
Book Value		3.5%	2.5%	1.5%																
QUARTERLY REVENUES (\$ mill.)		Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year													
		2008	2081	1790	2060	1908	7839.0													
		2009	1916	1684	1815	1675	7090.0													
		2010	1940	1725	2267	1706	7638.0													
		2011	1904	1781	2150	1765	7600													
		2012	1950	1800	2150	1800	7700													
EARNINGS PER SHARE		Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year													
		2008	.66	.98	.97	.27	2.88													
		2009	.66	.77	1.04	.34	2.78													
		2010	.43	.64	1.49	.21	2.77													
		2011	.29	.57	1.24	.30	2.40													
		2012	.40	.60	1.10	.30	2.40													
QUARTERLY DIVIDENDS Paid		Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year													
		2007	.635	.635	.635	.635	2.54													
		2008	.635	.635	.635	.635	2.54													
		2009	.385	.385	.385	.385	1.54													
		2010	.385	.385	.385	.385	1.54													
		2011	.385	.385																
BUSINESS:		Ameren Corp. is a holding company formed through the merger of Union Electric and CIPSCO. Acquired CILCORP 1/03; Illinois Power 10/04. Has 1.2 million electric and 127,000 gas customers in Missouri; 1.2 million electric and 811,000 gas customers in Illinois. Electric revenue breakdown: residential, 48%; commercial, 31%; industrial, 10%; other, 11%. Generating sources: coal, 66%; nuclear, 9%; hydro, 2%; gas, 1%; purchased, 22%. Fuel costs: 41% of revenues. '10 reported depreciation rates: 3%-4%. Has 9,800 employees. Chairman, President & CEO: Thomas R. Voss. Incorporated: Missouri. Address: One Ameren Plaza, 1901 Chouteau Avenue, P.O. Box 66149, St. Louis, Missouri 63166-6149. Tel.: 314-621-3222. Internet: www.ameren.com.																		
Ameren has received an electric rate increase in Missouri. The state commission granted the utility a tariff hike of \$173 million, based on a 10.2% return on a 52.2% common-equity ratio. Disappointingly, \$89 million of capital investment was disallowed. Ameren has appealed this to the state Court of Appeals. (This will cause a nonrecurring charge, estimated at \$0.23 a share, in the third quarter.) New rates took effect at the end of July.																				
Electric and gas rate requests are pending in Illinois. Ameren is seeking an electric hike of \$39 million, based on an 11% return on equity, and a gas increase of \$50 million, based on a 10.75% ROE. The requested common-equity ratio is 52.87%. The staff of the Illinois Commerce Commission (ICC) is recommending a total (electric and gas) increase of \$31 million, and the state attorney general and Citizens Utility Board are proposing a total decrease of \$2 million. The ICC's order is due in January, with new rates taking effect shortly thereafter.																				
Earnings are probably headed down this year. An unusually large number of storms hurt profits in the first half of																				
2011. Kilowatt-hour sales were running lower than expected, until an unusually hot summer offset this somewhat. Margins are under pressure at Ameren's merchant generation subsidiary, due to weak power prices and rising coal costs. Our 2011 share-net estimate of \$2.40 is within Ameren's guidance of \$2.30-\$2.55.																				
We look for flat earnings in 2012. We figure that improvement at the utility operations (thanks largely to rate relief) will offset another decline in income at the nonregulated side of the business.																				
Ameren has announced its strategy for dealing with more stringent EPA rules for coal plants. The company will reduce its capital budget by \$700 million by switching to lower-sulfur coal. This will increase its operating expenses, however.																				
We do not recommend this stock. The dividend is above the utility average, but by less than a percentage point. In our view, this is not enough to compensate investors for a lack of dividend growth potential. With the stock trading near the middle of our 2014-2016 Target Price Range, total return potential is unexciting.																				
Paul E. Debbas, CFA September 23, 2011																				

[illegible]

(A) Excl. nonrec. gains (losses): '02, (\$3.86); '03, (\$1.92); '04, 24¢; '05, (62¢); '06, (20¢); '07, (20¢); '08 and '10, (7¢); '11, (10¢); gains (losses) on disc. ops.: '02, (57¢); '03, (32¢); '04, 15¢; '05, 7¢; '06, 2¢; '08, 3¢; '09, (1¢). '09 EPS don't add due to change in shs. Next egs. due late Oct. (B) Div'ds historically paid early Mar., June, Sept. & Dec. = Div'd reinvestment plan avail. (C) Incl. intang. in '10: \$16.31/sh. (D) In mill. (E) Rate base: various. Rates allowed on com. eq.: 9.98%-15.7%; earned on avg. com. eq.: '10: 9.3%; Regul. Climate: Avg.	Company's Financial Strength B++ Stock's Price Stability 100 Price Growth Persistence 50 Earnings Predictability 90
---	--

© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-833-0046.

[illegible]

(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.

(C) In millions, adjusted for split.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	65
Earnings Predictability	85

© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-833-0046.

AVISTA CORP. NYSE:AVA

RECENT PRICE25.85

P/E RATIO14.4

(Trailing: 13.9) Median: 16.0

RELATIVE P/E RATIO0.90

DIV YLD4.4%

VALUE LINE

TIMELINESS2

Raised 4/15/11

SAFETY2

Raised 5/7/10

TECHNICAL2

Raised 7/22/11

BETA.70

(1.00 = Market)

2014-16 PROJECTIONS

Price

Gain

Ann'l Total

Return

High

Low

35

25

(+35%)

11%

Low

35

25

(-5%)

4%

Insider Decisions

S

O

N

D

J

F

M

A

M

to Buy

0

0

0

0

0

0

0

0

Options

0

0

1

3

0

1

2

0

7

to Sell

2

0

2

3

0

2

3

0

11

Institutional Decisions

302010

402010

102011

to Buy

69

84

77

to Sell

65

68

72

Hld's(\$000)

39422

39583

40326

Percent shares traded

18

12

6

% TOT. RETURN 6/11

THIS STOCK

VL ARITH.

1 yr.

37.8

35.8

3 yr.

37.2

51.3

5 yr.

36.2

50.6

© VALUE LINE PUB. LLC 14-16

13.49

16.89

23.27

91.07

221.75

167.59

126.17

20.41

23.24

23.76

27.98

28.68

26.80

30.77

27.58

27.29

28.20

29.65

Revenues per sh

35.00

2.60

2.64

3.20

3.47

2.28

3.31

2.71

2.19

2.63

2.35

2.72

4.27

2.93

3.98

4.45

3.50

3.75

3.85

"Cash Flow" per sh

4.50

1.41

1.35

1.96

1.28

.12

1.76

1.20

.67

1.02

.73

.92

1.47

.72

1.36

1.58

1.65

1.80

1.80

Earnings per sh A

2.00

1.24

1.24

1.24

1.05

.48

.48

.48

.48

.49

.52

.55

.57

.60

.69

.81

1.00

1.10

1.18

Div'd Decl'd per sh B =

1.40

1.55

1.67

1.82

2.70

3.30

4.24

5.92

1.74

2.21

2.47

3.23

3.14

4.04

4.09

3.86

3.64

4.25

4.00

Cap'l Spending per sh

4.50

12.82

12.70

13.38

11.76

10.69

15.34

15.12

14.84

15.54

15.54

15.87

17.46

17.27

18.30

19.17

19.71

20.40

21.00

Book Value per sh C

23.00

55.95

55.96

55.96

40.45

35.65

47.21

47.63

48.04

48.34

48.47

48.59

52.51

52.91

54.49

54.84

57.12

58.50

59.00

Common Shs Outst'g D

60.50

11.2

13.8

10.0

16.5

NMF

13.6

13.7

19.3

13.8

24.4

19.4

15.4

30.9

15.0

11.4

12.7

Avg Ann'l P/E Ratio

14.5

.75

.86

.58

.86

NMF

.88

.70

1.05

.79

1.29

1.03

.83

1.64

.90

.76

.81

Relative P/E Ratio

.95

7.8%

6.7%

6.4%

5.0%

2.8%

2.0%

2.9%

3.7%

3.5%

2.9%

3.0%

2.5%

2.7%

3.4%

4.5%

4.8%

Avg Ann'l Div'd Yield

4.8%

Bold figures are Value Line estimates

CAPITAL STRUCTURE as of 3/31/11

Total Debt \$1274.6 mill. Due in 5 Yrs \$181.3 mill.

LT Debt \$1196.5 mill. LT Interest \$65.8 mill.

Incl. \$51.5 mill. debt to affiliated trusts; \$43.2 mill. nonrecourse debt.

(LT Interest earned: 3.2x)

Leases, Uncapitalized Annual rentals \$4.5 mill.

Pension Assets-12/10 \$306.7 mill.

Obllg. \$433.5 mill.

Pfd Stock None

Common Stock 57,629,393 shs. as of 4/30/11

MARKET CAP: \$1.5 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

2008

2009

2010

% Change Retail Sales (KWH)

+1.2

-8

-1.1

Avg. Indust. Use (MWH)

148.3

139.7

152.5

Avg. Indust. Revs. per KWH (¢)

4.94

5.53

5.47

Capacity at Peak (MW)

2480

2514

2905

Peak Load, Winter (MW)

2383

2371

2507

Annual Load Factor (%)

62.0

61.0

60.0

% Change Customers (yr-end)

+9

+3

+5

Fixed Charge Cov. (%)

232

299

301

ANNUAL RATES of change (per sh)

Past 10 Yrs.

Past 5 Yrs.

Est'd '08-'10 to '14-'16

Revenues

-16.0%

2.5%

3.5%

"Cash Flow"

3.0%

9.0%

2.0%

Earnings

4.0%

11.5%

4.5%

Dividends

2.0%

10.0%

9.0%

Book Value

4.0%

4.0%

3.0%

QUARTERLY REVENUES (\$ mill.)

Cal-end

Mar.31

Jun.30

Sep.30

Dec.31

Full Year

2008

496.3

350.3

382.7

447.5

1676.8

2009

487.5

307.1

314.7

403.3

1512.6

2010

456.4

360.7

367.2

374.4

1558.7

2011

476.6

375

375

423.4

1650

2012

500

400

400

450

1750

EARNINGS PER SHARE A

Cal-end

Mar.31

Jun.30

Sep.30

Dec.31

Full Year

2008

.47

.44

.13

.32

1.36

2009

.57

.47

.15

.40

1.55

2010

.52

.46

.22

.45

1.68

2011

.73

.39

.19

.49

1.80

2012

.65

.45

.20

.50

1.80

QUARTERLY DIVIDENDS PAID B =

Cal-end

Mar.31

Jun.30

Sep.30

Dec.31

Full Year

2007

.145

.15

.15

.15

.60

2008

.165

.165

.18

.18

.69

2009

.18

.21

.21

.21

.81

2010

.25

.25

.25

.25

1.00

2011

.275

.275

BUSINESS:

Avista Corporation (formerly The Washington Water Power Company) supplies electricity & gas in eastern Washington & northern Idaho. Supplies gas to part of Oregon. Customers: 359,000 electric, 319,000 gas. Has nonutility subsidiary (Advantage IQ) involved in energy-management services. Electric revenue breakdown: residential, 30%; commercial, 27%; industrial, 12%;

wholesale, 17%; other, 14%. Generating sources: hydro, 27%; gas, 13%; coal, 13%; wood waste, 2%; purchased, 45%. Fuel costs: 52% of revenues. '10 reported deprec. rate (utility): 2.8%. Has 2,500 employees. Chairman, President & CEO: Scott L. Morris. Inc.: WA. Address: 1411 E. Mission Ave., Spokane, WA 99202-2600. Tel.: 509-489-0500. Internet: www.avistacorp.com.

Avista has filed general rate cases in Washington . . .

The utility is seeking an electric rate increase of \$38.3 million (9.1%) and a gas tariff hike of \$6.2 million (4.0%), based on a return of 10.9% on a common-equity ratio of 48.04%. Although Avista has filed frequent rate applications in recent years, the utility still isn't earning its allowed return on equity due to the effects of regulatory lag. An order is due by mid-April, unless a settlement is reached before then.

. . . and Idaho. Avista requested electric and gas increases of \$9.0 million (3.5%) and \$1.9 million (2.8%), respectively, based on a return of 10.9% on a common-equity ratio of 50.15%. An order is due in the first quarter of 2012, or perhaps sooner if there is a settlement.

We have raised our 2011 earnings estimate by \$0.10 a share, to \$1.80. That's the upper end of Avista's targeted range of \$1.60-\$1.80 a share. Favorable hydro conditions enabled profits in the seasonally strong first quarter to exceed our estimate. The fuel adjustment clause in Washington exposes Avista to some changes in expenses before a sharing mechanism kicks

in. This can help or hurt corporate profits; this year, it's helping.

We project flat earnings in 2012. We assume normal weather and hydro conditions in our 2012 forecast, and we figure that this will offset the benefit of the rate relief that Avista is likely to obtain in Washington and Idaho. We still look for another dividend increase next year, even with the possibility of no earnings growth. The payout ratio is comfortably within Avista's targeted range of 60%-70%.

Advantage IQ is likely to improve its profit contribution in 2011. Historically, this energy services company has provided billing services for customers with multiple sites, such as banks, retailers, and restaurant chains. Advantage IQ's customers want additional services such as energy procurement and energy efficiency, which the company is now able to offer. This operation should earn an estimated \$0.13-\$0.16 a share this year, compared with \$0.13 in 2010.

This timely stock has a yield and 3- to 5-year total return potential that are about equal to the utility averages.

Paul E. Debbas, CFA August 5, 2011

(A) Dil. EPS. Excl. nonrec. losses: '00, 27¢; '02, 9¢; '03, 3¢; gain (losses) on disc. ops.: '01, (\$1.00); '02, 2¢; '03, (10¢). '09 EPS don't add due to rounding. Next eps. report due early	Nov. (B) Div'ds historically paid in mid-Mar., June, Sept. & Dec. ■ Div'd reinvestment plan avail. ■ Shareholder investment plan avail. (C) Incl. def'd chgs. In '10: \$8.33/sh. (D) In mill.	(E) Rate base: Net orig. cost. Rate allowed on com. eq. in WA in '10: 10.2%; in ID in '10: none specified; earned on avg. com. eq. '10: 8.5%. Regulatory Climate: WA, Avg.; ID, Above Avg.	<table border="1"> <tr> <td>Company's Financial Strength</td> <td>B++</td> </tr> <tr> <td>Stock's Price Stability</td> <td>100</td> </tr> <tr> <td>Price Growth Persistence</td> <td>65</td> </tr> <tr> <td>Earnings Predictability</td> <td>65</td> </tr> </table>	Company's Financial Strength	B++	Stock's Price Stability	100	Price Growth Persistence	65	Earnings Predictability	65
Company's Financial Strength	B++										
Stock's Price Stability	100										
Price Growth Persistence	65										
Earnings Predictability	65										
© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. The PUBLISHER is NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.											
To subscribe call 1-800-833-0046.											

BLACK HILLS CORP. NYSE-BKH										RECENT PRICE	30.80	P/E RATIO	16.6	(Trailing: 20.1 Median: 16.0)	RELATIVE P/E RATIO	1.04	DIV'D YLD	4.8%	VALUE LINE
TIMELINESS	3	Raised 2/12/10	High:	46.1	58.5	36.9	33.5	32.5	44.6	37.9	45.4	44.0	28.0	34.5	34.8				Target Price Range
SAFETY	3	Lowered 8/15/03	Low:	20.4	26.0	18.3	21.8	26.5	29.2	32.5	35.4	21.7	14.5	25.7	28.1				2014 2015 2016
TECHNICAL	3	Lowered 8/5/11	LEGENDS 1.12 x Dividends p sh divided by Interest Rate Relative Price Strength 3-for-2 split 3/98 Options: Yes Shaded areas indicate recessions																
BETA	.80	(1.00 = Market)	2014-16 PROJECTIONS Price Gain Ann'l Total High 40 25 (+30%) (-20%) Nil Return 10% Nil																
Insider Decisions			S O N D J F M A M to Buy 0 0 4 1 0 4 0 0 5 Options 0 0 0 0 0 0 0 0 0 to Sell 0 0 0 0 0 0 0 0 0																
Institutional Decisions			3Q2010 4Q2010 1Q2011 to Buy 60 83 63 to Sell 70 63 88 Hld's(000) 25538 27764 28525																
Percent shares traded			18 12 6																
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012			© VALUE LINE PUB. LLC 14-16																
6.92 7.50 14.45 31.48 37.05 69.69 57.96 15.74 35.17 34.54 41.97 19.69 18.41 26.03 32.58 33.29 29.75 31.30			Revenues per sh 35.75																
2.09 2.45 2.52 2.72 2.88 3.68 5.27 4.93 4.26 4.46 4.81 5.04 5.29 2.95 5.41 4.88 4.95 5.55			"Cash Flow" per sh 6.75																
1.19 1.40 1.49 1.60 1.70 2.37 3.42 2.33 1.84 1.74 2.11 2.21 2.68 1.18 2.32 1.66 1.85 2.00			Earnings per sh A 2.25																
.89 .92 .95 1.00 1.04 1.08 1.12 1.16 1.20 1.24 1.28 1.32 1.37 1.40 1.42 1.44 1.46 1.48			Div'd Decl'd per sh B + 1.55																
2.40 1.13 .98 1.18 4.89 5.79 14.07 8.65 2.80 2.80 4.18 9.24 6.92 8.51 8.90 12.04 10.50 7.30			Cap'l Spending per sh 8.00																
8.43 8.91 9.46 9.58 10.14 11.95 18.95 19.66 21.72 22.43 22.29 23.68 25.66 27.19 27.84 28.02 28.25 28.75			Book Value per sh C 31.00																
21.64 21.68 21.70 21.58 21.37 23.30 26.89 26.93 32.30 32.48 33.16 33.37 37.80 38.64 38.97 39.27 44.00 44.25			Common Shs Outst'g D 45.00																
13.1 11.9 13.0 14.9 13.6 10.9 11.4 12.5 15.9 17.1 17.3 15.8 15.0 NMF 9.9 18.1			Avg Ann'l P/E Ratio 14.5																
.88 .75 .75 .77 7.8 7.1 .58 .68 .91 .90 92 .85 .80 NMF .66 1.15			Relative P/E Ratio .95																
5.8% 5.5% 4.9% 4.2% 4.5% 4.2% 2.9% 4.0% 4.1% 4.2% 3.5% 3.8% 3.4% 4.2% 6.2% 4.8%			Avg Ann'l Div'd Yield 4.8%																
CAPITAL STRUCTURE as of 3/31/11			1558.6 423.9 1136.1 1121.7 1391.6 656.9 695.9 1005.8 1269.6 1307.3 1310 1385																
Total Debt \$1476.1 mill. Due in 5 Yrs \$792.1 mill.			88.1 63.2 57.1 57.2 70.3 74.0 100.1 6.8 89.7 64.6 80.0 90.0																
LT Debt \$1184.8 mill. LT Interest \$79.4 mill.			36.5% 31.9% 34.4% 31.8% 33.8% 31.3% 31.3% 33.1% 30.7% 26.4% 32.0% 32.0%																
(LT interest earned: 1.8x)			8.5% 18.2% .7% .3% 1.0% 9.7% 14.8% 173.2% 20.1% 28.0% 13.0% 6.0%																
Leases, Uncapitalized Annual rentals \$2.6 mill.			44.7% 53.6% 55.0% 49.9% 47.6% 44.3% 36.8% 32.3% 48.4% 51.9% 50.0% 45.0%																
Pension Assets-12/10 \$220.2 mill.			54.7% 45.9% 44.5% 49.6% 52.4% 55.7% 63.2% 67.7% 51.6% 48.1% 50.0% 55.0%																
Oblig. \$280.6 mill.			931.0 1154.0 1578.2 1469.3 1409.1 1418.4 1534.2 1551.8 2100.7 2286.3 2475 2325																
Pfd Stock None			1238.2 1476.3 1442.4 1445.7 1435.4 1646.4 1823.5 2022.2 2160.7 2495.4 2815 2985																
Common Stock 39,409,489 shs. as of 4/29/11			10.6% 6.6% 4.8% 5.3% 6.6% 6.8% 7.9% 1.6% 5.9% 4.4% 5.0% 5.5%																
MARKET CAP: \$1.2 billion (Mid Cap)			17.1% 11.8% 8.0% 7.8% 9.5% 9.4% 10.3% .7% 8.3% 5.9% 6.5% 7.0%																
ELECTRIC OPERATING STATISTICS			17.2% 11.9% 8.1% 7.8% 9.5% 9.4% 10.3% .7% 8.3% 5.9% 6.5% 7.0%																
BUSINESS: Black Hills Corporation is a holding company for utilities that serve 201,000 electric customers in CO, SD, WY, and MT, and 561,000 gas customers in NE, IA, KS, CO, and WY. Electric revenue breakdown: residential, 30%; commercial, 35%; industrial, 12%; wholesale, 15%; other, 8%. Generating sources: coal, 42%; purchased, 58%. Mines coal & has a gas & oil E&P business. Acq'd			11.6% 6.0% 2.8% 2.3% 3.8% 3.8% 5.1% NMF 3.2% .7% 1.5% 2.0%																
Wickford Energy Mktg. 7/97; Mallon Resources 3/03; Cheyenne Light 1/05; utility ops. from Aquila 7/08. Discont. telecom in '05; oil mktg. in '06. Fuel costs: 48% of revs. '10 depr. rate: 3.8%. Has 2,200 employees. Chairman, President & CEO: David R. Emery. Inc.: SD. Address: P.O. Box 1400, 625 Ninth St., Rapid City, SD 57701. Tel.: 605-721-1700. Internet: www.blackhillscorp.com.			62% 87% 78% 73% All Div'ds to Net Prof 67%																
prospectus have prompted us to lower our 2011 and 2012 share-net estimates by \$0.15 each year. Most notably, low natural gas prices are hurting the gas and oil exploration and production business, and high oil prices aren't enough to compensate because this operation is mostly gas. Management is reviewing this business and expects a decision by yearend.			Mark-to-market gains or losses stemming from an interest-rate swap can skew earnings comparisons. This hurt the bottom line by \$0.25 a share in 2010, but helped it by \$0.09 a share in the first period of 2011. We assume no such items in our estimates and projections because they are impossible to predict, but include them in reported results because they are an ongoing part of Black Hills' operations. The stock price is down almost 10% since our May report. We believe that the worsening bottom-line prospects are to blame. The stock now offers an above-average yield for a utility, but with the likelihood of low dividend growth through mid-decade, total return potential over that time is a bit below the utility average. Paul E. Debbas, CFA August 5, 2011																
The company has been active in the regulatory arena in recent years. Black Hills received rate relief in four jurisdictions in 2010 and in Iowa earlier this year. Gas rate applications in Colorado and Kansas are under consideration. The utility is also asking the Colorado commission for permission to build a third gas-fired unit. This 88-mw facility would cost an estimated \$102 million. The performance of the nonregulated operations remains disappointing. As a group, they were unprofitable in the first quarter, and their lackluster near-term			Company's Financial Strength B+ Stock's Price Stability 90 Price Growth Persistence 20 Earnings Predictability 40																
Fixed Charge Cov. (%)			238 149 174																
ANNUAL RATES			10 Yrs. Past 5 Yrs. Past Est'd '08-'10 of change (per sh)																
Revenues			-4.0% -4.0% 2.5%																
"Cash Flow"			3.5% -5% 7.5%																
Earnings			-3.0% -6.0% 8.5%																
Dividends			3.0% 2.5% 1.5%																
Book Value			10.0% 4.5% 2.0%																
QUARTERLY REVENUES (\$ mill.)			Full Year																
2008 2009 2010 2011 2012			152.8 153.3 291.9 407.8 1005.8																
EARNINGS PER SHARE A			Full Year																
2008 2009 2010 2011 2012			.31 .34 .51 d.98 .18																
QUARTERLY DIVIDENDS PAID B + 1			Full Year																
2007 2008 2009 2010 2011			.34 .34 .34 .35 1.37																

(A) Dil. EPS. Excl. nonrec. gain (losses): '05, 99¢; '08, (\$1.55); '09, (28¢); '10, 10¢; gains (losses) on disc. ops.: '03, 30¢; '04, 2¢; '05, 7¢; '06, 21¢; '07, (4¢); '08, \$4.12; '09, 7¢. Next earnings report due early Aug. (B) Div'ds histor. paid in early Mar., Jun., Sept. & Dec. (C) Div'd reinvest. plan avail. (D) Incl. def'd chgs. In '10: (E) Rate base: Net orig. cost. Rate allowed on com. eq. in SD in '10: none specified; earned on avg. com. eq., '10: 6.0%. Reg. Climate: Above Avg.

Company's Financial Strength B+
Stock's Price Stability 90
Price Growth Persistence 20
Earnings Predictability 40

To subscribe call 1-800-833-0046.

[illegible]

(A) Pro forma data. (B) Diluted EPS. Excl. extraordinary gains (losses): '04, (\$2.72); '05, \$9; '11, \$1.94; gain (loss) on discount. ops. '03, 2%; '04, (\$37¢); '05, (1¢). Next earnings report due early Nov. (C) Div'ds historically paid in early Mar., June, Sept. & Dec. ■ Div'd reinvestment plan available. † Shareholder investment plan available. (D) Incl. intangibles. In '10: \$12.10/sh.	(E) In mill. (F) Rate base: Net orig. cost. Rate allowed on com. eq. (elec.) in '11: 10%; (gas): 9.45%-11.25%; earned on avg. com. eq. '10: 15.1%. Regulatory Climate: Average.	<table border="1"> <tr> <td>Company's Financial Strength</td> <td>B</td> </tr> <tr> <td>Stock's Price Stability</td> <td>95</td> </tr> <tr> <td>Price Growth Persistence</td> <td>85</td> </tr> <tr> <td>Earnings Predictability</td> <td>65</td> </tr> </table>	Company's Financial Strength	B	Stock's Price Stability	95	Price Growth Persistence	85	Earnings Predictability	65
Company's Financial Strength	B									
Stock's Price Stability	95									
Price Growth Persistence	85									
Earnings Predictability	65									
© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, stored or transmitted in any written, electronic or other form, or used for, or incorporated into, any printed or electronic publication, service or product.										
To subscribe call 1-800-833-0046.										

CLECO CORPORATION				NYSE-CNL	RECENT PRICE	34.63	P/E RATIO	14.9	(Trailing: 16.0) (Median: 14.0)	RELATIVE P/E RATIO	1.11	DIV'D YLD	3.4%	VALUE LINE					
TIMELINESS	3	Lowered 2/11/11	High: 28.3	27.3	24.9	18.4	20.8	24.4	26.2	29.8	28.4	28.1	31.8	36.1	Target Price Range 2014 2015 2016				
SAFETY	2	Raised 6/24/11	Low: 15.1	19.2	9.7	11.0	16.2	18.9	20.5	22.1	17.3	18.7	24.3	30.1					
TECHNICAL	3	Raised 6/10/11	LEGENDS 1.04 x Dividends p.sh. divided by Interest Rate Relative Price Strength 2-for-1 split 5/01 Options: Yes Shaded areas indicate recessions												24 20 16 12 8 6				
BETA	.65	(1.00 = Market)																	
2014-16 PROJECTIONS																			
	Price	Gain	Ann'l Total Return													24 20 16 12 8 6			
High	40	(+15%)	7%																
Low	30	(-15%)	1%																
Insider Decisions																			
	O	N	D	J	F	M	A	M	J							8 6			
To Buy	0	0	0	0	0	0	2	0	0										
Options	0	4	0	0	0	2	0	0	1										
To Sell	0	4	0	0	3	0	2	0	0										
Institutional Decisions																			
	4Q2010	1Q2011	2Q2011													15 10 5			
To Buy	79	85	73																
To Sell	79	80	94																
Hld's(000)	44280	44515	44773																
% TOT. RETURN 8/11																			
THIS STOCK VS. ARTH.																			
1 yr. 29.6 19.4																			
3 yr. 57.2 26.8																			
5 yr. 70.4 33.1																			
© VALUE LINE PUB. LLC 14-16																			
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Revenues per sh	22.25
8.79	9.70	10.16	11.46	17.12	18.23	23.55	15.33	18.54	15.03	18.41	17.38	17.19	17.99	14.17	18.98	19.30	19.75	"Cash Flow" per sh	6.50
1.99	2.11	2.18	2.28	2.36	2.77	2.94	3.05	2.98	2.56	2.76	2.63	2.69	3.71	3.78	5.12	5.65	5.80	Earnings per sh ^A	2.75
1.04	1.12	1.09	1.12	1.19	1.46	1.51	1.52	1.26	1.32	1.42	1.36	1.32	1.70	1.76	2.29	2.40	2.40	Div'd Decl'd per sh ^B	1.60
.75	.77	.79	.81	.83	.85	.87	.90	.90	.90	.90	.90	.90	.90	.90	.98	1.09	1.22	Cap'l Spending per sh	4.00
1.29	1.43	1.73	2.09	3.99	2.52	1.10	1.91	1.58	1.61	3.19	4.11	8.51	5.59	4.15	4.68	4.15	3.60	Book Value per sh ^C	28.50
7.91	8.30	8.68	9.07	9.44	10.04	10.69	11.77	10.09	10.83	13.69	15.22	16.85	17.65	18.50	21.76	23.65	24.90	Common Shs Outst'g ^D	60.70
44.85	44.91	44.93	44.97	44.88	44.99	44.96	47.04	47.18	49.62	49.99	57.57	59.94	60.04	60.26	60.53	60.70	60.70	Avg Ann'l P/E Ratio	13.0
11.6	11.9	12.5	14.4	13.4	13.2	14.6	12.2	12.4	13.8	15.0	17.3	19.6	14.1	13.2	12.3			Relative P/E Ratio	.85
.78	.75	.72	.75	.76	.86	.75	.67	.71	.73	.80	.93	1.04	.85	.88	.79			Avg Ann'l Div'd Yield	4.6%
6.2%	5.8%	5.8%	5.0%	5.2%	4.4%	3.9%	4.8%	5.8%	5.0%	4.2%	3.8%	3.5%	3.8%	3.9%	3.5%				
CAPITAL STRUCTURE as of 6/30/11																Revenues (\$mill)	1350		
Total Debt \$1400.0 mill. Due in 5 Yrs \$230.2 mill.																Net Profit (\$mill)	170		
LT Debt \$1387.3 mill. LT Interest \$84.6 mill.																Income Tax Rate	37.0%		
Inc. \$17.5 million capital leases.																AFUDC % to Net Profit	3.0%		
(LT interest earned: 3.1x)																Long-Term Debt Ratio	42.0%		
Leases, Uncapitalized Annual rentals \$9.2 mill.																Common Equity Ratio	58.0%		
Pension Assets-12/10 \$242.5 mill.																Total Capital (\$mill)	2975		
Oblig. \$330.3 mill.																Net Plant (\$mill)	2875		
Pfd Stock None																Return on Total Cap'l	7.0%		
Common Stock 61,062,449 shs.																Return on Shr. Equity	9.5%		
as of 7/29/11																Return on Com Equity ^E	9.5%		
MARKET CAP: \$2.1 billion (Mid Cap)																Retained to Com Eq	4.0%		
ELECTRIC OPERATING STATISTICS																All Div's to Net Prof	58%		
2008 2009 2010																			
% Change Retail Sales (KWH)																			
-2.1 -6.0 +5.9																			
Avg. Indus. Rev. per KWH (\$)																			
4.53 3.52 3.67																			
Capacity at Peak (MW)																			
718.9 6.4 7.8																			
Peak Load, Summer (MW)																			
2234 2355 N/A																			
Annual Load Factor (%)																			
2113 2242 2348																			
% Change Customers (avg)																			
57.0 53.5 53.8																			
+9 +7 +7																			
Fixed Charge Cov. (%)																			
159 138 294																			
ANNUAL RATES																			
Past Past Est'd '08-'10																			
of change (per sh)																			
10 Yrs. 5 Yrs. to '14-'16																			
Revenues																			
1.0% -5% 4.5%																			
"Cash Flow"																			
5.5% 8.5% 7.5%																			
Earnings																			
4.5% 7.5% 6.0%																			
Dividends																			
1.0% -5% 9.5%																			
Book Value																			
7.5% 11.0% 6.5%																			
QUARTERLY REVENUES (\$ mill.)																			
Cal- Mar.31 Jun.30 Sep.30 Dec.31 Full Year																			
2008 222.5 274.8 343.7 239.2 1080.2																			
2009 213.0 207.2 241.5 192.1 853.8																			
2010 272.3 275.9 343.9 256.6 1148.7																			
2011 253.7 272.9 370 273.4 1170																			
2012 270 280 370 280 1200																			
EARNINGS PER SHARE ^A																			
Cal- Mar.31 Jun.30 Sep.30 Dec.31 Full Year																			
2008 .37 .49 .62 .22 1.70																			
2009 .11 .45 .99 .21 1.76																			
2010 .56 .58 .82 .33 2.29																			
2011 .48 .52 1.10 .30 2.40																			
2012 .40 .60 1.10 .30 2.40																			
QUARTERLY DIVIDENDS PAID ^B																			
Cal- Mar.31 Jun.30 Sep.30 Dec.31 Full Year																			
2007 .225 .225 .225 .225 .90																			
2008 .225 .225 .225 .225 .90																			
2009 .225 .225 .225 .225 .90																			
2010 .225 .25 .25 .25 .98																			
2011 .25 .28 .28 .28 .90																			
BUSINESS: Cleco Corporation is a holding company for Cleco Power, which supplies electricity to about 279,000 customers in central Louisiana. Through a subsidiary, has 775 megawatts of wholesale capacity. Electric revenue breakdown: residential, 45%; commercial, 27%; industrial, 14%; other, 14%. Largest industrial customers are paper mills and other wood-product industries. Generating sources: gas & oil, 30%; coal & lignite, 29%; petroleum coke, 16%; purchased, 25%. Fuel costs: 44% of revenues. 10 reported deprec. rate (utility): 2.6%. Has 1,300 employees. Chairman: J. Patrick Garrett. President & CEO: Bruce A. Williamson. Inc.: Louisiana. Address: 2030 Donahue Ferry Road, P.O. Box 5000, Pineville, LA 71361-5000. Tel.: 318-484-7400. Internet: www.cleco.com.																			
We estimate that Cleco Corporation's earnings will rise at a mid-single-digit pace in 2011. Cleco Power, the company's regulated utility subsidiary, is benefiting from a regulatory plan that allows it a return on equity of 11.7%, with a chance to earn up to a 12.3% ROE, thanks to incentive ratemaking. We have raised our 2011 earnings estimate by \$0.05 a share, to \$2.40, due to hotter-than-usual summer weather conditions. That's the upper end of management's targeted range of \$2.30-\$2.40 a share, which was based on normal weather. We now look for flat earnings in 2012, based on our assumption of a return to normal weather patterns.																			
Dividend growth potential is high. After several years in which the board of directors did not raise the disbursement, it lifted the payout in 2010. Earlier this year, the board boosted the quarterly dividend by \$0.03 a share (12%), and Cleco has already stated that an increase of \$0.03125 a share (11.1%) is in the offing for 2012. The company completed an asset sale in the second quarter. Cleco sold its 50% stake in Acadia Unit 2, a gas-fired plant, for \$150 million. It used the proceeds for debt reduction. The company recorded a gain of \$0.63 a share on the sale, which we excluded from our presentation as a nonrecurring item.																			
Cleco is still deciding what to do with the Coughlin plant. This 775-megawatt gas-fired facility is the company's sole remaining nonregulated generating asset. Its capacity will be available at the start of 2012, after a contract expires. New EPA rules that will increase costs for coal-fired units might well make Coughlin a more valuable asset.																			
Two capital projects are under way. Cleco has a 50% stake in a \$250 million transmission project. This should be complete by the summer of 2012. The utility is spending \$73 million (including a \$20 million grant from the federal government) on an advanced metering system. This should be finished by 2013.																			
This stock does not stand out for the short or long term. The yield is about a percentage point below the utility mean, and 3- to 5-year total return potential is unexciting, despite the good dividend growth prospects mentioned above.																			
Paul E. Debbas, CFA September 23, 2011																			

(A) Diluted earnings. Excl. nonrec. gains (losses): '00, 5¢; '02, (5¢); '03, (\$2.05); '05, \$2.11; '07, \$1.22; '10, \$1.91; 2Q '11, 63¢; losses from disc. ops.: '00, 14¢; '01, 4¢. Next

earnings report due early Nov. (B) Div'ds historically paid in mid-Feb., May, Aug., and Nov. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. (C) Incl. deferred

charges. In '10: \$10.51/sh. (D) In mill., adj. for split. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in '09: 11.7%; earned on avg. com. eq., '10: 11.9%. Regul. Climate: Avg

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	70
Earnings Predictability	75

To subscribe call 1-800-833-0046.

CON. EDISON NYSE:ED				RECENT PRICE 54.49				P/E RATIO 15.3 (Trailing: 15.2) (Median: 14.0)				RELATIVE P/E RATIO 1.13				DIV YLD 4.4%				VALUE LINE			
TIMELINESS 3 Raised 8/20/10				High: 39.5 43.4 45.4 46.0 45.6 49.3 49.3 52.9 49.3 46.3 51.0 54.9												Target Price Range 2014 2015 2016							
SAFETY 1 New 7/27/90				Low: 26.2 31.4 32.7 36.6 37.2 41.1 41.2 43.1 34.1 32.6 41.5 48.6																			
TECHNICAL 2 Raised 8/5/11				LEGENDS																			
BETA .65 (1.00 = Market)				0.95 x Dividends p.sh divided by Interest Rate																			
				 Relative Price Strength																			
				Options: Yes																			
				Shaded areas indicate recessions																			
2014-16 PROJECTIONS																							
Price Gain Ann'l Total																							
High 60 50 (+10%) 7%																							
Low 50 50 (-10%) 3%																							
Insider Decisions																							
S O N D J F M A M																							
to Buy 2 0 0 2 0 1 1 0 0																							
Options 0 0 4 0 0 0 1 2																							
to Sell 0 0 5 1 0 0 1 2																							
Institutional Decisions																							
3Q2010 4Q2010 1Q2011																							
to Buy 249 231 235																							
to Sell 177 222 205																							
Hrs(000) 118977 118320 118231																							
Percent shares traded																							
21																							
14																							
7																							

(A) EPS diluted. Excl. nonrecur. losses: '02, 11¢; '03, 45¢. Next egs. report due early Nov. (B) Dividends historically paid in mid-Mar., mid-June, mid-Sept., and late Feb. = Div'd reinvest.	plan avail. (C) Incl. intangibles in '10: \$4.3 billion, \$1.48/sh. (D) In millions. (E) Rate base: net original cost. Rate all'd elec. common equity: '10, 10.15%; earned on '10 average com-	mon equity: 9.0%. Regulatory Climate: Below Average. (F) May not sum due to rounding.	Company's Financial Strength Stock's Price Stability Price Growth Persistence Earnings Predictability	A+ 100 40 85
© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.				
To subscribe call 1-800-833-0046.				

DTE ENERGY CO., NYSE-DTE				RECENT PRICE		49.54		P/E RATIO		13.4		(Trailing: 13.0)		(Median: 15.0)		RELATIVE P/E RATIO		1.00		DIVID YLD		4.8%		VALUE LINE													
TIMELINESS		2		Raised 8/12/11		High:		41.3		47.1		47.7		49.5		45.5		48.3		49.2		54.7		45.3		45.0		49.1		52.8		Target Price		Range			
SAFETY		3		Lowered 10/5/01		Low:		28.4		33.1		33.1		34.0		37.9		41.4		38.8		44.0		27.8		23.3		41.3		43.2		2014		2015		2016	
TECHNICAL		3		Lowered 9/16/11		LEGENDS		0.89 x Dividends p sh		divided by Interest Rate																											
BETA		.75		(1.00 = Market)																																	
2014-16 PROJECTIONS																																					

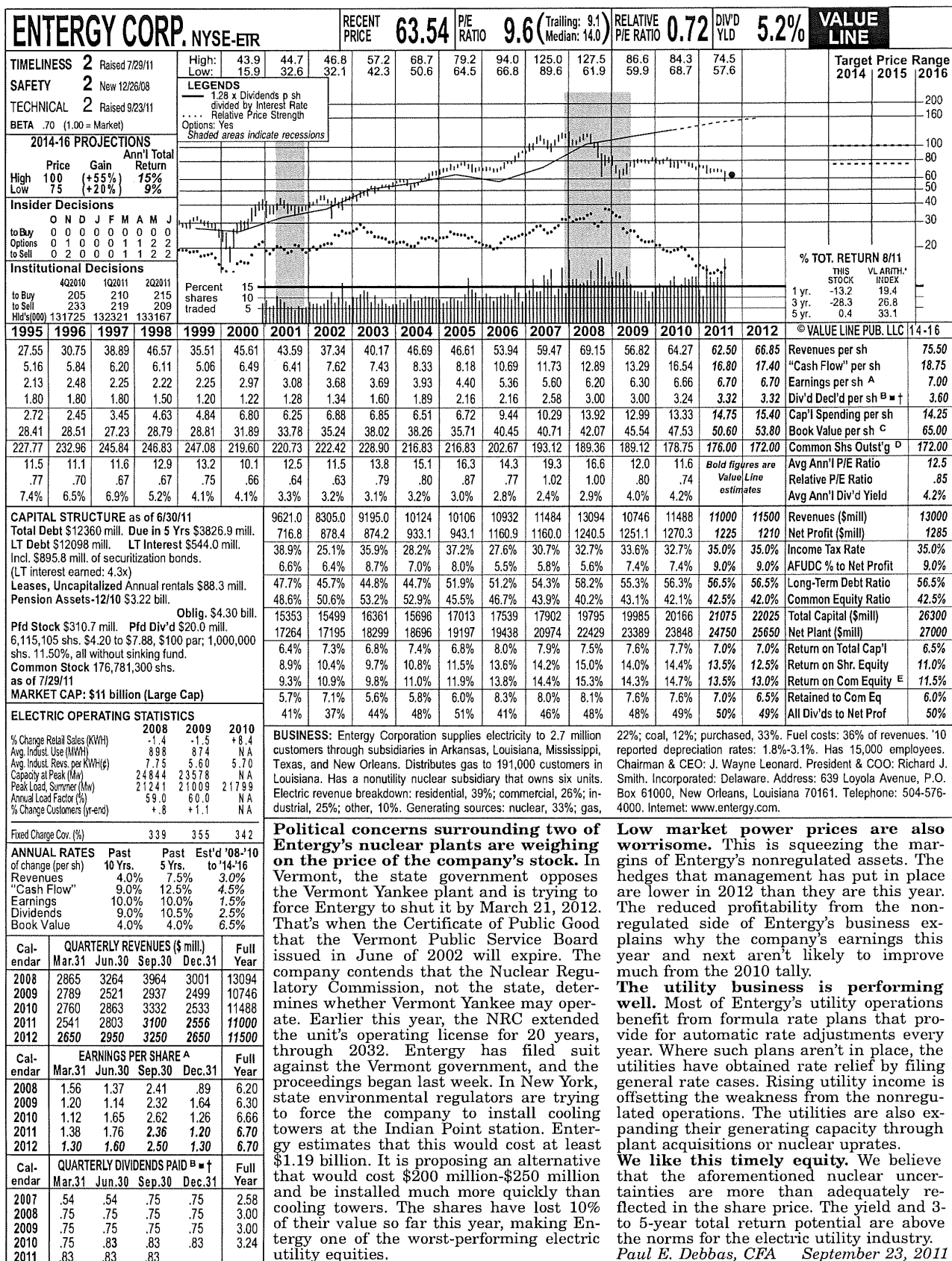
(A) Diluted EPS. Excl. nonrec. gains (losses): '03, (16¢); '05, (2¢); '06, 1¢; '07, \$1.96; '08, 50¢; '11, 52¢; gains (losses) on disc. ops.: '03, 40¢; '04, (6¢); '05, (20¢); '06, (2¢); '07, \$1.20;	'08, 13¢. '10 EPS don't add due to rounding. Net earnings report due late Oct. (B) Div'ds historically paid in mid-Jan., Apr., July, and Oct. • Div'd reinvest. plan avail. (C) Incl. in-	tang. In '10: \$40.57/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in '10 (electric and gas): 11%; earned on av. com. eq., '10: 9.0%. Regulatory Climate: Avg.	Company's Financial Strength Stock's Price Stability Price Growth Persistence Earnings Predictability	B+ 100 35 70
---	--	---	--	---------------------------------

© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. The PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-833-0046.

EDISON INTERNAT'L										NYSE-BX		RECENT PRICE		38.87		P/E RATIO		14.1		(Trailing: 11.9)		(Median: 11.0)		RELATIVE P/E RATIO		0.88		DIV'D YLD		3.3%		VALUE LINE			
TIMELINESS 3 Lowered 3/11/11										High: 30.0		16.1		19.6		22.1		32.5		49.2		47.2		60.3		55.7		36.7		39.4		40.2			
SAFETY 3 Raised 11/11/05										Low: 14.1		6.3		7.8		10.6		21.2		30.4		37.9		42.8		26.7		23.1		30.4		35.1			
TECHNICAL 2 Raised 8/5/11										LEGENDS 1.59 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded areas indicate recessions																						Target Price		Range	
BETA .80 (1.00 = Market)																																			
2014-16 PROJECTIONS																																			
Price 30																																			
Gain (+30%) 9%																																			
Low 50 (-25%) -2%																																			
Ann'l Total Return																																			
Insider Decisions																																			
S O N D J F M A M																																			
to Buy 0 0 0 1 0 0 0 0 0																																			
Options 1 0 1 0 0 0 1 0 1																																			
to Sell 1 0 1 0 0 0 1 0 1																																			
Institutional Decisions																																			
3Q2010 4Q2010 1Q2011																																			
to Buy 181 184 167																																			
to Sell 180 197 194																																			
Hld's(000) 244589 251635 248100																																			
Percent shares traded																																			
15																																			
10																																			
5																																			

(A) Dil. EPS. Excl. nonrec. gains (losses): '01, \$1.88; '02, \$1.48; '03, (12¢); '04, \$2.12; '09, (64¢); '10, \$4¢; gain (losses) from disc. ops.: '07, (1¢); '09, (2¢); '10, 1¢. Incl. nonrec. losses: '07, \$7.58; '01, \$1.88. '09 & '10 EPS don't add due to rounding. Next eps. due early Nov. (B) Div'd histor. paid late Jan., Apr., July & Oct. '09. Div'd reinv. plan avail. † Shareholder inv. plan avail.	(C) Incl. def'd chgs. In '10: \$13.34/sh. (D) In mill. (E) Rate base: net org. cost. Rate a/l'd on com. exp. in '08: 11.5%; earned on avg. com. exp., '10: 10.8%. Regul. Clim.: Above Avg.	Company's Financial Strength B++ Stock's Price Stability 95 Price Growth Persistence 80 Earnings Predictability 55
© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, stored or transmitted in any printed, electronic or other form, or used for general or marketing or other printed or electronic publication, service or product.		
To subscribe call 1-800-833-0046.		



(A) Diluted EPS. Excl. nonrecr. gains (losses): '97, (\$1.22); '98, 78¢; '01, 15¢; '02, (\$1.04); '03, 33¢ net; '05, (21¢). '08 EPS don't add due to change in shares, '10 to rounding. Next earnings report due late Oct. (B) Div'ds historically paid in early Mar., June, Sept., and Dec. Div'd reinvestment plan available. † Shareholder investment plan available. (C) Incl. deferred

charges. In '10: \$29.28/sh. (D) In mill. (E) Rate base: net orig. cost. Rates allowed on com. eq.: 9.45%-14.42%; earned on avg. com. eq.: '10: 14.6%. Regulatory Climate: Average.

Company's Financial Strength A
Stock's Price Stability 100
Price Growth Persistence 70
Earnings Predictability 95

To subscribe call 1-800-833-0046.

© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

Low market power prices are also worrisome. This is squeezing the margins of Entergy's nonregulated assets. The hedges that management has put in place are lower in 2012 than they are this year. The reduced profitability from the non-regulated side of Entergy's business explains why the company's earnings this year and next aren't likely to improve much from the 2010 tally.

The utility business is performing well. Most of Entergy's utility operations benefit from formula rate plans that provide for automatic rate adjustments every year. Where such plans aren't in place, the utilities have obtained rate relief by filing general rate cases. Rising utility income is offsetting the weakness from the nonregulated operations. The utilities are also expanding their generating capacity through plant acquisitions or nuclear uprates.

We like this timely equity. We believe that the aforementioned nuclear uncertainties are more than adequately reflected in the share price. The yield and 3- to 5-year total return potential are above the norms for the electric utility industry.

Paul E. Debbas, CFA September 23, 2011

GREAT PLAINS EN'GY NYSE:GXP				RECENT PRICE	19.19	P/E RATIO	14.3	(Trailing: 15.0)	RELATIVE P/E RATIO	1.07	DIV'D YLD	4.3%	VALUE LINE						
TIMELINESS	3	Lowered 12/17/10	High: 29.0	27.6	27.0	32.8	35.7	32.8	32.8	33.4	29.3	20.5	19.9	21.3	Target Price	Range			
SAFETY	3	Lowered 12/26/08	Low: 20.9	23.2	15.7	32.8	21.4	27.9	27.1	26.9	15.6	10.2	16.6	16.3	2014	2015			
TECHNICAL	3	Lowered 9/16/11	LEGENDS 0.81 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded areas indicate recessions																
BETA	.75	(1.00 = Market)																	
2014-16 PROJECTIONS																			
	Price	Gain	Ann'l Total																
	16	(+30%)	11%																
	25	(-15%)	1%																
Insider Decisions																			
	O	N	D	J	F	M	A	M	J										
to Buy	0	1	0	0	0	0	0	0	1	0									
Options	0	0	0	0	0	0	0	0	0	0									
to Sell	0	0	0	0	0	0	0	1	0	0									
Institutional Decisions																			
	4Q2010	1Q2011	2Q2011																
to Buy	98	103	107																
to Sell	106	96	110																
Hld's (000)	90600	94360	94349																
	Percent	shares	traded																
	18	12	6																
	6																		
% TOT. RETURN 8/11																			
	THIS	STOCK	INDEX																
	10.3	19.4																	
	3 yr.	-3.0	26.8																
	5 yr.	-16.2	33.1																
© VALUE LINE PUB. LLC 14-16																			
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Revenues per sh	19.25
14.31	14.60	14.47	15.17	14.50	18.02	23.61	26.91	31.04	33.13	34.85	33.30	37.89	14.00	14.51	16.62	16.90	16.15	"Cash Flow" per sh	4.75
4.06	3.90	3.91	4.21	3.63	4.63	4.70	4.40	4.69	4.75	4.54	3.86	4.24	3.09	3.27	4.12	3.55	3.65	Earnings per sh A	1.75
1.92	1.69	1.69	1.89	1.26	2.05	1.59	2.04	2.27	2.46	2.18	1.62	1.86	1.16	1.03	1.53	1.20	1.45	Div'd Decl'd per sh B	1.10
1.54	1.59	1.62	1.64	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	.83	.83	.83	.83	Cap'l Spending per sh	3.50
2.20	1.66	2.05	1.97	2.97	6.67	4.38	1.91	2.19	2.66	4.49	6.05	6.15	8.86	6.49	4.76	3.75	4.05	Book Value per sh C	23.50
14.50	14.71	14.19	14.41	13.97	14.88	12.59	13.58	13.82	15.35	16.37	16.70	18.18	21.39	20.62	21.26	21.65	21.50	Common Shs Outst'g D	155.00
61.91	61.91	61.91	61.91	61.91	61.91	61.91	69.20	69.26	74.37	74.74	80.35	86.23	119.26	135.42	135.71	136.00	155.00	Avg Ann'l P/E Ratio	11.5
12.2	15.9	17.0	15.7	20.0	12.4	15.9	11.1	12.2	12.6	14.0	18.3	16.3	20.5	16.0	12.1	10.7	12.5	Relative P/E Ratio	.75
.82	1.00	.98	.82	1.14	.81	.81	.61	.70	.67	.75	.99	.87	1.23	1.07	.78			Avg Ann'l Div'd Yield	5.5%
6.5%	5.9%	5.6%	5.5%	6.6%	6.5%	6.6%	7.3%	6.0%	5.4%	5.5%	5.6%	5.5%	7.0%	5.0%	4.5%				
CAPITAL STRUCTURE as of 6/30/11																			
Total Debt \$3975.8 mill. Due in 5 Yrs \$1721.1 mill.																			
LT Debt \$2860.8 mill. LT Interest \$192.5 mill.																			
Incl. \$287.5 mill. 10% equity units subject to mandatory conversion in 2012.																			
(LT Interest earned: 2.0x)																			
Leases, Uncapitalized Annual rentals \$17.9 mill.																			
Pension Assets-12/10 \$353.8 mill.																			
Oblig. \$911.4 mill.																			
Pfd Stock \$39.0 mill. Pfd Div'd \$1.6 mill.																			
390,000 shs. 3.80% to 4.50% (all \$100 par & cum.), callable from \$101 to \$103.70.																			
Common Stock 136,007,431 shs. as of 7/29/11																			
MARKET CAP: \$2.6 billion (Mid Cap)																			
ELECTRIC OPERATING STATISTICS																			
	2008	2009	2010																
% Change Retail Sales (KWH)	+22.5	+18.1	+5.6																
Avg. Indust. Use (MWH)	9.66	13.67	14.29																
Avg. Indust. Revs. per KWH (¢)	5.23	5.47	5.89																
Capacity at Peak (KWH)	4164	6336	6272																
Peak Load, Summer (Mw)	3495	5347	5531																
Annual Load Factor (%)	52.8	51.3	52.8																
% Change Customers (avg.)	+6	-1.2	+2																
Fixed Charge Cov. (%)	188	144	218																
ANNUAL RATES																			
	Past 10 Yrs.	Past 5 Yrs.	Est'd '08-'10 to '14-'16																
Revenues	-5.5%	-14.5%	4.0%																
"Cash Flow"	-1.5%	-5.5%	5.5%																
Earnings	-3.5%	-11.5%	6.0%																
Dividends	-4.0%	-8.0%	N/A																
Book Value	4.0%	7.0%	2.0%																
QUARTERLY REVENUES (\$ mill.)																			
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year														
2008	297.6	335.0	593.6	443.9	1670.1														
2009	419.2	480.5	587.7	477.6	1965.0														
2010	506.9	552.0	728.8	467.8	2255.5														
2011	492.9	565.1	742	500	2300														
2012	550	600	800	550	2500														
EARNINGS PER SHARE ^																			
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year														
2008	0.07	.15	.92	.06	1.16														
2009	.05	.28	.57	.10	1.03														
2010	.15	.47	.96	d.04	1.53														
2011	.01	.31	.73	.15	1.29														
2012	.15	.35	.80	.15	1.45														
QUARTERLY DIVIDENDS PAID ^																			
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year														
2007	.415	.415	.415	.415	1.66														
2008	.415	.415	.415	.415	1.66														
2009	.2075	.2075	.2075	.2075	.83														
2010	.2075	.2075	.2075	.2075	.83														
2011	.2075	.2075	.2075	.2075	.83														
BUSINESS: Great Plains Energy Incorporated is a holding company for Kansas City Power & Light and two other subsidiaries, which supply electricity to 825,000 customers in western Missouri (71% of revenues) and eastern Kansas (29%). Acq'd Aquila 7/08. Sold Strategic Energy (energy-marketing subsidiary) in '08. Electric revenue breakdown: residential, 41%; commercial, 38%; industrial, 9%; other, 12%. Generating sources: coal, 66%; nuclear, 14%; gas & oil, 2%; wind, 1%; purchased, 17%. Fuel costs: 29% of revs. 10 reported deprec. rate (utility): 3.0%. Has 3,000 employees. Chairman & CEO: Michael J. Chesser. President & COO: Terry Bassham. Inc. MO. Address: 1200 Main St., Kansas City, MO 64105. Tel.: 816-556-2200. Internet: www.greatplainsenergy.com.																			
This has been a difficult year for Great Plains Energy. An extended outage at the Wolf Creek nuclear plant cut share earnings by \$0.05 in the June quarter. Flooding in the Midwest has reduced the amount of coal that can be delivered to the company's plants. The reliance on more-costly sources of power is a problem for Kansas City Power & Light, which lacks a fuel adjustment clause in Missouri. This will lower profits by an estimated \$0.08-\$0.12 a share in the second half of 2011. And, the weak economy is lessening the demand for power. Any volume growth this year is likely to come from the effects of an unusually hot summer. Finally, the service area was hit with severe storms in August. Not all has gone wrong; in June, the utilities received rate hikes in Missouri. All told, Great Plains figures profits will wind up in a range of \$1.10-\$1.25 a share this year. We have trimmed our estimate by a nickel a share, to \$1.20.																			
Regulatory lag is a problem. The normal delay in recovering costs will hurt share net by an estimated \$0.20 this year and \$0.22 next year. To combat this problem, the utilities plan to file rate cases in late 2011 or early 2012. They also want the states to institute regulatory mechanisms, such as rate riders and cost trackers, that will enable quicker cost recovery. We were too optimistic about the company's prospects for 2012. In our June report, we forecasted earnings of \$1.60 a share next year, but upon reporting June-quarter results, management issued guidance of \$1.35-\$1.55 for 2012. So we cut our estimate by \$0.15. We now believe a dividend hike won't come until 2013, although we don't rule one out in 2012. Great Plains is targeting a payout ratio of 50%-70%. The Kansas commission approved a project for environmental retrofits to the LaCygne coal-fired station. The portion of the \$615 million project that is allocated to Kansas will be \$281 million. The rest of the costs are allocated to Missouri. The utility will have to recover the expenditures through a general rate application in each state. We believe this stock's yield isn't high enough to compensate investors for the uncertainties that the company is facing. Paul E. Debbas, CFA September 23, 2011																			

(A) Excl. nonrec. gains (losses): '00, 49¢; '01, (\$2.01); '02, 5¢; '03, 29¢; '04, (7¢); '09, 12¢; gain (losses) on discount, opns. '03, (13¢); '04, 10¢; '05, (3¢); '08, 35¢; '09, (1¢). '08-'09 EPS don't add due to change in shares or rounding. Next earnings report due early Nov. (B) Div'd historically paid in mid-Mar., June, Sept. & Dec. (C) Div'd reinvest. plan avail. (C) Incl. intang. In '10: \$8.05/sh. (D) In mill. (E) Rate base: Fair value. Rate allowed on com. eq. in MO in '11: 10%; in KS in '10: 10%; earned on avg. com. eq., '10: 7.3%. Regulatory Climate: Average.

© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product without the prior written permission of Value Line Publishing LLC.

Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	10
Earnings Predictability	70

To subscribe call 1-800-833-0046.

HAWAIIAN ELECTRIC NYSE:HE										RECENT PRICE		24.48		P/E RATIO		17.5 (Trailing: 19.0)		RELATIVE P/E RATIO		1.09		DIV YLD		5.1%		VALUE LINE													
TIMELINESS		3		Lowered 11/19/10		High: 19.0		20.6		24.5		24.0		29.5		29.8		28.9		27.5		29.8		22.7		25.0		26.4		Target Price		Range							
SAFETY		3		Lowered 5/8/09		Low: 13.8		16.8		17.3		19.1		23.0		24.6		25.7		20.3		21.0		12.1		18.6		22.8		2014		2015							
TECHNICAL		1		Raised 7/22/11		LEGENDS 0.82 x Dividends p sh divided by Interest Rate Relative Price Strength 2-for-1 split 6/04 Options: Yes Shaded areas indicate recessions																																	
BETA		.70		(1.00 = Market)																																			
2014-16 PROJECTIONS																																							
Price		30		Gain		Ann'l Total																																	
Low		19		19		(+2.5%)		10%																															
						Nil																																	
Insider Decisions																																							
S		O		N		D		J		F		M		A		M																							
to Buy		0		0		2		0		1		2		0		0																							
Options		0		0		1		0		0		0		0		1																							
to Sell		0		0		1		0		0		2		0		2																							
Institutional Decisions																																							
3Q2010		4Q2010		1Q2011																																			
to Buy		90		97		91																																	
to Sell		71		81		82																																	
Hld's(000)		35394		35955		38026																																	
1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		© VALUE LINE PUB. LLC 14-16			
21.76		22.86		22.95		23.12		23.64		26.05		24.26		22.46		23.49		23.85		27.36		30.21		30.40		35.56		24.96		28.14		31.10		35.05		Revenues per sh		39.50	
2.73		2.81		3.01		3.23		3.35		3.08		3.33		3.52		3.54		3.09		3.22		3.19		3.01		2.72		2.59		2.88		3.15		3.30		"Cash Flow" per sh		3.75	
1.33		1.30		1.38		1.48		1.45		1.27		1.60		1.62		1.58		1.36		1.46		1.33		1.11		1.07		1.21		1.40		1.50		Earnings per sh A		2.00			
1.19		1.21		1.22		1.24		1.24		1.24		1.24		1.24		1.24		1.24		1.24		1.24		1.24		1.24		1.24		1.24		1.24		Div'd Decl'd per sh B = +		1.30			
3.27		3.33		2.31		2.60		2.09		2.04		1.77		1.74		2.15		2.66		2.76		2.58		2.62		3.12		3.29		1.92		3.10		3.50		Cap'l Spending per sh		6.00	
12.25		12.52		12.77		12.87		13.16		12.72		13.06		14.21		14.36		15.01		15.02		13.44		15.29		15.35		15.58		15.67		16.00		16.40		Book Value per sh C		18.75	
59.55		61.71		63.79		64.23		64.43		65.98		71.20		73.62		75.84		80.69		80.98		81.46		83.43		90.52		92.52		94.69		96.50		98.50		Common Shs Outst'g D		110.00	
13.5		13.7		13.2		13.4		12.1		12.9		11.8		13.5		13.8		19.2		18.3		20.3		21.6		23.2		19.8		18.6		18.6		Avg Ann'l P/E Ratio		12.0			
.90		.86		.76		.70		.69		.84		.60		.74		.79		1.01		.97		1.10		1.15		1.40		1.32		1.18		1.18		Relative P/E Ratio		.80			
6.6%		6.8%		6.7%		6.2%		7.1%		7.5%		6.6%		5.7%		5.7%		4.8%		4.6%		4.6%		5.2%		5.0%		6.9%		5.5%		5.5%		Avg Ann'l Div'd Yield		5.5%			
CAPITAL STRUCTURE as of 3/31/11																																							
Total Debt \$1390.0 mill. Due in 5 Yrs \$350.9 mill.																																							
LT Debt \$1340.0 mill. LT Interest \$73.7 mill.																																							
Incl. \$50 mill. 6.5% oblig. pfd. sec. of trust subsid.																																							
(LT Interest earned: 3.3%)																																							
Pension Assets-12/10 \$832.4 mill.																																							
Oblig. \$1.17 bill.																																							
Pfd Stock \$34.3 mill. Pfd Div'd \$2.0 mill.																																							
1,114,657 shs. 4 1/4% to 5 1/4%, \$20 par. call. \$20 to																																							
\$21; 120,000 shs. 7 5/8%, \$100 par. call. \$100.																																							
Sinking fund ends 2018.																																							
Common Stock 95,323,855 shs.																																							
as of 4/29/11																																							
MARKET CAP: \$2.3 billion (Mid Cap)																																							
ELECTRIC OPERATING STATISTICS																																							
		2008		2009		2010																																	
% Change Retail Sales (KWH)		+1.8		+2.5		+1.1																																	
Avg. Indust. Use (KWH)		6623		6403		6352																																	
Avg. Indust. Prod. per KWH (\$)		25.36		17.68		21.41																																	
Capacity at Yearend (MW)		2227		2347		2325																																	
Peak Load, Winter (MW)		1590		1618		1562																																	
Annual Load Factor (%)		75.3		72.2		73.9																																	
% Change Customers (yr-end)		+1		+5		+5																																	
Fixed Charge Cov. (%)		255		234		300																																	
ANNUAL RATES		Past		Past		Est'd '08-'10																																	
of change (per sh)		10 Yrs.		5 Yrs.		to '14-'16																																	
Revenues		2.0%		3.5%		5.0%																																	
"Cash Flow"		-1.5%		-3.5%		5.5%																																	
Earnings		-2.5%		-6.0%		11.0%																																	
Dividends		---		---		1.0%																																	
Book Value		2.0%		1.0%		3.0%																																	
Cal-end		QUARTERLY REVENUES (\$ mill.)																																					
Mar.31		Jun.30		Sep.30		Dec.31																																	
2008		729.6		774.1		915.4		799.8																															

(A) Dil. EPS. Excl. gains (losses) from disc. ops.: '00, (\$6¢); '01, (\$6¢); '03, (\$5¢); '04, 2¢; '05, (1¢); nonrec. gain (loss): '05, 11¢; '07, (\$9¢). Next exs. due early Nov. (B) Div's histor.	paid in early Mar., June, Sept., & Dec. ■ Div'd reinv. plan avail. † Sharehold. invest. plan avail. (C) Incl. intang. in '10: \$5.92/\$3. (D) in mill., avg. for split. (E) Rate base: Orig. cost. Rate	all'd on com. eq. in '11: HECO, 10%; in '07: HELCO, 10.7%; in '10: MECO, 10.7%, earned on avg. com. eq.; '10: 7.7%. Regul. Climate: Avg. (F) Excl. div'd's paid through reinv. plan.	Company's Financial Strength Stock's Price Stability Price Growth Persistence Earnings Predictability	B+ 90 25 70
© 2011, Value Line Publishing LLC. All rights reserved. The PUBLISHER is NOT RESPONSIBLE for ANY ERRORS or OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for, generating or marketing any printed or electronic publication, service or product.				
To subscribe call 1-800-833-0046.				

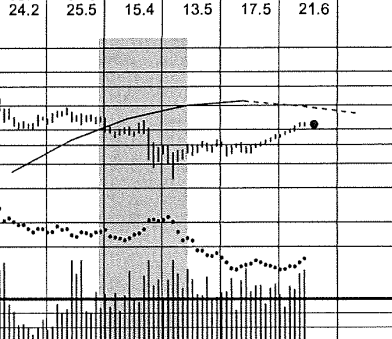
(A) Excl. nonrecurring loss: '96, 42¢. Next earnings report due early Nov. (B) Dividends historically paid in mid-March, June, September, December. ■ Dvd. reinvestment plan available. (C) In millions. (D) Rate allowed on common equity in '10: 10.4%; earned on average common equity, '10: 10.3%. Regulatory Climate: Above Average.	Company's Financial Strength	A
	Stock's Price Stability	100
	Price Growth Persistence	45
	Earnings Predictability	85

To subscribe call 1-800-833-0046.

To subscribe call 1-800-833-0046.

[illegible]

PG&E CORP. NYSE:PGC										RECENT PRICE	42.50	P/E RATIO	16.7 (Trailing: 16.0 Median: 14.0)	RELATIVE P/E RATIO	1.04	DIV'D YLD	4.3%	VALUE LINE				
TIMELINESS	3	Raised 7/29/11	High:	31.8	20.9	23.8	28.0	34.5	40.1	48.2	52.2	45.7	45.8	48.6	48.0				Target Price Range	2014	2015	2016
SAFETY	2	Raised 5/12/06	Low:	17.0	6.5	8.0	11.7	25.9	31.8	36.3	42.6	26.7	34.5	34.9	41.2							
TECHNICAL	1	Raised 8/5/11	LEGENDS																			
BETA	.55	(1.00 = Market)	1.37 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded areas indicate recessions																			
2014-16 PROJECTIONS																						
Price		Gain		Ann'l Total																		
High		55		(+30%)																		
Low		40		(-5%)																		
Insider Decisions																						
S		O		N		D		J		F		M		A		M						
to Buy		0		0		0		0		0		0		0		0						
Options		1		0		0		0		0		2		0		1						
to Sell		1		0		0		0		0		10		0		1						
Institutional Decisions																						
3Q2010		4Q2010		1Q2011		Percent																
to Buy		207		215		190																
to Sell		180		190		221																
Hld's(000)		263247		265396		272189																
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	© VALUE LINE PUB. LLC 14-16				
23.24	23.82	36.87	52.12	57.74	67.75	63.18	32.74	25.05	26.47	31.78	36.02	37.42	40.51	36.15	35.02	35.80	36.90	Revenues per sh	44.75			
6.31	5.24	5.98	6.08	7.15	.80	5.66	1.14	4.80	5.71	7.12	7.76	8.02	8.44	8.37	8.22	8.05	9.05	"Cash Flow" per sh	10.50			
2.95	2.16	1.57	1.88	2.24	d9.21	3.02	d2.36	2.05	2.12	2.35	2.76	2.78	3.22	3.03	2.82	2.55	3.55	Earnings per sh ^A	4.25			
1.96	1.77	1.20	1.20	1.20	1.20	--	--	--	--	1.23	1.32	1.44	1.56	1.68	1.82	1.82	1.82	Div'd Decl'd per sh ^B = ^C	2.20			
2.25	3.05	4.36	4.23	4.39	4.54	7.33	7.94	4.08	3.72	4.90	6.90	7.83	10.05	10.68	9.62	9.90	10.95	Cap'l Spending per sh	12.25			
20.77	20.73	21.30	21.08	19.10	8.19	11.89	9.47	10.12	20.62	19.60	22.44	24.18	25.97	27.88	28.55	29.60	31.85	Book Value per sh ^C	37.75			
414.03	403.50	417.67	382.60	360.59	387.19	363.38	381.67	416.52	418.62	368.27	348.14	353.72	361.06	370.60	395.23	405.00	420.00	Common Shs Outst'g ^D	425.00			
9.4	10.9	15.5	16.8	13.1	--	4.8	--	9.5	13.8	15.4	14.8	16.8	12.1	13.0	15.8	15.8	15.8	Avg Ann'l P/E Ratio	11.5			
.63	.68	.89	.87	.75	--	.25	--	.54	.73	.82	.80	.89	.73	.87	1.01	1.01	1.01	Relative P/E Ratio	.75			
7.1%	7.5%	4.9%	3.8%	4.1%	4.8%	--	--	--	--	3.4%	3.2%	3.1%	4.0%	4.3%	4.1%	4.1%	4.1%	Avg Ann'l Div'd Yield	4.5%			
CAPITAL STRUCTURE as of 3/31/11																						
Total Debt \$13234 mill. Due in 5 yrs \$5338 mill.																						
LT Debt \$10615 mill. LT Interest \$451.0 mill.																						
Incl. \$321.0 mill. Energy Recovery Bonds.																						
(LT interest earned: 3.3%)																						
Pension Assets-12/10 \$10.3 bill. Oblig. \$12.1 bill.																						
Pfd Stock \$252.0 mill. Pfd Div'd \$14.0 mill.																						
4,534,958 shs. 4.36% to 5%, cumulative and \$25 par, redeemable from \$25.75 to \$27.25; \$5,784,825 shs. 5.00% to 6.00%, cumulative nonredeemable and \$25 par.																						
Common Stock 397,949,173 shs.																						
as of 4/25/11																						
MARKET CAP: \$17 billion (Large Cap)																						
ELECTRIC OPERATING STATISTICS																						
2008 2009 2010																						
% Change Retail Sales (KWH)																						
+2.3 +2.8 +2.0																						
Avg. Indust. Use (MWH)																						
127.65 N/A N/A																						
Avg. Indust. Revs. per KWH (¢)																						
8.87 N/A N/A																						
Capacity at Peak (MW)																						
N M F N M F N M F																						
Peak Load, Summer (MW)																						
N M F N M F N M F																						
Annual Load Factor (%)																						
N M F N M F N M F																						
% Change Customers (yr-end)																						
+3 +2 +5																						
Fixed Charge Cov. (%)										288		296		303								
ANNUAL RATES																						
Past 10 Yrs.																						
Revenues																						
-4.5%																						
"Cash Flow"																						
6.0%																						
Earnings																						
7.0%																						
Dividends																						
3.5%																						
Book Value																						
5.5%																						
QUARTERLY REVENUES (\$ mill.)																						
Cal-end																						
Mar.31 Jun.30 Sep.30 Dec.31																						
Full Year																						
2008																						
3733 3578 3674 3643																						
2009																						
3431 3194 3235 3539																						
2010																						
3475 3232 3513 3621																						
2011																						
3597 3603 3600 3700																						
2012																						
3950 3750 3850 3950																						
EARNINGS PER SHARE ^A																						
Cal-end																						
Mar.31 Jun.30 Sep.30 Dec.31																						
Full Year																						
2008																						
.62 .80 .83 .97																						
2009																						
.65 .87 .80 .71																						
2010																						
.67 .86 .66 .63																						
2011																						
.50 .70 .75 .60																						
2012																						
.75 .95 .95 .90																						
QUARTERLY DIVIDENDS PAID ^B = ^C																						
Cal-end																						
Mar.31 Jun.30 Sep.30 Dec.31																						
Full Year																						
2007																						
.33 .36 .36 .36																						
2008																						
.36 .39 .39 .39																						
2009																						
.39 .42 .42 .42																						
2010																						
.42 .455 .455 .455																						
2011																						
.455 .455 .455 .455																						
2012																						
.455 .455 .455 .455																						
2013																						
.455 .455 .455 .455																						
2014																						
.455 .455 .455 .455																						
2015																						
.455 .455 .455 .455																						
2016																						
.455 .455 .455 .455																						
2017																						
.455 .455 .455 .455																						
2018																						
.455 .455 .455 .455																						
2019																						
.455 .455 .455 .455																						
2020																						
.455 .455 .455 .455																						
2021																						
.455 .455 .455 .455																						
2022																						
.455 .455 .455 .455																						
2023																						
.455 .455 .455 .455																						
2024																						
.455 .455 .455 .455																						
2025																						
.455 .455 .455 .455																						
2026																						
.455 .455 .455 .455																						
2027																						
.455 .455 .455 .455																						
2028																						
.455 .455 .455 .455																						
2029																						
.455 .455 .455 .455																						
2030																						
.455 .455 .455 .455																						
2031																						
.455 .455 .455 .455																						
2032																						
.455 .455 .455 .455																						
2033																						
.455 .455 .455 .455																						
2034																						
.455 .455 .455 .455																						
2035																						
.455 .455 .455 .455																						
2036																						
.455 .455 .455 .455																						
2037																						
.455 .455 .455 .455																						
2038																						
.455 .455 .455 .455																						
2039																						
.455 .455 .455 .455																						
2040																						
.455 .455 .455 .455																						
2041																						
.455 .455 .455 .455																						
2042																						
.455 .455 .455 .455																						
2043																						
.455 .455 .455 .455																						
2044																						
.455 .455 .455 .455																						
2045																						
.455 .455 .455 .455																						
2046																						
.455 .455 .455 .455																						
2047																						
.455 .455 .455 .455																						
2048																						
.455 .455 .455 .455																						
2049																						
.455 .455 .455 .455																						
2050																						
.455 .455 .455 .455																						
2051																						
.455 .455 .455 .455																						
2052																						
.455 .455 .455 .455																						
2053																						
.455 .455 .455 .455																						
2054																						
.455 .455 .455 .455																						
2055																						
.455 .455 .455 .455																						
2056																						
.455 .455 .455 .455																						
2057																						
.455 .455 .455 .455																						
2058																						
.455 .455 .455 .455																						
2059																						
.455 .455 .455 .455																						
2060																						
.455 .455 .455 .455																						
2061																						
.455 .455 .455 .455																						
2062																						
.455 .455 .455 .455																						
2063																						
.455 .455 .455 .455																						
2064																						
.455 .455 .455 .455																						
2065																						
.455 .455 .455 .455																						
2066																						
.455 .455 .455 .455																						
2067																						
.455 .455 .455 .455																						
2068																						
.455 .455 .455 .455																						
2069																						
.455 .455 .455 .455																						
2070																						
.455 .455 .455 .455																						
2071																						
.455 .455 .455 .455																						
2072																						
.455 .455 .455 .455																						
2073																						
.455 .455 .455 .455																						
2074																						
.455 .455 .455 .455																						
2075																						
.455 .455 .455 .455																						
2076																						
.455 .455 .455 .455																						
2077																						
.455 .455 .455 .455																						
2078																						
.455 .455 .455 .455																						
2079																						
.455 .455 .455 .455																						
2080																						
.455 .455 .455 .455																						
2081																						
.455 .455 .455 .455																						
2082																						
.455 .455 .455 .455																						
2083																						
.455 .455 .455 .455																						
2084																						
.455 .455 .455 .455																						
2085																						
.455 .455 .455 .455																						
2086																						
.455 .455 .455 .455																						
2087																						
.455 .455 .455 .455																						

PORTLAND GENERAL NYSE:POR				RECENT PRICE	25.40	P/E RATIO	12.4	Trailing: 11.4 Median: NMF	RELATIVE P/E RATIO	0.77	DIV YLD	4.2%	VALUE LINE				
TIMELINESS	2	Lowered 7/29/11		High:	35.0	31.3	27.7	21.4	22.7	26.0			Target Price Range				
SAFETY	3	Lowered 5/7/10		Low:	24.2	25.5	15.4	13.5	17.5	21.6			2014 2015 2016				
TECHNICAL	2	Raised 8/5/11															
BETA	.75	(1.00 = Market)															
2014-16 PROJECTIONS				LEGENDS — 1.04 x Dividends p sh Relative Price Strength Options: Yes Shaded areas indicate recessions													
Price	30	Gain	Ann'l Total														
High	30	(+20%)	9%														
Low	20	(-20%)	N/A														
Insider Decisions																	
S O N D J F M A M																	
to Buy	0	0	0	0	0	0	0	0	0	0	0	0					
Options	0	0	0	0	0	0	0	0	0	0	0	0					
to Sell	0	0	0	0	0	0	0	0	0	0	0	0					
Institutional Decisions																	
3Q2010	4Q2010	1Q2011	Percent														
to Buy	96	110	107	shares													
to Sell	73	77	89	traded													
Hld's(000)	65853	66971	71103	5													
On April 3, 2006, Portland General Electric's existing stock (which was owned by Enron) was canceled, and 62.5 million shares were issued to Enron's creditors or the Disputed Claims Reserve (DCR). The stock began trading on a when-issued basis that day, and regular trading began on April 10, 2006. Shares issued to the DCR were released over time to Enron's creditors until all of the remaining shares were released in June, 2007.				2001	2002	2003	2004	2005 ^a	2006	2007	2008	2009	2010	2011	2012	© VALUE LINE PUB. LLC 14-16	
CAPITAL STRUCTURE as of 3/31/11				--	--	--	--	23.14	24.32	27.87	27.89	23.99	23.67	25.15	26.40	Revenues per sh	30.00
Total Debt \$1798.0 mill. Due in 5 Yrs \$333.0 mill.				--	--	--	--	4.75	4.64	5.21	4.71	4.07	4.82	5.00	5.20	"Cash Flow" per sh	6.00
LT Debt \$1798.0 mill. LT Interest \$104.0 mill.				--	--	--	--	1.02	1.14	2.33	1.39	1.31	1.66	2.05	2.05	Earnings per sh ^A	2.25
(LT interest earned: 2.8x)				--	--	--	--	--	.68	.93	.97	1.01	1.04	1.06	1.08	Div'd Decl'd per sh ^B + [†]	1.20
Leases, Uncapitalized Annual rentals \$10.0 mill.				--	--	--	--	4.08	5.94	7.28	6.12	9.25	5.97	4.20	3.30	Cap'l Spending per sh	3.75
Pension Assets-12/10 \$473.0 mill.				--	--	--	--	19.15	19.58	21.05	21.64	20.50	21.14	22.05	22.95	Book Value per sh ^C	25.75
Oblig. \$550.0 mill.				--	--	--	--	62.50	62.50	62.53	62.58	75.21	75.32	75.50	75.75	Common Shs Outst'g ^D	76.50
Pfd Stock None				--	--	--	--	--	23.4	11.9	16.3	14.4	12.0	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio	11.0
Common Stock 75,326,041 shs. as of 4/29/11				--	--	--	--	--	1.26	.63	.98	.96	.76			Relative P/E Ratio	.75
MARKET CAP: \$1.9 billion (Mid Cap)				--	--	--	--	--	2.5%	3.3%	4.3%	5.4%	5.2%			Avg Ann'l Div'd Yield	4.8%
ELECTRIC OPERATING STATISTICS				--	--	--	1454.0	1446.0	1520.0	1743.0	1745.0	1804.0	1783.0	1900	2000	Revenues (\$mill)	2300
% Change Retail Sales (KWH)				--	--	--	92.0	64.0	71.0	145.0	87.0	95.0	125.0	155	155	Net Profit (\$mill)	175
Avg. Indust. Use (MWH)				--	--	--	37.0%	40.2%	33.6%	33.8%	28.7%	28.8%	30.5%	25.0%	25.0%	Income Tax Rate	25.0%
Avg. Indust. Revs. per KWH (¢)				--	--	--	9.8%	18.8%	33.8%	17.9%	17.2%	31.6%	17.6%	7.0%	3.0%	AFUDC % to Net Profit	3.0%
Capacity at Peak (MW)				--	--	--	41.1%	42.3%	43.4%	49.9%	46.2%	50.3%	53.0%	50.5%	51.0%	Long-Term Debt Ratio	52.0%
Peak Load, Winter (MW)				--	--	--	58.9%	57.7%	56.6%	50.1%	53.8%	49.7%	47.0%	49.5%	49.0%	Common Equity Ratio	48.0%
Annual Load Factor (%)				--	--	--	2171.0	2076.0	2161.0	2629.0	2518.0	3100.0	3390.0	3365	3535	Total Capital (\$mill)	4100
% Change Customers (yr-ct)				--	--	--	2275.0	2436.0	2718.0	3066.0	3301.0	3858.0	4133.0	4225	4235	Net Plant (\$mill)	4250
Fixed Charge Cov. (%)				--	--	--	5.6%	4.6%	4.7%	6.9%	5.0%	4.5%	5.4%	6.0%	5.5%	Return on Total Cap'l	5.5%
ANNUAL RATES				--	--	--	7.2%	5.3%	5.8%	11.0%	6.4%	6.2%	7.9%	9.0%	9.0%	Return on Shr. Equity	9.0%
Past 10 Yrs. Past 5 Yrs. Est'd '08-'10 to '14-'16				--	--	--	7.2%	5.3%	5.8%	11.0%	6.4%	6.2%	7.9%	9.0%	9.0%	Return on Com Equity ^E	9.0%
Revenues				--	--	--	--	--	39%	40%	69%	76%	62%	52%	53%	Retained to Com Eq	4.0%
"Cash Flow"				--	--	--	--	--	--	--	--	--	--	--	--	All Div'ds to Net Prof	52%
Earnings				--	--	--	--	--	--	--	--	--	--	--	--		
Dividends				--	--	--	--	--	--	--	--	--	--	--	--		
Book Value				--	--	--	--	--	--	--	--	--	--	--	--		
BUSINESS: Portland General Electric Company (PGE) provides electricity to 821,000 customers in 52 cities in a 4,000-square-mile area of Oregon, including Portland and Salem. The company is in the process of decommissioning the Trojan nuclear plant, which it closed in 1993. Electric revenue breakdown: residential, 46%; commercial, 34%; industrial, 9%; other, 12%. Generating sources: coal, 23%; gas, 21%; hydro, 9%; wind, 4%; purchased, 43%. Fuel costs: 46% of revenues. '10 reported depreciation rate: 3.9%. Has 2,700 employees. Chairman: Corbin A. McNeill, Jr. Chief Executive Officer and President: Jim Piro. Inc.: Oregon. Address: 121 SW Salmon Street, Portland, Oregon 97204. Telephone: 503-464-8000. Internet: www.portlandgeneral.com.				We have raised our 2011 earnings estimate for Portland General Electric by \$0.20 a share. First-quarter earnings were well above our expectation due to favorable hydro conditions that lowered the utility's fuel costs. (PGE's fuel adjustment clause allows the company to retain up to \$15 million worth of lower power costs before passing on to customers 90% of the benefit.) A \$65 million (3.9%) rate hike that took effect at the start of the year is helping, too. Our revised estimate is at the upper end of management's targeted range of \$1.90-\$2.05. If PGE's guidance proves correct, however, this means that earnings will decline over the remaining nine months of 2011. Investors should keep this in mind, with the stock ranked 2 (Above Average) for Timeliness. We have raised our 2012 earnings estimate by \$0.15 a share. Our revised forecast of \$2.05 a share is just level with our 2011 estimate, however, because we assume a return to normal hydro conditions next year. PGE will need more generating resources in the next few years. Whether the utility builds it or buys it will depend													
on the outcome of three separate requests for proposals that PGE is issuing. Decisions are expected in 2012. The board of directors raised the dividend in May. The increase was half a cent a share (1.9%) quarterly. Even after the hike in the payout, the stock's yield is only average for a utility. Oregon has repealed an unusual tax law that was unique to utilities in the state. The law had the effect of increasing earnings in good years and reducing them in bad years. That's one reason for PGE's earnings volatility since reemerging as a public company in 2006. This repeal was clearly a step in the right direction, but we are not yet ready to raise the state's regulatory climate to Average. This stock has outperformed most electric utility issues so far this year. The company's improved prospects are a factor, but we believe some takeover speculation is also reflected in the share price. At the current quotation, the stock price is in the middle of our 2014-2016 Target Price Range. Thus, its 3- to 5-year total return potential is low. <i>Paul E. Debbas, CFA</i>				<i>August 5, 2011</i>													
© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.				To subscribe call 1-800-833-0046.													

August 5, 2011

SCANA CORP. NYSE:SCG										RECENT PRICE	38.57		P/E RATIO	12.6 (Trailing: 13.0) Median: 13.0		RELATIVE P/E RATIO	0.93	DIV'D YLD	5.1%	VALUE LINE															
TIMELINESS	3	Raised 9/24/10	High:	31.1	30.0	32.1	35.7	39.7	43.7	42.4	45.5	44.1	38.6	42.0	42.8				Target Price Range																
SAFETY	2	Lowered 9/10/99	Low:	22.0	24.3	23.5	28.1	32.8	36.6	36.9	32.9	27.8	26.0	34.2	34.6				2014 2015 2016																
TECHNICAL	2	Raised 7/22/11	LEGENDS 0.99 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded areas indicate recessions																																
BETA	.65	(1.00 = Market)																																	
2014-16 PROJECTIONS																																			
Price	55	Gain	Ann'l Total																																
Low	40	(+45%)	Return																																
		(+5%)	6%																																
Insider Decisions																																			
S	O	N	D	J	F	M	A	M																											
to Buy	0	0	0	0	0	1	0	0	0																										
Options	0	0	0	0	0	0	0	0	0																										
to Sell	0	0	0	0	0	1	0	0	0																										
Institutional Decisions																																			
3Q2010	4Q2010	1Q2011																																	
to Buy	144	142	151																																
to Sell	136	129	145																																
Hld's(000)	60391	57935	60325																																
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	© VALUE LINE PUB. LLC	14-16																
13.06	14.25	14.19	15.76	15.93	32.78	32.95	26.65	30.85	34.38	41.54	39.00	39.50	45.08	34.45	36.23	34.75	33.55	Revenues per sh	36.25																
3.68	3.75	3.53	3.62	3.15	4.43	4.55	4.56	4.95	5.26	7.41	5.67	5.72	5.85	5.65	5.93	6.00	5.95	"Cash Flow" per sh	6.75																
1.86	2.05	1.90	2.12	1.44	2.12	2.15	2.38	2.50	2.67	2.78	2.59	2.74	2.95	2.85	2.98	3.05	3.15	Earnings per sh ^A	3.50																
1.44	1.47	1.51	1.54	1.32	1.15	1.20	1.30	1.38	1.46	1.56	1.68	1.76	1.84	1.88	1.90	1.94	1.98	Div'd Decl'd per sh ^B +	2.10																
3.09	2.34	2.45	2.87	2.37	3.28	4.99	6.41	6.94	4.84	3.37	4.50	6.20	7.66	7.43	6.90	8.50	10.80	Cap'l Spending per sh	11.75																
15.00	15.86	16.66	16.86	20.27	19.40	20.95	19.64	20.82	21.69	23.28	24.32	25.30	25.81	27.71	29.15	30.45	32.50	Book Value per sh ^C	37.25																
103.62	106.18	107.32	103.57	103.57	104.73	104.73	110.83	110.74	113.00	115.00	117.00	117.00	118.00	123.00	127.00	129.50	140.00	Common Shs Outst'g ^D	150.00																
12.3	13.1	13.4	14.5	17.5	12.5	12.6	12.2	13.0	13.6	14.4	15.4	15.0	12.7	11.6	12.9	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	13.5																
.82	.82	.77	.75	1.00	.81	.65	.67	.74	.72	.77	.83	.80	.76	.77	.82			Relative P/E Ratio	.90																
6.3%	5.5%	5.9%	5.0%	5.2%	4.3%	4.4%	4.5%	4.2%	4.0%	3.9%	4.2%	4.3%	4.9%	5.7%	4.9%			Avg Ann'l Div'd Yield	4.5%																
CAPITAL STRUCTURE as of 3/31/11						3451.0	2954.0	3416.0	3885.0	4777.0	4563.0	4621.0	5319.0	4237.0	4601.0	4500	4700	Revenues (\$mill)	5450																
Total Debt \$5088.0 mill. Due in 5 Yrs \$1361.0 mill.						231.0	259.0	285.0	305.0	323.0	306.0	327.0	353.0	357.0	376.0	390	425	Net Profit (\$mill)	530																
LT Debt \$3989.0 mill. LT Interest \$217.0 mill.						34.9%	32.2%	31.5%	32.5%	--	26.5%	29.2%	35.4%	32.0%	29.8%	30.0%	30.0%	Income Tax Rate	30.0%																
(LT interest earned: 2.9x)						11.3%	13.5%	10.5%	8.5%	.9%	2.6%	4.6%	8.5%	14.3%	8.0%	14.0%	14.0%	AFUDC % to Net Profit	14.0%																
Leases, Uncapitalized Annual rentals \$12.0 mill.						53.9%	55.7%	57.1%	55.4%	51.4%	50.9%	48.4%	58.0%	56.8%	52.9%	52.5%	51.5%	Long-Term Debt Ratio	50.5%																
Pension Assets-12/10 \$817.2 mill.						43.8%	42.1%	40.8%	42.6%	46.6%	47.2%	49.7%	40.5%	43.2%	47.1%	47.5%	48.5%	Common Equity Ratio	49.5%																
Oblig. \$811.8 mill.						5006.0	5176.0	5646.0	5752.0	5739.0	6027.0	5952.0	7519.0	7891.0	7854.0	8290	9350	Total Capital (\$mill)	11325																
Pfd Stock None						4803.0	5474.0	6417.0	6762.0	6734.0	7007.0	7538.0	8305.0	9009.0	9662.0	10375	11485	Net Plant (\$mill)	15125																
Common Stock 128,428,337 shs.						6.9%	7.0%	6.9%	7.1%	7.4%	6.8%	7.3%	6.2%	6.1%	6.5%	6.0%	6.0%	Return on Total Cap'l	6.0%																
as of 4/27/11						10.0%	11.3%	11.8%	11.9%	11.6%	10.3%	10.6%	11.2%	10.5%	10.2%	10.0%	9.5%	Return on Shr. Equity	9.5%																
MARKET CAP: \$5.0 billion (Large Cap)						10.2%	11.6%	12.1%	12.2%	11.8%	10.5%	10.8%	11.4%	10.2%	10.2%	10.0%	9.5%	Return on Com Equity ^E	9.5%																
ELECTRIC OPERATING STATISTICS						4.6%	5.5%	5.5%	5.6%	5.3%	3.8%	4.0%	4.4%	3.6%	3.8%	3.5%	3.5%	Retained to Com Eq	4.0%																
2008 2009 2010						56%	54%	55%	55%	56%	65%	64%	62%	66%	63%	63%	63%	All Div's to Net Prof	59%																
% Change Retail Sales (KWH)						BUSINESS: SCANA Corporation is a holding company for South Carolina Electric & Gas Company, which supplies electricity to 664,000 customers in South Carolina. Supplies gas and transmission service to 1.3 million customers in North and South Carolina and Georgia. Owns gas pipelines. Acquired PSNC Energy 2/00. Electric revenue breakdown: residential, 43%; commercial, 32%; industrial, 17%; other, 8%. Generating sources: coal, 52%; oil & gas, 23%; nuclear, 21%; hydro, 3%; purchased, 1%. Fuel costs: 57% of revenues. '10 reported deprec. rate: 2.9%. Has 5,900 employees. Chairman & CEO: William B. Timmerman. President & COO: Kevin B. Marsh. Inc.: SC. Address: 100 SCANA Parkway, Cayce, SC 29033. Tel.: 803-217-9000. Internet: www.scana.com.																													
-5 -4.0 -4.0						The two nuclear units that SCANA's electric utility subsidiary is adding to its Summer nuclear plant are on budget and on schedule. South Carolina Electric & Gas' 55% share of the project would provide 1,229 megawatts of capacity, coming on line in 2016 and 2019 at a projected cost of \$5.6 billion. Importantly, a state law, the Base Load Review Act (BLRA), provides for annual recovery of, and a return on, construction work in progress, with an allowed return on equity of 11%. This increases the utility's earning power and avoids rate shock for its customers. The company still needs a construction and operating license from the Nuclear Regulatory Commission, which it expects to get in late 2011 or early 2012. SCE&G has filed for a rate hike under the BLRA. The utility is requesting an electric rate boost of \$58.5 million (2.7%). If the state commission approves SCE&G's filing, rates will rise in November. SCE&G is seeking a rate increase under the state's Natural Gas Rate Stabilization Act. This law provides for annual changes in rates if a gas utility's earned ROE is significantly higher or lower than its allowed ROE. SCE&G is underearning its allowed ROE of 10.25% for gas, so it filed for a rate increase of \$8.6 million (2.1%). New tariffs should take effect at the start of November. Earnings are likely to rise in 2011 and 2012. The annual rate relief provided by the BLRA mechanism helps. Our 2011 estimate of \$3.05 a share is within SCANA's guidance of \$2.95-\$3.10. We forecast profit growth next year that is in line with the company's annual goal of 3%-5%. Note that earnings are more predictable than those of most utilities because SCE&G has weather normalization mechanisms for both electricity and gas. PSNC Energy, a gas utility in North Carolina, has a mechanism that decouples revenues and volume. This stock is worthy of consideration by income-oriented investors. Both its yield and its 3- to 5-year total return potential are a cut above the utility average. Investor concern about SCE&G's nuclear construction risk has hurt the stock since the natural disaster occurred in Japan, but we think these issues are manageable. Paul E. Debbas, CFA August 26, 2011																													
Avg. Indust. Use (MWH)																																			
Avg. Indust. Revs. per KWH (¢)																																			
Capacity at Yearend (Mw)																																			
Peak Load, Summer (Mw)																																			
Annual Load Factor (%)																																			
% Change Customers (y-end)																																			
+1.6 +8 +9.9																																			
Fixed Charge Cov. (%)						27.6	25.5	27.8																											
ANNUAL RATES						Past	Past	Est'd '08-'10																											
of change (per sh)						10 Yrs.	5 Yrs.	to '14-'16																											
Revenues						6.0%	1.5%	-1.0%																											
"Cash Flow"						4.5%	--	2.5%																											
Earnings						4.5%	2.0%	3.0%																											
Dividends						3.5%	5.0%	2.0%																											
Book Value						4.0%	4.5%	5.0%																											
Cal-endar						Mar.31	Jun.30	Sep.30	Dec.31	Full Year																									
2008						1533	1218	1266	1302	5319.0																									
2009						1343	878	921	1095	4237.0																									
2010						1428	939	1088	1146	4601.0																									
2011						1281	1000	1100	1119	4500																									
2012						1350	1050	1150	1150	4700																									
EARNINGS PER SHARE ^A						Mar.31	Jun.30	Sep.30	Dec.31	Full Year																									
2008						.94	.48	.80	.73	2.95																									
2009						.94	.45	.84	.62	2.85																									
2010						1.02	.43	.79	.74	2.98																									
2011						1.00	.43	.76	.86	3.05																									
2012						1.00	.45	.80	.90	3.15																									
QUARTERLY DIVIDENDS PAID ^B +						Mar.31	Jun.30	Sep.30	Dec.31	Full Year																									
2007						.42	.44	.44	.44	1.74																									
2008						.44	.46	.46	.46	1.82																									
2009						.46	.47	.47	.47	1.87																									
2010						.47	.475	.475	.475	1.90																									
2011						.475	.485	.485																											

SEMPRA ENERGY

NYSE:SEE

RECENT PRICE

51.82

P/E RATIO

12.2

(Trailing: 12.1; Median: 11.0)

RELATIVE P/E RATIO

0.76

DIV YLD

3.9%

VALUE LINE

TIMELINESS

3

Raised 11/19/10

SAFETY

2

Lowered 2/4/00

TECHNICAL

2

Raised 7/29/11

BETA

.80

(1.00 = Market)

High

24.9

Low

16.2

28.6

17.3

26.3

15.5

30.9

22.3

37.9

29.5

47.9

35.5

57.3

42.9

66.4

50.9

63.0

34.3

57.2

36.4

57.2

43.9

56.0

50.3

LEGENDS

1.23 x Dividends p.sh. divided by Interest Rate

..... Relative Price Strength

Options: Yes

Shaded areas indicate recessions

2014-16 PROJECTIONS

Price

80

Gain

(+55%)

Ann'l Total

14%

Return

8%

High

80

Low

60

Insider Decisions

S

O

N

D

J

F

M

A

M

to Buy

0

0

0

0

0

0

0

0

Options

1

0

2

5

0

3

2

0

to Sell

1

0

2

5

0

3

2

0

Institutional Decisions

3Q2010

4Q2010

1Q2011

to Buy

163

151

157

to Sell

202

207

200

Hld's %

157435

157349

158153

Percent shares traded

12

8

4

% TOT. RETURN 6/11

THIS

VL ARITH.

INDEX

1 yr.

16.8

35.8

3 yr.

3.1

51.3

5 yr.

33.7

50.6

1995

1996

1997

1998

1999

2000

2001

2002

2003

2004

2005

2006

2007

2008

2009

2010

2011

2012

© VALUE LINE PUB. LLC

14-16

16.05

17.09

19.51

23.31

22.89

35.38

39.27

29.38

34.81

40.18

45.64

44.89

43.79

44.21

32.88

37.44

40.15

41.50

Revenues per sh

50.00

4.33

4.83

5.27

5.16

5.36

4.91

5.39

5.71

5.56

6.58

5.96

6.74

6.93

7.40

7.94

7.76

8.50

9.10

"Cash Flow" per sh

11.50

1.94

1.98

2.20

1.24

1.66

2.06

2.55

2.79

3.01

3.93

3.52

4.23

4.26

4.43

4.78

4.02

4.25

4.40

Earnings per sh

5.50

1.56

1.56

1.56

1.56

1.56

1.00

1.00

1.00

1.00

1.16

1.20

1.24

1.37

1.56

1.56

1.92

2.08

Div'd Decl'd per sh

2.50

1.89

1.79

1.74

1.85

4.48

3.76

5.22

5.92

4.63

4.62

5.46

7.28

7.70

8.47

7.76

8.58

12.30

14.35

Cap'l Spending per sh

12.00

13.04

13.46

13.82

12.29

12.58

12.35

13.17

13.79

17.17

20.78

23.95

28.66

31.87

32.75

36.54

37.54

39.75

42.25

Book Value per sh

50.75

116.54

116.63

113.63

237.00

237.40

201.90

204.48

204.91

226.60

234.18

257.19

262.01

261.21

243.32

246.51

240.45

239.00

241.00

Common Shs Outst'g

245.00

11.2

11.3

10.8

21.1

12.8

9.4

9.7

8.2

9.0

8.6

11.8

11.5

14.0

11.8

10.1

12.6

10.1

Avg Ann'l P/E Ratio

13.0

.75

.71

.62

1.10

.73

.61

.50

.45

.51

.45

.63

.62

.74

.71

.67

.80

7.00

Avg Ann'l Div'd Yield

.85

7.2%

7.0%

6.6%

6.0%

7.4%

5.2%

4.1%

4.4%

3.7%

2.9%

2.8%

2.5%

2.1%

2.6%

3.2%

3.1%

3.1%

3.5%

CAPITAL STRUCTURE as of 3/31/11

Total Debt \$9829.0 mill. Due in 5 Yrs \$3089.0 mill.

LT Debt \$9174.0 mill. LT Interest \$509.0 mill.

(LT Interest earned: 3.8x)

Leases, Uncapitalized Annual rentals \$73.0 mill.

Pension Assets-12/10 \$2.35 bil. Oblig. \$3.12 bil.

Prd Stock \$179.0 mill. Prd Div'd \$10.0 mill.

1,373,770 shs. 4.40%-5% cumulative, \$20 par, callable \$20.25-\$24; 2,040,000 shs. \$1.70-\$1.82 cum., no par, callable \$25.59-\$26; 800,000 shs. \$4.36-\$4.75 cum., no par, callable \$100-\$101.50; 811,073 shs. 6% cum., \$25 par.

Common Stock 239,445,387 shs. as of 5/5/11

MARKET CAP: \$12 billion (Large Cap)

8029.0

8020.0

7887.0

9410.0

11737

11761

11438

10758

8106.0

9003.0

9600

10000

Revenues (\$mill)

12250

534.0

586.0

655.0

930.0

898.0

1118.0

1135.0

1123.0

1193.0

1008.0

1050

1110

Net Profit (\$mill)

1380

28.8%

19.9%

23.2%

17.2%

--

31.3%

33.6%

29.2%

30.5%

26.5%

30.0%

24.0%

Income Tax Rate

23.0%

5.2%

10.8%

8.4%

2.9%

5.3%

7.2%

11.5%

13.2%

10.6%

11.3%

11.0%

11.0%

AFUDC % to Net Profit

10.0%

55.7%

58.6%

48.4%

45.3%

43.1%

37.0%

34.8%

44.5%

44.8%

49.4%

49.5%

49.5%

Long-Term Debt Ratio

49.0%

41.2%

38.6%

49.0%

52.6%

55.1%

61.4%

63.7%

54.2%

54.1%

49.6%

49.5%

49.5%

Common Equity Ratio

50.0%

6532.0

7312.0

7931.0

9255.0

11178

12229

13071

14692

16646

18186

19200

20475

Total Capital (\$mill)

24900

6217.0

6832.0

10474

11086

12101

13175

14884

16865

18281

19876

21825

24175

Net Plant (\$mill)

28500

10.2%

9.8%

9.8%

11.3%

9.2%

10.3%

9.6%

8.5%

8.3%

6.8%

7.0%

7.0%

Return on Total Cap'l

7.0%

18.4%

19.3%

16.0%

18.4%

14.1%

14.5%

13.3%

13.8%

13.0%

10.9%

11.0%

10.5%

Return on Shr. Equity

11.0%

19.4%

20.4%

16.6%

18.9%

14.4%

14.8%

13.5%

14.0%

13.1%

11.1%

11.0%

10.5%

Return on Com Equity

11.0%

11.9%

13.1%

11.3%

14.9%

10.1%

11.0%

9.7%

9.7%

9.3%

7.0%

6.0%

6.0%

Retained to Com Eq

6.0%

40%

37%

33%

22%

31%

26%

29%

31%

29%

37%

45%

46%

All Div'ds to Net Prof

45%

ELECTRIC OPERATING STATISTICS

2008

2009

2010

% Change Retail Sales (KWH)

1.8

-2.6

-3.1

% Avg. Indust. Use (MWH)

4.569

4.463

4.224

% Avg. Indust. Revs. per KWH (¢)

9.15

10.42

10.75

Capacity at Peak (Kw)

N M F

N M F

N M F

Peak Load, Summer (Mw)

N M F

N M F

N M F

Annual Load Factor (%)

N M F

N M F

N M F

% Change Customers (yr-end)

+5

+5

+5

Fixed Charge Cov. (%)

347

275

296

ANNUAL RATES

Past

Past

Est'd '08-'10

of change (per sh)

10 Yrs.

5 Yrs.

to '14-'16

Revenues

3.5%

-1.0%

4.5%

"Cash Flow"

4.0%

5.0%

7.0%

Earnings

10.5%

5.0%

3.5%

Dividends

1.0%

7.5%

9.0%

Book Value

11.0%

11.5%

6.0%

cal-end

QUARTERLY REVENUES (\$mill.)

Full Year

Mar.31

Jun.30

Sep.30

Dec.31

2008

3270

2503

2692

2293

10758

2009

2108

1689

1853

2456

8106

2010

2534

2008

2116

2345

9003

2011

2434

2250

2330

2566

9600

2012

2650

2300

2400

2650

10000

cal-end

EARNINGS PER SHARE ^

Full Year

Mar.31

Jun.30

Sep.30

Dec.31

2008

.92

.98

1.24

1.30

4.43

2009

1.29

1.06

1.27

1.16

4.78

2010

.81

.89

1.18

1.15

4.02

2011

1.07

1.03

1.10

1.05

4.25

2012

1.15

1.10

1.15

1.10

4.50

cal-end

QUARTERLY DIVIDENDS PAID ^

Full Year

Mar.31

Jun.30

Sep.30

Dec.31

2007

.30

.31

.31

.31

1.23

2008

.31

.32

.35

.35

1.33

2009

.35

.39

.39

.39

1.52

2010

.39

.39

.39

.39

1.56

2011

.39

.48

.48

.48

1.56

SEMPRA ENERGY's domestic utilities have general rate cases pending.

Southern California Gas is seeking an increase of \$237 million (5.5%), and San Diego Gas & Electric is requesting an electric raise of \$168.5 million (5.3%) and a gas hike of \$25 million (4.1%). The two utilities are also asking for a regulatory mechanism that would automatically adjust rates annually over the following three years to reflect capital additions and increases in operating costs. Although an order isn't expected until March, new rates will be retroactive to the start of 2012.

We expect higher earnings this year and next. Sempra will benefit from the increased stake it purchased (for \$875 million) in electric utilities in Peru and Chile. The acquisition will boost share earnings by an estimated \$0.15 in 2011 and \$0.22 in 2012. (Beginning in the second quarter of 2011, these utilities will be consolidated in Sempra's financial statements.) The gas pipeline and storage operation is benefiting from rising demand for gas and has made some good asset acquisitions. The utilities' income should rise next year thanks to rate relief. Our earnings esti-

mates, which we have raised by a nickel a share each year, are within Sempra's guidance of \$4.00-\$4.30 in 2011 and \$4.30-\$4.60 in 2012.

Major projects are under way in both the utility and nonutility sides of Sempra's business. SDG&E is building a transmission line at an expected cost of \$1.9 billion. It is expected to be in service in the second half of 2012. SDG&E and SoCalGas are installing an advanced metering system. SDG&E's is almost complete, but SoCalGas' won't be finished until 2017. Among the nonregulated operations, the power-generation division has a lot of projects in various stages of development. This unit expects to spend \$2.9 billion on wind and solar generation in the next five years.

Sempra offers very good dividend growth potential to 2014-2016. The company is targeting a 45%-50% payout ratio, following a sizable dividend hike earlier this year. The yield is slightly below the utility average, but 3- to 5-year total return potential is above average for the industry.

Paul E. Debbas, CFA

August 5, 2011

(A) Dil. egs. Excl. nonrec. gain (losses): '05, 17%; '06, (6%); '09, (26%); '10, (\$1.05); gain (losses) from disc. ops.: '04, (10%); '05, (4%); '06, \$1.21; '07, (10%); '08 & '09 EPS don't add	due to rounding. Next egs. report due Aug. 9. (B) Div'ds historically paid mid-Jan., Apr., July & Oct. • Div'd reinv. plan avail. † Shareholder inv. plan avail. (C) Incl. intang. In '09: \$9.44/sh.	(D) In mill. (E) Rate base: Net orig. cost. Rate all'd on com. egs.: SDG&E in '08, 11.1%; SoCalGas in '03, 10.82%; earned on avg. com. egs., '10: 10.7%. Regulat. Climate: Above Avg.	Company's Financial Strength Stock's Price Stability Price Growth Persistence Earnings Predictability	A 95 95 90
--	--	--	--	---

© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-833-0046.

SOUTHERN CO. NYSE:SO				RECENT PRICE	40.25	P/E RATIO	15.7	(Trailing: 17.0 Median: 15.0)	RELATIVE P/E RATIO	1.15	DIV YLD	4.8%	VALUE LINE						
TIMELINESS	3	Raised 8/5/11	High: 35.0	35.7	31.1	32.0	34.0	36.5	37.4	39.3	40.6	37.6	38.6	40.9	Target Price	Range			
SAFETY	1	Raised 6/3/05	Low: 20.4	20.9	23.2	27.0	27.4	31.1	30.5	33.2	29.8	26.5	30.8	35.7	2014	2015			
TECHNICAL	2	Raised 8/5/11	LEGENDS 0.94 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded areas indicate recessions																
BETA	.55	(1.00 = Market)	2014-16 PROJECTIONS																
			Price	Gain	Ann'l Total														
High	50	40	(+25%)	(Nil)	10%														
Low	40				5%														
Insider Decisions			S O N D J F M A M																
to Buy	0	0	0	0	0	1	0	1											
Options	1	1	0	0	0	0	0	1											
to Sell	1	1	0	0	0	0	0	1											
Institutional Decisions			3Q2010 4Q2010 1Q2011																
to Buy	395	400	379																
to Sell	250	295	315																
Hld's(000)	362531	363813	360552																
			Percent shares traded	9	6	3													
			1 yr. 17.4 21.2 3 yr. 30.3 42.7 5 yr. 50.9 48.6																
© VALUE LINE PUB. LLC 14-16																			
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Revenues per sh	24.50
13.71	15.30	18.19	16.34	17.40	14.78	14.54	14.73	15.31	16.05	18.28	19.24	20.12	22.04	19.21	20.70	21.00	21.60	"Cash Flow" per sh	6.00
3.53	3.64	3.86	4.26	4.17	3.89	3.55	3.46	3.53	3.65	4.03	4.01	4.22	4.43	4.43	4.51	4.85	5.05	Earnings per sh A	3.25
1.66	1.68	1.58	1.73	1.83	2.01	1.61	1.85	1.97	2.06	2.13	2.10	2.28	2.25	2.32	2.37	2.55	2.70	Div'd Decl'd per sh B = t	2.20
1.22	1.26	1.30	1.34	1.34	1.34	1.34	1.36	1.39	1.42	1.48	1.54	1.60	1.66	1.73	1.80	1.87	1.94	Cap'l Spending per sh	6.75
2.09	1.82	2.68	2.87	3.85	3.27	3.75	3.79	2.72	2.85	3.20	4.01	4.65	5.10	5.70	4.85	5.95	6.25	Book Value per sh C	25.00
13.10	13.61	13.91	14.04	13.82	15.69	11.43	12.16	13.13	13.86	14.42	15.24	16.23	17.08	18.15	19.21	20.20	21.25	Common Shs Outst'g D	910.00
669.54	677.04	693.42	697.75	665.80	681.16	698.34	716.40	734.83	741.50	741.45	746.27	763.10	777.19	819.65	843.34	857.00	870.00	Avg Ann'l P/E Ratio	13.5
13.2	13.8	14.0	15.7	14.3	13.2	14.6	14.6	14.8	14.7	15.9	16.2	16.0	16.1	13.5	14.9	15.1	15.1	Relative P/E Ratio	.90
.88	.86	.81	.82	.82	.86	.75	.80	.84	.78	.85	.87	.85	.97	.90	.95	.95	.95	Avg Ann'l Div'd Yield	5.0%
5.6%	5.5%	5.9%	4.9%	5.1%	5.0%	5.7%	5.0%	4.7%	4.7%	4.4%	4.5%	4.4%	4.6%	5.5%	5.1%	5.1%	5.1%		
CAPITAL STRUCTURE as of 3/31/11																		Revenues (\$mill)	22250
Total Debt \$20752 mill. Due in 5 Yrs \$7739.0 mill.																		Net Profit (\$mill)	3025
LT Debt \$18154 mill. LT Interest \$817.0 mill.																		Income Tax Rate	32.0%
(LT Interest earned: 4.1x)																		AFUDC % to Net Profit	13.0%
Leases, Uncapitalized Annual rentals \$154.0 mill.																		Long-Term Debt Ratio	52.5%
Pension Assets-12/10 \$6.83 bill. Oblig. \$7.22 bill.																		Common Equity Ratio	45.5%
Pfd Stock \$1082 mill. Pfd Div'd \$65.0 mill.																		Total Capital (\$mill)	49800
Incl. 1 mill. shs. 4.20%-5.44% cum. pfd. (\$100 par);																		Net Plant (\$mill)	59400
12 mill. shs. 4.95%-5.83% cum. pfd. (\$1 par); 2																		Return on Total Cap'l	7.5%
2 mill. shs. 6.0% noncum. pfd. (\$25 par); 3 mill. shs.																		Return on Shr. Equity	12.5%
6.0%-6.5% noncum. pfd. (\$100 par); 14 mill. shs.																		Return on Com Equity E	13.0%
5.63%-6.5% noncum. pfd. (\$1 par).																		Retained to Com Eq	4.5%
Common Stock 849,122,723 shs.																		All Div's to Net Prof	68%
MARKET CAP: \$34 billion (Large Cap)																			
ELECTRIC OPERATING STATISTICS																			
			2008	2009	2010														
% Change Retail Sales (KWH)			-2.1	-4.8	+7.6														
Avg. Indust. Use (MWH)			350.9	309.5	333.2														
Avg. Indust. Res. per KWH (¢)			6.54	6.04	6.20														
Capacity at Yearend (MW)			4260.7	4293.2	4296.3														
Peak Load, Summer (MW)			3716.6	3447.1	3632.1														
Annual Load Factor (%)			58.7	60.6	62.2														
% Change Customers (yr-end)			+6	..	+3														
Fixed Charge Cov. (%)			32.9	31.0	34.2														
ANNUAL RATES			Past 10 Yrs.	Past 5 Yrs.	Est'd '08-'10 to '14-'16														
Revenues			2.5%	4.5%	3.0%														
"Cash Flow"			1.0%	3.5%	5.0%														
Earnings			2.0%	2.5%	6.0%														
Dividends			2.5%	4.0%	4.0%														
Book Value			2.5%	5.5%	5.5%														
QUARTERLY REVENUES (\$mill.)																			
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year														
2008	3683	4215	5427	3802	17127														
2009	3666	3885	4682	3510	15743														
2010	4157	4208	5320	3771	17456														
2011	4012	4521	5600	3867	18000														
2012	4150	4550	5950	4150	18800														
EARNINGS PER SHARE A																			
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year														
2008	.47	.54	1.00	.24	2.25														
2009	.41	.61	.99	.31	2.32														
2010	.60	.62	.98	.18	2.37														
2011	.50	.71	1.02	.32	2.55														
2012	.52	.75	1.10	.33	2.70														
QUARTERLY DIVIDENDS PAID B = t																			
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year														
2007	.3875	.4025	.4025	.4025	1.60														
2008	.4025	.42	.42	.42	1.66														
2009	.42	.4375	.4375	.4375	1.73														
2010	.4375	.455	.455	.455	1.80														
2011	.455	.4725																	
BUSINESS: The Southern Company's four operating subsidiaries supply electricity to 4.4 million customers in about 120,000 square miles of Georgia, Alabama, Florida, and Mississippi. Also has competitive generation business. Electric revenue breakdown: residential, 38%; commercial, 31%; industrial, 18%; other, 13%. Retail revenues by state: Georgia, 52%; Alabama, 34%; Florida, 9%; Missis-																		sippi, 5%. Generating sources: coal, 55%; oil & gas, 24%; nuclear, 14%; hydro, 2%; purchased, 5%. Fuel costs: 41% of revenues. '10 reported deprec. rate (utility): 3.3%. Has 25,900 employees. Chairman, President and CEO: Thomas A. Fanning, Inc.: Delaware. Address: 30 Ivan Allen Jr. Blvd., N.W., Atlanta, Georgia 30308. Tel.: 404-506-5000. Internet: www.southerncompany.com.	
The nuclear construction project of Southern Company's largest utility subsidiary is on budget and on schedule. Georgia Power is building two units at its Vogtle station at an expected cost of \$6.1 billion. The new facilities are expected to begin commercial operation in 2016 and 2017. It appears as if the receipt of a construction and operating license from the Nuclear Regulatory Commission, which was expected by yearend, might slip into early 2012. At least the Georgia commission's staff backed off on a proposal to reduce the utility's allowed return on equity if there are cost overruns. The new units would still be subject to a prudence review by the state regulators, however. Mississippi Power also has a large project under construction. The utility is building a coal gasification plant at an estimated cost of \$2.4 billion. It is on budget and on schedule for commercial operation in May of 2014. Financing needs are heavy. This is understandable, considering the two big capital projects. We figure that Southern will issue over \$1 billion of long-term debt (net of retirements) and at least \$500 million in common equity this year. Gulf Power has filed a general rate case. This was the utility's first such application in 10 years. Gulf Power requested a rate hike of \$93.5 million (7.3%) based on a return of 11.7% on a common-equity ratio of 43%. The utility is asking for \$35 million of interim rate relief, which would take effect next month. A final order from the Florida commission is expected in early 2012. Higher profits are probable in 2011 and 2012. Rate relief should help in each year. Also, the service area's economy is stronger than the national economy. Our 2011 estimate remains near the upper end of Southern's targeted range of \$2.48-\$2.56 a share. We forecast an earnings increase next year in line with the company's long-term goal of 5%-7% annual growth. Our estimate remains \$2.70 a share. This stock might appeal to conservative, income-oriented investors. Its yield is fractionally above the utility mean, and the stock is ranked 1 (Highest) for Safety. Total return potential to 2014-2016 is only average for a utility, however. Paul E. Debbas, CFA August 26, 2011																			

(A) Diluted earnings. Excl. nonrecurring gain (loss): '03, '06; '09, (25¢). '10 EPS don't add due to change in shares. Next earnings report due late Oct. (B) Div'd historically paid in early	March, June, Sept., and Dec. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. (C) Incl. deferred charges. In '10: \$5.25/sh. (D) In mill. (E) Rate base: AL, MS,	fair value; FL, GA, original cost. Allowed return on com. eq. (blended): 12.5%. Earned on avg. com. eq., '10: 12.7%. Regulatory Climate: AL, FL: Above Average; GA, MS: Average.	Company's Financial Strength Stock's Price Stability Price Growth Persistence Earnings Predictability	A 100 45 100
© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.				
To subscribe call 1-800-833-0046.				

TECO ENERGY, INC. NYSE-TE						RECENT PRICE	17.48	P/E RATIO	12.4	(Trailing: 15.6 Median: 15.0)	RELATIVE P/E RATIO	0.91	DIV'D YLD	5.0%	VALUE LINE				
TIMELINESS	2	Raised 8/26/11	High:	33.2	33.0	29.0	17.0	15.5	19.3	17.7	18.6	22.0	16.7	18.1	19.7			Target Price Range	
SAFETY	3	Lowered 3/7/03	Low:	17.3	24.8	10.0	9.5	11.3	14.9	14.4	14.8	10.5	8.4	14.5	15.8			2014 2015 2016	
TECHNICAL	3	Lowered 7/8/11	LEGENDS 0.95 x Dividends p.sh. divided by Interest Rate Relative Price Strength Options: Yes Shaded areas indicate recessions																
BETA	.85	(1.00 = Market)																	
2014-16 PROJECTIONS			Price	Gain	Ann'l Total Return														
High	25	18	(+45%)	14%															
Low	15	10	(+5%)	7%															
Insider Decisions			S	O	N	D	J	F	M	A	M								
to Buy	0	0	0	0	0	0	0	0	0	0	0								
Options	0	0	1	1	0	0	0	0	0	2									
to Sell	0	0	2	1	0	0	0	0	0	2									
Institutional Decisions			3Q2010	4Q2010	1Q2011														
to Buy	160	141	117																
to Sell	131	156	181																
Hld's(000)	115966	118085	113977																
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	© VALUE LINE PUB. LLC	14-16
11.90	12.53	14.23	14.83	15.01	18.17	18.97	15.22	14.59	13.37	14.46	16.46	16.77	15.85	15.48	16.23	15.75	16.15	Revenues per sh	18.25
3.08	3.28	3.34	3.25	3.28	4.11	4.31	3.20	1.96	2.14	2.37	2.51	2.51	2.01	2.35	2.59	2.80	3.05	"Cash Flow" per sh	3.50
1.60	1.71	1.61	1.52	1.53	1.97	2.24	1.95	d.08	.71	1.00	1.17	1.27	.77	1.00	1.13	1.30	1.45	Earnings per sh A	1.75
1.05	1.11	1.17	1.23	1.29	1.33	1.37	1.41	.93	.76	.76	.76	.78	.80	.80	.82	.85	.89	Div'd Decl'd per sh B	1.05
3.70	2.28	1.62	2.24	3.23	5.45	6.92	6.06	3.14	1.37	1.42	2.18	2.34	2.77	2.99	2.28	2.05	2.15	Cap'l Spending per sh	2.00
9.98	10.73	11.04	11.42	10.73	11.93	14.12	14.86	8.93	6.43	7.65	8.25	9.56	9.43	9.75	10.10	10.55	11.15	Book Value per sh C	13.25
116.96	117.60	130.90	132.00	132.10	126.30	139.60	175.80	187.80	199.70	208.20	209.50	210.90	212.90	213.90	214.90	216.00	217.00	Common Shs Outst'g D	220.00
13.8	14.3	15.4	17.8	14.2	11.9	12.9	11.0	--	19.3	17.1	13.8	13.3	21.2	12.6	14.6	16.0	17.5	Avg Ann'l P/E Ratio	12.5
.92	.90	.89	.93	.81	.77	.66	.60	--	1.02	.91	.75	.71	1.28	.84	.93	.93	.93	Relative P/E Ratio	.85
4.7%	4.5%	4.7%	4.5%	5.9%	5.7%	4.8%	6.6%	7.4%	5.5%	4.4%	4.7%	4.6%	4.9%	6.3%	4.9%	4.9%	4.9%	Avg Ann'l Div'd Yield	4.8%
CAPITAL STRUCTURE as of 3/31/11			2648.6 2675.8 2740.0 2669.1 3010.1 3448.1 3536.1 3375.3 3310.5 3487.9 3400 3500 Revenues (\$mill) 4000																
Total Debt \$3148.6 mill. Due in 5 Yrs \$924.1 mill.			303.7 298.2 d14.7 137.4 211.0 244.4 265.8 162.4 213.9 242.9 285 325 Net Profit (\$mill) 385																
LT Debt \$3070.3 mill. LT Interest \$198.0 mill.			-- -- -- 38.5% 45.1% 40.4% 40.7% 36.8% 31.6% 34.8% 35.0% 35.0% Income Tax Rate 35.0%																
(LT interest earned: 3.0x)			3.0% 4.4% -- .7% .0% 1.6% 2.3% 5.4% 6.5% 1.2% 1.0% 3.0% AFUDC % to Net Profit 1.0%																
Leases, Uncapitalized Annual rentals \$17.3 mill.			48.3% 50.5% 72.4% 75.1% 70.0% 65.0% 61.0% 61.5% 60.6% 59.2% 51.0% 56.0% Long-Term Debt Ratio 52.5%																
Pension Assets-12/10 \$479.7 mill.			51.7% 39.7% 27.6% 24.9% 30.0% 35.0% 39.0% 38.5% 39.4% 40.8% 49.0% 44.0% Common Equity Ratio 47.5%																
Oblig. \$610.3 mill.			3814.1 6585.1 6070.3 5163.9 5300.9 4941.6 5175.4 5214.3 5287.0 5317.8 4635 5515 Total Capital (\$mill) 6100																
Pld Stock None			4838.3 5464.0 5679.0 4657.9 4566.9 4766.9 4888.2 5221.3 5544.1 5841.0 5955 6085 Net Plant (\$mill) 6225																
Common Stock 214,936,829 shs. as of 4/28/11			9.7% 5.7% 2.1% 5.6% 6.5% 7.3% 7.3% 5.1% 6.0% 6.4% 8.5% 7.5% Return on Total Cap'l 8.0%																
MARKET CAP: \$3.8 billion (Mid Cap)			15.4% 9.1% NMF 10.7% 13.3% 14.1% 13.2% 8.1% 10.3% 11.2% 12.5% 13.5% Return on Shr. Equity 13.0%																
ELECTRIC OPERATING STATISTICS			15.4% 9.9% NMF 10.7% 13.3% 14.1% 13.2% 8.1% 10.3% 11.2% 12.5% 13.5% Return on Com Equity E 13.0%																
2008 2009 2010			6.1% 3.2% NMF NMF 3.3% 5.0% 5.1% NMF 2.1% 3.1% 4.5% 5.5% Retained to Com Eq 5.5%																
% Change Retail Sales (KWH)			61% 72% NMF 106% 75% 65% 61% 104% 80% 72% 65% 60% All Div'ds to Net Prof 60%																
Avg. Indst. Use (KWH)			-2.8 -1.1 +2.3																
Avg. Indst. Res. per KWH (%)			N/A N/A N/A																
Caseload at Peak (KWH)			8.04 9.63 9.35																
Peak Load, Winter (KWH)			4477 4719 4684																
Annual Load Factor (%)			N/A N/A N/A																
% Change Customers (avg.)			N/A N/A N/A																
% Change Customers (avg.)			+1 .1 +6																
Fixed Charge Cov. (%)			166 199 270																
ANNUAL RATES			Past 5 Yrs. Est'd '08-'10																
of change (per sh)			10 Yrs. 5 Yrs. to '14-'16																
Revenues			-- 2.5% 2.5%																
"Cash Flow"			-4.0% 1.5% 7.0%																
Earnings			-5.5% 12.0% 10.5%																
Dividends			-4.5% -5% 4.5%																
Book Value			-1.5% 5.0% 5.0%																
QUARTERLY REVENUES (\$ mill.)			Cal-end. Mar.31 Jun.30 Sep.30 Dec.31 Full Year																
2008			791.7 887.2 926.1 770.3 3375.3																
2009			824.0 825.2 896.3 765.0 3310.5																
2010			912.3 898.8 901.8 775.0 3487.9																
2011			796.1 885.7 918.2 800 3400																
2012			800 900 950 850 3500																
EARNINGS PER SHARE A			Cal-end. Mar.31 Jun.30 Sep.30 Dec.31 Full Year																
2008			.15 .24 .27 .10 .77																
2009			.16 .29 .30 .25 1.00																
2010			.26 .35 .35 .17 1.13																
2011			.24 .36 .37 .33 1.30																
2012			.35 .35 .40 .35 1.45																
QUARTERLY DIVIDENDS PAID B			Cal-end. Mar.31 Jun.30 Sep.30 Dec.31 Full Year																
2007			.19 .195 .195 .195 .78																
2008			.195 .20 .20 .20 .80																
2009			.20 .20 .20 .20 .80																
2010			.20 .205 .205 .205 .82																
2011			.205 .215 .215 .215 .82																

BUSINESS: TECO Energy, Inc. is a holding company for Tampa Electric, which serves 672,000 customers in west central Florida, and Peoples Gas (acquired 6/97), which serves 336,000 customers in Florida. TECO also mines coal and has generation investments in Guatemala. Sold TECO Transport 12/07. Electric revenue breakdown: residential, 50%; commercial, 30%; industrial, 9%; other, 11%. Generating sources: coal, 53%; gas, 38%; purchased, 9%. Fuel costs: 35% of revenues. *10 reported deprec. rate (utility): 3.6%. Has 4,100 employees. Chairman: Sherrill W. Hudson. President & CEO: John B. Ramil. Incorporated: Florida. Address: TECO Plaza, 702 N. Franklin Street, Tampa, Florida 33602. Telephone: 813-228-1111. Internet: www.tecoenergy.com.

We estimate that TECO Energy's earnings will increase this year. In 2010, the company incurred \$0.16 a share of charges for the early retirement of debt. There were no such charges in the first half of 2011, and we expect none in the second half. The refinancings and repayments of debt have lowered TECO's interest expense. Tampa Electric and Peoples Gas are performing well and are likely to earn their allowed returns on equity this year. In fact, the utilities' customer counts have risen for seven consecutive quarters, which suggests that the service area is recovering (albeit slowly) from the housing crisis in Florida. All told, our 2011 earnings estimate is within management's targeted range of \$1.25-\$1.40 a share.

TECO Coal is experiencing some positive and negative trends. On the positive side, contracted prices are rising, and the proportion of the company's sales that is for higher-priced specialty coal is increasing. Realized prices should get a further boost next year, after a contract for 600,000 tons, which is well below the current market level, expires. This production has been sold at prices that are well above the price in that contract. On the negative side, costs are up, as well, and volume is below management's previous expectation for the year. TECO Coal now expects sales of 8.2 million-8.5 million tons this year, compared with 8.5 million-9.0 million previously. The volume shortfall is due to delays in surface mine permitting and a shortage of contract minors, and the higher price of oil is causing the cost of oil-based equipment, such as tires, to climb. When all is said and done, we believe the pluses will exceed the minuses, and TECO Coal's contribution to the parent's bottom line will increase this year and next.

Earnings should advance solidly in 2012. The aforementioned repricing of an old contract at TECO Coal should be the key factor. We look for modest growth from the utilities, too. Our profit forecast remains at \$1.45 a share.

Timely TECO stock offers a dividend yield and 2014-2016 total return potential that are somewhat above the norm for utilities. Moderate dividend growth should occur through the middle of the decade.

Paul E. Debbas, CFA *August 26, 2011*

VECTREN CORP. NYSE:WC

RECENT PRICE 27.00

P/E RATIO 14.8 (Trailing: 16.0)

RELATIVE P/E RATIO 1.10

DIV'D YLD 5.2%

VALUE LINE

TIMELINESS 2 Raised 8/12/11

SAFETY 2 Lowered 1/5/01

TECHNICAL 3 Lowered 8/26/11

BETA .70 (1.00 = Market)

2014-16 PROJECTIONS

Price 40

Gain (+50%)

Ann'l Total Return 14%

High 30

Low 30

Options 0 0 0 0 1 0

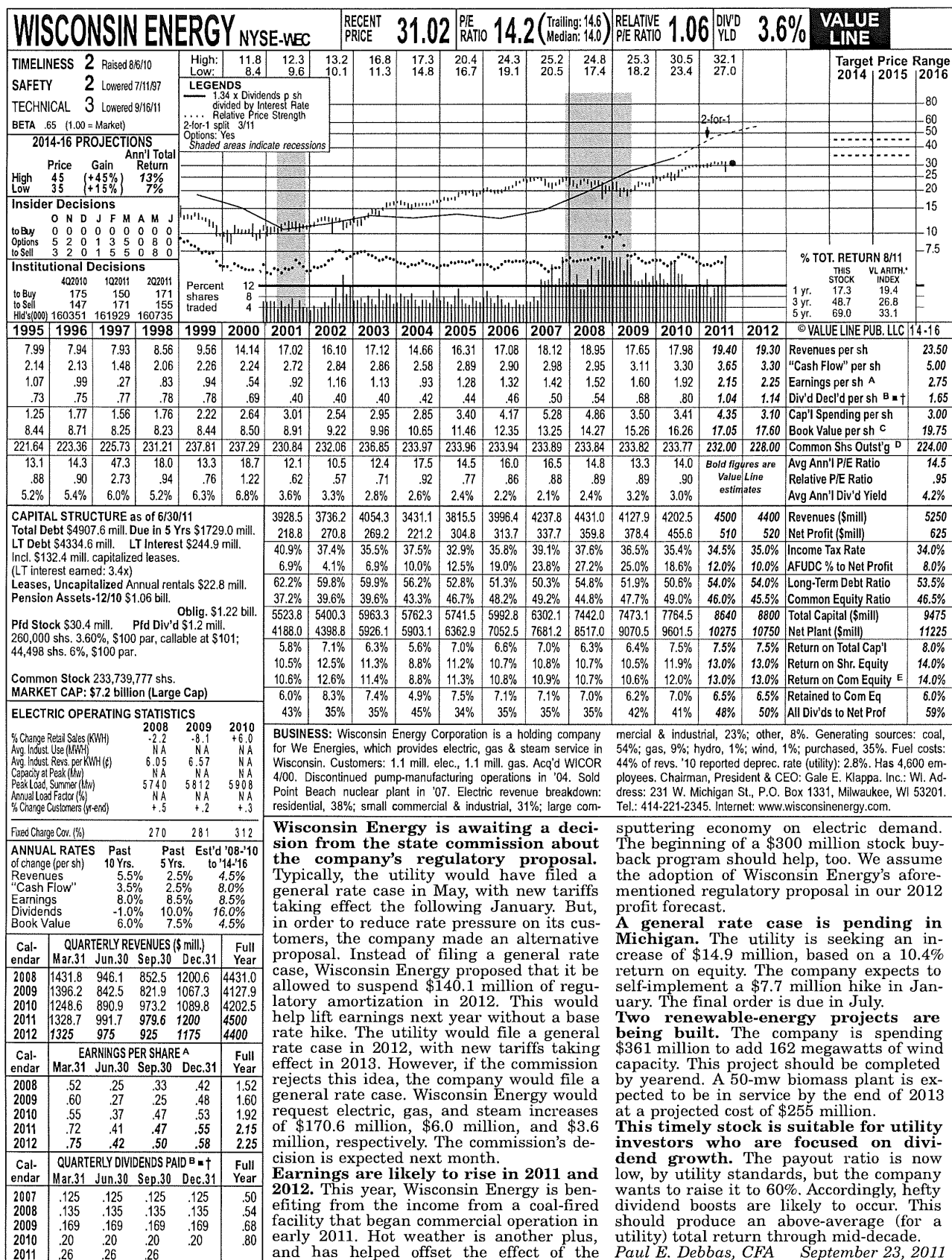
(A) Diluted EPS. Excl. nonrecr. gain (loss): '01, (13¢); '03, (6¢); '09, 15¢. Earnings may sum due to rounding. Next eps report due late October. (B) Div'ds historically paid in early	March, June, September, and December. ■ Div'd reinvest. plan avail. * Shareholder invest. plan avail. (C) Incl. intang. in '10, \$52.58/sh. (D) In millions. (E) Electric rate base	determination: fair value. Rate allowed on elect. common equity in '10: 10.4%; earned on common equity in '07: 9.3%. Regulatory Climate: Above Average.
--	--	--

© 2011, Value Line Publishing LLC. All rights reserved. The PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

Rate allowed on	Company's Financial Strength	A
7: 10.4%; earned on	Stock's Price Stability	100
9.3%. Regulatory	Price Growth Persistence	35
	Earnings Predictability	90

To subscribe call 1-800-833-0046

WESTAR ENERGY NYSE-WR										RECENT PRICE	25.54	P/E RATIO	14.8	(Trailing: 15.0) Median: 14.0	RELATIVE P/E RATIO	1.10	DIV'D YLD	5.1%	VALUE LINE		
TIMELINESS	3	Lowered 3/11/11	High:	25.9	25.9	18.0	20.5	22.9	25.0	27.2	28.6	25.9	22.3	25.9	28.0				Target Price Range		
SAFETY	2	Raised 4/1/05	Low:	14.7	15.6	8.5	9.8	18.1	21.1	20.1	22.8	16.0	14.9	20.6	22.6				2014 2015 2016		
TECHNICAL	3	Lowered 9/9/11	LEGENDS																		
BETA	.75	(1.00 = Market)	1.00 x Dividends p sh divided by Interest Rate																		
			Relative Price Strength																		
			Options: Yes																		
			Shaded areas indicate recessions																		
2014-16 PROJECTIONS																					
Price	Gain	Ann'l Total																			
High	35	(+35%)	12%																		
Low	25	(Nil)	4%																		
Insider Decisions																					
to Buy	O	N	D	J	F	M	A	M	J												
Options	0	0	0	0	0	0	0	0	0												
to Sell	0	0	0	0	0	0	0	0	0												
Institutional Decisions																					
to Buy	402010	102011	202011																		
to Sell	121	107	98																		
Hld's(000)	81435	81083	77664																		
Percent shares traded																					
</																					



(A) Diluted EPS. Excl. nonrec. gains (losses): '99, (.5¢); '00, 10¢ net; '02, (.44¢); '03, (10¢) net; '04, (.42¢); gains on disc. ops.: '04, 77¢; '05, 2¢; '06, 2¢; '09, 2¢; '10, 1¢; '11, 5¢. Next

earnings report due late Oct. (B) Div'ds historically paid in early Mar., June, Sept. & Dec. Div'd reinvestment plan avail. † Shareholder investment plan avail. (C) Incl. intang. In '10:

\$6.55/sh. (D) In mill., adj. for split. (E) Rate base: Net orig. cost. Rates allowed on com. eq. in '10: 10.4%-10.5%; earned on avg. com. eq., '09: 10.8%. Regulatory Climate: Above Avg.

Company's Financial Strength B++
Stock's Price Stability 100
Price Growth Persistence 85
Earnings Predictability 90

To subscribe call 1-800-833-0046.

© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

Wisconsin Energy is awaiting a decision from the state commission about the company's regulatory proposal. Typically, the utility would have filed a general rate case in May, with new tariffs taking effect the following January. But, in order to reduce rate pressure on its customers, the company made an alternative proposal. Instead of filing a general rate case, Wisconsin Energy proposed that it be allowed to suspend \$140.1 million of regulatory amortization in 2012. This would help lift earnings next year without a base rate hike. The utility would file a general rate case in 2012, with new tariffs taking effect in 2013. However, if the commission rejects this idea, the company would file a general rate case. Wisconsin Energy would request electric, gas, and steam increases of \$170.6 million, \$6.0 million, and \$3.6 million, respectively. The commission's decision is expected next month.

Earnings are likely to rise in 2011 and 2012. This year, Wisconsin Energy is benefiting from the income from a coal-fired facility that began commercial operation in early 2011. Hot weather is another plus, and has helped offset the effect of the

sputtering economy on electric demand. The beginning of a \$300 million stock buy-back program should help, too. We assume the adoption of Wisconsin Energy's aforementioned regulatory proposal in our 2012 profit forecast.

A general rate case is pending in Michigan. The utility is seeking an increase of \$14.9 million, based on a 10.4% return on equity. The company expects to self-implement a \$7.7 million hike in January. The final order is due in July.

Two renewable-energy projects are being built. The company is spending \$361 million to add 162 megawatts of wind capacity. This project should be completed by yearend. A 50-mw biomass plant is expected to be in service by the end of 2013 at a projected cost of \$255 million.

This timely stock is suitable for utility investors who are focused on dividend growth. The payout ratio is now low, by utility standards, but the company wants to raise it to 60%. Accordingly, hefty dividend boosts are likely to occur. This should produce an above-average (for a utility) total return through mid-decade.

Paul E. Debbas, CFA September 23, 2011

XCEL ENERGY NYSE:XEL					RECENT PRICE	24.49	P/E RATIO	14.0	(Trailing: 14.8 Median: 14.0)	RELATIVE P/E RATIO	0.88	DIV'D YLD	4.3%	VALUE LINE					
TIMELINESS	3	Lowered 7/17/09	High:	30.0	31.8	28.5	17.4	18.8	20.2	23.6	25.0	22.9	21.9	24.4	25.4			Target Price Range	
SAFETY	2	Raised 5/14/04	Low:	16.1	24.2	5.1	10.4	15.5	16.5	17.8	19.6	15.3	16.0	19.8	23.2			2014 2015 2016	
TECHNICAL	2	Raised 8/5/11	LEGENDS 0.93 x Dividends p sh divided by Interest Rate Relative Price Strength 2-for-1 split 6/98 Options: Yes Shaded areas indicate recessions																
BETA	.65	(1.00 = Market)	2014-16 PROJECTIONS Price Gain Ann'l Total High Low 30 20 (+20%) 10% Low 20 (-20%) 1%																
Insider Decisions			S O N D J F M A M to Buy 0 0 0 1 0 1 0 0 0 Options 0 0 0 0 0 0 0 0 0 to Sell 0 0 0 0 0 0 0 0 0																
Institutional Decisions			3Q2010 4Q2010 1Q2011 to Buy 223 200 183 to Sell 127 171 184 Hld's(000) 292352 291033 291091																
			Percent shares traded 15 10 5																
			% TOT. RETURN 6/11 THIS STOCK VL ARITH. INDEX 1 yr. 23.1 35.8 3 yr. 37.9 51.3 5 yr. 57.0 50.6																
			© VALUE LINE PUB. LLC 14-16																
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Revenues per sh	29.00
18.84	19.22	18.32	18.46	18.42	34.11	43.56	23.89	19.90	20.84	23.86	24.16	23.40	24.69	21.08	21.38	22.20	24.55	"Cash Flow" per sh	4.75
4.30	4.33	3.92	4.30	4.13	4.12	5.09	3.14	3.35	3.27	3.28	3.61	3.45	3.50	3.48	3.51	3.85	4.10	Earnings per sh A	2.00
1.96	1.91	1.61	1.84	1.43	1.60	2.27	.42	1.23	1.27	1.20	1.35	1.35	1.46	1.49	1.56	1.75	1.85	Div'd Decl'd per sh B	1.15
1.34	1.37	1.40	1.43	1.45	1.48	1.50	1.13	.75	.81	.85	.88	.91	.94	.97	1.00	1.03	1.06	Cap'l Spending per sh	5.75
2.94	2.99	2.90	2.99	13.87	3.63	7.40	6.04	2.49	3.19	3.25	4.00	4.89	4.66	3.91	4.60	4.10	4.80	Book Value per sh C	21.25
14.87	15.46	15.89	16.25	16.42	16.37	17.95	11.70	12.95	12.99	13.37	14.28	14.70	15.35	15.92	16.76	17.50	18.35	Common Shs Outst'g D	498.00
136.35	138.13	149.24	152.70	155.73	339.79	345.02	398.71	398.96	400.46	403.39	407.30	428.78	453.79	457.51	482.33	486.00	489.00	Avg Ann'l P/E Ratio	12.0
11.6	12.5	15.5	15.2	16.6	14.3	12.4	NMF	11.6	13.6	15.4	14.8	16.7	13.7	12.7	14.1	14.5	14.5	Relative P/E Ratio	.80
.78	.78	.89	.79	.95	.93	.64	NMF	.66	.72	.82	.80	.89	.82	.85	.90	.90	.90	Avg Ann'l Div'd Yield	4.8%
5.9%	5.7%	5.6%	5.1%	6.1%	6.4%	5.3%	6.6%	5.2%	4.7%	4.6%	4.4%	4.0%	4.7%	5.1%	4.5%	4.5%	4.5%		
CAPITAL STRUCTURE as of 3/31/11			15028 9524.4 7937.5 8345.3 9625.5 9840.3 10034 11203 9644.3 10311 10800 12000 10800 12000 10800 12000 10800 12000 14500																
Total Debt \$9850.4 mill. Due in 5 Yrs \$2443.9 mill.			784.7 177.6 510.0 526.9 499.0 568.7 575.9 645.7 685.5 727.0 850 910 910 910 910 910 910 910 1050																
LT Debt \$9264.1 mill. LT Interest \$602.1 mill.			28.2% 32.7% 23.7% 23.2% 25.8% 24.2% 33.8% 34.4% 35.1% 37.5% 35.0% 35.0% 35.0% 35.0% 35.0% 35.0% 35.0% 35.0%																
Incl. 8,000,000 sh. 7.875% tax-deductible pfd. sec.,			7.1% 46.7% 8.9% 10.9% 8.5% 9.8% 12.5% 15.9% 16.8% 11.7% 10.0% 10.0% 10.0% 10.0% 10.0% 10.0% 10.0% 10.0%																
liq. value \$25/sh.; 7,760,000 sh. 7.60% cum., \$25			66.7% 59.6% 55.3% 55.0% 51.7% 52.1% 49.7% 52.2% 51.6% 53.1% 51.0% 53.0% 53.0% 53.0% 53.0% 53.0% 53.0% 53.0%																
par; \$100 mill. 7.85% tax-deductible pfd. sec.			32.8% 39.5% 43.8% 44.1% 47.3% 47.0% 49.4% 47.1% 47.7% 46.3% 48.5% 46.5% 46.5% 46.5% 46.5% 46.5% 46.5% 46.5%																
(LT interest earned: 3.1x)			18911 11815 11790 11801 11398 12371 12748 14800 15277 17452 17500 19225 17500 19225 17500 19225 17500 17500																
Leases, Uncapitalized Annual rentals \$177.3 mill.			21165 18816 13667 14096 14696 15549 16676 17689 18508 20663 21625 22900 22900 22900 22900 22900 22900 22900																
Pension Assets-12/10 \$2.54 bill. Oblig. \$3.03 bill.			6.0% 5.4% 6.1% 6.2% 6.2% 6.2% 6.3% 6.0% 6.2% 5.7% 6.5% 6.5% 6.5% 6.5% 6.5% 6.5% 6.5% 6.5%																
Pfd Stock \$105.0 mill. Pfd Div'd \$4.2 mill.			12.5% 3.7% 9.7% 9.9% 9.1% 9.6% 9.0% 9.1% 9.3% 8.9% 10.0% 10.0% 10.0% 10.0% 10.0% 10.0% 10.0% 10.0%																
1,049,800 shares \$3.60 to \$4.56, cumulative, \$100			12.6% 3.7% 9.8% 10.0% 9.2% 9.7% 9.1% 9.2% 9.4% 8.9% 10.0% 10.0% 10.0% 10.0% 10.0% 10.0% 10.0% 10.0%																
par, callable \$102.00 to \$103.75.			4.3% NMF 3.9% 3.9% 2.9% 3.6% 3.1% 3.8% 3.7% 3.6% 4.0% 4.5% 4.5% 4.5% 4.5% 4.5% 4.5% 4.5%																
Common Stock 484,176,449 shs. as of 4/19/11			66% NMF 60% 62% 69% 63% 66% 59%																
MARKET CAP: \$12 billion (Large Cap)			All Div'ds to Net Prof 55%																
ELECTRIC OPERATING STATISTICS			2008 2009 2010 % Change Retail Sales (KWh) +8 -3.0 +3.0 Avg. C&I Use (MWh) 155 148 151 Avg. C&I Revs. per MWh (\$/kWh) 7.28 6.65 7.15 Capacity at Peak (Mw) N/A N/A N/A Peak Load, Summer (Mw) 20596 21103 20517 Annual Load Factor (%) N/A N/A N/A % Change Customers (yr-end) +1.1 +.5 --																
Fixed Charge Cov. (%)			248 258 277																
ANNUAL RATES			Past Past Est'd '08-'10 of change (per sh) 10 Yrs. 5 Yrs. to '14-'16 Revenues -5% 1.0% 4.5% "Cash Flow" -2.0% 1.0% 5.0% Earnings -1.0% 4.0% 5.0% Dividends -4.0% 4.0% 3.0% Book Value -- 4.0% 5.0%																
QUARTERLY REVENUES (\$mill.)			Cal- Full end-ear Mar.31 Jun.30 Sep.30 Dec.31 Year 2008 3028 2615 2852 2708 11203 2009 2695 2016 2315 2618 9644 2010 2807 2308 2629 2567 10311 2011 2817 2438 2750 2795 10800 2012 3250 2850 2950 2950 12000																
EARNINGS PER SHARE A			Cal- Full end-ear Mar.31 Jun.30 Sep.30 Dec.31 Year 2008 .35 .24 .51 .36 1.46 2009 .38 .25 .48 .37 1.49 2010 .36 .29 .62 .29 1.56 2011 .42 .33 .63 .37 1.75 2012 .45 .35 .65 .40 1.85																
QUARTERLY DIVIDENDS PAID B			Cal- Full end-ear Mar.31 Jun.30 Sep.30 Dec.31 Year 2007 .2225 .2225 .23 .23 .91 2008 .23 .23 .2375 .2375 .94 2009 .2375 .2375 .245 .245 .97 2010 .245 .245 .2525 .2525 1.00 2011 .2525 .2525 .26																

BUSINESS: Xcel Energy Inc. is the parent of Northern States Power, which supplies electricity to Minnesota, Wisconsin, North Dakota, South Dakota, & Michigan & gas to Minnesota, Wisconsin, North Dakota, & Michigan; Public Service of Colorado, which supplies electricity & gas to Colorado; & Southwestern Public Service, which supplies electricity to Texas & New Mexico. Customers: 3.4 mill. electric, 1.9 mill. gas. Electric revenue breakdown: residential, 31%; commercial & industrial, 53%; other, 16%. Generating sources not available. Fuel costs: 50% of revs. '10 reported deprec. rate: 3.0%. Has 11,400 employees. Chairman, President & CEO: Richard C. Kelly, Inc. MN. Address: 414 Nicollet Mall, Minneapolis, MN 55401. Tel.: 612-330-5500. Internet: www.xcelenergy.com.

As usual, Xcel Energy has many rate cases pending. In Minnesota, Northern States Power is seeking electric rate increases of \$122.8 million this year and \$44.7 million in 2012, based on a 10.85% return on a 52.56% return on equity. NSP is already collecting interim rate relief of \$123 million, subject to refund. In Wisconsin, NSP filed for electric and gas tariff hikes of \$29.2 million and \$8.0 million, respectively, based on a 10.75% return on a common-equity ratio of 52.54%. In North Dakota, NSP requested electric rate boosts of \$18.0 million this year and \$2.4 million in 2012, based on a return of 11.25% on a common-equity ratio of 52.56%. A final order on each of these cases is expected in the fourth quarter. NSP also requested a \$14.6 million rate hike in South Dakota, based on an 11% return on a 52.48% common-equity ratio. New tariffs should take effect in early 2012. In New Mexico, Southwestern Public Service is seeking an increase of \$19.9 million, based on a return of 11.25% on a common-equity ratio of 51.11%. New tariffs should take effect at the start of 2012. Finally, Public Service of Colorado has reached a settlement calling for a \$10.9 million rise in gas rates. A ruling is expected this summer.

The rate increases that Xcel obtains are the key factor in the company's earnings growth. Our 2011 share-net estimate is at the top of the company's guidance of \$1.65-\$1.75. Our forecast of \$1.85 for 2012 would produce profit growth that is in line with Xcel's targeted rate of 5%-7% annually.

Some large capital projects are in various stages of development. Xcel is spending \$1 billion for a 235-megawatt up-rate and 20-year life extension of its two nuclear plants. Later this year, the company will begin a \$1 billion project in Colorado that will retire some coal-fired units and convert others to use gas as their fuel source. Finally, the utility is asking the Minnesota commission for a certificate of need for a \$600 million project that would retire 250 mw of coal-fired capacity and build 700 mw of gas-fired capacity.

We don't recommend this stock. The dividend yield (even following a 3% raise) is only average, by utility standards, and 3- to 5-year total return potential is low.

Paul E. Debbas, CFA August 5, 2011

(A) Diluted EPS. Excl. nonrec. gain (loss): '02, (\$6.27); '10, 5¢; gains (losses) on disc. ops.: '03, 27¢; '04, (30¢); '05, 3¢; '06, 1¢; '09, (1¢); '10, 1¢. '09 EPS don't add due to rounding. Next egs. report due late Oct. (B) Div'ds histor. paid mid-Jan., Apr., July, & Oct. ■ Div'd reinvestment plan avail. (C) Incl. intang. In '10: \$4.46/sh. (D) In mill., adj. for split. (E) Rate

base: Varies. Rate all'd on com. eq.: MN '09 10.88%; WI '08 10.75%; CO '10 (elec.) 10.5%; CO '07 (gas) 10.25%; TX '86 15.05%; earned on avg. com. eq., '10: 9.6%. Regul. Clim.: Avg.

mill. electric, 1.9 mill. gas. Electric revenue breakdown: residential, 31%; commercial & industrial, 53%; other, 16%. Generating sources not available. Fuel costs: 50% of revs. '10 reported deprec. rate: 3.0%. Has 11,400 employees. Chairman, President & CEO: Richard C. Kelly, Inc.: MN. Address: 414 Nicollet Mall, Minneapolis, MN 55401. Tel.: 612-330-5500. Internet: www.xcelenergy.com.

As supply, Xcel Energy has many rate cases pending. In Minnesota, Northern States Power is seeking electric rate increases of \$122.8 million this year and \$44.7 million in 2012, based on a 10.85% return on a 52.56% return on equity. NSP is already collecting interim rate relief of \$123 million, subject to refund. In Wisconsin, NSP filed for electric and gas tariff hikes of \$29.2 million and \$8.0 million, respectively, based on a 10.75% return on a common-equity ratio of 52.54%. In North Dakota, NSP requested electric rate boosts of \$18.0 million this year and \$2.4 million in 2012, based on a return of 11.25% on a common-equity ratio of 52.56%. A final order on each of these cases is expected in the fourth quarter. NSP also requested a \$14.6 million rate hike in South Dakota, based on an 11% return on a 52.48% common-equity ratio. New tariffs should take effect in early 2012. In New Mexico, Southwestern Public Service is seeking an increase of \$19.9 million, based on a return of 11.25% on a common-equity ratio of 51.11%. New tariffs should take effect at the start of 2012. Finally, Public Service of Colorado has reached a settlement calling

for a \$10.9 million rise in gas rates. A ruling is expected this summer.

The rate increases that Xcel obtains are the key factor in the company's earnings growth. Our 2011 share-net estimate is at the top of the company's guidance of \$1.65-\$1.75. Our forecast of \$1.85 for 2012 would produce profit growth that is in line with Xcel's targeted rate of 5%-7% annually.

Some large capital projects are in various stages of development. Xcel is spending \$1 billion for a 235-megawatt up-rate and 20-year life extension of its two nuclear plants. Later this year, the company will begin a \$1 billion project in Colorado that will retire some coal-fired units and convert others to use gas as their fuel source. Finally, the utility is asking the Minnesota commission for a certificate of need for a \$600 million project that would retire 250 mw of coal-fired capacity and build 700 mw of gas-fired capacity.

We don't recommend this stock. The dividend yield (even following a 3% raise) is only average, by utility standards, and 3- to 5-year total return potential is low.

Paul E. Debbas, CFA

August 5, 2011

Company's Financial Strength B++
Stock's Price Stability 100
Price Growth Persistence 35
Earnings Predictability 100

To subscribe call 1-800-833-0046.

© 2011, Value Line Publishing LLC. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

Long Island American Water Company
Corrected Capital Asset Pricing Model for Mr. Duah's
Utility Proxy Group Using the Merrill Lynch Total Market Return,
Ibbotson Long-Term Historical Market Equity Risk Premium
and a Forecasted Market Equity Risk Premium Based upon Value Line
Investment Survey and a Forecasted Risk-Free Rate.

<u>Line No.</u>		<u>Mr. Duah's Utility Proxy Group</u>	<u>Proxy Group of Nine Water Companies</u>
1	Merrill Lynch "Cost of Market" (5/11 - 7/11) (1)	11.72 %	11.72 %
2.	Forecasted Risk-Free Rate (2)	<u>(4.67)</u>	<u>(4.67)</u>
3.	Equity Risk Premium	<u>7.05 %</u>	<u>7.05 %</u>
4.	SBBI Total Return on Large Company Stocks (3)	11.90 %	11.90
5.	SBBI Long-Term Gov't Bond Income Return	<u>(5.20)</u>	(5.20)
6.	Equity Risk Premium	<u>6.70 %</u>	<u>6.70 %</u>
7.	Forecasted Total Return on the Market based upon Value Line (4)	13.52 %	13.52
8.	Forecasted Risk-Free Rate (2)	<u>(4.67)</u>	<u>(4.67)</u>
9.	Equity Risk Premium	<u>8.85 %</u>	<u>8.85 %</u>
10.	Average Equity Risk Premium (5)	<u>7.53 %</u>	<u>7.53 %</u>
11.	Median Beta (1)	0.70	0.70
12.	Traditional CAPM ROE	9.94 %	9.94 %
13.	Empirical (Zero Beta) CAPM ROE	<u>10.51 %</u>	<u>10.51 %</u>
14.	Average CAPM ROE	<u>10.23 %</u>	<u>10.23 %</u>

See page 2 for notes.

Long Island American Water Company
Development of the Market-Required Rate of Return on Common Equity Using
the Capital Asset Pricing Model for
Mr. Duah's Proxy Group of Thirty-One Electric Companies
Adjusted to Reflect a Forecasted Risk-Free Rate and Market Return

Notes:

- (1) The Merrill Lynch "Cost of Market" and utility median beta was taken from Exhibit____(KXD-16), page 1. The median water beta was calculated from the betas shown on Schedule PMA-16.
- (2) The average forecast based upon six quarterly estimates of 30-year Treasury Note yields per the consensus of nearly 50 economists reported in the Blue Chip Financial Forecasts dated August 1, 2011 (see page 3 of this Schedule). The estimates are detailed below:

	<u>30-Year Treasury Note Yield</u>
Third Quarter 2011	4.30
Fourth Quarter 2011	4.50
First Quarter 2012	4.60
Second Quarter 2012	4.70
Third Quarter 2012	4.90
Fourth Quarter 2012	<u>5.00</u>
Average	<u>4.67%</u>

- (3) The Morningstar, Inc. (Ibbotson Associates) calculated market premium of 6.70% for the period 1926-2010 results from a total market return of 11.90% less the average income return on long-term U.S. Government Securities of 5.20% (11.90% - 5.20% = 6.70%).
- (4) The three months ended July 29, 2011, Value Line Summary & Index, a forecasted 3-5 year total annual market return of 13.52% can be derived by averaging the three months ended July 29, 2011 forecasted total 3-5 year total appreciation, converting it into an annual market appreciation and adding the Value Line average forecasted annual dividend yield.

The 3-5 year average total market appreciation of 55% produces a four-year average annual return of 11.58% ($(1.55^{25}) - 1$). When the average annual forecasted dividend yield of 1.94% is added, a total average market return of 13.52% (1.94% + 11.58%) is derived. The three month forecasted total market return of 13.52% minus the forecasted risk-free rate of 4.67% (developed in Note 2) is 8.85% (13.52% - 4.67%).

- (5) Average of Line Nos. 3, 6, and 9.

Source of Information: Value Line Summary & Index
Blue Chip Financial Forecasts, August 1, 2011
Ibbotson® SBBI® 2011 Valuation Yearbook – Market Results for
Stocks, Bonds, Bills, and Inflation – 1926 – 2010, Morningstar, Inc., 2011 Chicago, IL

Consensus Forecasts Of U.S. Interest Rates And Key Assumptions¹

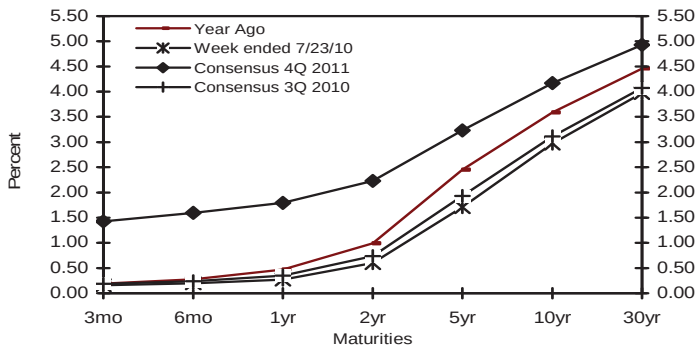
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month				3Q 2011	4Q 2011	1Q 2012	2Q 2012	3Q 2012	4Q 2012
Interest Rates	July 22	July 15	July 8	July 1	Jun	May	Apr.	2Q 2011	2011	2011	2012	2012	2012	2012
Federal Funds Rate	0.06	0.07	0.08	0.08	0.09	0.09	0.10	0.09	0.1	0.2	0.3	0.4	0.7	1.1
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.3	3.3	3.3	3.4	3.8	4.1
LIBOR, 3-mo.	0.25	0.25	0.25	0.25	0.29	0.26	0.28	0.28	0.3	0.4	0.5	0.7	1.0	1.3
Commercial Paper, 1-mo.	0.09	0.09	0.10	0.08	0.11	0.11	0.14	0.12	0.2	0.2	0.3	0.5	0.9	1.2
Treasury bill, 3-mo.	0.02	0.02	0.02	0.02	0.04	0.04	0.06	0.05	0.1	0.1	0.3	0.4	0.8	1.1
Treasury bill, 6-mo.	0.06	0.06	0.07	0.10	0.10	0.09	0.12	0.10	0.1	0.2	0.4	0.6	0.9	1.3
Treasury bill, 1 yr.	0.16	0.16	0.19	0.19	0.18	0.19	0.25	0.21	0.2	0.4	0.5	0.8	1.1	1.5
Treasury note, 2 yr.	0.38	0.37	0.44	0.46	0.41	0.56	0.73	0.57	0.5	0.7	1.0	1.3	1.6	2.0
Treasury note, 5 yr.	1.47	1.48	1.67	1.67	1.58	1.84	2.17	1.86	1.7	2.0	2.2	2.4	2.7	2.9
Treasury note, 10 yr.	2.95	2.94	3.12	3.11	3.00	3.17	3.46	3.21	3.1	3.3	3.5	3.7	3.9	4.1
Treasury note, 30 yr.	4.25	4.21	4.35	4.36	4.23	4.29	4.50	4.34	4.3	4.5	4.6	4.7	4.9	5.0
Corporate Aaa bond	4.91	4.89	5.07	5.11	4.99	4.96	5.16	5.04	5.0	5.1	5.2	5.3	5.5	5.6
Corporate Baa bond	5.74	5.71	5.84	5.88	5.75	5.78	6.02	5.85	5.8	5.9	6.1	6.2	6.3	6.5
State & Local bonds	4.46	4.51	4.65	4.59	4.51	4.59	4.99	4.70	4.6	4.7	4.8	5.0	5.1	5.2
Home mortgage rate	4.52	4.51	4.60	4.51	4.51	4.64	4.84	4.66	4.6	4.8	5.0	5.2	5.4	5.6

	History								Consensus Forecasts-Quarterly					
	3Q 2009	4Q 2009	1Q 2010	2Q 2010	3Q 2010	4Q 2011	1Q 2011	2Q*	3Q 2011	4Q 2011	1Q 2012	2Q 2012	3Q 2012	4Q 2012
Key Assumptions	2009	2009	2010	2010	2010	2011	2011	2011	2011	2011	2012	2012	2012	2012
Major Currency Index	76.4	72.8	74.8	77.6	75.9	73.0	71.9	69.8	69.8	70.0	70.4	70.9	71.3	71.5
Real GDP	1.6	5.0	3.7	1.7	2.6	3.1	1.9	1.8	2.9	3.1	2.8	3.0	3.1	3.2
GDP Price Index	0.7	-0.2	1.0	1.9	2.1	0.4	2.0	2.3	1.9	1.7	2.0	2.0	2.0	2.0
Consumer Price Index	3.7	2.7	1.3	-0.5	1.4	2.6	5.2	4.1	2.1	2.1	2.3	2.2	2.3	2.3

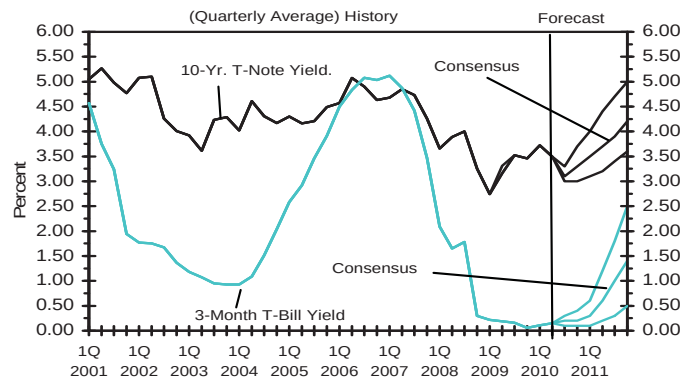
Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index and Consumer Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data for interest rates except LIBOR is from Federal Reserve Release (FRSR) H.15. LIBOR quotes available from *The Wall Street Journal*. Interest rate definitions are the same as those in FRSR H.15. Treasury yields are reported on a constant maturity basis. Historical data for the Fed's Major Currency Index is from FRSR H.10 and G.5. Historical data for Real GDP and GDP Chained Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index (CPI) history is from the Department of Labor's Bureau of Labor Statistics (BLS).). **Figures for 2Q 2011 Real GDP and the GDP Chained Price Index are based on a special question asked of the panelists this month (see page 14).**

U.S. Treasury Yield Curve

Week ended July 23, 2010 and Year Ago vs.
3Q 2010 and 4Q 2011 Consensus Forecasts

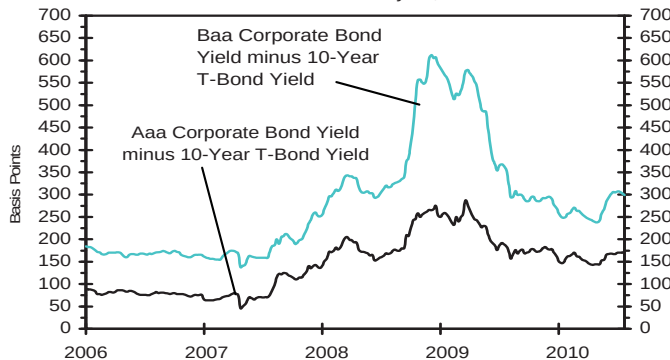


U.S. 3-Mo. T-Bills & 10-Yr. T-Note Yield



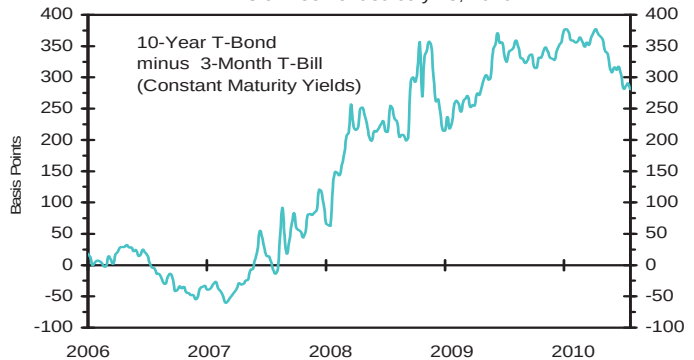
Corporate Bond Spreads

As of week ended July 23, 2010



U.S. Treasury Yield Curve

As of week ended July 23, 2010



Capital Structure Based upon Total Permanent Capital for the
Mr. Duah's Utility Proxy Group
2006 - 2010, Inclusive

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>5 YEAR</u> <u>AVERAGE</u>
<u>TECO Energy, Inc.</u>						
Long-Term Debt	59.78 %	60.63 %	76.20 %	61.08 %	69.02 %	65.35 %
Preferred Stock	0.02	0.00	0.00	0.00	0.00	0.00
Common Equity	40.20	39.37	23.80	38.92	30.98	34.65
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>UIL Holdings Corporation</u>						
Long-Term Debt	60.74 %	56.03 %	61.32 %	56.32 %	51.39 %	57.16 %
Preferred Stock	0.03	0.00	0.00	0.00	0.00	0.01
Common Equity	39.23	43.97	38.68	43.68	48.61	42.83
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Vectren Corporation</u>						
Long-Term Debt	53.95 %	53.20 %	48.01 %	50.23 %	51.60 %	51.40 %
Preferred Stock	0.00	0.00	0.02	0.02	0.02	0.01
Common Equity	46.05	46.80	51.97	49.75	48.38	48.59
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Westar Energy, Inc.</u>						
Long-Term Debt	53.80 %	53.44 %	52.43 %	52.15 %	50.03 %	52.37 %
Preferred Stock	0.53	0.44	0.46	0.55	0.69	0.53
Common Equity	45.67	46.12	47.11	47.30	49.28	47.10
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Wisconsin Energy Corporation</u>						
Long-Term Debt	53.28 %	53.70 %	55.12 %	52.97 %	53.59 %	53.73 %
Preferred Stock	0.37	0.39	0.41	0.46	0.48	0.42
Common Equity	46.35	45.91	44.47	46.57	45.93	45.85
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Xcel Energy Inc.</u>						
Long-Term Debt	53.23 %	53.30 %	53.98 %	52.15 %	53.39 %	53.21 %
Preferred Stock	0.60	0.66	0.68	0.78	0.84	0.71
Common Equity	46.17	46.04	45.34	47.07	45.77	46.08
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Mr. Duah's Utility Proxy Group</u>						
Long-Term Debt	51.91 %	53.06 %	52.77 %	49.40 %	51.75 %	51.78 %
Preferred Stock	0.84	0.92	1.00	1.47	1.51	1.15
Common Equity	47.25	46.02	46.23	49.13	46.74	47.07
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>

Source of Information
EDGAR Online's I-Metrix Database
Annual Forms 10-K

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Nine Water Companies
2006 - 2010, Inclusive

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>5 YEAR</u> <u>AVERAGE</u>
<u>American States Water Co.</u>						
Long-Term Debt	44.30 %	46.95 %	46.25 %	46.99 %	48.61 %	46.62 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	55.70	53.05	53.75	53.01	51.39	53.38
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>American Water Works Co., Inc.</u>						
Long-Term Debt	56.73 %	56.98 %	53.75 %	51.05 %	46.93 %	53.08 %
Preferred Stock	0.29	0.30	0.32	0.31	0.06	0.26
Common Equity	42.98	42.72	45.93	48.64	53.01	46.66
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Aqua America, Inc.</u>						
Long-Term Debt	57.05 %	56.59 %	54.21 %	55.88 %	51.55 %	55.06 %
Preferred Stock	0.02	0.02	0.09	0.09	0.10	0.06
Common Equity	42.93	43.39	45.70	44.03	48.35	44.88
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Artesian Resources Corp.</u>						
Long-Term Debt	52.84 %	54.12 %	59.57 %	52.20 %	61.87 %	56.12 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	47.16	45.88	40.43	47.80	38.13	43.88
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>California Water Service Group</u>						
Long-Term Debt	52.51 %	47.93 %	41.88 %	42.86 %	43.47 %	45.73 %
Preferred Stock	0.00	0.00	0.00	0.51	0.51	0.20
Common Equity	47.49	52.07	58.12	56.63	56.02	54.07
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Connecticut Water Service, Inc.</u>						
Long-Term Debt	49.32 %	50.59 %	46.94 %	47.76 %	44.42 %	47.81 %
Preferred Stock	0.34	0.35	0.39	0.44	0.49	0.40
Common Equity	50.34	49.06	52.67	51.80	55.09	51.79
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Middlesex Water Company</u>						
Long-Term Debt	43.91 %	47.35 %	49.10 %	49.48 %	48.78 %	47.72 %
Preferred Stock	1.07	1.24	1.22	1.46	2.95	1.59
Common Equity	55.02	51.41	49.68	49.06	48.27	50.69
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>SJW Corporation</u>						
Long-Term Debt	53.79 %	49.52 %	48.10 %	48.36 %	44.04 %	48.76 %
Preferred Stock	0.00	0.00	0.00	0.01	0.01	0.00
Common Equity	46.21	50.48	51.90	51.63	55.95	51.24
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>York Water Company</u>						
Long-Term Debt	48.28 %	47.16 %	55.31 %	51.17 %	48.82 %	50.15 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	51.72	52.84	44.69	48.83	51.18	49.85
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Proxy Group of Nine Water Companies</u>						
Long-Term Debt	50.61 %	50.96 %	50.88 %	49.67 %	49.31 %	50.29 %
Preferred Stock	0.22	0.24	0.25	0.35	0.51	0.31
Common Equity	49.17	48.80	48.87	49.98	50.18	49.40
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>

Source of Information
EDGAR Online's I-Metrix Database
Annual Forms 10-K

Do Analyst Conflicts Matter? Evidence from Stock Recommendations

Anup Agrawal *University of Alabama*

Mark A. Chen *Georgia State University*

Abstract

We examine whether conflicts of interest with investment banking and brokerage businesses induce sell-side analysts to issue optimistic stock recommendations and, if so, whether investors are misled by such biases. Using quantitative measures of potential conflicts constructed from a novel data set containing revenue breakdowns of analyst employers, we find that recommendation levels are indeed positively related to conflict magnitudes. The optimistic bias stemming from investment banking conflicts was especially pronounced during the late-1990s stock market bubble. However, evidence from the response of stock prices and trading volumes to upgrades and downgrades suggests that the market recognizes analysts' conflicts and properly discounts analysts' opinions. This pattern persists even during the bubble period. Moreover, the 1-year stock performance following revised recommendations is unrelated to the magnitude of conflicts. Overall, our findings do not support the view that conflicted analysts are able to systematically mislead investors with optimistic stock recommendations.

1. Introduction

In April 2003, 10 of the largest Wall Street firms reached a landmark settlement with state and federal securities regulators on the issue of conflicts of interest

We thank Yacov Amihud, Chris Barry, Utpal Bhattacharya, Stan Block, Leslie Boni, Doug Cook, Ning Gao, Jeff Jaffe, Jayant Kale, Omesh Kini, Chuck Knoeber, Junsoo Lee, Jim Ligon, Steve Mann, Vassil Mihov, Anna Scherbina, Luigi Zingales, seminar participants at Georgia State University, Southern Methodist University, Texas Christian University, the University of Alabama, the University of Delaware, the 2005 American Law and Economics Association (New York University) and European Finance Association (Moscow) meetings, and the 2006 American Finance Association (Boston), Center for Research in Security Prices Forum (Chicago), and Financial Intermediation Research Society (Shanghai) meetings for valuable comments. Special thanks are due to Randy Kroszner and Sam Peltzman and to an anonymous referee for very helpful suggestions. Tommy Cooper and Yuan Zhang provided able research assistance, and Thomson Financial provided data on analyst recommendations via the Institutional Brokers Estimate System. Agrawal acknowledges financial support from the William A. Powell Jr. Chair in Finance and Banking.

[*Journal of Law and Economics*, vol. 51 (August 2008)]

© 2008 by The University of Chicago. All rights reserved. 0022-2186/2008/5103-0019\$10.00

faced by stock analysts.¹ The settlement requires the firms to pay a record \$1.4 billion in compensation and penalties in response to government charges that the firms issued optimistic stock research to win favor with potential investment banking (IB) clients. Part of the settlement funds are earmarked for investor education and for provision of research from independent firms. In addition to requiring large monetary payments, the settlement mandates structural changes in the firms' research operations and requires the firms to disclose conflicts of interest in analysts' research reports.

The notion that investors are victims of biased stock research presumes that (1) analysts respond to the conflicts by inflating their stock recommendations and (2) investors take analysts' recommendations at face value. Even if analysts are biased, it is possible that investors understand the conflicts of interest inherent in stock research and rationally discount analysts' opinions. This alternative viewpoint, if accurate, would lead to very different conclusions about the consequences of analysts' research. Indeed, investors' rationality and self-interested behavior imply that stock prices should accurately reflect a consensus about the informational quality of public announcements (Grossman 1976; Grossman and Stiglitz 1980). Rational investors would recognize and adjust for analysts' potential conflicts of interest and thereby largely avoid the adverse consequences of biased stock recommendations.

In this article, we provide evidence on the extent to which analysts and investors respond to conflicts of interest in stock research. We address four questions. First, is the extent of optimism in stock recommendations related to the magnitudes of analysts' conflicts of interest? Second, to what extent do investors discount the opinions of more conflicted analysts? In particular, do stock prices and trading volumes react to recommendation revisions in a manner that rationally reflects the degree of analysts' conflicts? Third, is the medium-term (that is, 3- to 12-month) performance of recommendation revisions related to conflict severity? And, finally, did conflicts of interest affect analysts or investors differently during the late-1990s stock bubble than during the postbubble period? The answers to these questions are clearly of relevance to stock market participants, public policy makers, regulators, and the academic profession.

We use a unique, hand-collected data set that contains the annual revenue breakdown for 232 public and private analyst employers. This information allows us to construct quantitative measures of the magnitude of potential conflicts not only from IB business but also from brokerage business. We analyze a sample of over 110,000 stock recommendations issued by over 4,000 analysts during the 1994–2003 time period. Using univariate tests as well as cross-sectional regressions that control for the size of the company followed and individual analysts' experience, resources, workloads, and reputations, we attempt to shed

¹ Two more securities firms (Deutsche Bank Securities Inc. and Thomas Weisel Partners LLC) were added to the formal settlement in August 2004.

light both on how analysts respond to pressures from IB and brokerage businesses and on how investors compensate for the existence of such conflicts of interest.

A number of studies (for example, Dugar and Nathan 1995; Lin and McNichols 1998; Michaely and Womack 1999; Dechow, Hutton, and Sloan 2000; Bradley, Jordan, and Ritter 2008) focus on conflicts faced by analysts in the context of existing underwriting relationships (see also Malmendier and Shanthikumar 2007; Cliff 2007).² Our article complements this literature in several ways. First, we take into account the pressure to generate underwriting business from both current and potential client companies. Even if an analyst's firm does not currently do IB business with a company that the analyst tracks, it might like to do so in the future. Second, we examine the conflict between research and all IB services (including advice on mergers, restructuring, and corporate control), rather than just underwriting. Third, we examine conflicts arising from brokerage business in addition to those from IB.³

Fourth, the prior empirical finding that underwriter analysts tend to be more optimistic than other analysts is consistent with two alternative interpretations: (a) an optimistic report on a company by an underwriter analyst is a reward for past IB business or an attempt to win future IB business by currying favor with the company or (b) a company chooses an underwriter whose analyst already likes the stock. The second interpretation implies that underwriter choice is endogenous and does not necessarily imply a conflict of interest. We sidestep this issue of endogeneity by not focusing on underwriting relations between an analyst's firm and the company followed. Instead, our conflict measures focus on the importance to the analyst's firm of IB and brokerage businesses, as measured by the percentage of its annual revenue derived from IB business and from brokerage commissions. Unlike underwriting relations between an analyst's firm and the company followed, the proportions of the entire firm's revenues from each of these businesses can reasonably be viewed as given, exogenous variables from the viewpoint of an individual analyst. Finally, our approach yields substantially larger sample sizes than those used in prior research, and it therefore leads to greater statistical reliability of the results.

Several articles adopt an approach that is similar in spirit to ours. For example, Barber, Lehavy, and Trueman (2007) find that recommendation upgrades (downgrades) by investment banks—which typically also have brokerage businesses—

² Bolton, Freixas, and Shapiro (2007) theoretically analyze a different type of conflict of interest in financial intermediation, one faced by a financial advisor whose firm also produces financial products (such as in-house mutual funds). Mehran and Stulz (2007) provide an excellent review of the literature on conflicts of interest in financial institutions.

³ Hayes (1998) analyzes how pressure on analysts to generate brokerage commissions affects the availability and accuracy of earnings forecasts. Both Irvine (2004) and Jackson (2005) find that analysts' optimism increases a brokerage firm's share of the trading volume. Ljungqvist et al. (2007) find that analysts employed by larger brokerage houses issue more optimistic recommendations and more accurate earnings forecasts. However, none of these articles examines how investors' responses to analysts' recommendations and the investment performance of recommendations vary with the severity of brokerage conflicts, issues that we investigate here.

underperform (outperform) similar recommendations by non-IB brokerages and independent research firms. Cowen, Groysberg, and Healy (2006) find that full-service securities firms—which have both IB and brokerage businesses—issue less optimistic forecasts and recommendations than do non-IB brokerage houses. Finally, Jacob, Rock, and Weber (2008) find that short-term earnings forecasts made by investment banks are more accurate and less optimistic than those made by independent research firms. We extend this line of research by quantifying the reliance of a securities firm on IB and brokerage businesses. This is an important feature of our article for at least two reasons. First, given that many securities firms operate in multiple lines of business, it is difficult to classify them by business lines. By separately measuring the magnitudes of both IB and brokerage conflicts in each firm, our approach avoids the need to rely on a classification scheme. Second, since the focus of this research is on the consequences of analysts' conflicts, the measurement of those conflicts is important. Our conclusions sometimes differ from those in classification-based studies.

We find that analysts do indeed seem to respond to pressures from IB and brokerage businesses: larger potential conflicts of interest from these businesses are associated with more positive stock recommendations. We also document that the distortive effects of IB conflicts were larger during the late-1990s stock bubble than during the postbubble period. Nonetheless, the empirical analysis yields several pieces of evidence to suggest that investors are sophisticated enough to adjust for these biases. First, the short-term reactions of both stock prices and trading volumes to recommendation upgrades are negatively and statistically significantly related to the magnitudes of potential IB or brokerage conflicts. For downgrades, the corresponding relation is negative for stock prices but positive for trading volumes. Second, the 1-year investment performance after recommendation revisions bears no systematic relation to the magnitude of conflicts. Finally, investors continued to discount conflicted analysts' opinions during the bubble period, even amid the euphoria prevailing in the market at the time. Together these results strongly support the idea that the marginal investor, taking analysts' conflicts into account, rationally discounts optimistic stock recommendations.⁴

The remainder of the article is organized as follows. We discuss the issues in Section 2 and describe our sample and data in Section 3. Section 4 examines the relation between recommendation levels and the degree of IB or brokerage conflict faced by analysts. Section 5 analyzes how conflicts are related to the response of stock prices or trading volumes to recommendation revisions. Section

⁴ In a companion paper (Agrawal and Chen 2005), we find that analysts appear to respond to conflicts when making long-term earnings growth projections but not short-term earnings forecasts. This finding is consistent with the idea that, with short-term forecasts, analysts worry about their deception being revealed with the next quarterly earnings release, but they have greater leeway with long-term forecasts. We also find that the frequency of forecast revisions is positively related to the magnitude of brokerage conflicts, and several tests suggest that analysts' trade generation incentives impair the quality of stock research.

6 investigates the relation between conflicts and the investment performance of recommendation revisions. Section 7 presents our results for the late-1990s stock bubble and postbubble periods, and Section 8 concludes.

2. Issues and Hypotheses

Investment banking activity is a potential source of analyst conflict that has received widespread attention in the financial media (for example, Gasparino 2002; Maremont and Bray 2004) as well as the academic literature (for example, Lin and McNichols 1998; Michaely and Womack 1999). When IB business is an important source of revenue for a securities firm, a stock analyst employed by the firm often faces pressure to inflate his or her recommendations. This pressure is due to the fact that the firm would like to sell IB services to a company that the analyst tracks.⁵ The company, in turn, would like the analyst to support its stock with a favorable opinion. Thus, we expect that the more critical is IB revenue to an analyst's employer, the greater the incentives an analyst faces to issue optimistic recommendations.⁶

Analysts also face a potential conflict with their employers' brokerage businesses. Here, the pressure on analysts originates not from the companies that they follow but from within their employing firms. Brokerage business generates a large portion of most securities firms' revenues, and analyst compensation schemes are typically related explicitly or implicitly to trading commissions. Thus, analysts have incentives to increase trading volumes in both directions (that is, buys and sells). Given the many institutional constraints that make short sales relatively costly, many more investors participate in stock purchases than in stock sales.⁷ Indeed, it is mostly existing shareholders of a stock who sell. This asymmetry between purchases and sales implies that the more important brokerage business is to an analyst's employer, the more pressure the analyst faces to be bullish when issuing recommendations.

Analysts who respond to the conflicts they face by issuing blatantly misleading stock recommendations can develop bad reputations that reduce their labor income and hurt their careers.⁸ Stock recommendations, however, are not as easily evaluated as other outputs of analysts' research, such as 12-month price targets or quarterly earnings forecasts, which can be judged against public, near-

⁵ Throughout this article, we refer to an analyst's employer as a "firm" and a company followed by an analyst as a "company."

⁶ Ljungqvist, Marston, and Wilhelm (2006, forthcoming) find that, while optimistic recommendations do not help the analyst's firm win the lead underwriter or comanager positions in general, they help the firm win the comanager position in deals in which the lead underwriter is a commercial bank.

⁷ Numerous regulations in the United States increase the cost of selling shares short (see, for example, Dechow et al. 2001). Therefore, the vast majority of stock sales are regular sales rather than short sales. For example, over the 1994–2001 period, short sales comprised only about 10 percent of the annual New York Stock Exchange trading volume (New York Stock Exchange 2002).

⁸ See Jackson (2005) for a theoretical model showing that analysts' concerns about their reputations can reduce optimistic biases arising from brokerage business.

term realizations. So it is not clear whether analysts' career concerns can completely prevent them from responding to pressures to generate IB or brokerage business.

The relation between conflict severity and the short-term (2- or 3-day) stock price impact of a recommendation should depend on whether investors react to the opinion rationally or naively.⁹ Under the rational discounting hypothesis, the relation should be asymmetric for upgrades and downgrades. For upgrades, the stock price response should be negatively related to the degree of conflict. This implication arises because analysts who face greater pressure from IB or brokerage business are likely to be more bullish in their recommendations, and rational investors should discount an analyst's optimism more heavily. For downgrades, however, the story is different. When an analyst downgrades a stock despite facing large conflicts, rational investors should find the negative opinion more convincing and should be more likely to revalue the stock accordingly. This implies that the short-term stock price response to a downgrade should be negatively related to the degree of conflict.

The rational discounting hypothesis also predicts cross-sectional relations between conflict severity and the short-term trading volume responses to recommendations. As Kim and Verrecchia (1991) demonstrate in a rational expectations model of trading, the more precise a piece of news, the more individuals will revise their prior beliefs and, hence, the more trading that will result. In the present context, investor rationality implies that an upgrade by a highly conflicted analyst represents less precise news to investors, and so such a revision should be followed by a relatively small abnormal volume. But when an analyst downgrades a stock despite a substantial conflict, the signal is regarded as being more precise, and thus the downgrade should lead to relatively large abnormal trading.

By contrast, under the naive investor hypothesis, investors are largely ignorant of the distortive pressures that analysts face and accept analysts' recommendations at face value. This implies that there should be no relation between conflict severity and the short-term response of either stock prices or trading volume to recommendation revisions. Furthermore, the absence of a systematic relation should hold true for both upgrades and downgrades.

What are the implications of the two hypotheses for the medium-term (3- to 12-month) investment performance of analysts' recommendations? Under the rational discounting hypothesis, there should be no systematic relation between the magnitude of conflicts faced by an analyst and the performance of his or her stock recommendations: the market correctly anticipates the potential distortions up front and accordingly adjusts its response. But the naive investor hypothesis predicts that performance should be negatively related to conflict

⁹ This framework follows Kroszner and Rajan (1994) and Gompers and Lerner (1999), who analyze the conflicts that a bank faces in underwriting securities of a company when the bank owns a (debt or equity) stake in it.

severity for both upgrades and downgrades. That is, investors ignore analysts' conflicts up front and pay for their ignorance later.

3. Sample and Data

3.1. Sample

Our sample of stock recommendations comes from the Institutional Brokers Estimate System (I/B/E/S) U.S. Detail Recommendations History file. This file contains data on newly issued recommendations as well as revisions and reiterations of existing recommendations made by individual analysts over the period 1993–2003. Although the exact wording of recommendations can vary considerably across brokerage houses, I/B/E/S classifies all recommendations into five categories ranging from strong buy to strong sell. We rely on the I/B/E/S classification and encode recommendations on a numerical scale from 5 (strong buy) to 1 (strong sell).

Since we are primarily interested in examining how the nature and consequences of analysts' recommendations are related to IB or brokerage business, we require measures of the importance of these business lines to analysts' employers. Under U.S. law, all registered broker-dealer firms must file audited annual financial statements with the Securities and Exchange Commission (SEC) in x-17a-5 filings.¹⁰ These filings contain information on broker-dealer firms' principal sources of revenue, broken down into revenue from IB, brokerage commissions, and all other businesses (such as asset management and proprietary trading). We use these filings to obtain various financial data, including data on our key explanatory variables: the fractions of total brokerage house revenues from IB and from brokerage commissions. Beginning with the names of analyst employers contained in the I/B/E/S Broker Translation file,¹¹ we search for all available revenue information in x-17a-5 filings from 1994 to 2003.¹² For publicly traded broker-dealer firms, we also use 10-K annual report filings over the sample period to gather information on revenue breakdowns, if necessary. We thus obtain annual data from 1994 to 2003 on IB revenue, brokerage revenue, and other revenue for 188 privately held and 44 publicly traded brokerage houses.¹³ For each brokerage house, we match recommendations to the latest broker-year revenue data preceding the recommendation date. Over the sample period, we

¹⁰ The Securities Exchange Act, sections 17(a)–17(e), requires these filings. We accessed them from Thomson Financial's Global Access database and the Securities and Exchange Commission's (SEC's) public reading room in Washington, D.C.

¹¹ We use the file supplied directly by the Institutional Brokers Estimate System (I/B/E/S) on CD-ROM. This file does not recode the name of an acquired brokerage firm to that of its acquirer for years before the merger.

¹² The electronic availability of x-17a-5 filings is very limited prior to 1994, the year the SEC first mandated electronic form filing. Hence, we do not search for revenue information prior to 1994.

¹³ We exclude a small number of firm-years in which the total revenue is negative (for example, because of losses from proprietary trading).

are able to match in this fashion 110,493 I/B/E/S recommendations issued by 4,089 analysts.

All broker-dealer firms are required to publicly disclose their balance sheets as part of their x-17a-5 filings. But a private broker-dealer firm can withhold the public disclosure of its income statement, which contains the revenue breakdown information needed for this study, if the SEC deems that such disclosure would harm the firm's competitive position. Thus, our sample of private securities firms is limited to broker-dealers that disclose their revenue breakdowns in x-17a-5 filings. We examine whether this selection bias affects our main results by separately analyzing the subsample of publicly traded securities firms, for which public disclosure of annual revenue information is mandatory. Our findings do not appear to be affected by this selection bias. All of our results for the subsample of publicly traded securities firms are qualitatively similar to the results for the full sample reported in the article. In the Appendix, we describe the characteristics of disclosing and nondisclosing private securities firms, shed some light on the firms' income statement disclosure decisions, and use a selectivity-corrected probit model to examine whether the resulting selection bias can explain analysts' response to conflicts in these private firms. We find no evidence that selection bias affects our results for these firms.

3.2. *Characteristics of Analysts, Their Employers, and Companies Followed*

We next measure characteristics of analysts, their employers, and the companies they cover. Prior research (for example, Clement 1999; Jacob, Lys, and Neale 1999) finds that analysts' experience and workloads affect the accuracy and credibility of their research. Using the I/B/E/S Detail History files, we measure an analyst's experience and workloads in terms of all research activity reported in I/B/E/S, including stock recommendations, quarterly and annual earnings-per-share forecasts, and long-term earnings growth forecasts. We measure general research experience as the number of days since an analyst first issued research on any company in the I/B/E/S database and company-specific research experience as the number of days since an analyst first issued research on a particular company. We measure an analyst's workload as the number of different companies or the number of different four-digit I/B/E/S sector industry groups (S/I/Gs)¹⁴ for which the analyst issued research in a given calendar year.

The amount of resources devoted to investment research within brokerage houses also affects the quality of analysts' research (Clement 1999). Larger houses have access to better technology, information, and support staff. Accordingly, we use three measures of brokerage house size: the number of analysts issuing stock recommendations for a brokerage house over the course of a calendar year, book value of total assets, and net sales. All of our subsequent results are qual-

¹⁴ The I/B/E/S sector industry group numbers are six-digit codes that provide information on the industry sectors and subsectors for companies in the I/B/E/S database. We use the first four digits, which correspond to broad industry groupings.

Analyst Conflicts

511

Table 1
Revenue Sources (%) of Analysts' Employers

Recommendation Level	Investment Banking		Brokerage Commission		Sample Size
	Mean	Median	Mean	Median	
5 (Strong buy)	13.94	11.81	29.87	24.09	28,901
4 (Buy)	13.81	11.21	26.68	17.22	37,478
3 (Hold)	12.68	11.13	28.44	24.07	37,883
2 (Sell)	11.61	10.55	23.13	16.12	4,875
1 (Strong sell)	16.27	14.90	33.44	24.95	1,356
<i>p</i> -Value (4 and 5) versus (1 and 2)	.0000	.0000	.0000	.0023	

Note. Shown are the percentages of analyst employer revenues from investment banking and brokerage commissions, by recommendation level. Data are for 110,493 stock recommendations and are drawn from the Institutional Brokers Estimate System U.S. Detail Recommendations History file for 1994–2003.

itatively similar under each of the three size measures. To save space, we report results only of tests based on the first size measure.

To capture the degree to which investors believe that individual analysts have skill in providing timely and accurate research, we use two measures of analysts' reputation. The first is based on *Institutional Investor* (*II*) magazine's All-America Research Team designation. Each year around October 15, *II* mails an issue to subscribers that lists the names of analysts who receive the most votes in a poll of institutional money managers. About 300–400 analysts are identified. We construct a variable that indicates, for each recommendation revision, whether the recommending analyst was named to the first, second, third, or honorable mention team in the latest annual survey. As a complementary, objective measure of analysts' reputation, we use a variable based on the *Wall Street Journal*'s (*WSJ*'s) annual All-Star Analysts Survey. The *WSJ* All-Star Analysts are determined by an explicit set of criteria relating to past stock-picking performance and forecasting accuracy.¹⁵ The survey covers about 50 industries annually and names the top five stock pickers and top five earnings forecasters in each industry.¹⁶

Tables 1 and 2 report summary data on the characteristics of our sample. In Table 1, both the mean and the median percentages of analyst employer revenues derived from IB decline monotonically over the first four recommendation levels, but these values are the highest for strong sell recommendations. Similarly, it is the brokerage firms issuing strong sell recommendations that generally derive

¹⁵ We recognize that the performance metrics used in the *Wall Street Journal* (*WSJ*) All-Star Analysts Survey are public information and can, in principle, be replicated by investors. However, to the extent that computing and evaluating analysts' performance is a costly activity, being named an All-Star Analyst can still affect an analyst's reputation and credibility.

¹⁶ Since the I/B/E/S Broker Translation File provides only analysts' last names and first initials, in some instances it is not possible to ascertain from the I/B/E/S data alone whether an analyst in our sample was named to the *Institutional Investor* (*II*) or *WSJ* team. For these cases, we determine team membership of analysts from NASD BrokerCheck, an online database (<http://www.nasd.com>, accessed October 2004) that provides the full names of registered securities professionals as well as their employment and registration histories for the past 10 years. The database also keeps track of analysts' name changes (such as those resulting from marriage).

Table 2
Characteristics of Analysts, Firms, and Companies Followed

Characteristic	Mean	Median	SD	Sample Size
Investment banking revenue (%)	13.60	11.25	11.93	94,892
Brokerage commission revenue (%)	28.74	24.07	24.75	94,892
Analyst's company-specific experience (years)	2.42	1.20	3.29	85,531
Analyst's general experience (years)	6.41	4.90	5.32	85,531
Analysts employed by a firm	86.34	60	79.73	94,618
Companies followed by an analyst	17.24	15	12.93	84,016
Four-digit I/B/E/S S/I/Gs followed by an analyst	3.05	3	1.90	84,014
<i>Institutional Investor</i> All-America stock picker	.005	0	.07	85,531
<i>Institutional Investor</i> All-America Research Team member	.035	0	.18	85,531
<i>Wall Street Journal</i> All-Star stock picker	.018	0	.13	85,531
<i>Wall Street Journal</i> All-Star Analyst	.136	0	.34	85,531
Market capitalization (\$ millions)	8,804.46	1,367.22	27,758.81	81,333
Analyst following	9.14	7	6.88	92,869

Note. Data are for 94,892 recommendation revisions and are drawn from the Institutional Brokers Estimate System (I/B/E/S) U.S. Detail Recommendations History file for 1994–2003. Recommendation revisions include recommendation changes as well as initiations, resumptions, and discontinuations of coverage. Analysts' experience is measured from all analyst research activity reported in I/B/E/S, including earnings-per-share forecasts, long-term earnings growth forecasts, and stock recommendations. An analyst is considered to be a top stock picker or team member if he or she appeared in the relevant portion of the most recent analyst survey by *Institutional Investor* or the *Wall Street Journal* at the time of a recommendation revision. Market capitalization is measured 12 months before the end of the current month, and analyst following is measured on the basis of stock recommendation coverage. Market capitalization values are inflation adjusted (with Consumer Price Index numbers and with 2003 as the base year). S/I/G = sector industry group.

the highest percentage of their total revenues from brokerage commissions. Notably, in each of the five categories, the mean percentage of revenue from commissions is about twice as large as the mean percentage of revenue from IB. This fact underscores the importance of trading commissions as a source of revenue for many securities firms. The last column shows that about 95 percent of the recommendations in the sample are at levels 5 (strong buy), 4 (buy), or 3 (hold). Levels 1 (strong sell) and 2 (sell) represent only about 1 percent and 4 percent of all recommendations, respectively.

The data in Table 2 provide a flavor of our sample of analysts and their employers. As noted by Hong, Kubik, and Solomon (2000), careers as analysts tend to be relatively short. The median recommendation is made by an analyst with under 5 years of experience, of which just over a year was spent following a given stock. Stock analysts tend to be highly specialized, following a handful of companies in a few industries. The median recommendation is made by an analyst following 15 companies in three industries who works for a securities firm employing 60 analysts. Being named as an All-America Research Team member by *II* is a rare honor, received by under 5 percent of all analysts in our sample. Finally, the typical company followed is large, with mean (median) market capitalization of about \$8.8 billion (\$1.4 billion) in inflation-adjusted

2003 dollars. Over the time span of a year, a company is tracked by a mean (median) of 9.1 (7) analysts.

4. Conflicts and the Levels of Analyst Recommendations Net of the Consensus

In this section, we examine whether the level of an analyst's stock recommendation net of the consensus (that is, median) recommendation level is related to the conflicts that he or she faces. We start by ascertaining the level of the outstanding recommendation on each stock by each analyst following it at the end of each quarter (March, June, September, December) from 1995 through 2003. An analyst's recommendation on a stock is included only if it is newly issued, reiterated, or revised in the preceding 12 months.

We estimate a regression explaining individual analysts' net stock recommendation levels at the end of a quarter (which is the recommendation level minus the median recommendation level across all analysts following a stock during the quarter).¹⁷ The regression pools observations across analysts, stocks, and quarters and includes our two main explanatory variables: the percentage of an analyst employer's total revenues from IB and the percentage from brokerage commissions. Following Jegadeesh et al. (2004) and Kadan et al. (forthcoming), who find that momentum is an important determinant of analysts' recommendations, we control for the prior 6-month stock return.

The regression also controls for other factors that can affect the degree of analysts' optimism, such as the size of the company followed and the resources, reputation, experience, and workload of an analyst. As a measure of the resources available to an analyst, a dummy variable is used for a large brokerage house, and it equals one if the firm ranks in the top quartile of all houses in terms of the number of analysts employed during the year. The size of the company followed is measured by the natural logarithm of its market capitalization, measured 12 months before the end of the month. We measure an analyst's reputation by dummy variables that equal one if the recommending analyst was named in the most recent year as an All-America Research Team member by *II* or as an All-Star Analyst by the *WSJ*. An analyst's company-specific research experience is measured by the natural logarithm of one plus the number of days an analyst has been producing research (including earnings-per-share forecasts, long-term growth forecasts, or stock recommendations) on the company. We measure an analyst's workload by the natural logarithm of one plus the number of companies for which he or she produces forecasts or recommendations in the current year.

Finally, we control for industry and time period effects by adding dummy variables for I/B/E/S two-digit S/I/G industries and for each calendar quarter (March 1995, June 1995, and so forth). Since net recommendation levels can

¹⁷ To ensure meaningful variation in the dependent variable, we omit stocks followed by only one analyst in a quarter.

Table 3
Ordered Probit Analysis of Recommendation Levels Net of the Consensus

Explanatory Variable	Coefficient	z-Statistic
Investment banking revenue (%)	.4167	17.35
Brokerage commission revenue (%)	.0363	3.00
Prior 6-month stock return	-.0068	-2.89
Large brokerage house dummy	-.0639	-8.60
Company size	.0038	2.89
<i>Institutional Investor</i> All-America Research Team dummy	.0032	.15
<i>Wall Street Journal</i> All-Star Analyst dummy	-.0196	-2.23
Company-specific research experience	.0012	1.42
Number of companies followed	.0070	4.64

Note. The results are from ordered probit regressions explaining individual analysts' stock recommendation levels net of the consensus (that is, median) recommendation level at the end of each quarter (March, June, September, December) for 1995–2003. Observations are excluded if the analyst issued no new or revised recommendation in the preceding 12 months. The regression includes observations pooled across analysts, stocks, and quarters. Data on recommendations are drawn from the Institutional Brokers Estimate System (I/B/E/S) U.S. Detail Recommendations History file for 1994–2003. Investment banking or brokerage commission revenue refer to the percentage of the brokerage firm's total revenues derived from investment banking or brokerage commissions. The large brokerage house dummy is an indicator variable that equals one if a brokerage house is in the top quartile of all houses, based on the number of analysts issuing stock recommendations listed in I/B/E/S in a given calendar year. Company size is the natural logarithm of the market capitalization of the company followed, measured 12 months prior to the end of the current month. The *Institutional Investor* All-America Research Team and *Wall Street Journal* All-Star Analyst dummies are indicator variables that equal one if the recommending analyst was listed as an All-America Research Team member or All-Star Analyst in the most recent analyst ranking. Company-specific research experience is the natural log of one plus the number of days that an analyst has been issuing I/B/E/S research on a company. Number of companies followed equals the natural log of one plus the number of companies followed by an analyst in the current calendar year. The regression includes dummy variables for two-digit I/B/E/S sector industry group industries and for calendar quarters. Test statistics are based on a robust variance estimator. The number of observations is 213,011; the p -value of the χ^2 test is <.0001.

take ordered values from -4 (strongly pessimistic) to 4 (strongly optimistic) in increments of $.5$, we estimate the regression as an ordered probit model.¹⁸ The Z -statistics are based on a robust (Huber-White sandwich) variance estimator.

Table 3 shows the regression estimate. The coefficients of IB revenue percentage and commission revenue percentage are both positive. This finding implies that greater conflicts with IB and brokerage businesses lead an analyst to issue a higher recommendation on a stock relative to the consensus. Stocks followed by busier analysts and stocks of larger companies receive higher recommendations relative to the consensus. Stocks that experience a price run-up over the prior 6 months, stocks followed by analysts at large brokerage houses, and stocks followed by *WSJ* All-Star Analysts all receive lower recommendations relative to the consensus. All of these relations are highly statistically significant.

To provide a sense of the magnitude of the main effects of interest, we show in Table 4 the derivatives of the probability of each net recommendation level

¹⁸ Notice that recommendation levels can take integer values from 1 to 5, and the median recommendation can take values from 1 to 5 in increments of $.5$. See Greene (2003) for a detailed exposition of the ordered probit model.

Table 4
Marginal Effects and Sample Distribution for the Ordered Probit Regression in Table 3

	Recommendation Level Net of the Consensus														
	-4	-3.5	-3	-2.5	-2	-1.5	-1	-.5	0	.5	1	1.5	2	2.5	3
Investment banking revenue (%)	-.00031	-.0002	-.0026	-.0010	-.0199	-.0086	-.0744	-.0321	.0123	.0325	.0671	.0077	.0188	.0002	.0003
Brokerage commission revenue (%)	-.00003	-.00001	-.0002	-.00009	-.0017	-.0008	-.0065	-.0028	.0011	.0028	.0059	.0007	.0016	.00002	.00003
Observed frequency	.0001	.0001	.0016	.0007	.0176	.0094	.1241	.0948	.4940	.0937	.1289	.0111	.0233	.0002	.0003

Note. Shown is the derivative of the probability of each net recommendation level with respect to investment banking or brokerage revenue percentage, estimated from the ordered probit regression in Table 3. Investment banking and brokerage commission revenue refer to the percentage of the brokerage firm's total revenues derived from investment banking and brokerage commissions. The last row shows observed frequency of each net recommendation level as a proportion of the sample of 213,011 observations.

with respect to IB revenue and commission revenue percentages.¹⁹ Thus, for example, a 1-standard-deviation increase in IB revenue percentage increases the probability of an optimistic recommendation (that is, a net recommendation level greater than zero) by $.1193 \times (.0325 + .0671 + . . . + .0003) = .0151$. Compared to the unconditional probability of an optimistic recommendation by an analyst, this represents an increase of about 5.9 percent $(.0151/.2575)$. The effect of a change in commission revenue percentage is much smaller. A 1-standard-deviation increase in commission revenue percentage increases the probability of an optimistic recommendation by $.2475 \times .01105 = .0027$, or about 1 percent $(.0027/.2575)$ of the unconditional probability. Thus, despite possible concerns about a loss of reputation, analysts seem to respond to conflicts of interest, particularly those stemming from IB.

5. Conflicts and Investor Response to Recommendation Revisions

5.1 Stock Price Response

This section examines whether an analyst's credibility with investors is related to the degree of conflict faced. We interpret the reaction of stock prices to a recommendation revision as an indication of an analyst's credibility. Our analysis focuses on revisions in recommendation levels, rather than on recommendation levels per se, because revisions are discrete events that are likely to be salient for investors, and previous research finds that revisions have significant information content (see, for example, Womack 1996; Jegadeesh et al. 2004). To capture the effects of the most commonly observed and economically important types of revisions, we structure our tests around four basic categories: added to strong buy, added to buy or strong buy, dropped from strong buy, and dropped from buy or strong buy.²⁰ These four categories are defined to include initiations, resumptions, and discontinuations of coverage because such events also reflect analysts' positive or negative views about a company.²¹ Thus, for example, we consider a stock to be added to strong buy under two scenarios: (a) the recommendation level is raised to strong buy from a lower level or (b) coverage is

¹⁹ Notice that, for each explanatory variable, these derivatives sum to zero across all the net recommendation levels.

²⁰ Our analysis focuses on these four types of revisions instead of the other four (added to strong sell, and so forth) because, as shown in Table 1, sell and strong sell recommendations are quite rare. But note that dropped-from-buy and dropped-from-buy-or-strong-buy revisions can entail movement to the sell or strong sell category.

²¹ We use the I/B/E/S Stopped Recommendations file to determine instances in which a brokerage firm discontinued coverage of a company. This file contains numerous cases in which an analyst stops coverage of a stock only to issue a new recommendation a month or two later. Conversations with I/B/E/S representatives indicate that such events likely represent pauses in coverage due to company quiet periods or analysts' reassignments within a brokerage house. We define a stopped coverage event to be a true stoppage only if the analyst does not issue a recommendation on the stock over the subsequent 6 months.

initiated or resumed at the level of strong buy.²² Defining revisions in this fashion yields a sample of 94,892 recommendation revisions made over the 1994–2003 period.

5.1.1. Average Response

We compute the abnormal return on an upgraded or downgraded stock over day t as the return (including dividends) on the stock minus the return on the Center for Research in Security Prices equal-weighted market portfolio of New York Stock Exchange (NYSE), American Stock Exchange, and NASDAQ stocks. The cumulative abnormal return (CAR) on the stock over days t_1 to t_2 relative to the revision date (day 0) is measured as the sum of the abnormal returns over those days. Table 5 shows mean and median CARs for three windows: days -1 to 0 , -1 to 1 , and -5 to 5 . The t -statistics for the difference of the mean abnormal returns from zero are computed as in Brown and Warner (1985) and are shown in parentheses. The p -values for the Wilcoxon test are reported in parentheses with the medians.

It is clear from Table 5 that recommendation revisions have large effects on stock prices. For example, when a stock is added to the strong-buy list, it experiences a mean abnormal return of about 2 percent over the 2-day revision period. Downgrades have even larger effects on stock prices than do upgrades. Strikingly, the 2-day mean abnormal return around the dropped-from-strong-buy list is -4 percent. Median values are consistently smaller in magnitude than are means, and this finding indicates that some revisions lead to price reactions of a very large magnitude. Mean and median 2-day abnormal returns are statistically different from zero for all four groups of forecast revisions. The magnitudes of abnormal returns are somewhat larger over the 3-day and 11-day windows than over the 2-day window. Overall, these returns are consistent with those found by prior research that examines the average stock price impact of recommendation revisions (for example, Womack 1996; Jegadeesh et al. 2004).

5.1.2. Cross-Sectional Analysis

Table 6 contains cross-sectional regressions of stock price reactions to recommendation revisions over days -1 to 1 . The main explanatory variables of interest in these regressions are our revenue-based measures of the magnitudes of IB and brokerage conflicts. We include controls for the size of an analyst's employer, the size of the company followed, and measures of an analyst's reputation, experience, and workload.²³ We estimate a separate regression for each

²² Note that the definitions of our four recommendation revision groups imply that stocks can be added to a group more than once on a given day. Nonetheless, excluding days on which a stock experiences multiple revisions does not change any of our qualitative results.

²³ Prior research finds that analysts who have more experience, carry lower workloads, or are employed by larger firms tend to generate more precise research (see, for example, Clement 1999; Jacob, Lys, and Neale 1999; Mikhail, Walther, and Willis 1997). In addition, more reputed analysts tend to generate timelier and more accurate research (see, for example, Stickel 1992; Hong and Kubik 2003). We expect such analysts to be more influential with investors.

Table 5
Cumulative Abnormal Returns surrounding Revisions in Analyst Stock Recommendations

Recommendation Revision	Days -1 to 0			Days -1 to 1			Days -5 to 5		
	Mean (<i>t</i> -Statistic)	Median (<i>p</i> -Value)	<i>N</i>	Mean (<i>t</i> -Statistic)	Median (<i>p</i> -Value)	<i>N</i>	Mean (<i>t</i> -Statistic)	Median (<i>p</i> -Value)	<i>N</i>
Upgrades:									
Added to strong buy	.0207 (49.53)*	.0109 (.000)	24,560	.0240 (46.89)*	.0130 (.000)	24,556	.0263 (26.84)*	.0187 (.000)	24,499
Added to buy or strong buy	.0149 (46.47)*	.0071 (.000)	36,879	.0165 (42.01)*	.0085 (.000)	36,875	.0207 (27.53)*	.0128 (.000)	36,780
Downgrades:									
Dropped from buy or strong buy	-.0337 (-56.21)*	-.0126 (.000)	33,322	-.0358 (-48.75)*	-.0155 (.000)	33,262	-.0491 (-34.92)*	-.0287 (.000)	33,197
Dropped from strong buy	-.0399 (-49.88)*	-.0153 (.000)	22,825	-.0427 (-43.58)*	-.0183 (.000)	22,795	-.0570 (-30.38)*	-.0326 (.000)	22,767

Note. The sample of recommendation revisions is drawn from the Institutional Brokers Estimate System (I/B/E/S) U.S. Detail Recommendations History file for 1994–2003. Recommendation revisions include recommendation changes and initiations, resumptions, and discontinuations in coverage. Day 0 is the revision date. Recommendation revisions are classified according to the level of any existing recommendation and whether coverage is being initiated or dropped. For example, a revision by an analyst is classified as added to strong buy if the new recommendation is strong buy and (a) the previous recommendation was lower than strong buy or (b) analyst coverage by the brokerage house is resumed or initiated. A recommendation is classified as dropped from strong buy if the previous recommendation was strong buy and (a) the new recommendation is lower than strong buy or (b) research coverage on the company is stopped. The *t*-statistics for the difference from zero are computed as in Brown and Warner (1985). The *p*-values for the difference from zero are from a Wilcoxon test.

* Statistically significant at the 1% level in two-tailed tests.

Table 6
Cross-Sectional Regressions of Cumulative Abnormal Returns over Days -1 to +1 surrounding Recommendation Revisions

Explanatory Variable	Added to Strong Buy	Added to Buy or Strong Buy	Dropped from Buy or Strong Buy	Dropped from Strong Buy
Intercept	.0369 (7.66)**	.0412 (11.21)**	-.2294 (-31.31)**	-.2224 (-29.25)**
Investment banking revenue (%)	-.0262 (-5.65)**	-.0139 (-3.57)**	-.0200 (-2.74)**	-.0354 (-3.92)**
Brokerage commission revenue (%)	-.0187 (-6.51)**	-.0148 (-6.43)**	-.0089 (-2.39)*	-.0013 (-.29)
Large brokerage house dummy	.0116 (7.46)**	.0088 (6.88)**	-.0242 (-12.79)**	-.0220 (-10.25)**
Company size	-.0056 (-16.13)**	-.0041 (-15.40)**	-.0004 (-.97)	.0018 (3.77)**
<i>Institutional Investor</i> All-America Research Team dummy	.0159 (4.11)**	.0122 (3.82)**	-.0148 (-2.93)**	-.0207 (-3.28)**
<i>Wall Street Journal</i> All-Star Analyst dummy	.0015 (.81)	.0013 (.84)	-.0011 (-.48)	.0045 (1.78)
Company-specific research experience	.0017 (8.42)**	.0019 (12.49)**	.0039 (7.37)**	.0018 (3.21)**
Number of companies followed	-.0012 (-2.97)**	-.0016 (-5.37)**	.0007 (1.49)	.0008 (1.31)
Observations	19,440	28,665	28,618	19,632
Adjusted R ²	.038	.0240	.028	.035
P-Value of F-test	<.0001	<.0001	<.0001	<.0001

Note. Shown are coefficient estimates and (in parentheses) *t*-statistics from ordinary least squares regressions. Day 0 is the recommendation revision date. Data on recommendations are drawn from the Institutional Brokers Estimate System (I/B/E/S) U.S. Detail Recommendations History file for 1994–2003. Investment banking and brokerage commission revenue refer to the percentages of a brokerage firm's total revenues derived from investment banking and brokerage commissions. The large brokerage house dummy is an indicator variable that equals one if a brokerage house is in the top quartile of all houses, based on the number of analysts issuing stock recommendations listed in I/B/E/S in a given calendar year. Company size is the natural logarithm of the market capitalization of the company followed, measured 12 months prior to the end of the current month. The *Institutional Investor* All-America Research Team and *Wall Street Journal* All-Star Analyst dummies are indicator variables that equal one if the recommending analyst was listed as an All-America Research Team member or All-Star Analyst in the most recent analyst ranking. Company-specific research experience is the natural log of one plus the number of days that an analyst has been issuing I/B/E/S research on a company. Number of companies followed equals the natural log of one plus the number of companies followed by an analyst in the current calendar year. All regressions include dummy variables for calendar-year and two-digit I/B/E/S sector industry group industries (not reported). The *t*-statistics are based on a robust variance estimator.

* Statistically significant at the 5% level in two-tailed tests.

** Statistically significant at the 1% level in two-tailed tests.

of the four groups of recommendation revisions. The t -statistics based on a robust variance estimator are reported in parentheses.

The coefficient on IB revenue percentage is statistically significantly negative for both upgrades and downgrades. The coefficient on brokerage commission revenue percentage is also negative in all four regressions; it is statistically significant in all cases, except for the dropped-from-strong-buy revisions.²⁴ Collectively, these results favor the rational discounting hypothesis over the naive investor hypothesis. The magnitudes of these effects are nontrivial. For instance, a 1-standard-deviation increase in IB revenue percentage leads to a change of about $-.31$ ($-.42$) percentage points in the 3-day abnormal return around the move to (from) a strong buy recommendation. Similarly, a 1-standard-deviation increase in brokerage commission revenue percentage leads to a change of about $-.37$ ($-.22$) percentage points in the corresponding abnormal return around the move to (from) a buy or strong buy recommendation.²⁵

The results for control variables are also noteworthy. The dummy variable for a large analyst employer is positively (negatively) related to the market reaction to upgrades (downgrades). This finding is consistent with the idea that revisions by analysts employed at larger brokerage houses (which tend to be more reputable) have more credibility with investors. The size of the company followed is negatively (positively) related to the market reaction to upgrades (downgrades), which is consistent with the notion that, for larger companies, an analyst's recommendation competes with more alternative sources of information and advice.

Revisions by *II* All-America Research Team analysts are positively (negatively) related to the stock price reaction to upgrades (downgrades), which suggests that they wield more influence with investors. This is a notable finding; we are unaware of previous work documenting a relation between an analyst's reputation and the stock price reaction to both upgrades and downgrades. As the coefficient on the *WSJ* All-Star Analyst dummy indicates, however, being designated as a *WSJ* All-Star Analyst does not seem to enhance the credibility of an analyst's recommendations.²⁶ The absence of an effect here is somewhat

²⁴ These and all subsequent regression results in this article are qualitatively similar when we winsorize the dependent variable at the first and ninety-ninth percentiles of its distribution.

²⁵ For each group of revisions (such as added to strong buy), we also estimate the regression after excluding similar revision events that a stock experiences within 3 days of a given revision event. These results are qualitatively similar to those reported in Tables 6 and 8. We also examine the possibility that investors perceived the conflicts to be more severe, and hence discounted them more, in securities firms that were charged by regulators (that is, the 10 firms that were part of the global analyst settlement) than in other firms. We do this by interacting both investment banking (IB) revenue percentage and brokerage commission revenue percentage variables in the regression with binary (0, 1) dummy variables for securities firms that are part of the global analyst settlement and firms that are not. We find no significant differences between the two groups of firms in their coefficients on IB revenue percentage and commission revenue percentage.

²⁶ Although *II* All-America Research Team and *WSJ* All-Star Analyst dummies both measure aspects of an analyst's reputation, they are not highly correlated. The correlation coefficient is .14 across all upgrades and .13 across all downgrades.

surprising given that the *WSJ* has a much broader readership base than that of *II*. One explanation is that *II* analyst rankings are based on an opinion poll of money managers, who control substantial assets and therefore directly affect stock prices, while *WSJ* rankings are based on strictly quantitative measures of analysts' past stock-picking or forecasting performance.

The market reaction to upgrades is positively related to an analyst's company-specific research experience. This finding suggests that more experienced analysts tend to be more influential with investors. But the reaction to downgrades is also positively related to analysts' experience. Finally, the stock price reaction to upgrades is negatively related to analysts' workload. This finding suggests that busier analysts' opinions tend to get discounted by the market. All of these relations are statistically significant.

5.2. Response of Trading Volume

In this section, we measure analysts' credibility via changes in the volume of trade around recommendation revisions.²⁷ Revisions of analysts' recommendations can affect trading volumes by inducing investors to rebalance their portfolios to reflect updated beliefs.

5.2.1. Average Response

We compute the abnormal volume for a trading day t as the mean-adjusted share turnover for stock i :²⁸

$$e_{it} = v_{it} - v_i, \quad (1)$$

where v_{it} is the trading volume of stock i over day t divided by common shares outstanding on day t and v_i is the mean of v_{it} over days -35 to -6 .

The cumulative abnormal volume (CAV) for stock i over days t_1 to t_2 is measured in the following way:

$$CAV^i_{t_1, t_2} = \sum_{t=t_1}^{t_2} e_{it}. \quad (2)$$

Table 7 shows mean and median CAV values over three windows surrounding revisions in analyst stock recommendations. Over the 2-day revision period, the mean abnormal volume is positive for both upgrades and downgrades, but its magnitude is substantially larger for downgrades. The move to (from) the strong-buy list increases a stock's trading volume by a mean of about .9 percent (2.6 percent) of the outstanding shares, compared to a normal day's volume. For longer windows, the mean abnormal volumes are substantially higher for down-

²⁷ Many prior studies have used trading volume to examine investors' response to informational events (see, for example, Shleifer 1986; Jain 1988; Jarrell and Poulsen 1989; Meulbroek 1992; Sanders and Zdanowicz 1992).

²⁸ This approach has been used in a number of prior studies (for example, Shleifer 1986; Vijn 1994; Michaely and Vila 1996).

Table 7
Cumulative Abnormal Trading Volumes surrounding Announcements of Revisions in Stock Recommendations by Analysts

Recommendation revision	Days -1 to 0			Days -1 to 1			Days -5 to 5		
	Mean (<i>t</i> -Statistic)	Median (<i>p</i> -Value)	<i>N</i>	Mean (<i>t</i> -Statistic)	Median (<i>p</i> -Value)	<i>N</i>	Mean (<i>t</i> -Statistic)	Median (<i>p</i> -Value)	<i>N</i>
Upgrades:									
Added to strong buy	.0086 (8.89)*	.0011 (.000)	24,506	.0097 (8.18)*	.0015 (.000)	24,502	.0071 (3.13)*	.0030 (.000)	24,488
Added to buy or strong buy	.0053 (5.08)*	.0002 (.000)	36,800	.0058 (4.54)*	.0004 (.000)	36,796	.0020 (.818)	.0008 (.000)	36,766
Downgrades:									
Dropped from buy or strong buy	.0217 (114.47)*	.0010 (.000)	33,291	.0265 (114.14)*	.0014 (.000)	33,232	.0381 (85.70)*	.0039 (.000)	33,175
Dropped from strong buy	.0259 (128.76)*	.0017 (.000)	22,808	.0315 (127.86)*	.0025 (.000)	22,779	.0453 (96.03)*	.0057 (.000)	22,756

Note. The abnormal volume for stock *i* on day *t* is computed from daily Center for Research in Security Prices data as $\epsilon_{it} = v_{it} - v_i$, where v_{it} is the volume on day *t* and v_i is the average volume over days -35 to -6 relative to the recommendation revision date (day 0). All share volumes are normalized by dividing by common shares outstanding on the same day. The *p*-values are from a Wilcoxon test.

*Statistically significant at the 1% level in two-tailed tests.

grades. The median values are lower than the mean values. Each mean and median abnormal volume is statistically greater than zero, with a p -value below .01. Clearly, revisions of stock recommendations by analysts generate trading.

5.2.2. Cross-Sectional Analysis

Table 8 presents cross-sectional regressions explaining CAVs over days -1 to 1 surrounding the recommendation revisions. The explanatory variables in the regressions are the same as in regressions of CARs in Section 5.1.2. The results provide strong support for the rational discounting hypothesis. The coefficients on both the IB revenue percentage and commission revenue percentage variables are generally statistically significant and negative (positive) for both groups of upgrades (downgrades). The magnitudes of these effects are nontrivial. For example, a 1-standard-deviation increase in IB revenue percentage leads to a change in the 3-day abnormal volume around the addition (omission) of a stock to (from) the strong-buy list of about $-.12$ percent (.36 percent) of the outstanding shares; a corresponding change in the commission revenue percentage results in a change in the abnormal volume of about $-.15$ percent (.22 percent).

Recommendation revisions by larger brokerage houses generate more trading. The abnormal volume is also larger for revisions involving smaller companies. Revisions by *II* All-America Research Team members generate statistically significantly more abnormal volume for the dropped from buy or strong-buy group. Upgrades (downgrades) by more experienced analysts result in larger (smaller) abnormal volumes, and upgrades by busier analysts are less credible.

6. Conflicts and the Performance of Recommendation Revisions

We next consider the investment performance of analysts' recommendation revisions over periods of up to 12 months. Here, the choice of the benchmark used to compute abnormal returns is somewhat more important than it is in Section 5.1, where we measure abnormal returns over a few days around the revision. But the results here are likely to be less sensitive to the benchmark employed than are those in studies of long-run stock performance, where the time period of interest can be as long as 5–10 years (see, for example, Agrawal, Jaffe, and Mandelker 1992; Agrawal and Jaffe 2003).

6.1. Average Performance

We use an approach similar to Barber, Lehavy, and Trueman (2007). To evaluate the performance of stocks over a given window, say, months 1–12 following the month of their inclusion (month 0) in a given group of revisions such as the added-to-strong-buy list, we form a portfolio p that initially invests \$1 in each recommendation. Each recommended stock remains in the portfolio until month 12 or the month that the stock is either downgraded or dropped from coverage by the securities firm, whichever is earlier. If multiple securities firms recommend a stock in a given month, the stock appears multiple times in the

Table 8
Cross-Sectional Regressions of Cumulative Abnormal Trading Volumes over Days -1 to +1 surrounding Recommendation Revisions

Explanatory Variable	Added to Strong Buy	Added to Buy or Strong Buy	Dropped from Buy or Strong Buy	Dropped from Strong Buy
Intercept	.0083 (2.65)**	.0042 (1.90)	.0946 (13.72)**	.0828 (15.01)**
Investment banking revenue (%)	-.0100 (-3.31)**	-.0085 (-2.26)*	.0140 (2.18)*	.0304 (3.63)**
Brokerage commission revenue (%)	-.0057 (-1.76)	-.0059 (-4.13)**	.0087 (2.76)**	.0055 (1.45)
Large brokerage house dummy	.0058 (3.72)**	.0038 (4.50)**	.0168 (11.12)**	.0171 (9.48)**
Company size	-.0031 (-9.54)**	-.0018 (-12.30)**	-.0023 (-7.60)**	-.0041 (-11.40)**
<i>Institutional Investor</i> All-America Research Team dummy	.0035 (1.74)	.0033 (1.88)	.0084 (2.32)*	.0046 (1.21)
<i>Wall Street Journal</i> All-Star Analyst dummy	.0008 (.74)	.0013 (1.42)	.0023 (1.36)	-.0006 (-.29)
Company-specific research experience	.0010 (8.39)**	.0010 (11.19)**	-.0041 (-6.18)**	-.0019 (-4.11)**
Number of companies followed	-.0009 (-3.49)**	-.0013 (-6.23)**	-.0001 (-.38)	-.0005 (-.99)
Observations	19,431	28,653	28,594	19,619
Adjusted R ²	.025	.019	.030	.042
p-Value of F-test	<.0001	<.0001	<.0001	<.0001

Note. Shown are coefficient estimates and (in parentheses) *t*-statistics from ordinary least squares regressions. Day 0 is the recommendation revision date. Data on recommendations are drawn from the Institutional Brokers Estimate System (I/B/E/S) U.S. Detail Recommendations History file for 1994–2003. Investment banking and brokerage commission revenue refer to the percentage of brokerage firm's total revenues derived from investment banking and brokerage commissions. The large brokerage house dummy is an indicator variable that equals one if a brokerage house is in the top quartile of all houses, based on the number of analysts issuing stock recommendations listed in I/B/E/S in a given calendar year. Company size is the natural logarithm of the market capitalization of the company followed, measured 12 months prior to the end of the current month. The *Institutional Investor* All-America Research Team and *Wall Street Journal* All-Star Analyst dummies are indicator variables that equal one if the recommending analyst was listed as an All-America Research Team member or All-Star Analyst in the most recent analyst ranking. Company-specific research experience is the natural log of one plus the number of days that an analyst has been issuing I/B/E/S research on a company. Number of companies followed equals the natural log of one plus the number of companies followed by an analyst in the current calendar year. All regressions include dummy variables for calendar-year and two-digit I/B/E/S sector industry group industries (not reported). The *t*-statistics are based on a robust variance estimator.

* Statistically significant at the 5% level in two-tailed tests.

** Statistically significant at the 1% level in two-tailed tests.

portfolio that month, once for each securities firm with a strong buy recommendation. The portfolio return for calendar month t is given by

$$R_{pt} = \frac{\sum_{i=1}^{n_t} x_{it} \times R_{it}}{\sum_{i=1}^{n_t} x_{it}} \quad (3)$$

where R_{it} is the month t return on recommendation i , x_{it} is one plus the compound return on the recommendation from month 1 to month $t - 1$ (that is, x_{it} equals one for a stock that was recommended in month t), and n_t is the number of recommendations in the portfolio. This calculation yields a time series of monthly returns for portfolio p .

We compute the abnormal performance of portfolio p as the estimate of the intercept term α_p from the Fama and French (1993) three-factor model. Accordingly, we estimate the following time-series regression for portfolio p :

$$R_{pt} - R_{ft} = \alpha_p + \beta_{1p}(R_{mt} - R_{ft}) + \beta_{2p}\text{SMB}_t + \beta_{3p}\text{HML}_t + \varepsilon_{pt} \\ t = \text{January 1994 to December 2003}, \quad (4)$$

where R_f is the risk-free rate, R_m is the return on the value-weighted market index, SMB equals the monthly return on a portfolio of small firms minus the return on a portfolio of big firms, and HML is the monthly return on a portfolio of firms with high book-to-market ratio minus the return on a portfolio of firms with low book-to-market ratio. The error term in the regression is denoted ε . The time series of monthly returns on $R_m - R_f$, SMB, and HML are obtained from Kenneth French's Web site.²⁹ We repeat this procedure for each time window of interest, such as months 1–3, and for each group of revisions, such as the dropped-from-strong-buy list.

Table 9 shows the performance of analysts' recommendation revisions. Over the period of 3 months following the month of recommendation revision, the average abnormal returns for upgrades are positive, and the returns for downgrades are negative. The magnitudes of these returns are nontrivial. For example, the addition of a stock to the strong-buy list has an abnormal monthly return of about .875 percent, or about 2.62 percent over the 3-month period. The pattern is generally similar over longer windows. For example, over months 1–12, the abnormal monthly return for the added-to-strong-buy list is .679 percent, or about 8.15 percent over the 12-month period. The abnormal returns are significantly different from zero for upgrades in all cases; they are statistically insignificant for downgrades in all cases except one.

²⁹ Kenneth R. French, Fama/French Factors (file F-F_Research_Data_Factors.zip at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html).

Table 9
Medium-Term Investment Performance of Recommendation Revisions

Portfolio	Months 1–3		Months 1–6		Months 1–12	
	Abnormal Monthly Return		Abnormal Monthly Return		Abnormal Monthly Return	
	(%)	<i>t</i> -Statistic	(%)	<i>t</i> -Statistic	(%)	<i>t</i> -Statistic
Added to strong buy	.875	6.12**	.758	6.12**	.679	5.70**
Added to buy or strong buy	.586	4.49**	.511	4.82**	.503	5.38**
Dropped from buy or strong buy	–.361	–1.60	–.260	–1.28	–.072	–.44
Dropped from strong buy	–.367	–1.58	–.395	–2.00*	–.231	–1.49

Note. Abnormal returns are reported for three event windows relative to the month of revision (month 0) and are computed using an approach similar to that in Barber, Lehavy, and Trueman (2007). The abnormal return is the estimated intercept from a time-series regression of 114 monthly portfolio returns using the Fama and French (1993) three-factor model.

* Statistically significant at the 5% level in two-tailed tests.

** Statistically significant at the 1% level in two-tailed tests.

6.2. Cross-Sectional Analysis

Table 10 shows the results of a regression similar to that in Section 5.1.2, except that the dependent variable here is the average monthly abnormal return for a firm over months 1–12 following the month of a recommendation revision. We compute this abnormal return by estimating a time-series regression similar to that in equation (4) over months 1–12 for each stock in a sample of recommendation revisions. The intercept from this regression is our estimate of the performance of the recommendation revision. Observations involving recommendation revisions on a stock that occur within 12 months of an earlier revision are omitted from each regression.³⁰

In each regression result reported in Table 10, the coefficients of IB revenue percentage and commission revenue percentage are not statistically significantly different from zero. These results favor the rational discounting hypothesis, at least for the marginal investor. The performance of both groups of recommendation upgrades is negatively related to company size; the performance of one group of downgrades is positively related to the dummy variable for *WSJ All-Star Analysts*. None of the other variables is statistically significant.

7. Bubble versus Postbubble Periods

We next exploit the fact that our sample spans both the late-1990s U.S. stock bubble and a postbubble period. During the bubble period, initial public offerings, merger activities, and stock prices were near record highs, and media attention was focused on analysts' pronouncements. We therefore examine whether analysts' behavior and investors' responses to analysts' recommendations differed during the bubble and postbubble periods. Given the euphoria on Wall

³⁰ The results are qualitatively similar when we include these observations.

Table 10
Cross-Sectional Regressions of Average Monthly Abnormal Returns following Recommendation Revisions over Months 1–12

Explanatory Variable	Added to Strong Buy	Added to Buy or Strong Buy	Dropped from Buy or Strong Buy	Dropped from Strong Buy
Intercept	.0523 (1.81)	.0089 (.49)	-.0646 (-6.81)**	-.0821 (-6.55)**
Investment banking revenue (%)	-.0089 (-1.23)	-.0018 (-.29)	.0042 (.64)	-.0068 (-.87)
Brokerage commission revenue (%)	.0064 (1.32)	.0059 (1.54)	.0057 (1.21)	.0031 (.75)
Large brokerage house dummy	.0009 (.38)	-.0027 (-1.32)	.0016 (.72)	.0015 (.77)
Company size	-.0013 (-2.74)**	-.0017 (-4.18)**	-.0007 (-1.71)	-.0007 (-1.54)
<i>Institutional Investor</i> All-America analyst dummy	-.0029 (-.58)	.0001 (.01)	-.0016 (-.44)	-.0009 (-.23)
<i>Wall Street Journal</i> All-Star Analyst dummy	.0031 (1.24)	.0002 (.12)	-.0029 (-1.42)	.0056 (2.29)*
Company-specific research experience	.0004 (1.08)	.0004 (1.80)	.0004 (.76)	.0004 (.92)
Number of companies followed	-.0011 (-1.61)	-.0008 (-1.79)	-.0002 (-.45)	-.0002 (-.47)
Observations	6,411	8,851	10,644	8,368
Adjusted R ²	.026	.023	.019	.020
p-Value of F-test	<.0001	<.0001	<.0001	<.0001

Note. Shown are the coefficient estimates and (in parentheses) *t*-statistics from ordinary least squares regressions. Month 0 is the month of recommendation revision. The abnormal return is the estimated intercept from a time-series regression of monthly portfolio returns in accordance with the Fama and French (1993) three-factor model. Data on recommendations are drawn from the Institutional Brokers Estimate System (I/B/E/S) U.S. Detail Recommendations History file for 1994–2003. Investment banking and brokerage commission revenue data refer to the percentage of the brokerage firm's total revenues derived from investment banking and brokerage commissions. The large brokerage house dummy is an indicator variable that equals one if a brokerage house is in the top quartile of all houses, based on the number of analysts issuing stock recommendations on I/B/E/S in a given calendar year. Company size is the natural logarithm of the market capitalization of the company followed, measured 12 months prior to the end of the current month. The *Institutional Investor* All-America Research Team and *Wall Street Journal* All-Star Analyst dummies are indicator variables that equal one if the recommending analyst was listed as an All-America Research Team member or All-Star Analyst in the most recent analyst ranking. Company-specific research experience is the natural log of one plus the number of days that an analyst has been issuing I/B/E/S research on a company. Number of companies followed equals the natural log of one plus the number of companies followed by an analyst in the current calendar year. All regressions include dummy variables for calendar-year and two-digit I/B/E/S sector industry group industries (not reported). The *t*-statistics are based on a robust variance estimator.

* Statistically significant at the 5% level in two-tailed tests.

** Statistically significant at the 1% level in two-tailed tests.

Table 11
Ordered Probit Regression of Recommendation Levels Net of the Consensus
for Bubble versus Postbubble Periods

	Bubble	Postbubble	<i>p</i> -Value
Investment banking revenue (%)	.5103*	.3089*	<.001
Brokerage revenue (%)	-.1868*	.2286*	<.001

Note. The explanatory variables are as in Table 3, except that (a) the investment banking revenue and brokerage commission revenue percentage variables are interacted with dummy variables for the bubble or postbubble period and (b) calendar-quarter dummies are replaced with a postregulation indicator (which is equal to one for quarters after May 2002). Shown are the coefficient estimates of investment banking and brokerage revenue percentage variables for the bubble and postbubble periods and the *p*-value for the difference in the coefficient estimate between the two periods. All test statistics use robust variance estimators.

* Statistically significant at the 1% level in two-tailed tests.

Street and among investors during the bubble, analysts appear to have been under acute pressure to generate IB fees and brokerage commissions. As for the response of investors, the rational discounting hypothesis predicts greater discounting of analysts' opinions during this period in response to heightened conflicts, while the naive investor hypothesis predicts less discounting.

We estimate regressions similar to those for relative recommendation levels (Table 3), those for announcement abnormal returns (Table 6), those for announcement abnormal volumes (Table 8), and those for 12-month investment performance of recommendation revisions (Table 10), except that we now interact IB revenue percentage and commission revenue percentage with dummy variables for the bubble (January 1996–March 2000) and postbubble (April 2000–December 2003) periods. Accordingly, we restrict the sample period for these regressions to January 1996–December 2003. For regressions corresponding to those with results shown in Table 3, we also replace the calendar-quarter dummies with a postregulation indicator (equal to one for quarters ending after May 2002). In May 2002, both the NYSE and the National Association of Securities Dealers considerably tightened the regulations on the production and dissemination of sell-side analyst research.³¹ The findings of Barber et al. (2006) and Kadan et al. (forthcoming) suggest that these regulations exerted a downward pressure on recommendation levels. The regression results are presented in Tables 11 and 12. To save space, we report only the coefficient estimates for IB revenue percentage and commission revenue percentage.

The results in Table 11 show that analysts appear to have inflated their recommendations in response to IB conflicts during both the bubble and postbubble periods. But the magnitude of this effect is substantially greater during the bubble period than during the postbubble period. This difference is statistically significant. The magnitude of the effect is smaller for brokerage conflicts than for IB conflicts during both periods. In fact, the effect for brokerage conflicts is negative

³¹ See NYSE Amended Rule 472, "Communications with the Public," and National Association of Securities Dealers Rule 2711, "Research Analysts and Research Reports."

Table 12
Ordinary Least Squares Regressions of Abnormal Returns, Abnormal Volumes, and
Abnormal Stock Performance for Bubble and Postbubble Periods

	Added to Strong Buy		Added to Buy or Strong Buy		Dropped from Buy or Strong Buy		Dropped from Strong Buy	
	Bubble	Postbubble	Bubble	Postbubble	Bubble	Postbubble	Bubble	Postbubble
CARs, days -1 to 1:								
Investment banking revenue (%)	-.0248**	-.0120	.083	-.0121**	-.0080	.517	-.0125	-.0379**
Brokerage revenue (%)	-.0114**	-.0105**	.827	-.0099**	-.0110**	.720	-.0063	-.0208**
CAVs, days -1 to 1:								
Investment banking revenue (%)	-.0076	-.0052	.655	-.0065	-.0082*	.699	.0257**	.0130
Brokerage revenue (%)	-.0042	-.0008	.376	-.0054**	-.0031	.179	.0106*	.0139**
Average monthly CARs, months 1-12:								
Investment banking revenue (%)	-.0016	-.0151	.273	.00001	.0083	.420	-.0085	.0223**
Brokerage revenue (%)	.0069	.0108	.511	.0086	.0096	.842	.0035	.0136

Note. The explanatory variables are as in Tables 6, 8, and 10, except that the investment banking revenue and brokerage commission revenue percentage variables are interacted with dummy variables for the bubble or postbubble period. Shown are the coefficient estimates of the investment banking and brokerage revenue percentage variables for the bubble and postbubble periods and the *p*-value for the difference in the coefficient estimate between the two periods. Day (month) 0 is the recommendation revision date. All test statistics use robust variance estimators. CAR = cumulative abnormal return; CAV = cumulative abnormal volume.

* Statistically significant at the 5% level in two-tailed tests.

** Statistically significant at the 1% level in two-tailed tests.

during the bubble; it is positive and statistically significantly higher during the postbubble period.

Table 12 shows that, in regressions of 3-day abnormal returns, the coefficients of both IB revenue percentage and commission revenue percentage are negative and statistically significant during the bubble period for both groups of upgrades. For the added-to-strong-buy group, the coefficient of IB revenue percentage is significantly lower during the bubble period than during the postbubble period. For downgrades, the coefficients of both variables are generally negative in both periods, and they are statistically significantly lower during the postbubble period.

In regressions of 3-day abnormal volumes, the coefficients of IB revenue percentage and commission revenue percentage are negative for upgrades and positive for downgrades in all cases, both during and after the bubble. These coefficients are not statistically significantly different between the bubble and postbubble periods for both groups of upgrades and one group of downgrades. For the dropped-from-strong-buy group, the coefficient of IB revenue percentage is statistically significantly larger during the bubble period than during the postbubble period, but the coefficient of the commission revenue percentage is statistically significantly smaller. In regressions of 12-month postrecommendation stock performance, the coefficients of both variables are statistically insignificant both during and after the bubble period in nearly all cases, and this finding is consistent with the results shown in Table 10 for the full sample period.

Overall, analysts appear to respond to IB conflicts both during and after the bubble, but the magnitude of their response declines during the postbubble period. Perversely, while analysts do not seem to respond to brokerage conflicts during the bubble, they appear to do so after the bubble. Perhaps the intense regulatory and media focus on IB conflicts has led analysts to look for alternative avenues. Did investors discount conflicted analysts' opinions more during the bubble than in the postbubble period? The answer to this question is unclear. However, our evidence does not support the notion that investors threw caution to the wind during the bubble.

8. Summary and Conclusions

Following the collapse of the late-1990s U.S. stock market bubble, there has been a widespread hue and cry from investors and regulators over the conflicts of interest faced by Wall Street stock analysts. The discovery of e-mail messages, in which analysts were privately disparaging stocks that they were touting publicly, led to the landmark \$1.4 billion settlement between a number of leading Wall Street firms and securities regulators in April 2003. The settlement requires the firms to disclose IB conflicts in analyst reports and imposes a variety of restrictions designed to strengthen the firewalls that separate research from IB. Part of the settlement funds are set aside for investor education and for research produced by independent firms. The settlement basically presumes that analysts

respond to the conflicts by inflating their stock recommendations and that investors take analysts' recommendations at face value.

Consistent with the view of the media and regulators, we find that optimism in stock recommendations is positively related to the importance of both IB and brokerage businesses to an analyst's employer. This pattern is more pronounced during the late-1990s stock market bubble with respect to IB conflicts. However, we provide several pieces of empirical evidence that suggest that investors are sophisticated enough to adjust for this bias. First, the short-term reactions of both stock prices and trading volumes to recommendation upgrades vary negatively with the magnitude of potential IB or brokerage conflicts faced by analysts. For instance, over the 3 days surrounding an upgrade to strong buy, a 1-standard-deviation increase in the proportion of revenue from IB is associated with a .31 percentage point decrease in abnormal returns and a .12 percentage point decrease in abnormal volume. These results suggest that investors ascribe lower credibility to an analyst's upgrade when the analyst is subject to greater pressures to issue an optimistic view. For downgrades, conflict severity varies negatively with the short-term stock price reaction and positively with the short-term trading volume impact. This pattern is consistent with the idea that investors perceive an analyst to be more credible if he or she is willing to voice an unfavorable opinion on a stock despite greater pressures to be optimistic.

Second, we find no evidence that the 1-year investment performance of recommendation revisions is related to the magnitude of analysts' conflicts, either for upgrades or for downgrades. This finding suggests that, on average, investors properly discount an analyst's opinions for potential conflicts at the time the opinion is issued. Finally, investors discounted conflicted analysts' opinions during the late-1990s stock bubble, even in the face of the prevailing market euphoria. This evidence does not support the popular view that recommendations of sell-side analysts led investors to throw caution to the wind during the bubble period.

Overall, our empirical findings suggest that while analysts do respond to IB and brokerage conflicts by inflating their stock recommendations, the market discounts these recommendations after taking analysts' conflicts into account. These findings are reminiscent of the story of the nail soup told by Brealey and Myers (1991), except that here analysts (rather than accountants) are the ones who put the nail in the soup and investors (rather than analysts) are the ones to take it out. Our finding that the market is not fooled by biases stemming from conflicts of interest echoes similar findings in the literature on conflicts of interest in universal banking (for example, Kroszner and Rajan 1994, 1997; Gompers and Lerner 1999) and on bias in the financial media (for example, Bhattacharya et al., forthcoming; Reuter and Zitzewitz 2006). Finally, while we cannot rule out the possibility that some investors may have been naive, our findings do not support the notion that the marginal investor was systematically misled over the last decade by analysts' recommendations.

Appendix

This Appendix describes the characteristics of disclosing and nondisclosing private securities firms, sheds some light on their decisions to publicly disclose their income statements, and examines whether the resulting selection bias affects our main results in Table 3. Table A1 provides summary statistics of recommendation levels and characteristics of disclosing and nondisclosing private securities firms. Compared with nondisclosing firms, disclosing firms tend to be smaller and more liquid and issue somewhat more optimistic stock recommendations. The mean recommendation level is slightly higher for disclosing firms than for nondisclosing firms. The median disclosing firm is smaller and holds more liquid assets than the median nondisclosing firm. All these differences are statistically significant. The two groups of firms have similar financial leverage ratios and 2-year growth rates in total assets.

We next examine cross-sectional determinants of a private securities firm's decision to disclose its income statement. In an excellent review of the corporate disclosure literature, Healy and Palepu (2001) point out that a firm is more willing to voluntarily disclose financial information when it needs to raise external financing and when it is less concerned that the disclosure would damage its competitive position in product markets. *Ceteris paribus*, firms with greater growth opportunities, higher financial leverage, and less liquid resources are more likely to need external financing. They are more likely to be open with potential investors by disclosing financial information, including their income statements. Similarly, smaller firms are likely to have greater need for external financing as they try to grow. In addition, given the intense competition in the securities business, smaller private firms are also likely to be more willing to disclose their profits and profitability because they have less business at stake. For both reasons, smaller firms are likely to be more willing to disclose financial information. We control for firm size by the natural logarithm of one plus total assets in millions of dollars, for growth opportunities by the 2-year growth rate of total assets, for financial leverage by the ratio of long-term debt to total assets, and for liquidity by the ratio of cash and equivalents to total assets. We estimate a probit regression of DISCLOSER, which equals one for a disclosing firm and is zero otherwise.

In accordance with the predictions of corporate disclosure theory, the coefficients on firm size and liquidity are negative, and the coefficient on growth is positive. Contrary to the prediction, however, the coefficient on leverage is negative. All of these coefficients are highly statistically significant. The pseudo- R^2 -value of this model is .08. To save space, these results are not shown in a table.

Finally, we examine whether the selection bias caused by a private securities firm's disclosure choice (and, consequently, the availability of data on IB revenue percentage and commission revenue percentage) affects our main results in Table 3. While there is no Heckman selectivity correction for the ordered probit model, there is one for the regular probit model. So we define a binary variable to

Table A1
Summary Statistics for Disclosing and Nondisclosing Private Securities Firms

Variable	Mean		Median		p-Value of Rank Sum Test		Sample Size	
	Disclosers	Nondisclosers	Disclosers	Nondisclosers	Disclosers	Nondisclosers	Disclosers	Nondisclosers
	P-Value of t-Test							
Recommendation level:								
Level	3.902	3.810	4	4	<.001	<.001	62,417	181,068
Level minus median level	.036	.010	0	0	<.001	<.001	62,417	181,068
Firm size:								
Total assets (\$ millions)	383.37	1,863.52	4.05	28.43	<.001	<.001	365	615
Book equity (\$ millions)	26.40	68.98	1.97	10.56	<.001	<.001	365	615
Financial leverage:								
Long-term debt to total assets	.0539	.0653	0	.002	.253	.004	365	615
Total debt to total assets	.0685	.1823	0	.018	.295	<.001	365	615
Liquidity: cash and equivalents to total assets	.2392	.1816	.101	.052	.001	.0001	365	615
2-Year growth rate	.0849	.0697	.052	.020	.440	.099	246	541

Note. Disclosers are brokers that publicly disclose their income statements, while nondisclosers are brokers that do not disclose them. The statistics for recommendation level are computed from individual analysts' recommendation levels at the end of each quarter in the sample. The median recommendation level is computed at the end of each quarter and is based on all analysts recommending a stock. The statistics for broker characteristics are computed across broker years. The firm size statistics are inflation adjusted (with Consumer Price Index numbers and with 2003 as the base year). The 2-year growth rate is $(\text{Total assets}_t / \text{Total assets}_{t-2})^{1/2} - 1$.

measure an optimistic recommendation that equals one if an analyst's recommendation level on a stock exceeds the consensus level and equals zero otherwise. We then replace the dependent variable in the regression in Section 4 with this optimistic recommendation dummy. Using the subsample of private securities firms, we estimate the resulting equation in two ways: (a) with a regular probit model and (b) with a Heckman selectivity-corrected probit model, where we use the equation described in the second paragraph of this Appendix as the selection equation. When we use approach b, the coefficient of the selection term (that is, the inverse Mills ratio) is statistically significant in the second-stage probit regression. What is more important for our purposes is that the sign, magnitude, and statistical significance of our main explanatory variables, the IB revenue percentage and the commission revenue percentage, are similar in the regular probit and the Heckman-corrected probit regressions. These results do not support the idea that our main findings are driven by the selection bias caused by a private securities firm's decision to disclose its revenue breakdown. To save space, these results are not shown in a table.

References

- Agrawal, Anup, and Mark Chen. 2005. Analyst Conflicts and Research Quality. Working paper. University of Alabama, Culverhouse College of Business, Tuscaloosa.
- Agrawal, Anup, and Jeffrey F. Jaffe. 2003. Do Takeover Targets Under-Perform? Evidence from Operating and Stock Returns. *Journal of Financial and Quantitative Analysis* 38: 721–46.
- Agrawal, Anup, Jeffrey F. Jaffe, and Gershon N. Mandelker. 1992. The Post-merger Performance of Acquiring Firms: A Re-Examination of an Anomaly. *Journal of Finance* 47:1605–21.
- Barber, Brad, Reuven Lehavy, Maureen McNichols, and Brett Trueman. 2006. Buys, Holds, and Sells: The Distribution of Investment Banks' Stock Ratings and the Implications for the Profitability of Analysts' Recommendations. *Journal of Accounting and Economics* 41:87–117.
- Barber, Brad, Reuven Lehavy, and Brett Trueman. 2007. Comparing the Stock Recommendation Performance of Investment Banks and Independent Research Firms. *Journal of Financial Economics* 85:490–517.
- Bhattacharya, Utpal, Neal Galpin, Rina Ray, and Xiaoyun Yu. Forthcoming. The Role of the Media in the Internet IPO Bubble. *Journal of Financial and Quantitative Analysis*.
- Bolton, Patrick, Xavier Freixas, and Joel Shapiro. 2007. Conflicts of Interest, Information Provision, and Competition in the Financial Services Industry. *Journal of Financial Economics* 85:297–330.
- Bradley, Daniel J., Bradford D. Jordan, and Jay R. Ritter. 2008. Analyst Behavior following IPOs: The "Bubble Period" Evidence. *Review of Financial Studies* 21:103–33.
- Brealey, Richard A., and Stewart C. Myers. 1991. *Principles of Corporate Finance*. 3rd ed. New York: McGraw-Hill.
- Brown, Stephen J., and Jerold B. Warner. 1985. Using Daily Stock Returns: The Case of Event Studies. *Journal of Financial Economics* 14:3–31.

Analyst Conflicts

535

- Clement, Michael B. 1999. Analyst Forecast Accuracy: Do Ability, Resources, and Portfolio Complexity Matter? *Journal of Accounting and Economics* 27:285–303.
- Cliff, Michael T. 2007. Do Affiliated Analysts Mean What They Say? *Financial Management* 36(4):5–29.
- Cowen, Amanda, Boris Groysberg, and Paul Healy. 2006. Which Type of Analyst Firms Are More Optimistic? *Journal of Accounting and Economics* 41:119–46.
- Dechow, Patricia M., Amy P. Hutton, Lisa Meulbroek, and Richard G. Sloan. 2001. Short Interest, Fundamental Analysis, and Market Efficiency. *Journal of Financial Economics* 61:77–106.
- Dechow, Patricia, Amy Hutton, and Richard Sloan. 2000. The Relation between Analysts' Forecasts of Long-Term Earnings Growth and Stock Price Performance following Equity Offerings. *Contemporary Accounting Research* 17:1–32.
- Dugar, Amitabh, and Siva Nathan. 1995. The Effect of Investment Banking Relationships on Financial Analysts' Earnings Forecasts and Investment Recommendations. *Contemporary Accounting Research* 12:131–60.
- Fama, Eugene F., and Kenneth R. French. 1993. Common Risk Factors in the Returns on Stocks and Bonds. *Journal of Financial Economics* 33:3–56.
- Gasparino, Charles. 2002. Ghosts of E-mails Continue to Haunt Wall Street: In Grubman Inquiry, Preschool Is Pressed on Twins' Admission. *Wall Street Journal*, November 18.
- Gompers, Paul, and Josh Lerner. 1999. Conflict of Interest in the Issuance of Public Securities: Evidence from Venture Capital. *Journal of Law and Economics* 42:1–28.
- Greene, William H. 2003. *Econometric Analysis*. 5th ed. Upper Saddle River, N.J.: Prentice Hall.
- Grossman, Sanford J. 1976. On the Efficiency of Competitive Stock Markets Where Traders Have Diverse Information. *Journal of Finance* 31:573–85.
- Grossman, Sanford J., and Joseph E. Stiglitz. 1980. On the Impossibility of Informationally Efficient Markets. *American Economic Review* 70:393–408.
- Hayes, Rachel M. 1998. The Impact of Trading Commission Incentives on Analysts' Stock Coverage Decisions and Earnings Forecasts. *Journal of Accounting Research* 36:299–320.
- Healy, Paul M., and Krishna G. Palepu. 2001. Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature. *Journal of Accounting and Economics* 31:405–40.
- Hong, Harrison, and Jeffrey D. Kubik. 2003. Analyzing the Analysts: Career Concerns and Biased Earnings Forecasts. *Journal of Finance* 58:313–51.
- Hong, Harrison, Jeffrey D. Kubik, and Amit Solomon. 2000. Security Analysts' Career Concerns and Herding of Earnings Forecasts. *Rand Journal of Economics* 31:121–44.
- Irvine, Paul. 2004. Analysts' Forecasts and Brokerage-Firm Trading. *Accounting Review* 79:125–49.
- Jackson, Andrew R. 2005. Trade Generation, Reputation, and Sell-Side Analysts. *Journal of Finance* 60:673–717.
- Jacob, John, Thomas Z. Lys, and Margaret A. Neale. 1999. Expertise in Forecasting Performance of Security Analysts. *Journal of Accounting and Economics* 28:51–82.
- Jacob, John, Steve Rock, and David P. Weber. 2008. Do Non-investment Bank Analysts Make Better Earnings Forecasts? *Journal of Accounting, Auditing, and Finance* 23:23–61.
- Jain, Prem C. 1988. Response of Hourly Stock Prices and Trading Volume to Economic News. *Journal of Business* 61:219–31.
- Jarrell, Gregg A., and Annette B. Poulsen. 1989. Stock Trading before the Announcement

- of Tender Offers: Insider Trading or Market Anticipation? *Journal of Law, Economics, and Organization* 5:225–48.
- Jegadeesh, Narasimhan, Joonghyuk Kim, Susan D. Krische, and Charles M. C. Lee. 2004. Analyzing the Analysts: When Do Recommendations Add Value? *Journal of Finance* 59:1083–124.
- Kadan, Ohad, Leonardo Madureira, Rong Wang, and Tzachi Zach. Forthcoming. Conflicts of Interest and Stock Recommendations: The Effects of the Global Settlement and Related Regulations. *Review of Financial Studies*.
- Kim, Oliver, and Robert E. Verrecchia. 1991. Trading Volume and Price Reactions to Public Announcements. *Journal of Accounting Research* 29:302–21.
- Kroszner, Randall S., and Raghuram G. Rajan. 1994. Is the Glass-Steagall Act Justified? A Study of the U.S. Experience with Universal Banking before 1933. *American Economic Review* 84:810–32.
- . 1997. Organization Structure and Credibility: Evidence from Commercial Bank Securities Activities before the Glass-Steagall Act. *Journal of Monetary Economics* 39: 475–516.
- Lin, Hsiou-Wei, and Maureen McNichols. 1998. Underwriting Relationships, Analysts' Earnings Forecasts, and Investment Recommendations. *Journal of Accounting and Economics* 25:101–27.
- Ljungqvist, Alexander, Felicia Marston, Laura T. Starks, Kelsey D. Wei, and Hong Yan. 2007. Conflicts of Interest in Sell-Side Research and the Moderating Role of Institutional Investors. *Journal of Financial Economics* 85:420–56.
- Ljungqvist, Alexander, Felicia Marston, and William J. Wilhelm, Jr. 2006. Competing for Securities Underwriting Mandates: Banking Relationships and Analyst Recommendations. *Journal of Finance* 61:301–40.
- . Forthcoming. Scaling the Hierarchy: How and Why Investment Banks Compete for Syndicate Co-management Appointments. *Review of Financial Studies*.
- Malmendier, Ulrike, and Devin Shanthikumar. 2007. Are Small Investors Naïve about Incentives? *Journal of Financial Economics* 85:457–89.
- Maremont, Mark, and Chad Bray. 2004. In Latest Tyco Twist, Favored Analyst Got Private Eye, Gratis. *Wall Street Journal*, January 21.
- Mehran, Hamid, and René Stulz. 2007. The Economics of Conflicts of Interest in Financial Institutions. *Journal of Financial Economics* 85:267–96.
- Meulbroek, Lisa K. 1992. An Empirical Analysis of Illegal Insider Trading. *Journal of Finance* 47:1661–99.
- Michaely, Roni, and Jean-Luc Vila. 1996. Trading Volume with Private Valuation: Evidence from the Ex-Dividend Day. *Review of Financial Studies* 9:471–509.
- Michaely, Roni, and Kent Womack. 1999. Conflict of Interest and the Credibility of Underwriter Analyst Recommendations. *Review of Financial Studies* 12:653–86.
- Mikhail, Michael B., Beverly R. Walther, and Richard H. Willis. 1997. Do Security Analysts Improve Their Performance with Experience? *Journal of Accounting Research* 35 (Supl.):131–57.
- New York Stock Exchange. 2002. *Fact Book for the Year 2001*. New York: New York Stock Exchange.
- Reuter, Jonathan, and Eric Zitzewitz. 2006. Do Ads Influence Editors? Advertising and Bias in the Financial Media. *Quarterly Journal of Economics* 121:197–227.
- Sanders, Ralph W., and John S. Zdanowicz. 1992. Target Firm Abnormal Volume around

Analyst Conflicts

537

- the Initiation of Change in Control Transactions. *Journal of Financial and Quantitative Analysis* 27:109–29.
- Shleifer, Andrei. 1986. Do Demand Curves for Stocks Slope Down? *Journal of Finance* 41:579–90.
- Stickel, Scott E. 1992. Reputation and Performance among Security Analysts. *Journal of Finance* 47:1811–36.
- Vijh, Anand. 1994. S&P 500 Trading Strategies and Stock Betas. *Review of Financial Studies* 7:215–51.
- Womack, Kent. 1996. Do Brokerage Analysts' Recommendations Have Investment Value? *Journal of Finance* 51:137–67.

New Approach to Estimating the Cost of Common Equity Capital for Public Utilities

Pauline M. Ahern
AUS Consultants

Frank J. Hanley
AUS Consultants

Richard A. Michelfelder
Rutgers University
School of Business - Camden

July 2011

Keywords: public utilities, cost of capital, GARCH, consumption asset pricing model

JEL Codes: G12, L94, L95

New Approach to Estimating the Cost of Common Equity Capital for Public Utilities

Abstract

The regulatory process for setting public utilities' allowed rate of return on common equity has generally used the Gordon DCF, CAPM and Risk Premium specifications to estimate the cost of common equity. Despite the widely known problems with these models, there has been little movement to adopt more recently developed asset pricing models to provide additional evidence for estimating the cost of capital. This paper presents, validates empirically and applies a general yet simple consumption-based asset pricing specification to model the risk-return relationship for stocks and estimate the cost of common equity for public utilities. The model is not necessarily superior to other models in its practical results, yet these results do indicate that it should be used to provide additional estimates of the cost of common equity. Additionally, the model raises doubts as to whether assets such as utility stocks are a consumption (business cycle) hedge.

Keywords: *public utilities, cost of capital, GARCH, consumption asset pricing model*

JEL Codes: *G12, L94, L95*

We would like to thank Dylan D'Ascendis, Sal Giunta, Selby Jones, III and Alison McVicker for highly capable research assistance, participants at the Center for Research in Regulated Industries Eastern Conferences and the Society of Utility Regulatory and Financial Analysts Annual Financial Forum, two anonymous reviewers and the editor for helpful comments.

1. Introduction

Following electricity deregulation with the National Energy Policy Act of 1992, the estimation of the cost of common equity capital remains a critical component of the utility rate-of-return regulatory process. Since the cost of common equity is not observable in capital markets, it must be inferred from asset pricing models. The models that are commonly applied in regulatory proceedings are the Gordon (1974) Discounted Cash Flow (DCF), the Capital Asset Pricing (CAPM) and Risk Premium Models. There are other tools used to estimate the cost of common equity such as comparable earnings or earnings-to-price ratios, but they are not asset pricing models. The empirical literature on the CAPM is vast {Fama and French (2004)} and the CAPM is used by a number of US regulatory jurisdictions. The DCF model has not been empirically tested to the same extent as the CAPM, yet it is considered by many US regulatory jurisdictions.

The purpose of this paper is to present, test empirically and apply a recently developed general consumption-based asset pricing model that estimates the risk-return relationship directly from asset pricing data and, when estimated with recently developed time series methods, produces a prediction of the equity risk premium that is driven by its predicted volatility. The predicted risk premium is then added to a risk-free rate of return to provide an estimate of the cost of common equity. We predict two forms of the equity risk premium with the model, the risk premium net of the risk-free rate and the equity-to-debt risk premium (equity risk premium net of the relevant bond yield for the company's stock). Either can be applied to predict the common equity cost of capital for a public utility. Although the model is tested and applied to public utilities for rate of return regulation, it can be used to estimate the cost of capital for any stock. Section 2 reviews the asset pricing models typically used in public utility rate cases and the generalized consumption asset pricing model we propose to estimate the cost of common equity. Section 3 discusses the data and the empirical testing of the consumption asset pricing model. Section 4 reviews the application of the model and compares it with the DCF and CAPM results. Section 5 is the conclusion.

2. DCF, CAPM and Consumption Asset Pricing Model

2.1 DCF and CAPM Approaches

The standard DCF model frequently used in estimating the cost rate of common equity in regulatory proceedings is defined by the following equation:

$$k = D_0(1+g)/P_0 + g,$$

Where:

- k = Expected return on common equity;
- D_0 = Current dividend per share;
- g = Expected dividend per share growth rate; and
- P_0 = Current market price.

The DCF was developed by Gordon (1974) specifically for regulatory purposes. Underlying the DCF model is the theory that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting those cash flows at the cost of capital, or the investors' capitalization rate. DCF theory indicates that an investor buys a stock for an expected total return rate which is derived from cash flows received in the form of dividends plus appreciation in market price (the expected growth rate) over the investment holding period. Mathematically, the expected dividend yield ($D_0(1+g)/P_0$) on market price plus an expected growth rate equals the capitalization rate, i.e., the expected return on common equity.

The standard DCF contains several restrictive assumptions, the most contentious of which during utility cost of capital proceedings is typically that dividends per share (DPS), book value per share (BVPS), earnings per share (EPS) as well as market price grow at the same rate in perpetuity. There is also considerable contention over the proper proxy for g , prospective or historical growth in DPS, BVPS, EPS and market price and over what time period. In addition, although the standard DCF described above is a single stage annual growth model, there is considerable discussion over the use of multiple stage growth models during regulatory proceedings. Some analysts use the discrete version and others use the continuous version of the DCF model. Solving these models for k , the cost of common equity, results in differing

equations to solve for k . The equation above is from the discrete version. The continuous version uses the current dividend yield and is not adjusted by g , which results in a lower estimate for k . Because of these and other restrictive assumptions that require numerous subjective judgments in application, it is often difficult for regulatory commissions to reconcile the frequently large disparities in rates of return on common equity recommended by various parties in a public utility rate case.

The CAPM model is defined by the following equation:

$$k = R_f + \beta (R_m - R_f),$$

Where:

k = Expected return on common equity;

R_f = Expected risk-free rate of return;

β = Expected beta; and

R_m = Expected market return.

CAPM theory defines risk as the co-variability of a security's returns with the market's returns or β , also known as systematic or market risk, with the market beta being defined as 1.0. Because CAPM theory assumes that all investors hold perfectly diversified portfolios, they are presumed to be exposed only to systematic risk and the market (according to the model) will not reward them a risk premium for unsystematic or non-market risk. In other words, the CAPM presumes that investors require compensation only for systematic or market risks which are due to macroeconomic and other events that affect the returns on all assets. Mathematically, the CAPM is applied by adding a forward-looking risk-free rate of return to an expected market equity risk premium adjusted proportionately by the expected beta to reflect the systematic risk.

As with the DCF, there is considerable contention during regulatory cost of capital proceedings as to the proper proxies for all components of the CAPM: the R_f , the R_m , as well as β . In addition, the CAPM assumption that the market will only reward investors for systematic or market risk is extremely restrictive when estimating the expected return on common equity for a single asset such as a single jurisdictional regulated operating utility. Additionally, this assumption requires that the investor have a perfectly diversified portfolio, that is, one with no unsystematic risk. Since this assumption is not applicable, estimating the cost of common equity

capital for a single utility's common equity undoubtedly will not reflect the risk actually faced by the imperfectly diversified investor.

As will be discussed in the next section, our application of the risk premium approach, the consumption asset pricing model and GARCH¹ rest on minimal assumptions and restrictions and therefore requires considerably less judgment in its application.

2.2 Risk Premium Approach, Consumption Asset Pricing Models, and GARCH

A widely used model to estimate the cost of common equity capital for public utilities is the risk premium approach. This approach often estimates the expected rate of return as the long-term historic mean of the realized risk premium above an historic yield plus the current yield of the relevant bond applicable to a specific utility or peer group of utilities. Litigants in public utility rate proceedings debate the choice of inputs to estimate the risk premium as well as how far back to reach into history to collect data for calculating an average that is representative of a forward-looking premium.

It is surprising that, as popular as the risk premium method is in public utility rate cases, the intuitively appealing general consumption-based asset pricing model, with its minimal assumptions and strong theoretical foundation, has not been applied to estimate the cost of common equity capital for public utilities. The model provides projections of the conditional expected risk premium on an asset based on its relation to its predicted conditional volatility. This model generalizes the well known special case asset pricing models such as the Merton (1973) intertemporal capital asset pricing model, Campbell (1993) intertemporal asset pricing model, and the habit-persistence model of Campbell and Cochrane (1999), which are special cases of the general model. The relation of the model to their specialized cases can be found in Cochrane (2006) and Cochrane (2007). The approach of consumption asset pricing models is to make investment decisions that maximize investors' utility from the consumption that they ultimately desire, not returns.

¹ GARCH refers to the generalized autoregressive conditional heteroskedasticity regression model which is discussed below.

Even if the model is not used to project directly the expected risk premium, it can, at a minimum, be used to verify that the risk premia data chosen for estimating the cost of capital is empirically validated by fitting the model well. The model can be used to predict the equity risk premia net of the risk-free rate (equity risk premium) or to predict the equity-to-debt risk premium for a firm. We perform both of these empirical tests in this paper. The general consumption-based asset pricing model developed in Michelfelder and Pilotte (2011) and based on Cochrane (2004) provides the relationship of the *ex ante* risk premium to an asset's own volatility in return:

$$E_t[R_{i,t+1}] - R_{f,t} = -\frac{vol_t[M_{t+1}]}{E_t[M_{t+1}]} vol_t[R_{i,t+1}] corr_t[M_{t+1}, R_{i,t+1}]. \quad (1)$$

where vol_t is the conditional volatility, $corr_t$ is the conditional correlation, and M_{t+1} is the stochastic discount factor (SDF).

The SDF is the intertemporal marginal rate of substitution in consumption, or, $M_{t+1} = \beta \frac{U_{c,t+1}}{U_{c,t}}$, where the U_c 's are the marginal utilities of consumption in the next period, $t+1$, and the current period, t , and β is the discount factor for period t to $t+1$. Equation (1) shows that the algebraic sign of the relation between the expected risk premium and the conditional volatility of an asset's risk premium is determined by the correlation between the asset's return and the SDF. That is, the direction of the relation between the asset return and the ratio of intertemporal marginal utilities in consumption inversely determines the relation between the expected risk premium and conditional volatility. When the correlation is equal to negative one, the asset's conditional expected risk premium is perfectly positively correlated with its conditional volatility. A positive relation between the conditionally expected risk premium and volatility obtains when $-1 < corr_t < 0$. A negative relation obtains when $0 < corr_t < 1$. For an asset that represents a perfect hedge against shocks to the marginal utility of consumption, with $corr_t = 1$, there will be a perfect negative correlation between the conditionally expected risk premium and its volatility.² Therefore, estimates of the relation between the first two conditional moments of a public utility stock's returns provide a direct test of the effectiveness of a public

² A hedging asset is one that has a positive increase in returns that is coincident with a positive shock in the ratio of intertemporal marginal utilities of consumption. Note that if we assume a concave utility function in consumption, as consumption declines, the marginal utility of consumption rises relative to last period marginal utility. If we think of a decline in consumption as a contraction in the business cycle, the hedging asset delivers positive changes in returns when the business cycle is moving into a contraction, and therefore the asset is a business cycle hedge.

utility stock, or any asset, as a consumption hedging asset. In equation (1), $vol_t[M_{t+1}]/E_t[M_{t+1}]$ is the slope of the mean-variance frontier. If this slope changes over time, the estimated relation between the stock's risk and return will vary over time. This model can also be viewed simplistically as the projected expected risk premium as a function of its own projected risk, given information available at time t .

Note that the model allows for the expected risk premium to be negative if the asset hedges shocks to the marginal utility of consumption. Investors are willing to accept an expected rate of return lower than the risk-free rate of return if the pattern of volatility is such that returns are expected to rise with expected reductions in consumption. Simply, investors are willing to *pay* a premium for a higher level of returns volatility that has the desired pattern of returns. These desired returns patterns have a tendency to offset drops in consumption. Therefore, this model shows that investors may not be averse to volatility, but rather to the timing of expected changes in returns.

Summarizing, several conclusions can be drawn from the general model of asset pricing. First, the sign of the relation between a stock's risk premium and conditional volatility depends on the extent to which the stock serves as an intertemporal hedge against shocks to the marginal utility of consumption. Second, the relation between stock risk and return may be time-varying depending on changes in the slope of the mean-variance frontier. Third, hedging assets have desired patterns of volatility that result in expected rates of return that are less than the risk-free rate. We do not expect that public utility stocks serve as a hedging asset as they are not viewed as a defensive stocks (they do not rise in value during downturns in the stock market) due to asymmetric regulation and returns as discussed in detail in Kolbe and Tye (1990). Under asymmetric regulation, utility regulators have a tendency to allow the return on equity to fall below the allowed return during downturns in the business cycle and to reduce the return should it rise above the allowed return during expansions. Therefore we expect that the parameter estimates of the return-risk relationship to be positive as utility stocks are hypothesized to not be hedges.

We use the GARCH model to estimate the general asset pricing model since the GARCH model accommodates ARCH effects which improves the efficiency of the parameter estimates. It also provides a volatility forecasting model for the conditional volatility of the asset's risk

premium. The conditional volatility projection is used, in turn to predict the expected risk premium. We also use the GARCH-in-Mean model (GARCH-M) since it specifies that the conditional expected risk premium is a linear function of its conditional volatility. There is a vast body of literature that estimates asset pricing models with the GARCH and GARCH-M methods and therefore we will not attempt to summarize them here.

The GARCH-M model was initially developed and tested by Engle, Lilein, and Robins (1987) to estimate the relationship between US Treasury and corporate bond risk premia and their expected volatilities. The GARCH-M model is specified as:

$$R_{t+1} - R_{f,t+1} = \alpha \sigma_{t+1}^2 + \varepsilon_{t+1} \quad (2)$$

$$\sigma_{t+1}^2 = \beta_0 + \beta_1 \sigma_t^2 + \beta_2 \varepsilon_t^2 + \eta_{t+1} \quad (3)$$

$$\varepsilon_t | \psi_{t-1} \sim T(0, \sigma_t^2) \quad (4)$$

Where:

- R_{t+1} = Expected total return on the public utility stock index or individual utility stock;
- $R_{f,t+1}$ = Risk-free rate of return or the yield on an index of public utility bonds of a specified bond rating for the equity-to-debt premium;
- σ_{t+1}^2 = Conditional or predicted variance of the risk premium that is conditioned on past information (ψ_{t-1} ;) and
- ε_t = Error term that is conditional on ψ_{t-1} .

The conditional distribution of the error term is specified as the non-unitary variance T-distribution due to the thick-tailed distribution of the risk premia data. If the error distribution is thick-tailed, using an approximating distribution that accommodates thick tails improves the efficiency of the estimates. The parameter, α , is the return-to-risk coefficient as specified in equation (1) as:

$$\alpha = -\frac{vol_t[M_{t+1}]}{E_t[M_{t+1}]} corr_t[M_{t+1}, R_{i,t+1}] \quad (5)$$

Note that the coefficient will be positive if the conditional correlation between the SDF and the asset return is negative, indicating that the stock is not a hedging asset. Recall that the SDF is the ratio of intertemporal marginal utilities. Assuming a concave utility function, an

upward shock in the ratio implies falling consumption, therefore an associated rise (positive correlation) in the return (R_i) would offset the reduction in consumption, thereby causing the sign of α to be negative. The parameter, α , is also the ratio of risk premium to variance, or, the Sharpe ratio.

The intercept in equation (2) is restricted to zero as specified by the general asset pricing model specification. The restriction on the intercept equal to zero has been found to be robust in producing consistently positive and significant relationships between equity risk premia and risk in GARCH-M models. This is discussed in Lanne and Saikkonen (2006) and Lanne and Luoto (2007). We have found the same results in our modeling in this paper, although we have excluded these results for brevity (available upon request). Therefore we specify the prior assumption that the intercept or the “excess” return, i.e., the return not associated with risk to be equal to zero and drop the intercept from the model.

The consumption asset pricing model is estimated in the empirical section of the paper and applied in the applications section of the paper. The model is tested to (1) determine if equity-to-debt risk premium indices for utilities of differing risk specified by differing bond ratings are validated by the asset pricing model and therefore have some empirical support for risk premium prediction and application to utility cost of capital estimation, (2) determine whether equity risk premia can be predicted and fit the model and therefore be used to estimate the cost of common equity, (3) empirically test the consumption asset pricing model, and (4) ascertain whether utility stocks are assets that hedge shocks to the marginal utility of consumption.

If utility stocks are hedging assets then the cost of common equity should reflect a downward adjustment to a specified risk-free rate to reflect investors’ preferences for a hedge and the compensation that they are willing to pay for it.

3. Data and Empirical Results

We use portfolios as represented by public utility stock and bond indices to estimate the conditional return-risk relationship for the equity-to-debt premium. The equity-to-debt risk premium data employed for estimating equation (1) with the GARCH-M conditional return-risk

regressions are monthly total returns on the Standard and Poor's Public Utilities Stock Index (utility portfolio), and the monthly Moody's Public Utility Aa, A, and Baa yields for the debt cost. We also obtained equity risk premia for the utility portfolio using the Fama-French specified risk-free rate of return, which is the holding period return on a one-month US Treasury Bill. The data range from January 1928 to December 2007 with 960 observations. The return-risk relationships for the equity-to-debt premia are risk-differentiated by their own bond rating.

As a check, we also estimate equation (1) with the GARCH-M for large common stock returns using the monthly Ibbotson Large Company Common Stocks Portfolio total returns and the Ibbotson US Long-Term Government income returns as the risk-free rate. Additionally, as another check, we do the same for the University of Chicago's Center for Research in Security Prices value-weighted stock index (CRSP) using the Fama-French risk-free rate. This is the Fama-French specification of the market equity risk premium. The data range from January 1926 to December 2007 with 984 observations for the Large Company Common Stock estimation and the data ranges from January 1928 to January 2007 with 960 observations (same as the utilities) for the CRSP estimation.

Table 1 displays the descriptive statistics for these data. We have estimated the mean, standard deviation, skewness and kurtosis parameters, as well as the Jarque-Bera (JB) statistic to test the distribution of the data. The means of the utility equity-to-debt risk premia fall as the risk (bond rating) declines. This is consistent with the notion that larger yields are subtracted from stocks returns the lower the bond rating. Intertemporally, there is an inverse relationship between risk premia and interest rates (See Brigham, Shome, and Vinson (1985) and Harris, Marston, Mishra, and O'Brien (2003)). The mean for risk premia will have a tendency to be larger during low interest rate periods.

Not surprisingly, large company common stocks have the highest mean risk premia as the majority of these firms are not rate-of-return regulated firms with a ceiling on their ROE's close to their cost of capital. Interestingly, the standard deviations of the utility stock returns are similar and slightly higher than large company common stocks. Skewness coefficients are small and positive except for Ibbotson large company common stock returns and CRSP returns that have large positive skewness. This suggests that large unregulated stocks have a tendency to have more and larger positive shocks in returns than do utilities that are rate of return regulated.

The kurtosis values show that all of the risk premia are thick-tail distributed. This is also found in the significant JB statistics that test the null hypothesis that the data are normally distributed. The null hypothesis is rejected for all assets. The high kurtosis, low skewness, and significant JB statistics show that the risk premia data are substantially thick-tailed, except for non-utility stocks that are both skewed and thick-tailed. Therefore, robust estimation methods are required to produce efficient regression estimates with non-normal data. Additionally, although not shown but available upon request, the serial correlation and ARCH Lagrange Multiplier tests show that residuals from OLS regressions of risk premia on volatilities follow an ARCH process. Therefore, the GARCH-M method will improve the efficiency of the estimates. We specify the regression error distribution as a non-unitary variance T-distribution so that thick-tails could be accommodated in the estimation and therefore produce increasingly efficient parameter estimates.

We used maximum likelihood estimation with the likelihood function specified with the non-unitary-variance T-distribution as the approximating distribution of the residuals to accommodate the thick-tailed nature of the error distribution. The equations are estimated as a system using the Marquardt iterative optimization algorithm. The chosen software for estimating the model was EViews[®] version 6.0 (2007).

Table 2 shows the GARCH-M estimations for the consumption asset pricing equation (1). We have estimated equation (1) for the utility equity risk premia using the Fama-French risk-free rate in addition to the equity-to-debt risk premia risk-differentiated by bond ratings and the two measures of the market equity risk premium. The chosen measure of volatility is the variance of risk premium (in contrast to other such measures such as the standard deviation or the log of variance. Although these results are not shown for brevity, they are robust to these other measures of volatility). The slope, which is the predicted return-to-predicted risk coefficient and Sharpe ratio, is positive and significant at the 99% level for all assets except the utility stock returns with Baa bonds, which is significant at the 95% level. Given that all slopes are positive, public utility stocks are not found to hedge shocks to the marginal utility of consumption. Note that the reward-to-risk slope rises as bond rating rises. This suggests that lower risk utility stocks provide a higher incremental risk-premium for an increase in conditional volatility. This is consistent with other studies that find that lower risk assets, such as shorter maturity bonds, have

higher Sharpe Ratios than long-term bonds and stocks. See Pilotte and Sterbenz (2006) and Michelfelder and Pilotte (2011)

The variance equation shows that all GARCH coefficients (β 's) are significant at the 1% level and the sums of β_1 and β_2 are close to, but less than 1.0, indicating that the residuals of the risk premium equation follow a GARCH process and that the persistence of a volatility shock on returns and stock prices for utility stocks is temporary. The estimates of the non-unitary variance T-distribution degrees of freedom parameter are low and statistically significant, indicating that the residuals are well approximated by the T. Similar values for the log-likelihood functions (Log-L) show that each of the regressions has a similar goodness-of-fit. Chi-squared distributed likelihood ratio tests (not shown but available upon request) that compare the goodness of fit among the T and normal specifications of the likelihood function of the GARCH-M regressions show that the T has a significantly better fit than the normal distribution.

The GARCH-M results for the large company common stocks portfolio are similar to those of the utility stocks. Not surprisingly, large company common stocks do not hedge shocks to the marginal utility of consumption and volatility shocks temporarily affect their valuations. The exception is that the return-risk slope is substantially higher than utility stock slopes. This is partially due to the risk-free nature of the risk-free rates used with the non-utility equity risk premia compared to the utility bond yields that reflect risk. The utility stocks slope value of 2.1428 using the Fama-French risk-free rate is closer to the higher CRSP value of 3.3873 that is also based on the Fama-French risk-free rate. This is inconsistent with previous results herein and in other papers that find that Sharpe Ratios are lower for higher risk assets unless this finding can be interpreted as utility stocks having more risk than non-regulated stocks. The standard deviations on Table 1 suggest that utility stock return volatilities are as high as the stock returns of non-regulated firms. However, similar model estimates of portfolios of common stocks yield unstable results, such as negative as well as positive return-risk slopes when the intercept is not restricted to zero. See Campbell (1987), Glosten, Jagannathan, and Runkle (1993), Harvey (2001), and Whitelaw (1994).

Stock market results are highly sensitive to empirical model specification. Many studies do not consider the impact of a zero-intercept prior restriction on the stability of their results.

This simple innovation has led to more consistent results in modeling stock market risk-return relationships, and therefore we have included it in this paper.

The estimation of the consumption asset pricing model for utility stock equity-debt risk premia shows that the use of bond-rating risk-differentiated risk premia are validated as their risk-return relationships are well-fitted by theoretical and empirical models of risk and return. Therefore, these data impound good representations of the risk and reward relationship.

One concern is the intertemporal stability of the alphas. Figure 1 plots the utility stock portfolio alpha (using the Fama-French R_f to calculate the premium) and its standard error for 240 month rolling regressions of the model estimated with GARCH-M in the same manner as described above to review the intertemporal stability of the alpha. A 20-year period was used for each estimation to trade off timeliness with sufficient observation of up and down stock market regimes and business cycles. This resulted in 720 estimated alphas from 1947 to 2007. The results show that the utility alpha is stable to the extent that the algebraic sign is always positive and generally significant, therefore the nature of utility stocks are assets that are not and have never been hedges during the second half of the 20th century up to the present. The value of the alpha does change substantially. The mean of the alpha is 4.40 with a range from -0.11 (insignificantly different from 0) to 11.66. As a comparison, the alpha for the CRSP value-weighted stock index was also estimated with rolling regressions in the same manner and for the same time period. Figure 2 is a plot of the CRSP alpha and standard error. Note that the general stock market alpha is similar to that of utility stocks. They are all positive and almost all statistically significant and follow a strikingly similar cycle. Figure 3 plots both the utility and stock market alphas and demonstrates the similarity. The correlation coefficient between the utility and stock market alphas is 0.88. Recalling that the alpha is a Sharpe Ratio, we see that return to risk ratio does change substantially. This is consistent with the results in Pilotte and Sterbenz (2006).

One other interesting observation is that the standard errors of the alphas are highly stable over the study period and are very similar in magnitude regardless of the size of the corresponding alpha. Whereas the alpha follows a cyclical pattern, the volatility in alpha is highly stationary around a constant, long-run mean.

The GARCH-M model estimations of the consumption asset pricing model were specified with variance as the measure of volatility. We also performed the same model estimations with alternative specifications of volatility such as the standard deviation and the log of variance and the results were not sensitive to this specification.

4. Application

We apply the model in this section to compare the cost of common equity capital estimates with the DCF and CAPM models. Using EViews[®] Version 6.0, we estimated the model coefficients (α , β 's) over rolling 24 month periods ending December 2008. We repeated the estimation over 5, 10, 15, 20 and 79 year periods³. Predicted monthly variances (σ^2_{t+1}) were generated from these estimations to produce predicted risk premiums that were calculated by multiplying the predicted variance by the “ α ” slope coefficient. To test the stability of the predicted risk premia over time, the predicted risk premia were calculated using either the predicted variance over each entire time period or the last monthly (spot) predicted variance. Table 3 presents the mean predicted risk premia, the range of predicted premia and the standard deviations for each time period. It is clear from the results that the risk premia are more stable over the rolling 24 month period when calculated using the average predicted variance compared with using the spot variance. Secondly, the 20 and 79 year means are substantially more stable and reasonable in magnitude than the 5 year means.

Next, given the lessons from the analyses above, we apply the model to mechanically⁴ estimate the cost of common equity for 8 utility companies using the model and the DCF and CAPM as comparisons. We also calculated the realized market return for comparison. Two publicly-traded electric, electric and gas combination, gas, and water utilities respectively were chosen for the application. The Gordon (1974) DCF and CAPM models are used in many utility regulatory jurisdictions in the US.

The DCF was applied using a dividend yield, D_0/P_0 , derived by dividing the year-end indicated dividend per share (D_0) by the year-end spot market price (P_0). The dividend yield is

³ We did not include the results of the 10 and 15 year estimations to abbreviate the amount of empirical results presented since they added no material insights beyond those already presented.

⁴ The term “mechanically” in this context means that the resulting values have been developed in a consistent manner with the same inputs across all utility stocks but no subjective judgment was used to develop final values for each specific utility stock application.

grown by the year-end I/B/E/S five year projected earnings per share growth rate (g) to derive $D_0(1+g)/P_0$. The one-year predicted dividend yield is then added to the I/B/E/S five-year projected EPS growth rate to obtain the DCF estimate of the cost of common equity capital, k . This study was conducted for the five years ending 2008.

The CAPM was applied by multiplying the Value Line beta (β) available at year-end for each company by the long-term historic arithmetic mean market risk premium ($R_m - R_f$). $R_m - R_f$ is derived as the spread of the total return of large company common stocks over the income return on long-term government bonds from the Ibbotson SBBI 2009 Valuation Yearbook. The resulting company-specific market equity risk premium is then added to a projected consensus estimate of the yield on 30-year U.S. Treasury rate provided by Blue Chip Financial Forecasts as the risk-free rate (R_f) to obtain the CAPM result. This study was also conducted over the five years ending 2008.

Figures 4-11 show the histograms of the cost of common equity capital estimations for each of the eight public utility stocks and the realized market returns in the forthcoming year. The consumption asset pricing model appears to track more consistently with the CAPM than with the DCF which seems to produce generally lower values than the other methods. The consumption asset pricing model results are similar to the CAPM. The model and the CAPM compete as the best predictor of the rate of return on the book value of common equity (not shown but available upon request), but none of the expected returns were good predictors of market returns. That does not infer that they were not good predictors of *expected* market returns. These results are an initial indicator that the consumption asset pricing model provides reasonable and stable results. This paper does not suggest at this early juncture that the consumption asset pricing model is superior to the CAPM or DCF, although it is based on far less restrictive assumptions than these other models. For example, both the DCF and CAPM assume that markets are efficient. Many assume that the DCF requires the market-to-book ratio to always equal one, whereas the long-term value for the Standard and Poor's 500 is equal to 2.34. The CAPM assumes that investors demand higher returns for higher volatility and that the minimum required return is the risk-free rate, whereas the consumption asset pricing model allows for investors to require returns less than the risk-free rate for stocks that may have relatively higher volatility but are hedging assets that have desirable return fluctuation patterns that offset downturns in the business cycle. Unlike the CAPM, the model prices the risk to

which investors are actually exposed, whether it's systematic risk or not. Some investors are diversified and some are not; the model prices whatever risk to which the aggregate of investors of the specific stock is exposed.

We find that the consumption asset pricing model should be used in combination with other cost of common equity pricing models as additional information in the development of a cost of common equity capital recommendation. Practitioners may find the modeling methods and the use of relatively advanced econometric methods rather cumbersome. The software for performing these estimations is readily available from EViews[®] and SAS[®]; two commonly available software packages at utilities, consulting firms and financial firms. Recent Ph.D. and M.S. holding members of research departments of investment and consulting firms have ready access to the model and methods discussed in this paper, although it will require years for these tools, like any "new" technology, to diffuse into standard use. Another problem is that the model requires a substantial time series history on stock returns data to develop stable estimates of risk premia. This is problematic especially for the electric and gas utility industries that have consolidated with many mergers in the recent past. This problem can be addressed by developing and predicting the value-weighted risk premium of a portfolio of similar stocks such as electric utilities that have nuclear generating assets. The specific stock in question would be included in the returns index with a weight based on market capitalization that would go to 0 when the stock price history is no longer existent reaching back into the past.

5. Conclusion

The purpose of this paper is to introduce, test empirically and apply a general consumption based asset pricing model that is based on a minimum of assumptions and restrictions that can be used to predict the risk premium to be applied in estimating the cost of common equity for public utilities in regulatory proceedings. The results support the simple consumption-based asset pricing model that predicts the *ex ante* risk premium with a conditionally predicted volatility in risk premium. The estimates of the cost of common equity from the consumption asset pricing model compare well with rates of return on the book value of common equity and with the CAPM, although both the model and the CAPM results are substantially higher than the DCF. This is quite common in the practice of the cost of common equity in the utility industry. The results of the model are stable and consistent over time.

Therefore the model should be considered as it provides additional evidence on the cost of common equity in general and specifically in public utility regulatory proceedings. Secondly, the use of bond-rated yields to predict risk differentiated equity-to-debt risk premia is supported by the empirical evidence and therefore should be applied in estimating the cost of common equity. Finally, the robust empirical evidence on the positive risk-return relationship also shows that utility stocks are not a consumption hedge and are not good hedging securities against contractions in the economy. The model and estimation methodology presented in this paper provide a relatively simple tool to determine whether any asset is a hedge to adverse changes in the business cycle through the level of consumption in the economy.

References

- Brigham, E.F., D.K. Shome, and S.R. Vinson. 1985. "The Risk Premium Approach to Measuring a Utility's Cost of Capital," *Financial Management*, 14, 33-45.
- Campbell, J.Y. 1987. "Stock Returns and the Term Structure," *Journal of Financial Economics* 18, 373-399.
- Campbell, J. Y. 1993. "Intertemporal Asset Pricing Without Consumption Data," *American Economic Review* 83, 487-512.
- Campbell, J.Y., and J.H. Cochrane. 1999. "By Force of Habit: A Consumption-Based Explanation of Aggregate Stock Market Behavior," *Journal of Political Economy* 107, 205-251.
- Cochrane, J.H. 2004. *Asset Pricing*. Revised Edition. Princeton, NJ: Princeton University Press.
- Cochrane, J.H. 2006. Financial Markets and the Real Economy. NBER Working Paper.
- Cochrane, J.H. 2007. Portfolio Theory. Manuscript. University of Chicago.
- Engle, R.F., Lilein, D., and Robins, R., 1987. "Estimation of Time Varying Risk Premia in the Term Structure: The ARCH-M Model," *Econometrica* 55, 391-407.
- EViews[®]. 2007. Version 6.0. Quantitative Micro Software, LLC.
- Fama, E. and K. French, 2004. "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives* 18, 25-46.
- Glosten, L.R., Jaganathan, R., Runkle, D. E. 1993. "Relationship between the Expected Value and the Volatility of the Nominal Excess Returns on Stocks," *Journal of Finance* 48, 1779-1801.
- Gordon, M. 1974. *The Cost of Capital to a Public Utility*, East Lansing, Michigan: MSU Public Utility Studies,

Harris, R.S., F.C. Marston, D.R. Mishra, and T.J. O'Brien. 2003. "Ex Ante Cost of Equity Estimate of S&P 500 Firms: The Choice Between Global and Domestic CAPM," *Financial Management*, 32, 51-66

Harvey, C.R. 2001. "The Specification of Conditional Expectations," *Journal of Empirical Finance* 8, 573-637.

Kolbe, A.L., and W.B. Tye, 1990. "The *Duquense* Opinion: How Much "Hope" is There for Investors in Regulated Firms," *Yale Journal on Regulation* 8, 113-157.

Lanne, M., and J. Luoto, 2007. "Robustness of Risk-Return Relationship in the U.S. Stock Market," Helsinki Center of Economic Research, Discussion Paper No. 168.

Lanne, M. and P. Saikkonen, 2006. "Why Is It So Difficult to Uncover the Risk-Return Tradeoff in Stock Returns?," *Economic Letters* 92, 118-125.

Merton, R. C., 1973. "An Intertemporal Capital Asset Pricing Model," *Econometrica* 41, 867-887.

Michelfelder, R.A., and E.A. Pilotte, 2011. "Treasury Bond Risk and Return, the Implications for the Hedging of Consumption and Lessons for Asset Pricing," *forthcoming, Journal of Economics and Business*.

Pilotte, E., and F. Sterbenz. 2006. "Sharpe and Treynor Ratios on Treasury Bonds," *Journal of Business* 79, 149-180.

Whitelaw, R. W. 1994. "Time-Variation and Covariations in the Expectation and Volatility of Stock Market Returns," *Journal of Finance* 49, 515-541.

Table 1

**Descriptive Statistics: Public Utility and Large Company Common Stocks Equity-to-Debt
and
Equity Risk Premia**

The public utility equity-to-debt risk premia monthly time series is from January 1928 to December 2007 with 960 observations. The equity risk premium monthly time series for the Large Company Common Stocks and the CRSP index are January 1926 to December 2007 with 984 observations, and January 1926 to December 2007 with 984 observations, respectively. The public utility stocks equity-to-debt risk premia are calculated as the total return on the S&P Public Utilities Index of stocks minus the Moody's Public Utility Aa, A, and Baa Indices yields to maturity. The Large Company Common Stock equity risk premia are the monthly total returns on the Ibbotson Large Company Common Stocks Portfolio minus the Ibbotson Long-Term US Government Bonds Portfolio income yield. The CRSP equity risk premia, or the Fama-French market risk premia are the CRSP total returns on the value-weighted equity index minus the one-month holding period return on a one month Treasury Bill. The Jarque-Bera (JB) statistic is a goodness-of-fit measure of the departure of the distribution of a data series from normality, based on the levels of skewness and excess kurtosis. The JB statistic is χ^2 distributed with 2 degrees of freedom. *** significant at 0.01 level, one-tailed test.

Utility Bond Rating	Mean	Std. Dev.	Skewness	Kurtosis	JB
Aa	0.0037	0.0568	0.0744	10.07	2,001.2***
A	0.0035	0.0568	0.0632	10.06	1,991.8***
Baa	0.0031	0.0568	0.0375	10.02	1,973.6***
Ibbotson Large Company Common Stocks	0.0054	0.0554	0.4300	12.84	3,954.7***
CRSP Value- Weighted Stock Index	0.0062	0.0544	0.2309	10.92	2,519.1***

Table 2**Estimation of Return-Risk Relation: Public Utility and Large Company Common Stocks**

The results below are the GARCH-in-Mean regressions for the risk premium ($R_{t+1} - R_{f,t+1}$) on the conditional variance of the risk premium (σ_{t+1}^2) in the mean equation. The intercept in the mean equation is restricted to be equal to zero. The public utility equity-to-debt risk premia monthly time series is from January 1928 to December 2007 with 960 observations. The equity risk premium monthly time series for the Large Company Common Stocks and the CRSP index are January 1926 to December 2007 with 984 observations, and January 1926 to December 2007 with 984 observations, respectively. The public utility stocks equity-to-debt risk premia are calculated as the total return on the S&P Public Utilities Index of stocks minus the Moody's Public Utility Aa, A, and Baa Indices yields to maturity. The Large Company Common Stock equity risk premia are the monthly total returns on the Ibbotson Large Company Common Stocks Portfolio minus the Ibbotson Long-Term US Government Bonds Portfolio income yield. The CRSP equity risk premia, or the Fama-French market risk premia are the CRSP total returns on the value-weighted equity index minus the one-month holding period return on a one month Treasury Bill. The estimated model is:

$$R_{t+1} - R_{f,t+1} = \alpha \sigma_{t+1}^2 + \varepsilon_{t+1} \text{ where } \alpha = -\frac{\text{vol}_t[M_{t+1}]}{E_t[M_{t+1}]} \text{corr}_t[M_{t+1}, R_{i,t+1}]$$

$$\sigma_{t+1}^2 = \beta_0 + \beta_1 \sigma_t^2 + \beta_2 \varepsilon_t^2 + \eta_{t+1}$$

The conditional distribution of the error term is the non-unitary variance T-distribution to accommodate the kurtosis of the risk premia and error term. Standard errors are in parentheses. ***, **, * denote significance at the 0.01, 0.05, and 0.10 levels, respectively for two-tail tests.

Utility Bond Rating	α	β_0	β_1	β_2	Log-L	T Dist. D.F.
Aa	1.5183*** (0.5308)	0.0000** (0.0000)	0.8791*** (0.0230)	0.1031*** (0.0219)	1,604.4	9.9254*** (3.0272)
A	1.4536*** (0.5308)	0.0000** (0.0000)	0.8790*** (0.0230)	0.1033*** (0.0220)	1,605.0	9.9381*** (3.0408)
Baa	1.3318** (0.5303)	0.0000** (0.0000)	0.8789*** (0.0229)	0.1040*** (0.0220)	1,605.2	10.0*** (3.0540)
Fama- French R_f	2.1428*** (0.5318)	0.0000** (0.0000)	0.8811*** (0.0232)	0.0979*** (0.0212)	1,601.0	9.8773*** (2.9700)
Ibbotson Large Company Common Stocks	2.7753*** (0.5513)	0.0001*** (0.0000)	0.8381*** (0.0269)	0.1186*** (0.0332)	1,620.8	8.8457*** (2.1613)
CRSP Value- Weighted Stock Index	3.3873*** (0.5673)	0.0001*** (0.0000)	0.8330*** (0.0270)	0.1149*** (0.0358)	1,598.9	8.8571*** (1.9505)

Table 3
Estimates of Expected Risk Premia

	Ibbotson Associates Data					
	Mean		Range		Standard Deviation	
	Average	Spot	Average	Spot	Average	Spot
79-years	9.59%	5.76%	8.74% - 9.96%	2.62% - 22.60%	0.32%	5.24%
20-years	6.77%	6.94%	4.99% - 8.50%	2.24% - 28.95%	0.95%	6.88%
5-years	4.20%	10.25%	(98.49%) - 11.62%	(100.00%) - 39.65%	22.00%	26.61%

	S&P Utility Index					
	Mean		Range		Standard Deviation	
	Average	Spot	Average	Spot	Average	Spot
79-years	5.28%	2.90%	4.30% - 5.28%	1.65% - 8.15%	0.32%	1.60%
20-years	3.93%	3.51%	2.78% - 5.03%	2.18% - 6.88%	0.57%	1.11%
5-years	31.82%	326.63%	7.77% - 156.97%	6.12% - 6465.74%	31.47%	1283.51%

Figure 1

Rolling 240 Month Utility Stock Alphas 1947 – 2007

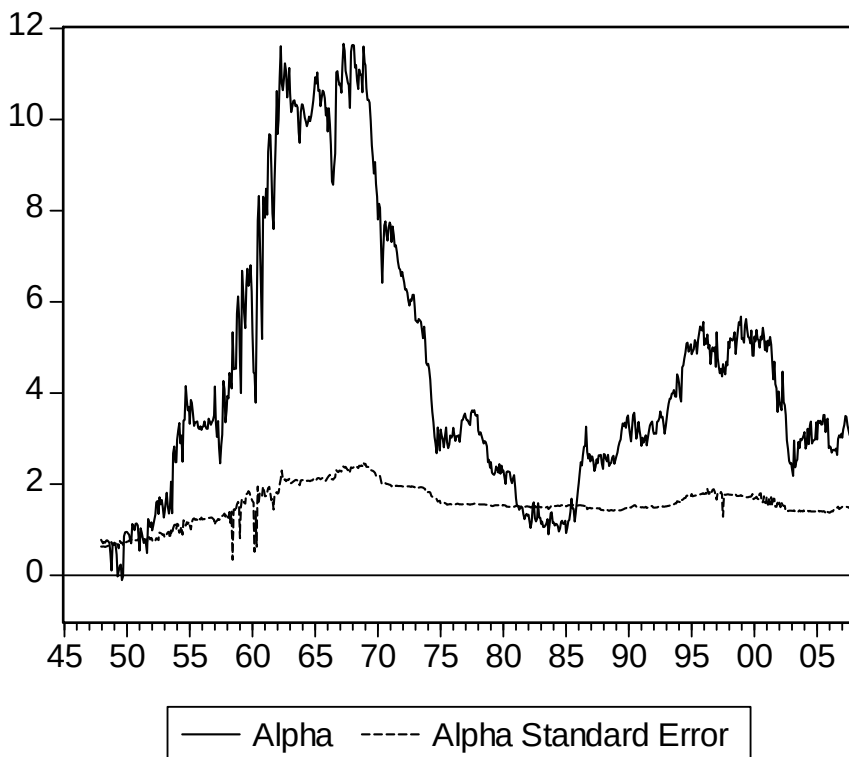


Figure 2

Rolling 240 Month CRSP Value-Weighted Alphas 1947–2007

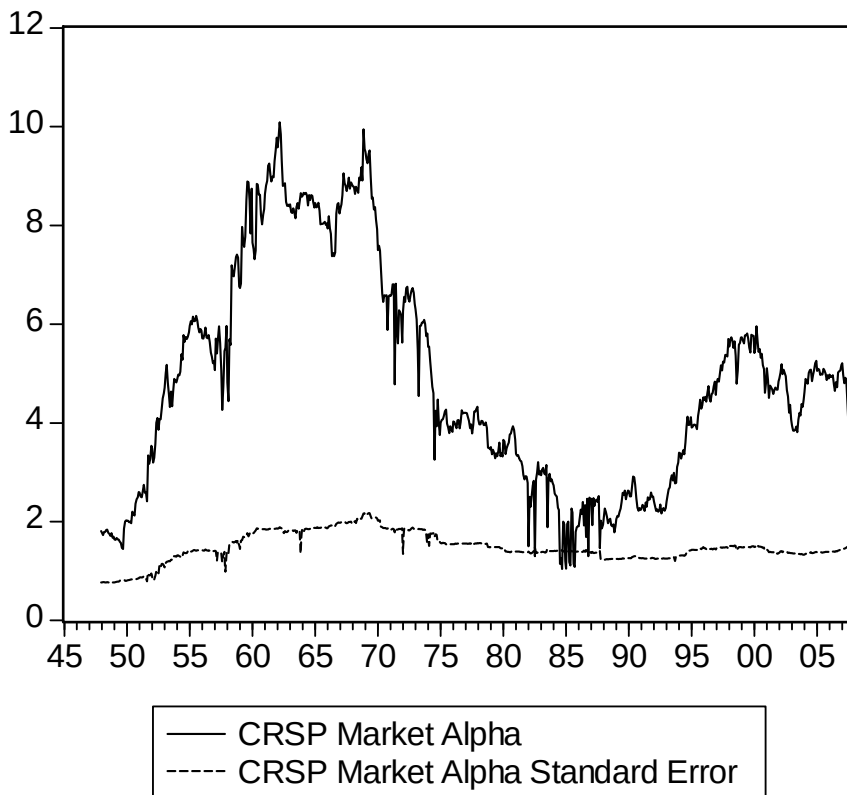
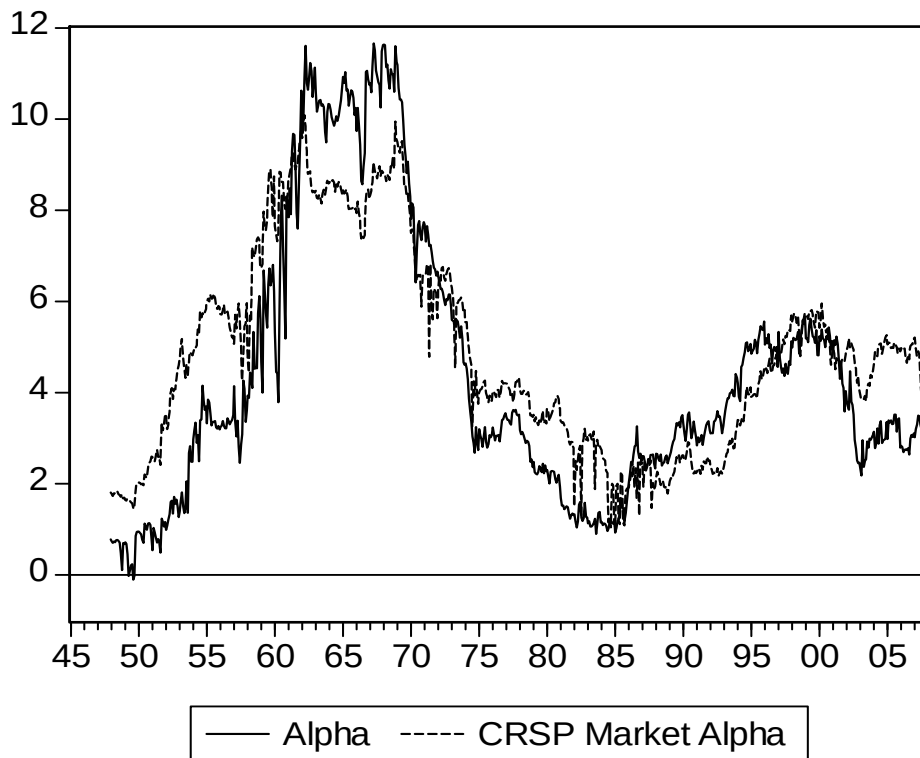
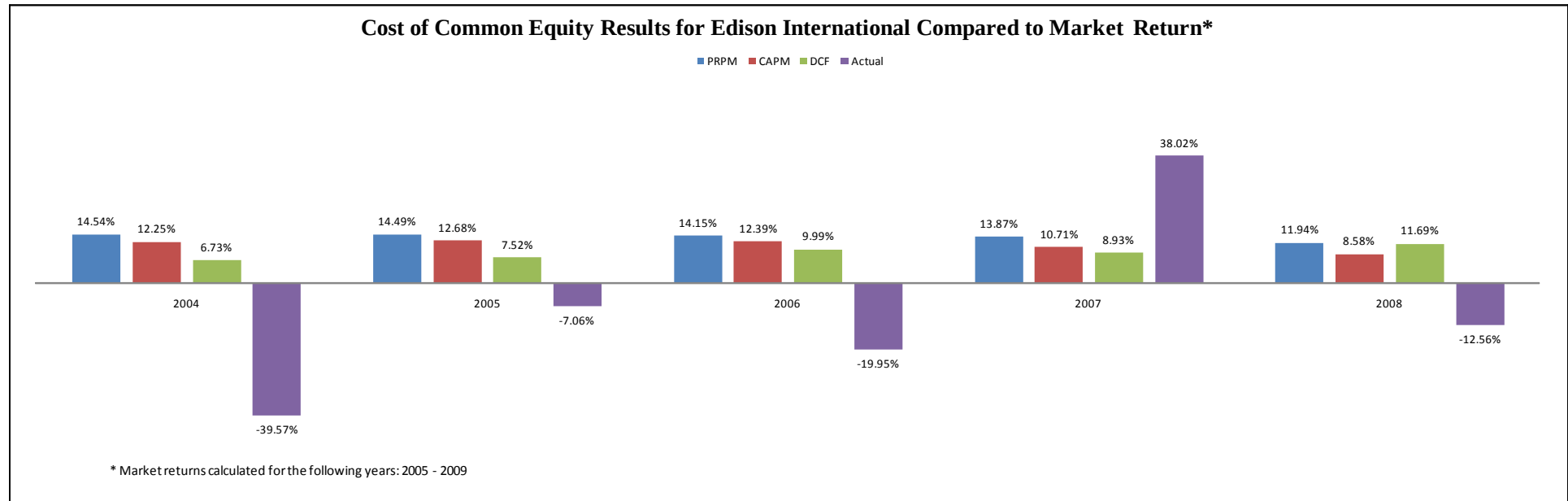


Figure 3

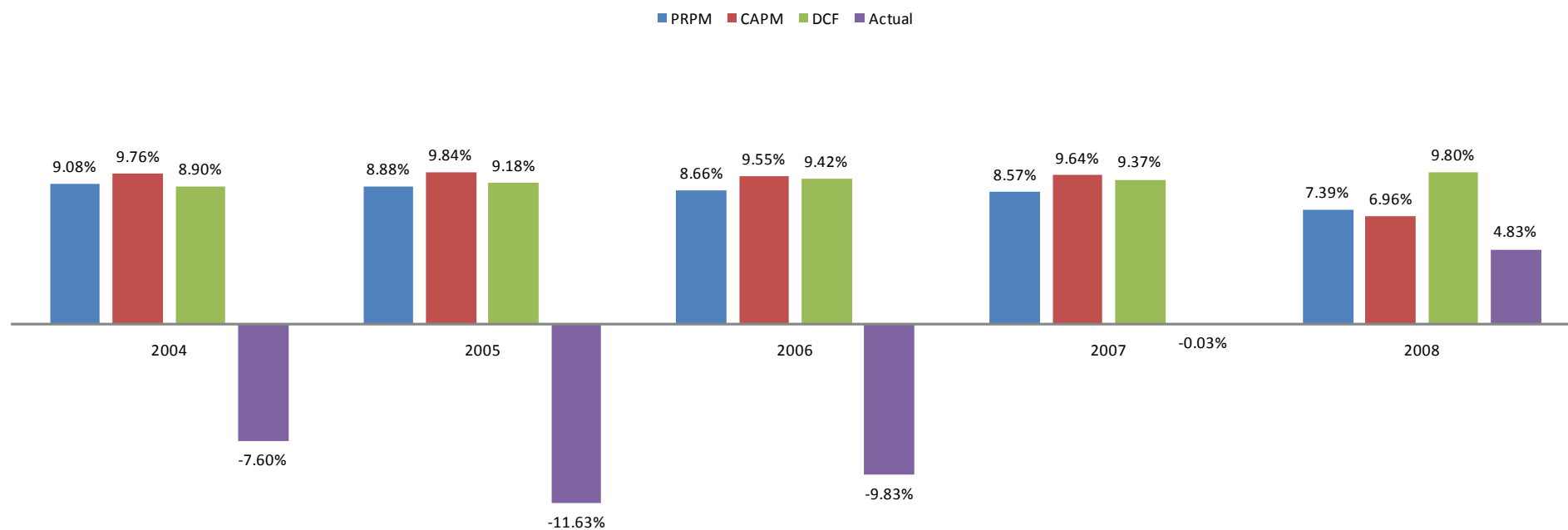
Rolling 240 Month CRSP and Utility Alphas 1947–2007



Figures 4 – 12: Comparison of the Cost of Common Equity Estimates and Market



Cost of Common Equity Results for Southern Company Compared to Market Return*



* Market returns calculated for the following years: 2005 - 2009

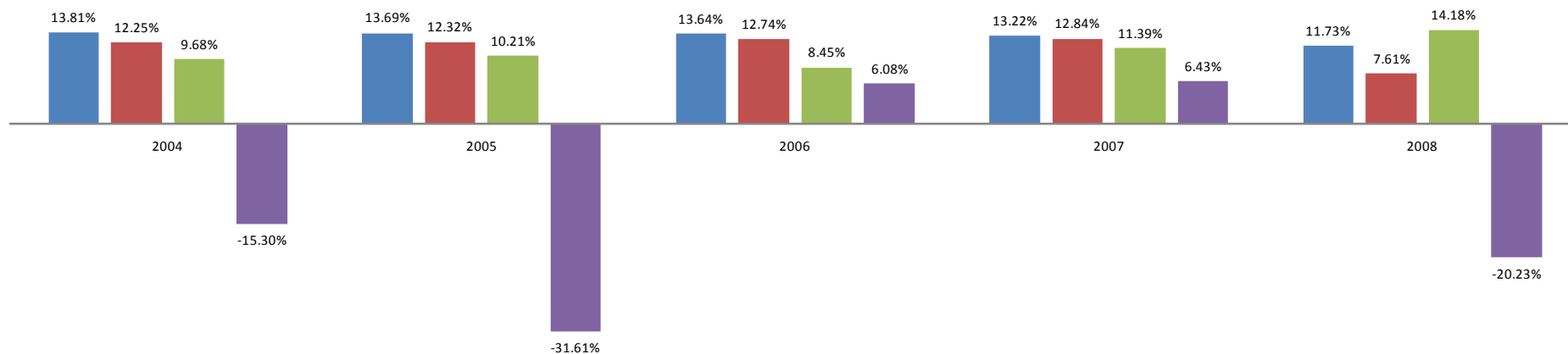
Cost of Common Equity Results for Consolidated Edison Compared to Market Return*



* Market returns calculated for the following years: 2005 - 2009

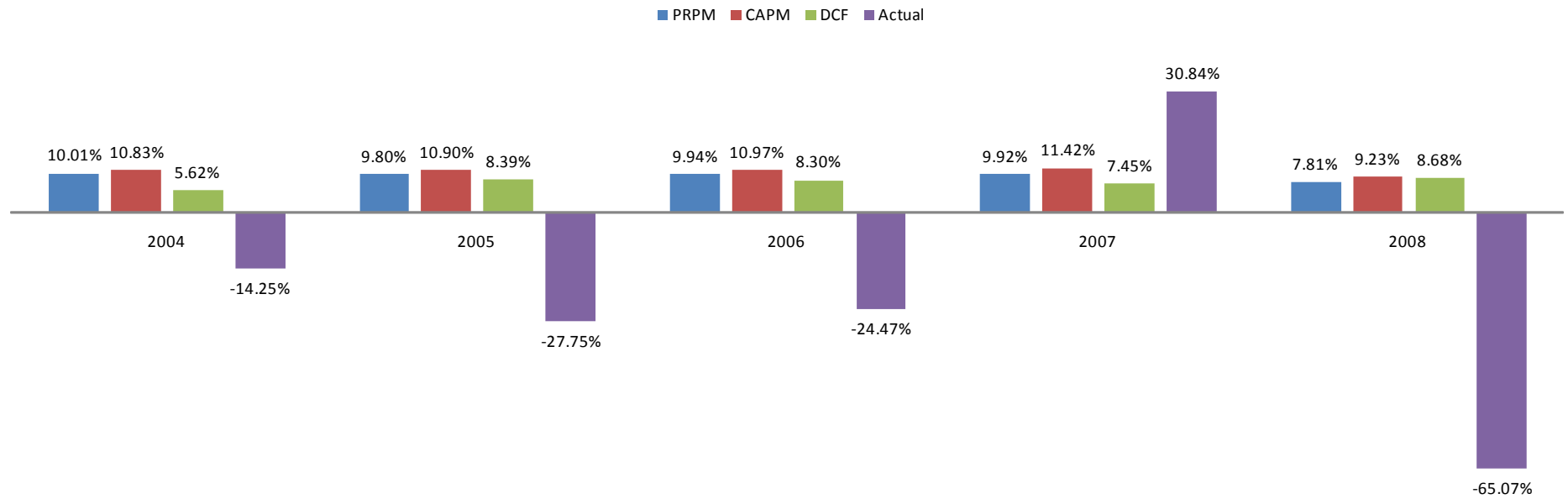
Cost of Common Equity Results for PG&E Corp Compared to Market Return*

■ PRPM ■ CAPM ■ DCF ■ Actual



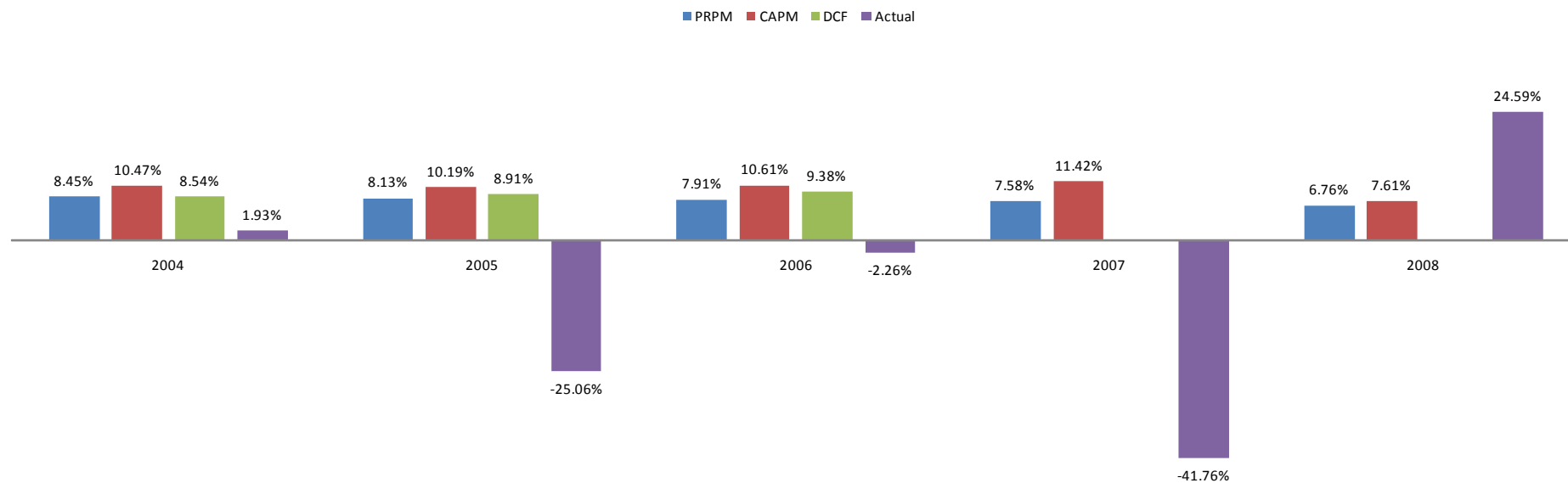
* Market returns calculated for the following years: 2005 - 2009

Cost of Common Equity Results for National Fuel Gas Co. Compared to Market Return*



* Market returns calculated for the following years: 2005 - 2009

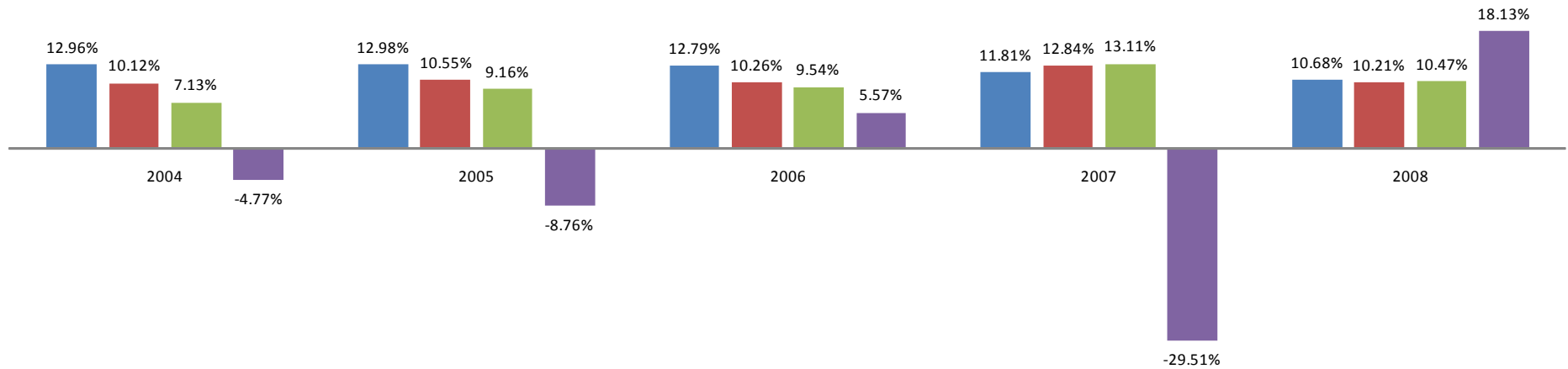
Cost of Common Equity Results for Laclede Group Compared to Market Return*



* Market returns calculated for the following years: 2005-2009
Missing DCF Cost of Capital Estimates Due to Unavailable Growth Rate

Cost of Common Equity Results for California Water Service Group Compared to Market Return *

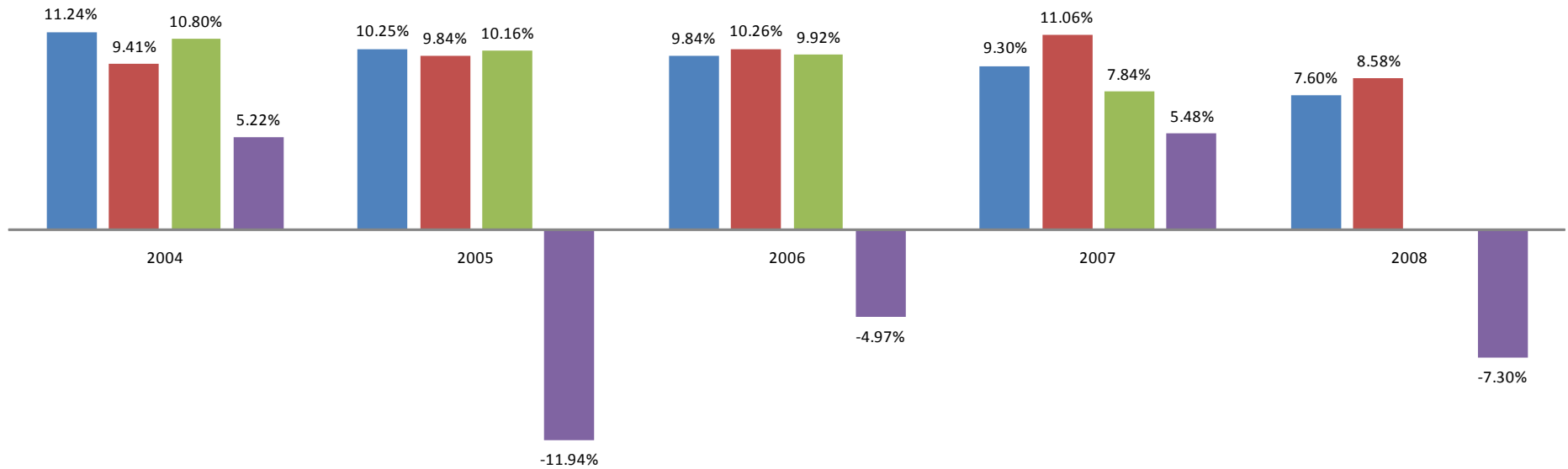
■ PRPM ■ CAPM ■ DCF ■ Actual



* Market returns calculated for the following years: 2005 -2009

Cost of Common Equity Results for Middlesex Water Company Compared to Market Return *

■ PRPM ■ CAPM ■ DCF ■ Actual



* Market returns calculated for following years: 2005 - 2009
Missing DCF Cost of Capital Estimate Due to Unavailable Growth Rate

Long Island American Water Company
Comparison of Bond Ratings, Business Risk and Financial Risk Profiles for the
Mr. Duah's Utility Proxy Group

	Moody's			Standard & Poor's						
	Bond Rating			Bond Rating			Bond Rating			
	September 2011			September 2011			September 2011			
	Bond Rating	Numerical Weighting (1)		Bond Rating	Numerical Weighting (1)	Credit Rating	Numerical Weighting (1)	Business Risk Profile (2)	Financial Risk Profile (2)	Numerical Weighting (1)
Mr. Duah's Utility Proxy Group	Baa1	8.0		A-	7.0	BBB+	8.0	Strong	Significant	4.0
	A2/A3	6.5		A-/BBB+	7.5	A- / BBB+	7.5	Excellent	Significant	4.0
	Baa2	9.0		BBB-	9.8	BBB-	10.0	Excellent	Significant	4.0
	Baa2	9.0		BBB	9.0	BBB	9.0	Excellent	Aggressive	5.0
	A2	6.0		A+	5.0	A+	5.0	Excellent	Intermediate	3.0
	Baa1	8.0		A-	7.0	BBB	9.0	Excellent	Aggressive	5.0
	A3	7.0		BBB+	8.0	BBB-	10.0	Excellent	Aggressive	5.0
	A3	7.0		BBB+	8.0	BBB	9.0	Excellent	Aggressive	5.0
	Baa2	9.0		BBB	9.0	BBB	9.0	Excellent	Aggressive	5.0
	A3/Baa1	7.5		A-	7.0	A-	7.0	Excellent	Significant	4.0
Edison International	A2	6.0		A	6.0	BBB+	8.0	Strong	Significant	4.0
	A1	5.0		BBB+	8.0	BBB+	8.0	Excellent	Significant	4.0
	Baa1	8.0		A-/BBB+	7.5	BBB	9.0	Excellent	Significant	4.0
	Baa2	9.0		BBB	9.0	BBB	9.0	Excellent	Aggressive	5.0
	Baa2	9.0		BBB-	10.0	BBB-	10.0	Strong	Aggressive	5.0
	A2	6.0		A-	7.0	BBB	9.0	Excellent	Aggressive	5.0
	A1	5.0		AA-	4.0	AA-	4.0	Excellent	Intermediate	3.0
	A3	7.0		A	6.0	BBB+	8.0	Excellent	Significant	4.0
	A3	7.0		BBB+	8.0	BBB+	8.0	Strong	Significant	4.0
	A3	7.0		A-	7.0	BBB	9.0	Excellent	Aggressive	5.0
PG&E Corporation	A3	7.0		A-	7.0	BBB+	8.0	Excellent	Aggressive	5.0
	A3	7.0		A-	7.0	BBB	9.0	Excellent	Aggressive	5.0
	A3	7.0		A-	7.0	BBB+	8.0	Excellent	Intermediate	3.0
	Aa3	4.0		A+	5.0	A	6.0	Excellent	Intermediate	3.0
	A2/A3	6.5		A	6.0	A	6.0	Excellent	Intermediate	3.0
	Baa1	8.0		BBB+	8.0	BBB+	8.0	Excellent	Significant	4.0
	Baa2	9.0		NR	-	BBB	9.0	Excellent	Aggressive	5.0
	A2	6.0		A-	7.0	A-	7.0	Excellent	Significant	4.0
	Baa1	8.0		BBB+	8.0	BBB	9.0	Excellent	Aggressive	5.0
	A1	5.0		A-	7.0	A-	7.0	Excellent	Significant	4.0
Xcel Energy Inc.	A3	7.0		A-	6.0	A-	7.0	Excellent	Significant	4.0
	A3	7.1		A-	7.3	BBB+	8.0	Excellent	Significant	4.3
Average										

Notes:

- (1) From page 3 of Schedule PMA-9
 (2) From S&P Issuer Rankings U.S. Regulated Electric Utilities and U.S. Natural Gas Distributors and Water Companies, Strongest to Weakest, July 5, 2011 and June 20, 2011, respectively.

Source Information Moody's Investors Service
 Standard & Poor's Global Utilities Rating Service

Long Island American Water Company
Value Line Adjusted and Unadjusted Betas and R-Squareds
of Mr. Duah's Utility Proxy Group and the Proxy Group of Nine Water Companies

<u>Mr. Duah's Utility Proxy Group</u>	<u>Value Line Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>R-Squared</u>
ALLETE, Inc.	0.70	0.53	0.2811
Alliant Energy Corporation	0.70	0.53	0.2716
Ameren Corporation	0.80	0.65	0.3849
American Electric Power Co.	0.70	0.50	0.2941
American States Water Co.	0.75	0.56	0.1805
Avista Corporation	0.70	0.51	0.2611
Black Hills Corporation	0.85	0.71	0.3483
CenterPoint Energy	0.80	0.66	0.3325
Cleco Corporation	0.65	0.46	0.2759
Consolidated Edison, Inc.	0.65	0.39	0.2689
DTE Energy Company	0.75	0.60	0.3785
Edison International	0.80	0.64	0.3978
Entergy Corporation	0.70	0.52	0.2763
Great Plains Energy Incorporated	0.75	0.57	0.2686
Hawaiian Electric Industries, Inc.	0.70	0.51	0.1865
IDACORP, Inc.	0.70	0.49	0.2910
MGE Energy, Inc.	0.60	0.37	0.2157
Pepco Holdings, Inc.	0.80	0.64	0.3153
PG&E Corporation	0.55	0.27	0.0973
Portland General Electric	0.75	0.55	0.3077
SCANA Corporation	0.65	0.47	0.3132
SEMPRA Energy	0.80	0.69	0.4070
Southern Company	0.55	0.27	0.1453
TECO Energy, Inc.	0.85	0.72	0.3655
UIL Holdings Corporation	0.70	0.51	0.1881
Vectren Corporation	0.70	0.53	0.2762
Westar Energy, Inc.	0.75	0.60	0.4164
Wisconsin Energy Corporation	0.65	0.39	0.2602
Xcel Energy Inc.	0.65	0.41	0.3081
Average	<u>0.71</u>	<u>0.53</u>	<u>0.2867</u>

<u>Proxy Group of Nine Water Companies</u>	<u>Value Line Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>R-Squared</u>
American States Water Co.	0.75	0.56	0.1805
American Water Works Co., Inc.	0.65	0.45	0.1752
Aqua America, Inc.	0.65	0.41	0.1727
Artesian Resources Corp.	0.60	0.33	0.1337
California Water Service Group	0.70	0.48	0.1585
Connecticut Water Service, Inc.	0.80	0.62	0.3218
Middlesex Water Company	0.75	0.55	0.2804
SJW Corporation	0.90	0.81	0.2496
York Water Company	0.70	0.48	0.1748
Average	<u>0.72</u>	<u>0.52</u>	<u>0.2052</u>

Source of Information:

Value Line Proprietary Database 9-15-11



NORTH-HOLLAND

The Quarterly Review of Economics and Finance
43 (2003) 578–582

The *QUARTERLY REVIEW*
Of *ECONOMICS*
And *FINANCE*

Short communication

Utility stocks and the size effect—revisited

Thomas M. Zepp^{*,1}

Utility Resources, Inc., 1500 Liberty Street S.E., Suite 250, Salem, OR 97302, USA

Received 7 January 2002; received in revised form 27 August 2002; accepted 29 August 2002

Abstract

Wong concluded there is weak empirical support that firm size is a missing factor from the capital asset pricing model for industrial stocks but not for utility stocks. Her weak results, however, do not rule out the possibility of a small firm effect for utilities. The issue she addressed has important financial implications in regulated proceedings that set rates of return for utilities. New studies based on different size water utilities are presented that do support a small firm effect in the utility industry.

© 2002 Board of Trustees of the University of Illinois. All rights reserved.

Keywords: Utility stocks; Beta risk; Firm size

Annie Wong concludes there is some weak evidence that firm size is a missing factor from the capital asset pricing model (“CAPM”) for industrial stocks but not for utility stocks (Wong, 1993, p. 98). This “firm size effect” is an observation that small firms tend to earn higher returns than larger firms after controlling for differences in estimates of beta risk in the CAPM. Wong notes that if the size effect exists, it has important implications and should be considered by regulators when they determine fair rates of return for public utilities. This paper re-examines the basis for her conclusions and presents new information that indicates there is a small firm effect in the utility sector.

1. Reconsideration of the evidence provided by Wong

Wong relies on Barry and Brown (1984) and Brauer (1986) to suggest the small firm effect may be explained by differences in information available to investors of small and large firms.

* Tel.: +1-503-370-9563; fax: +1-503-370-9566.

E-mail address: tzepp@ur-inc.com (T.M. Zepp).

She states that requirements to file reports and information generated during regulatory proceedings indicate the same amount of information is available for large and small utilities and thus, if the differential information hypothesis explains the small firm effect, then the uniformity of information available among utility firms would suggest the size effect should not be observed in the utility industry. But contrary to the facts she assumes, there are differences in information available for large and small utilities. More parties participate in proceedings for large utilities and thus generate more information. Also, in some jurisdictions smaller utilities are not required to file all of the information that is required of larger firms. Thus, if the small firm effect is explained by differential information, contrary to Wong's hypothesis, differences in available information suggests there is a small firm effect in the utility industry. Wong did not discuss other potential explanations of the small firm effect for utilities.²

Wong's empirical results are not strong enough to conclude that beta risks of utilities are unrelated to size. In the period 1963–1967, when monthly data were used to estimate betas, her estimates of utility betas as well as industrial betas increased as the size of the firms decreased, but she did not find the same inverse relationship between size and beta risk for utilities in other periods. Being unable to demonstrate a relationship between size and beta in other periods may be the result of Wong using monthly, weekly and daily data to make those beta estimates. Roll (1980) concluded trading infrequency seems to be a powerful cause of bias in beta risk estimates when time intervals of a month or less are used to estimate betas for small stocks. When a small stock is thinly traded, its stock price does not reflect the movement of the market, which drives down the apparent covariance with the market and creates an artificially low beta estimate.

Ibbotson Associates (2002) found that when annual data are used to estimate betas, beta estimates for the smaller firms increase more than beta estimates for larger firms. Table 1 compares Value Line (2000) beta estimates for three relatively small water utilities that are made with weekly data and an adjusted beta estimated with pooled annual data for the utilities for the 5-year period ending in December 2000. In making the latter estimate, it is assumed that the underlying beta for each of water utilities is the same. The *t*-statistics for the unadjusted beta

Table 1

Beta estimates reported by Value Line and estimated with pooled annual returns for relatively small water utilities

	Value Line ^a	Estimated with annual data ^b
Connecticut Water Service	0.45	
Middlesex Water	0.45	
SJW Corporation	0.50	
Average	0.47	0.78
<i>t</i> -statistic		2.72 ^{c,d}

^a As reported in Value Line (2000). Betas estimated with 5 years of weekly data.

^b Estimated with pooled annual return premiums for the 5-year period ending December 2000. Proxy market returns are total returns for the S&P 500 index. Dummy variable in 1999 to reflect the proposed acquisition of SJW Corporation included in analysis.

^c Significant at the 95% level.

^d The *t*-statistic for the null hypothesis that the true beta is 0.18 (the derived unadjusted Value Line beta) when the estimated betas is 0.65 (the unadjusted estimated beta) is 1.97. It is significant at the 95% level.

estimate is reported in parentheses. As was found by [Ibbotson Associates \(2002\)](#) for stocks in general, when annual data are used to estimate betas for small utility stocks, the beta estimate increases.

Wong used the [Fama and MacBeth \(1973\)](#) approach to estimate how well firm size and beta explain future returns in four periods. She reports weak empirical results for both the industrial and utility sectors. In every one of the statistical results reported for utilities, the coefficient for the size effect has a negative sign as would be expected if there is a size effect in the utility industry but only one of the results was found to be statistically significant at the 5% level. With the industrial sector, though she found two cases to have a significant size effect, a negative sign for the size coefficient occurred only 75% of the time. What is puzzling is that with these weak results, Wong concludes the analysis provides support for the small firm effect for the industrial industry but no support for a small firm effect for the utility industry.

2. New evidence on risk premiums required by small utilities

Two other studies support a conclusion that small utilities are more risky than larger ones. A study made by Staff of the Water Utilities Branch of the California Public Utilities Commission Advisory and Compliance Division ([CPUC Staff, 1991](#)) used proxies for beta risk and determined small water utilities were more risky than larger water utilities. Part of the difficulty with examining the question of relative risk of utilities is that the very small utilities are not publicly-traded. This CPUC Staff study addressed that concern by computing proxies for beta risk estimated with accounting data for the period 1981–1991 for 58 water utilities. Based on that analysis, CPUC Staff concluded that smaller water utilities were more risky and required higher equity returns than larger water utilities. Following 8 days of hearings and testimony by 21 witnesses regarding this study, it was adopted by the California Public Utilities Commission in CPUC Decision 92-03-093, dated March 31, 1992.

[Table 2](#) provides the results of another study of differences in required returns estimated from discounted cash flow (“DCF”) model estimates of the costs of equity for water utilities of different sizes. The study compares average estimates of equity costs for two smaller water utilities, Dominguez Water Company and SJW Corporation, with equity cost estimates for two larger companies, California Water Service and American States Water, for the period 1987–1997. All four utilities operated primarily in the same regulatory jurisdiction during that period. Estimates of future growth are required to make DCF estimates. [Gordon, Gordon, and Gould \(1989\)](#) found that a consensus of analysts’ forecasts of earnings per share for the next 5 years provides a more accurate estimate of growth required in the DCF model than three different historical measures of growth. Unfortunately, such analysts’ forecasts are not generally available for small utilities and thus this study assumes, as was assumed by staff at the regulatory commission, that investors relied upon past measures of growth to forecast the future. The results in [Table 2](#) show that the smaller water utilities had a cost of equity that, on average, was 99 basis points higher than the average cost of equity for the larger water utilities. This result is statistically significant at the 90% level. In terms of the issues being addressed by Wong, the 99 basis points could be the result of differences in beta risk, the small firm effect or some combination of the two.

Table 2
Small firm equity cost differential: case study based on a comparison of DCF equity cost estimates for larger and smaller California water utilities (1987–1997)

	Larger water utilities ^a			Smaller water utilities ^b			Smaller utilities minus larger utilities
	D ₀ /P ₀ (%)	Estimated growth (%) ^c	Equity cost estimate (%) ^d	D ₀ /P ₀ (%)	Estimated growth (%) ^c	Equity cost estimate (%) ^d	
1987	6.60	7.17	14.24	5.38	10.06	15.98	1.74
1988	6.75	6.30	13.48	5.81	9.08	15.42	1.94
1989	7.10	6.30	13.84	6.47	7.00	13.93	0.09
1990	7.24	6.19	13.87	6.96	7.51	14.99	1.11
1991	6.94	6.29	13.67	6.64	6.24	13.30	−0.36
1992	6.18	5.96	12.50	6.50	6.71	13.65	1.14
1993	5.32	5.68	11.30	5.49	6.31	12.15	0.85
1994	6.03	4.40	10.70	5.80	4.86	10.94	0.25
1995	6.44	3.86	10.55	6.44	4.88	11.64	1.09
1996	5.60	4.06	9.88	5.77	5.58	11.67	1.79
1997	4.93	3.31	8.40	4.52	4.89	9.64	1.23
Average difference							0.99
t-statistic							1.405 ^e

Limited to period for which Dominguez Water Company data were available. 1998 excluded due to pending buyout.

^a American States Water and California Water Service.

^b Dominguez Water Company and SJW Corporation.

^c Average of 5- and 10-year dividends per share growth, 10-year earnings per share growth and estimates of sustainable growth from internal and external sources for the most recent 10-year period when data are available (1991–1997), otherwise most recent 5-year period (1987–1990).

^d DCF equity cost as computed by California PUC staff: $k = (D_0/P_0) \times (1 + g) + g$.

^e Significant at the 90% level.

3. Concluding remarks

Wong's concluding remarks should be re-examined and placed in perspective. She noted that industrial betas tend to decrease with increases in firm size but the same relationship is not found in every period for utilities. Had longer time intervals been used to estimate betas, as was done in Table 1, she may have found the same inverse relationship between size and beta risk for utilities in other periods. She also concludes "there is some weak evidence that firm size is a missing factor from the CAPM for the industrial but not the utility stocks" (Wong, 1993, p. 98), but the weak evidence provides little support for a small firm effect existing or not existing in either the industrial or utility sector. Two other studies discussed here support a conclusion that smaller water utility stocks are more risky than larger ones. To the extent that water utilities are representative of all utilities, there is support for smaller utilities being more risky than larger ones.

Notes

1. Vice President.
2. The small firm effect could also be a proxy for numerous other omitted risk differences between large and small utilities. An obvious candidate is differentials in access to financial markets created by size. Some very small utilities are unable to borrow money without backing of the owner. Other small utilities are limited to private placements of debt and have no access to the more liquid financial markets available to larger utilities.

References

- Barry, C. B., & Brown, S. J. (1984). Differential information and the small firm effect. *Journal of Financial Economics*, 283–294.
- Brauer, G. A. (1986, December). Using jump-diffusion return models to measure differential information by firm size. *Journal of Financial and Quantitative Analysis*, 447–458.
- Fama, E. F., & MacBeth, J. D. (1973, May/June). Risk return and equilibrium: Empirical tests. *Journal of Political Economy*, 607–636.
- Gordon, D. A., Gordon, M. J., & Gould, L. I. (1989, Spring). Choice among methods of estimating share yield. *Journal of Portfolio Management*, 50–55.
- Ibbotson Associates. (2002). *Stocks, bonds, bills and inflation valuation edition 2002 yearbook*. Chicago, IL.
- Roll, R. (1980, October). *A possible explanation of the small firm effect*. Unpublished manuscript, University of California, Los Angeles.
- Staff of the Water Utilities Branch of the California Public Utilities Commission Advisory and Compliance Division. (1991, June 10). *Staff report on issues related to small water utilities phase one*. Commission Advisory and Compliance Division Water Utilities Branch California Public Utilities Commission, Proceeding No. I-909-11-033.
- Value Line. (2000, December 29). *The Value Line investment survey—expanded edition*. Summary & Index.
- Wong, A. (1993). Utility stocks and the size effect: An empirical analysis. *Journal of the Midwest Finance Association*, 95–101.

Long Island American Water Company
Authorized Returns on Common Equity and Common Equity Ratios
For Electric Companies from January 2009 to August 2011

State	Company	Case Identification	Service	Date	Increase Authorized	
					Return on Equity	Equity Ratio
Oklahoma	Public Service Co. of OK	Ca-PUD-200800144	Electric	1/14/2009	10.50 %	44.10 %
Ohio	Cleveland Elec Illuminating Co	C-07-0551-EL-AIR (CEI)	Electric	1/21/2009	10.50	49.00
Ohio	Ohio Edison Co.	C-07-0551-EL-AIR (OE)	Electric	1/21/2009	10.50	49.00
Ohio	Toledo Edison Co.	C-07-0551-EL-AIR (TE)	Electric	1/21/2009	10.50	49.00
Missouri	Union Electric Co.	C-ER-2008-0318	Electric	1/27/2009	10.76	52.01
Idaho	Idaho Power Co.	C-IPC-E-08-10	Electric	1/30/2009	10.50	49.27
Connecticut	United Illuminating Co.	D-08-07-04	Electric	2/4/2009	8.75	50.00
Indiana	Indiana Michigan Power Co.	Ca-43306	Electric	3/4/2009	10.50	45.80
California	Southern California Edison Co.	Ap-07-11-011	Electric	3/12/2009	11.50	48.00
Florida	Tampa Electric Co.	D-080317-EI	Electric	3/17/2009	11.25	47.49
Minnesota	ALLETE (Minnesota Power)	D-E-015/GR-08-415	Electric	4/3/2009	10.74	54.79
Utah	PacifiCorp	D-08-035-38	Electric	4/21/2009	10.61	51.00
New York	Consolidated Edison Co. of NY	C-08-E-0539	Electric	4/24/2009	10.00	48.00
Idaho	Idaho Power Co.	C-IPC-E-09-07	Electric	5/29/2009	10.50	49.27
New York	Central Hudson Gas & Electric	C-08-E-0887	Electric	6/22/2009	10.00	47.00
Nevada	Nevada Power Co.	D-08-12002	Electric	6/24/2009	10.80	44.15
Texas	Oncor Electric Delivery Co.	D-35717	Electric	8/31/2009	10.25	40.00
Minnesota	Northern States Power Co. - MN	D-E-002/GR-08-1065	Electric	10/23/2009	10.88	52.47
Michigan	Consumers Energy Co.	C-U-15645	Electric	11/2/2009	10.70	40.51
Massachusetts	Massachusetts Electric Co.	DPU 09-39	Electric	11/30/2009	10.35	49.99
Wisconsin	Wisconsin Electric Power Co.	D-5-UR-104 (WEP-EL)	Electric	12/18/2009	10.40	53.02
Wisconsin	Wisconsin Power and Light Co	6680 UR-117 (elec)	Electric	12/18/2009	10.40	50.38
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-116 (elec)	Electric	12/22/2009	10.40	55.34
Wisconsin	Northern States Power Co - WI	D-4220-UR-116 (elec)	Electric	12/22/2009	10.40	52.30
Maryland	Delmarva Power & Light Co.	C-9192	Electric	12/30/2009	10.00	49.87
Iowa	Interstate Power & Light Co.	D-RPU-2009-0002	Electric	1/4/2010	10.50	49.52
Florida	Florida Power Corp.	D-090079-EI	Electric	1/11/2010	10.50	50.00
Michigan	Detroit Edison Co.	C-U-15768	Electric	1/11/2010	11.00	39.48
Florida	Florida Power & Light Co.	D-080677-EI	Electric	1/13/2010	10.00	47.00
Rhode Island	Narragansett Electric Co.	D-4065	Electric	2/9/2010	9.80	42.75
District of Columbia	Potomac Electric Power Co.	F.C. 1076	Electric	3/2/2010	9.63	46.18
Washington	Puget Sound Energy Inc.	D-UE-090704	Electric	4/2/2010	10.10	46.00
Illinois	Central Illinois Light Co.	D-09-0306	Electric	4/29/2010	9.90	43.61
Illinois	Central Illinois Public	D-09-0307	Electric	4/29/2010	10.06	48.67
Illinois	Illinois Power Co.	D-09-0308	Electric	4/29/2010	10.26	43.55
Missouri	Ameren Missouri	C-ER-2010-0036	Electric	5/28/2010	10.10	51.26
Connecticut	Connecticut Light & Power Co.	D-09-12-05	Electric	6/30/2010	9.40	49.20
Michigan	Wisconsin Electric Power Co.	C-U-15981	Electric	7/1/2010	10.25	47.61
Virginia	Appalachian Power Co.	C-PUE-2009-00030	Electric	7/15/2010	10.53	41.53
Maryland	Potomac Electric Power Co.	C-9217	Electric	8/6/2010	9.83	48.87
Arizona	UNS Electric Inc.	D-E-04204A-09-0206	Electric	9/30/2010	9.75	45.76
Minnesota	ALLETE (Minnesota Power)	D-E-015/GR-09-1151	Electric	11/2/2010	10.38	54.29
Michigan	Consumers Energy Co.	C-U-16191	Electric	11/4/2010	10.70	41.59
Kansas	Kansas City Power & Light	D-10-KCPE-415-RTS	Electric	11/22/2010	10.00	49.66
Maryland	Baltimore Gas and Electric Co.	C-9230 (elec)	Electric	12/6/2010	9.86	51.93
Montana	NorthWestern Energy Division	D-D2009.9.129 (Elec)	Electric	12/9/2010	10.00	48.00
Nevada	Sierra Pacific Power Co.	D-10-06001	Electric	12/20/2010	10.60	44.11
Idaho	PacifiCorp	C-PAC-E-10-07	Electric	12/27/2010	9.90	52.10
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-117 (elec)	Electric	1/12/2011	10.30	58.06
Wisconsin	Wisconsin Public Service Corp	D-6690-UR-120 (elec)	Electric	1/13/2011	10.30	51.65
New York	Niagara Mohawk Power Corp.	C-10-E-0050	Electric	1/20/2011	9.30	48.00

Long Island American Water Company
Authorized Returns on Common Equity and Common Equity Ratios
For Electric Companies from January 2009 to August 2011

State	Company	Case Identification	Service	Date	Increase Authorized	
					Return on Equity	Equity Ratio
Massachusetts	Western Massachusetts Electric	DPU 10-70	Electric	1/31/2011	9.60	50.70
Texas	CenterPoint Energy Houston	D-38339	Electric	2/3/2011	10.00	45.00
Virginia	Virginia Electric & Power Co.	C-PUE-2010-00054	Electric	3/22/2011	12.30	49.37
Virginia	Virginia Electric & Power Co.	C-PUE-2010-00055	Electric	3/22/2011	12.30	49.37
Minnesota	Otter Tail Power Co.	D-E-017/GR-10-239	Electric	3/25/2011	10.74	51.70
Washington	PacifiCorp	D-UE-100749	Electric	3/25/2011	9.80	49.10
West Virginia	Appalachian Power Co.	C-10-0699-E-42T	Electric	3/30/2011	10.00	42.20
Massachusetts	Kansas City Power & Light	C-ER-2010-0355	Electric	4/12/2011	10.00	46.30
Missouri	Union Electric Co.	C-ER-2011-0028	Electric	7/13/2011	10.20	52.24
Massachusetts	Fitchburg Gas & Electric Light	DPU 11-01	Electric	8/1/2011	9.20	42.88
New Mexico	Public Service Co. of NM	C-10-00086-UT	Electric	8/8/2011	10.00	51.28
Utah	PacifiCorp	D-10-035-124	Electric	8/11/2011	10.00	51.90
Minnesota	Interstate Power & Light Co.	D-E-001/GR-10-276	Electric	8/12/2011	10.35	47.74
Texas	Oncor Electric Delivery Co.	D-38929	Electric	8/19/2011	10.25	40.00
Average					<u>10.30 %</u>	<u>48.18 %</u>



REGULATORY FOCUS

FINAL REPORT

July 15, 2011

STATE: NEW YORK
COMPANY: Orange and Rockland Utilities
ACTION: \$26.6 million permanent electric distribution rate increase authorized¹

CASE HISTORY

		<u>Millions</u>
7/30/10	Permanent electric distribution rate increase requested	\$61.7 ¹
11/5/10	Requested rate increase revised	64.4 ¹
12/10/10	Electric rate increase recommended by PSC Staff	26.6 ¹
4/4/11	Rate increase recommended by ALJ	26.6 ¹
6/16/11	Permanent rate increase authorized	26.6 ¹
6/17/11	Final order issued	26.6 ¹
7/1/11	Distribution rate increase implemented	26.6 ¹

	<u>PRESENT CASE</u>		Previous Electric Decision 7/16/08 ²
	Supported by Company	Authorized by Commission	
Annual Revenues (millions)	\$64.4 ¹	\$26.6 ¹	\$15.6
% of Revenues	30.3%	12.4%	7.5%
Test Year End	6/30/12	6/30/12	6/30/09
Rate Base Value (millions)	\$672.2	\$629.9	\$504.0 ²
Rate Base (Year-End or Average)	Average	Average	Average
Return on Common Equity	11.0%	9.2%	9.4%
Common Equity % of Capital	50.2%	48.0%	48.0%
Return on Rate Base	8.23%	7.22%	7.69%

¹ Rate impact of proposed and authorized rate increases are reduced by \$13.6 million due to: the expiration of a temporary surcharge implemented in the prior rate case to ensure that revenues at the end of that three-year rate plan would not be higher than they would have been if that rate increase was not phased in; a projected reduction in recoveries associated with revenue decoupling; and, the roll in to base rates of projected revenues associated with a smart grid surcharge.

² First-year parameters of a three-year electric rate plan that commenced in July 2008, following the PSC's adoption of a settlement in Case No. 07-E-0949. The return parameters shown applied for all three years, and the revenue requirement for the final year of the plan (July 1, 2010-June 30, 2011) reflected a rate base valued at \$596.7 million.

RRA EVALUATION

This New York Public Service Commission (PSC) decision for Orange and Rockland Utilities (ORU) is slightly negative from an investor viewpoint. The PSC adopted a return on equity (ROE) that is well below the average ROE authorized energy utilities in the U.S. over the past 12 months, and is 20 basis points below that authorized the company in its previous electric rate case. We note that this proceeding was one of the few in New York decided without a multi-year settlement by the parties, and we note that in such fully-litigated cases the PSC has generally authorized ROEs that were well below prevailing nationwide averages. While the Commission made several adjustments to rate base and net operating income, many of these were timing related, thereby negatively impacting cash flow, but not necessarily affecting the company's opportunity to earn the authorized return during the first year of new rates. ORU is a subsidiary of Consolidated Edison Inc. We continue to accord New York regulation an Average/3 rating.

Rate Case Summary

This proceeding was initiated on July 30, 2010, when ORU filed with the PSC for a \$61.7 million electric distribution rate increase premised upon an 11% return on equity (49.93% of capital) and an 8.46% return on a rate base valued at \$682.9 million. On Nov. 5, 2010, the company filed revised data supporting a \$64.4 million increase.

ORU indicated that the proposed rate increase reflected: recovery of deferred costs, e.g., pensions, other post-employment benefits (OPEBs), storm restoration expenses, and increases in operating costs; a reduction in forecasted sales; increased property taxes; carrying charges associated with new rate base additions; an increase in the overall rate of return; and, changes to depreciation rates.

As an alternative, the company had also proposed to implement a new three-year plan commencing July 1, 2011. Increases of \$64.9 million, \$17.5 million, and \$9.7 million were proposed to take effect July 1, 2011, 2012, and 2013, respectively, and under a levelized approach, the increases were to be \$47.1 million, \$33.2 million, and \$33.2 million. In conjunction with the alternative proposal, ORU requested that the PSC establish a distribution infrastructure surcharge (DIS) that would allow the company to recover from ratepayers the carrying charges on capital investments made after the conclusion of the proposed three-year rate plan.

On Dec. 10, 2010, the PSC Staff filed testimony recommending that ORU be permitted a \$26.6 million distribution rate increase premised upon a 9% return on equity (48% of capital) and a 7.12% return on a rate base valued at \$666.2 million. On, April 4, 2011, the Administrative Law Judge (ALJ) conducting the case recommended that the PSC authorize ORU a \$26.6 million rate increase premised upon a 9.2% return on equity (49% of capital) and a 7.26% return on a rate base valued at \$630.3 million.

On June 16, 2011, the PSC voted unanimously to authorize ORU a \$26.6 million electric rate increase premised upon a 9.2% ROE. A final order was issued June 17, and the new rates were implemented July 1. We note that the rate impact is to be reduced by about \$13.6 million due to: the expiration of a temporary surcharge implemented in the final year of ORU's existing three-year rate plan to ensure that revenues at the end of that three-year rate plan would not be higher than they would have been if that rate increase was not phased in; a projected reduction in recoveries associated with revenue decoupling; and, the roll-in to base rates of projected revenues associated with a smart grid surcharge.

We note that the PSC rejected, at this time, ORU's DIS proposal, but declined "to dismiss outright any future consideration of ratemaking mechanisms that may lengthen the period of time between utility rate filings without undue harm to ratepayers or utilities....Proposals such as the DIS may be a creative means to accomplish efficient rate regulation."

Since the parties were unable to come to an agreement on a multi-year rate plan during the course of this proceeding, the company is free to file a new electric rate case at any time. The table below outlines the reasons for the \$38 million difference between the \$64.4 million electric distribution increase supported by ORU and the \$26.6 million rate increase authorized by the PSC.

RATE CASE DISALLOWANCES (Approximate)

<u>Disallowances Related To:</u>		<u>(Millions)</u>
Rate of Return		\$11
Rate Base		6
Net Operating Income	<u>(Millions)</u>	21
Pensions and OPEBs	\$8	
Storm restoration costs	6	
Direct labor	2	
Environmental costs	2	
Miscellaneous items (net)	3	
Total Disallowed		<u>\$38</u>

Rate of Return

The PSC's adoption of a lower rate of return than that requested by ORU accounted for about \$11 million of the revenue requirement shortfall in the case. ORU supported an 11% ROE based upon "constant growth" and "three-stage" discounted cash flow (DCF) approaches, the latter of which was deemed by the company to be a better predictor of investor expectations because it tracks near-term, middle-term, and

July 15, 2011

long-term investment periods. Also, ORU used a capital asset pricing model (CAPM) that incorporated the three-month average yield on 30-year Treasury Bonds as the risk-free rate. The DCF and CAPM approaches were applied to a proxy group of 12 comparable electric utilities that met certain criteria. Each of the comparable companies: has a corporate credit or senior unsecured bond rating within a range of BBB+ to A+ from Standard & Poor's (S&P) and at least a Baa1 rating from Moody's; must pay a regular dividend and have positive earnings growth; must derive at least 70% of total revenue and net operating income from regulated operations; and, is not currently involved in a merger transaction.

The Staff recommended a 9% ROE using the PSC's standard two-stage DCF, incorporating Value line data (earnings, dividends, and book value per share, and a forecast for the amount of outstanding common equity) to estimate the dividends that can be expected from each of its proxy group companies. The Staff then determined the discount rate (required return) necessary to convert the series of expected dividends into the current stock price to arrive at the cost of equity. The Staff's CAPM reflected the average of 10-year and 30-year Treasury Bond yields as the risk-free rate and also used market risk premium estimates provided by Merrill Lynch. The Staff employed a proxy group of companies with credit ratings of at least BBB- from S&P, a lower credit rating floor than that used by ORU. The Staff then recommended a 23-basis-point discount to the ROE produced by the DCFs to account for the fact that ORU's credit rating was higher than that of the Staff's proxy group.

The PSC adopted the Staff proposed DCF and CAPM approaches, indicating that "we have previously stated our preference for use of the approach advocated by Staff." The Commission relied on the Staff's proxy group, but ruled that a reduction to the authorized ROE related to a credit quality differential was not necessary. The PSC concluded that, using model inputs as of April 2011, and applying its typical 2/3 DCF - 1/3 CAPM weighting, "we find [ORU's] cost of equity for the Rate Year to be 9.2%."

With regard to capital structure, ORU proposed that a utility-stand-alone capitalization (with a 50.2% equity ratio) be used. The Staff, however, recommended the use of a Consolidated Edison, Inc. capital structure, adjusted to remove the effects of unregulated investments, resulting in a structure with a 48% equity ratio. The ALJ also recommended a consolidated capital structure, with no adjustment, resulting in a structure with a 49% equity ratio. The PSC adopted the capital structure recommended by the Staff, stating that the ALJ "inappropriately" based its recommendation on a consolidated capital structure inclusive of unregulated investments. The parties were in agreement regarding the costs of senior capital. The adoption of a 9.2% ROE, in conjunction with the approved capital structure and senior capital cost rates, as indicated in the table below, resulted in the authorization of a 7.22% return on rate base.

<u>Type of Capital</u>	<u>Percent of Capitalization</u>	<u>Cost Rate</u>
Long-Term Debt	49.7%	5.50%
Customer Deposits	1.3	1.46
Preferred Stock	1.0	5.34
Common Equity	<u>48.0</u>	<u>9.20</u>
	<u>100.0%</u>	<u>7.22%</u>

Rate Base

The Commission's adoption of a lower rate base than that supported by the company reduced the revenue requirement by roughly \$6 million. An adjustment to plant-in-service accounts for about \$5 million of the total. Specifically, the PSC adopted an ALJ recommendation to reduce the company's budgeted capital expenditures for the rate year by 20%, which is equal to the average of the company's 2009 and 2010 "under-spending" percentages. The PSC stated, "an adjustment is proper to bring the forecast of net plant investment in line with past experience." While the Commission requires the carrying charges on spending shortfalls to be deferred for future ratepayer benefit, it noted that "allowing ratepayers to benefit from a reduction in revenue requirement now is preferable to having them benefit from a future amortization of a deferral balance."

The PSC adopted an ALJ recommendation to allow ORU to defer the carrying charges on amounts expended in excess of a target rate year net plant balance of \$718 million, up to \$748.7 million. There is to be no deferral of carrying charges on actual net plant in excess of the \$748.7 million cap. This determination had no revenue impact in this case.

Other rate base adjustments were related to such items as working capital, bonus depreciation, and environmental expenditures; these adjustments, in aggregate, reduced the revenue requirement by \$1 million net.

Net Operating Income

Net operating income (NOI) adjustments adopted by the PSC reduced the revenue requirement by about \$21 million, of which \$8 million was associated with disallowances to pension and other post-employment benefits expenses. These adjustments were largely related to the Commission's adoption of a five-year, versus ORU's proposed three-year, amortization schedule for accumulated unrecovered amounts from prior periods. The PSC indicated that this adjustment is earnings-neutral, as the company is provided carrying charges on the unamortized balance, and that no evidence has been introduced indicating "that a five-year amortization period will have an excessively negative impact on the Company's cash flow. Evidence indicates, however, that economic conditions...significantly negatively impacted the deferred balances for pensions and OPEB expenses. To require ratepayers to make up for recessionary impacts over a short amortization period is unreasonable, particularly while the economy is still slowly recovering."

The PSC's rulings with respect to storm restoration costs accounted for roughly \$6 million of the revenue requirement shortfall in the case. In determining the rate allowance for this expense, the Commission averaged the costs experienced by ORU over eight years, 2003-2010, rather than the company-proposed three years, 2008-2010 (a period that included abnormally severe storms), or the Staff's proposed use of the years 2006-2009. Additionally, the Commission adopted a five-year amortization period for recovery of an accumulated deficit, rather than ORU's proposed three-year period or the ALJ's eight-year period.

About \$2 million of the revenue requirement shortfall was related to the disallowance of labor costs. The PSC denied the funding for several new employment positions proposed by ORU, indicating that it was premature to approve such employee expansion in certain areas. The PSC adopted the Staff's and ALJ's adjustments to manufactured gas plant site investigation and remediation costs that reduced the revenue requirement by about \$2 million, including: the denial of cost recovery of a related lawsuit until the case is completed; and, approval of a five-year amortization schedule for site remediation costs versus the company-proposed three-year schedule.

Miscellaneous NOI adjustments reduced the revenue requirement by about \$3 million, net. These adjustments were associated with test-year operating revenues, shared services expense, insurance costs, research & development, low income program costs, uncollectibles, and austerity imputation, among others. With regard to austerity, the PSC imputed a \$0.478 million discretionary expense reduction, indicating that the since the economic recovery remains slow, an austerity adjustment continues to be justified.

Case No. 10-E-0362
Rob Schain

©2011, Regulatory Research Associates, Inc. All Rights Reserved. Confidential Subject Matter. WARNING! This report contains copyrighted subject matter and confidential information owned solely by Regulatory Research Associates, Inc. ("RRA"). Reproduction, distribution or use of this report in violation of this license constitutes copyright infringement in violation of federal and state law. RRA hereby provides consent to use the "email this story" feature to redistribute articles within the subscriber's company. Although the information in this report has been obtained from sources that RRA believes to be reliable, RRA does not guarantee its accuracy.

Long Island American Water Company
Corrected Indicated Cost of Common Equity of Mr. Duah's
Utility Proxy Group and a Proxy Group of Nine Water Companies
Reflecting Financial Risk, Business Risk, and Flotation Cost Adjustments

Line No.	<u>Mr. Duah's Utility Proxy Group</u>	<u>Proxy Group of Nine Water Companies</u>
1. Results of Cost of Common Equity Models (1)	9.85 %	10.80 %
2. Financial Risk Adjustment (2)	0.38	0.53
3. Flotation Cost Adjustment (3)	0.11	0.11
4. Business Risk Adjustment (4)	<u>0.50</u>	<u>0.35</u>
5. Indicated Common Equity Cost Rate	<u><u>10.84 %</u></u>	<u><u>11.79 %</u></u>

Notes:

- (1) Two-thirds / one-third weighted average of corrected DCF and CAPM results shown on Schedules PMA-19 and PMA-20 respectively.
- (2) Financial risk adjustment to reflect the greater financial risk of LIAW's capital structure relative to the proxy groups as detailed at pages 64-65 of Ms. Ahern's direct testimony.
- (3) From Schedule PMA-13.
- (4) Business risk adjustment to reflect LIAW's greater business risk due to its small size relative to the proxy groups as detailed in Ms. Ahern's direct testimony.