

August 12, 2019

VIA ELECTRONIC FILING

Ms. M. Lynn Jarvis
Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street, Dobbs Building
Raleigh, North Carolina 27603

Re: Docket No. G-9, Sub 743 Errata Filing

Dear Ms. Jarvis:

On Friday, August 9, 2019, the undersigned counsel's office filed the Rebuttal Testimony and Exhibit of Robert Hevert in this proceeding. Mr. Hevert's Rebuttal Testimony addressed the Direct Testimony of Attorney General cost of capital Witness J. Randall Woolridge Ph.D.

Over the weekend, it came to our attention that this filing was incomplete in that it only contained one of fifteen exhibits that should have been attached to Mr. Hevert's testimony and incorrectly identified, on the first page of his testimony, only a single rebuttal exhibit whereas the reference should have been to rebuttal exhibits 1 through 15. This error was the result of a miscommunication by undersigned counsel with his staff coordinating this filing and was related to the need to segregate Mr. Hevert's rebuttal of the Attorney General's cost of capital witness with his potential rebuttal of CUCA's and CIGFUR's cost of capital testimony. While the bulk of Mr. Hevert's rebuttal exhibits were not attached to our filing on Friday, the exhibits were referenced throughout his testimony.

In order to correct and complete the record in this proceeding, Piedmont hereby provides a revised first page of Mr. Hevert's Rebuttal Testimony indicating that his rebuttal exhibits number 15 and not 1 and providing copies of all 15 of his rebuttal exhibits.

Undersigned counsel apologizes to the Commission and all parties for this inadvertent error, which was solely attributable to Piedmont's counsel, and hereby informs the Commission that it has contacted the Attorney General's Office regarding this matter to advise them of the situation and the pendency of this filing. Undersigned counsel also respectfully requests any necessary leave of the Commission to make this filing as the Commission deems necessary.

Thank you for your assistance with this matter. If you have any questions regarding this filing, you may reach me at the number shown above.

Sincerely,

/s/ James H. Jeffries IV
James H. Jeffries IV

JHJ/sko

cc: Beth Culpepper
Bruce Barkley
Pia Powers
Brian Heslin
Parties of Record

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the attached is being served this date upon all of the parties to this docket electronically or by depositing a copy of the same in the United States Mail, First Class Postage Prepaid, at the addresses contained in the official service list in this proceeding.

This the 12th day of August, 2019.

/s/ James H. Jeffries IV
James H. Jeffries IV

1 **I. WITNESS IDENTIFICATION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME, AFFILIATION AND BUSINESS**
3 **ADDRESS.**

4 A. My name is Robert B. Hevert. I am a Partner of ScottMadden, Inc. My business
5 address is 1900 West Park Drive, Suite 250, Westborough, Massachusetts 01581.

6 **Q. ARE YOU THE SAME ROBERT HEVERT THAT SUBMITTED DIRECT**
7 **TESTIMONY IN THIS PROCEEDING?**

8 A. Yes, I submitted Direct Testimony before the North Carolina Utilities Commission
9 ("Commission") on behalf of Piedmont Natural Gas Company, Inc. ("Piedmont" or
10 the "Company").

11 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

12 A. My Rebuttal Testimony responds to the direct testimony of the Dr. J. Randall
13 Woolridge, in particular his ROE recommendation. My testimony also updates
14 many of the analyses contained in my Direct Testimony, and provides several
15 additional analyses developed in response to Dr. Woolridge. The conclusions
16 discussed throughout my Rebuttal Testimony are supported by the data and
17 analyses presented in Exhibit RBH-R-1, through Exhibit RBH-R-15 which ~~has~~
18 have been prepared by me or under my direction.

EXHIBIT RBH-R-1

Constant Growth Discounted Cash Flow Model
30 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Company	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Retention Growth Estimate	Average Earnings Growth	Low ROE	Mean ROE	High ROE
Atmos Energy Corporation	ATO	\$2.10	\$103.85	2.02%	2.10%	6.50%	6.45%	7.50%	10.20%	7.66%	8.54%	9.76%	12.32%
Chesapeake Utilities Corporation	CPK	\$1.62	\$93.31	1.74%	1.81%	7.00%	6.00%	9.00%	12.29%	8.57%	7.79%	10.38%	14.13%
New Jersey Resources Corporation	NJR	\$1.17	\$49.18	2.38%	2.45%	7.00%	6.00%	3.50%	5.84%	5.59%	5.92%	8.03%	9.46%
Northwest Natural Holding Company	NWN	\$1.90	\$68.91	2.76%	2.90%	4.50%	4.00%	27.00%	6.66%	10.54%	6.81%	13.44%	30.13%
ONE Gas, Inc.	OGS	\$2.00	\$89.61	2.23%	2.30%	5.90%	5.00%	8.00%	5.32%	6.06%	7.29%	8.36%	10.32%
South Jersey Industries, Inc.	SJI	\$1.15	\$32.77	3.51%	3.64%	7.20%	5.50%	10.50%	6.12%	7.33%	9.11%	10.97%	14.19%
Spire Inc.	SR	\$2.37	\$84.59	2.80%	2.87%	4.90%	3.43%	5.50%	5.18%	4.75%	6.28%	7.62%	8.38%
Southwest Gas Corporation	SWX	\$2.18	\$87.38	2.49%	2.58%	6.20%	6.10%	9.00%	6.79%	7.02%	8.67%	9.61%	11.61%
Proxy Group Mean				2.49%	2.58%	6.15%	5.31%	10.00%	7.30%	7.19%	7.55%	9.77%	13.82%
Proxy Group Median				2.44%	2.51%	6.35%	5.75%	8.50%	6.39%	7.18%	7.54%	9.68%	11.97%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of June 28, 2019

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [9])

[5] Source: Zacks

[6] Source: Yahoo! Finance

[7] Source: Value Line

[8] Source: Exhibit RBH-2, Value Line

[9] Equals Average([5], [6], [7], [8])

[10] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7], [8])) + Minimum([5], [6], [7], [8])

[11] Equals [4] + [9]

[12] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7], [8])) + Maximum([5], [6], [7], [8])

Constant Growth Discounted Cash Flow Model
90 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Company	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Retention Growth Estimate	Average Earnings Growth	Low ROE	Mean ROE	High ROE
Atmos Energy Corporation	ATO	\$2.10	\$101.92	2.06%	2.14%	6.50%	6.45%	7.50%	10.20%	7.66%	8.58%	9.80%	12.36%
Chesapeake Utilities Corporation	CPK	\$1.62	\$92.48	1.75%	1.83%	7.00%	6.00%	9.00%	12.29%	8.57%	7.80%	10.40%	14.14%
New Jersey Resources Corporation	NJR	\$1.17	\$49.29	2.37%	2.44%	7.00%	6.00%	3.50%	5.84%	5.59%	5.92%	8.03%	9.46%
Northwest Natural Holding Company	NWN	\$1.90	\$66.83	2.84%	2.99%	4.50%	4.00%	27.00%	6.66%	10.54%	6.90%	13.53%	30.23%
ONE Gas, Inc.	OGS	\$2.00	\$88.32	2.26%	2.33%	5.90%	5.00%	8.00%	5.32%	6.06%	7.32%	8.39%	10.36%
South Jersey Industries, Inc.	SJI	\$1.15	\$31.94	3.60%	3.73%	7.20%	5.50%	10.50%	6.12%	7.33%	9.20%	11.06%	14.29%
Spire Inc.	SR	\$2.37	\$82.68	2.87%	2.93%	4.90%	3.43%	5.50%	5.18%	4.75%	6.35%	7.69%	8.45%
Southwest Gas Corporation	SWX	\$2.18	\$84.32	2.59%	2.68%	6.20%	6.10%	9.00%	6.79%	7.02%	8.76%	9.70%	11.70%
Proxy Group Mean				2.54%	2.63%	6.15%	5.31%	10.00%	7.30%	7.19%	7.60%	9.82%	13.87%
Proxy Group Median				2.48%	2.56%	6.35%	5.75%	8.50%	6.39%	7.18%	7.56%	9.75%	12.03%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of June 28, 2019

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [9])

[5] Source: Zacks

[6] Source: Yahoo! Finance

[7] Source: Value Line

[8] Source: Exhibit RBH-2, Value Line

[9] Equals Average([5], [6], [7], [8])

[10] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7], [8])) + Minimum([5], [6], [7], [8])

[11] Equals [4] + [9]

[12] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7], [8])) + Maximum([5], [6], [7], [8])

Constant Growth Discounted Cash Flow Model
180 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Company	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Retention Growth Estimate	Average Earnings Growth	Low ROE	Mean ROE	High ROE
Atmos Energy Corporation	ATO	\$2.10	\$98.65	2.13%	2.21%	6.50%	6.45%	7.50%	10.20%	7.66%	8.65%	9.87%	12.44%
Atmos Energy Corporation	ATO	\$1.62	\$88.63	1.83%	1.91%	7.00%	6.00%	9.00%	12.29%	8.57%	7.88%	10.48%	14.23%
New Jersey Resources Corporation	NJR	\$1.17	\$48.09	2.43%	2.50%	7.00%	6.00%	3.50%	5.84%	5.59%	5.98%	8.09%	9.52%
Northwest Natural Gas Company	NWN	\$1.90	\$65.65	2.89%	3.05%	4.50%	4.00%	27.00%	6.66%	10.54%	6.95%	13.59%	30.28%
ONE Gas, Inc.	OGS	\$2.00	\$85.11	2.35%	2.42%	5.90%	5.00%	8.00%	5.32%	6.06%	7.41%	8.48%	10.44%
South Jersey Industries, Inc.	SJI	\$1.15	\$31.28	3.68%	3.81%	7.20%	5.50%	10.50%	6.12%	7.33%	9.28%	11.14%	14.37%
Spire Inc.	SR	\$2.37	\$79.37	2.99%	3.06%	4.90%	3.43%	5.50%	5.18%	4.75%	6.47%	7.81%	8.57%
Southwest Gas Corporation	SWX	\$2.18	\$81.80	2.67%	2.76%	6.20%	6.10%	9.00%	6.79%	7.02%	8.85%	9.78%	11.78%
Proxy Group Mean				2.62%	2.71%	6.15%	5.31%	10.00%	7.30%	7.19%	7.68%	9.90%	13.95%
Proxy Group Median				2.55%	2.63%	6.35%	5.75%	8.50%	6.39%	7.18%	7.65%	9.83%	12.11%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of June 28, 2019

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [9])

[5] Source: Zacks

[6] Source: Yahoo! Finance

[7] Source: Value Line

[8] Source: Exhibit RBH-2, Value Line

[9] Equals Average([5], [6], [7], [8])

[10] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7], [8])) + Minimum([5], [6], [7], [8])

[11] Equals [4] + [9]

[12] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7], [8])) + Maximum([5], [6], [7], [8])

EXHIBIT RBH-R-2

Retention Growth Estimate																			
		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
Company	Ticker	Projected Earnings per share 2022-2024	Projected Dividend Declared per share 2022-24	Retention Ratio (B)	Projected Book Value per Share 2022-24	Return on Book Value (R)	B x R	Projected Common Shares Outstanding 2020	Projected Common Shares Outstanding 2022-24	Common Shares Growth Rate	2019 High Price	2019 Low Price	2019 Price Midpoint	Projected Book Value per Share 2019	Market/Book Ratio	"S"	"V"	S x V	BR + SV
Atmos Energy Corporation	ATO	5.60	2.70	51.79%	56.05	9.99%	5.17%	125.00	145.00	5.02%	\$ 104.10	\$ 89.20	\$ 96.65	48.30	2.00	10.04%	50.03%	5.02%	10.20%
Chesapeake Utilities Corporation	CPK	5.00	2.15	57.00%	49.00	10.20%	5.82%	17.50	20.00	4.51%	\$ 95.60	\$ 77.60	\$ 86.60	35.55	2.44	10.97%	58.95%	6.47%	12.29%
New Jersey Resources Corporation	NJR	2.50	1.33	46.80%	21.85	11.44%	5.35%	88.25	89.00	0.28%	\$ 51.00	\$ 43.90	\$ 47.45	17.25	2.75	0.77%	63.65%	0.49%	5.84%
Northwest Natural Holding Company	NWN	3.50	2.20	37.14%	29.40	11.90%	4.42%	30.50	32.00	1.60%	\$ 70.20	\$ 57.20	\$ 63.70	26.55	2.40	3.83%	58.32%	2.23%	6.66%
ONE Gas, Inc.	OGS	4.75	2.65	44.21%	47.90	9.92%	4.38%	53.50	55.00	0.92%	\$ 90.50	\$ 75.80	\$ 83.15	41.05	2.03	1.86%	50.63%	0.94%	5.32%
South Jersey Industries, Inc.	SJI	2.40	1.40	41.67%	20.00	12.00%	5.00%	96.00	100.00	1.36%	\$ 33.70	\$ 26.60	\$ 30.15	16.50	1.83	2.48%	45.27%	1.12%	6.12%
Spire Inc.	SR	5.00	2.67	46.60%	52.75	9.48%	4.42%	53.00	55.00	1.23%	\$ 87.10	\$ 71.70	\$ 79.40	49.00	1.62	1.99%	38.29%	0.76%	5.18%
Southwest Gas Corporation	SWX	5.85	2.60	55.56%	59.50	9.83%	5.46%	55.00	58.00	1.77%	\$ 85.70	\$ 73.30	\$ 79.50	45.35	1.75	3.10%	42.96%	1.33%	6.79%
																		Average	7.30%

Notes:

[1] Source: Value Line

[2] Source: Value Line

[3] Equals 1 - [2] / [1]

[4] Source: Value Line

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of June 28, 2019

[6] Equals [3] x [5]

[7] Source: Value Line

[8] Source: Value Line

[9] Equals ([8] / [7]) ^ 0.33 - 1

[10] Source: Value Line

[11] Source: Value Line

[12] Equals Average ([10], [11])

[13] Source: Value Line

[14] Equals [12] / [13]

[15] Equals [9] x [14]

[16] Equals 1 - (1 / [14])

[17] Equals [15] x [16]

[18] Equals [6] + [17]

EXHIBIT RBH-R-3

Ex-Ante Market Risk Premium
Market DCF Method Based - Bloomberg

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est. Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
14.88%	2.63%	12.25%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
Agilent Technologies Inc	A	23,595.22	0.09%	0.88%	11.00%	11.93%	0.0109%
American Airlines Group Inc	AAL	14,506.07	0.06%	1.48%	14.51%	16.09%	0.0090%
Advance Auto Parts Inc	AAP	11,057.52	0.04%	0.16%	15.68%	15.85%	0.0068%
Apple Inc	AAPL	910,644.76	3.53%	1.51%	9.35%	10.93%	0.3855%
AbbVie Inc	ABBV	107,506.72	0.42%	5.84%	5.12%	11.11%	0.0463%
AmerisourceBergen Corp	ABC	17,919.69	0.07%	1.88%	4.99%	6.92%	0.0048%
ABIOMED Inc	ABMD	11,795.82	0.05%	0.00%	29.00%	29.00%	0.0133%
Abbott Laboratories	ABT	148,367.64	0.57%	1.46%	9.70%	11.23%	0.0645%
Accenture PLC	ACN	124,342.68	0.48%	1.60%	10.43%	12.12%	0.0584%
Adobe Inc	ADBE	143,034.53	0.55%	0.00%	17.16%	17.16%	0.0951%
Analog Devices Inc	ADI	41,734.95	0.16%	1.84%	12.10%	14.06%	0.0227%
Archer-Daniels-Midland Co	ADM	22,854.74	0.09%	3.47%	0.60%	4.08%	0.0036%
Automatic Data Processing Inc	ADP	71,956.28	0.28%	1.74%	13.50%	15.36%	0.0428%
Alliance Data Systems Corp	ADS	7,340.50	0.03%	1.76%	12.47%	14.34%	0.0041%
Autodesk Inc	ADSK	35,776.03	0.14%	0.00%	64.51%	64.51%	0.0894%
Ameren Corp	AEE	18,433.42	0.07%	2.59%	5.81%	8.48%	0.0061%
American Electric Power Co Inc	AEP	43,427.26	0.17%	3.08%	5.98%	9.15%	0.0154%
AES Corp/VA	AES	11,124.07	0.04%	3.29%	8.33%	11.76%	0.0051%
Aflac Inc	AFL	40,859.16	0.16%	1.99%	3.43%	5.45%	0.0086%
Allergan PLC	AGN	54,883.87	0.21%	1.77%	5.37%	7.18%	0.0153%
American International Group Inc	AIG	46,340.47	0.18%	2.44%	11.00%	13.57%	0.0244%
Apartment Investment & Management Co	AIV	7,459.28	0.03%	4.15%	8.76%	13.09%	0.0038%
Assurant Inc	AIZ	6,539.68	N/A	2.33%	N/A	N/A	N/A
Arthur J Gallagher & Co	AJG	16,226.22	0.06%	1.96%	9.63%	11.68%	0.0073%
Akamai Technologies Inc	AKAM	13,150.73	0.05%	0.00%	13.70%	13.70%	0.0070%
Albemarle Corp	ALB	7,460.41	0.03%	2.01%	13.41%	15.56%	0.0045%
Align Technology Inc	ALGN	21,897.34	0.08%	0.00%	22.22%	22.22%	0.0188%
Alaska Air Group Inc	ALK	7,886.49	0.03%	2.15%	13.20%	15.49%	0.0047%
Allstate Corp/The	ALL	33,873.63	0.13%	1.90%	9.00%	10.99%	0.0144%
Allegion PLC	ALLE	10,385.70	0.04%	0.96%	10.49%	11.50%	0.0046%
Alexion Pharmaceuticals Inc	ALXN	29,370.59	0.11%	0.00%	17.50%	17.50%	0.0199%
Applied Materials Inc	AMAT	42,040.47	0.16%	1.85%	9.37%	11.30%	0.0184%
Amcor PLC	AMCR	18,654.36	0.07%	4.05%	5.38%	9.54%	0.0069%
Advanced Micro Devices Inc	AMD	32,848.21	0.13%	0.00%	18.30%	18.30%	0.0233%
AMETEK Inc	AME	20,697.07	0.08%	0.63%	9.13%	9.79%	0.0078%
Affiliated Managers Group Inc	AMG	4,717.51	0.02%	1.39%	9.10%	10.55%	0.0019%
Amgen Inc	AMGN	112,398.95	0.44%	3.10%	5.70%	8.89%	0.0387%
Ameriprise Financial Inc	AMP	19,437.55	0.08%	2.62%	3.20%	5.86%	0.0044%
American Tower Corp	AMT	90,371.69	0.35%	1.83%	20.09%	22.11%	0.0774%
Amazon.com Inc	AMZN	932,294.22	3.61%	0.00%	44.95%	44.95%	1.6232%
Arista Networks Inc	ANET	19,892.74	0.08%	0.00%	21.79%	21.79%	0.0168%
ANSYS Inc	ANSS	17,190.22	0.07%	0.00%	10.60%	10.60%	0.0071%
Anthem Inc	ANTM	72,583.20	0.28%	1.14%	14.85%	16.07%	0.0452%
Aon PLC	AON	46,415.87	0.18%	0.89%	10.00%	10.94%	0.0197%
AO Smith Corp	AOS	7,884.99	0.03%	1.93%	8.00%	10.01%	0.0031%
Apache Corp	APA	10,890.42	0.04%	3.45%	-17.05%	-13.89%	-0.0059%
Anadarko Petroleum Corp	APC	35,429.50	0.14%	1.51%	16.91%	18.54%	0.0254%
Air Products & Chemicals Inc	APD	49,831.41	0.19%	2.02%	12.48%	14.63%	0.0282%
Amphenol Corp	APH	28,660.37	0.11%	0.93%	9.98%	10.96%	0.0122%
Aptiv PLC	APTIV	20,840.83	0.08%	1.12%	8.89%	10.06%	0.0081%
Alexandria Real Estate Equities Inc	ARE	16,644.25	0.06%	2.79%	4.76%	7.61%	0.0049%
Arconic Inc	ARNC	11,583.60	0.04%	0.41%	9.90%	10.33%	0.0046%
Atmos Energy Corp	ATO	12,349.28	0.05%	1.99%	7.00%	9.06%	0.0043%
Activision Blizzard Inc	ATVI	36,155.52	0.14%	0.78%	10.45%	11.27%	0.0158%
AvalonBay Communities Inc	AVB	28,323.96	0.11%	2.98%	5.42%	8.47%	0.0093%
Broadcom Inc	AVGO	114,589.46	0.44%	3.68%	13.31%	17.23%	0.0765%
Avery Dennison Corp	AVY	9,765.23	0.04%	1.81%	5.55%	7.41%	0.0028%
American Water Works Co Inc	AWK	20,940.18	0.08%	1.70%	9.00%	10.77%	0.0087%
American Express Co	AXP	103,082.34	0.40%	1.31%	12.40%	13.78%	0.0550%
AutoZone Inc	AZO	26,968.58	0.10%	0.00%	12.58%	12.58%	0.0131%
Boeing Co/The	BA	204,803.10	0.79%	2.22%	12.26%	14.61%	0.1159%
Bank of America Corp	BAC	275,737.89	1.07%	2.35%	10.10%	12.57%	0.1343%
Baxter International Inc	BAX	41,860.51	0.16%	0.97%	11.90%	12.93%	0.0210%
BB&T Corp	BBT	37,632.72	0.15%	3.45%	8.48%	12.08%	0.0176%
Best Buy Co Inc	BBY	18,620.92	0.07%	2.87%	6.89%	9.85%	0.0071%
Becton Dickinson and Co	BDX	67,975.14	0.26%	1.28%	11.35%	12.71%	0.0335%
Franklin Resources Inc	BEN	17,663.08	0.07%	2.98%	10.00%	13.13%	0.0090%

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Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Brown-Forman Corp	BF/B	26,396.71	0.10%	1.25%	8.41%	9.71%	0.0099%
Baker Hughes a GE Co	BHGE	25,543.81	0.10%	2.67%	41.88%	45.10%	0.0446%
Biogen Inc	BIIB	45,345.85	0.18%	0.00%	5.87%	5.87%	0.0103%
Bank of New York Mellon Corp/The	BK	42,274.39	0.16%	2.70%	6.77%	9.56%	0.0156%
Booking Holdings Inc	BKNG	81,158.72	0.31%	0.00%	16.99%	16.99%	0.0534%
BlackRock Inc	BLK	72,970.71	0.28%	2.84%	9.00%	11.96%	0.0338%
Ball Corp	BLL	23,428.83	0.09%	0.71%	6.77%	7.51%	0.0068%
Bristol-Myers Squibb Co	BMJ	74,180.11	0.29%	3.63%	8.63%	12.42%	0.0357%
Broadridge Financial Solutions Inc	BR	14,828.62	N/A	1.51%	N/A	N/A	N/A
Berkshire Hathaway Inc	BRK/B	521,871.81	2.02%	0.00%	60.60%	60.60%	1.2250%
Boston Scientific Corp	BSX	59,770.24	0.23%	0.00%	8.88%	8.88%	0.0206%
BorgWarner Inc	BWA	8,701.05	0.03%	1.62%	4.37%	6.02%	0.0020%
Boston Properties Inc	BXP	19,933.06	0.08%	3.00%	4.91%	7.97%	0.0062%
Citigroup Inc	C	161,942.11	0.63%	2.80%	12.72%	15.69%	0.0984%
Conagra Brands Inc	CAG	12,886.46	0.05%	3.21%	7.17%	10.49%	0.0052%
Cardinal Health Inc	CAH	14,038.62	0.05%	4.16%	14.02%	18.47%	0.0100%
Caterpillar Inc	CAT	77,940.92	0.30%	2.65%	13.23%	16.05%	0.0485%
Chubb Ltd	CB	67,439.78	0.26%	2.06%	10.60%	12.77%	0.0333%
Choe Global Markets Inc	CBOE	11,568.53	0.04%	1.26%	5.35%	6.64%	0.0030%
CBRE Group Inc	CBRE	17,251.04	0.07%	0.00%	7.30%	7.30%	0.0049%
CBS Corp	CBS	18,706.34	0.07%	1.53%	20.13%	21.81%	0.0158%
Crown Castle International Corp	CCI	54,191.87	0.21%	3.52%	16.33%	20.14%	0.0423%
Carnival Corp	CCL	31,749.45	0.12%	4.34%	8.47%	12.99%	0.0160%
Cadence Design Systems Inc	CDNS	19,899.73	0.08%	0.00%	10.03%	10.03%	0.0077%
Celanese Corp	CE	13,648.83	0.05%	2.24%	7.95%	10.28%	0.0054%
Celgene Corp	CELG	65,194.19	0.25%	0.00%	18.42%	18.42%	0.0465%
Cerner Corp	CERN	23,853.33	0.09%	0.33%	13.65%	14.00%	0.0129%
CF Industries Holdings Inc	CF	10,326.54	0.04%	2.58%	20.27%	23.11%	0.0092%
Citizens Financial Group Inc	CFG	16,207.45	0.06%	3.77%	8.04%	11.96%	0.0075%
Church & Dwight Co Inc	CHD	17,988.77	0.07%	1.26%	7.96%	9.27%	0.0065%
CH Robinson Worldwide Inc	CHRW	11,519.05	0.04%	2.40%	8.93%	11.44%	0.0051%
Charter Communications Inc	CHTR	98,485.91	0.38%	0.00%	44.24%	44.24%	0.1688%
Cigna Corp	CI	59,817.37	0.23%	0.06%	12.74%	12.81%	0.0297%
Cincinnati Financial Corp	CINF	16,922.04	N/A	2.31%	N/A	N/A	N/A
Colgate-Palmolive Co	CL	61,529.76	0.24%	2.40%	4.08%	6.53%	0.0156%
Clorox Co/The	CLX	19,501.29	0.08%	2.52%	4.43%	7.00%	0.0053%
Comerica Inc	CMA	11,198.24	0.04%	3.79%	12.60%	16.62%	0.0072%
Comcast Corp	CMCSA	191,900.08	0.74%	1.97%	11.42%	13.50%	0.1003%
CME Group Inc	CME	69,486.54	0.27%	2.74%	7.90%	10.75%	0.0289%
Chipotle Mexican Grill Inc	CMG	20,310.71	0.08%	0.00%	20.24%	20.24%	0.0159%
Cummins Inc	CMI	26,984.73	0.10%	2.72%	7.15%	9.96%	0.0104%
CMS Energy Corp	CMS	16,432.19	0.06%	2.64%	7.32%	10.06%	0.0064%
Centene Corp	CNC	21,676.96	0.08%	0.00%	13.90%	13.90%	0.0117%
CenterPoint Energy Inc	CNP	14,356.24	0.06%	4.07%	5.92%	10.11%	0.0056%
Capital One Financial Corp	COF	42,611.19	0.17%	1.79%	5.20%	7.04%	0.0116%
Cabot Oil & Gas Corp	COG	9,718.65	0.04%	1.46%	35.02%	36.74%	0.0138%
Cooper Cos Inc/The	COO	16,671.93	0.06%	0.02%	6.18%	6.20%	0.0040%
ConocoPhillips	COP	68,940.73	0.27%	2.04%	5.00%	7.09%	0.0189%
Costco Wholesale Corp	COST	116,218.69	0.45%	0.91%	10.51%	11.47%	0.0516%
Coty Inc	COTY	10,068.73	0.04%	3.69%	8.05%	11.89%	0.0046%
Campbell Soup Co	CPB	12,067.08	0.05%	3.51%	2.74%	6.31%	0.0029%
Capri Holdings Ltd	CPRI	5,234.57	0.02%	0.00%	7.32%	7.32%	0.0015%
Copart Inc	CPRT	17,123.90	0.07%	0.00%	20.00%	20.00%	0.0133%
salesforce.com Inc	CRM	117,557.86	0.46%	0.00%	23.01%	23.01%	0.1048%
Cisco Systems Inc	CSCO	234,284.52	0.91%	2.49%	6.96%	9.54%	0.0866%
CSX Corp	CSX	62,604.99	0.24%	1.21%	11.15%	12.42%	0.0301%
Cintas Corp	CTAS	24,813.62	0.10%	0.86%	12.02%	12.94%	0.0124%
CenturyLink Inc	CTL	12,822.09	0.05%	8.50%	1.78%	10.36%	0.0051%
Cognizant Technology Solutions Corp	CTSH	36,086.85	0.14%	1.27%	11.05%	12.39%	0.0173%
Corteva Inc	CTVA	22,142.46	N/A	1.65%	N/A	N/A	N/A
Citrix Systems Inc	CTXS	12,920.31	0.05%	1.43%	37.42%	39.11%	0.0196%
CVS Health Corp	CVS	70,787.53	0.27%	3.65%	6.04%	9.81%	0.0269%
Chevron Corp	CVX	237,025.56	0.92%	3.81%	1.32%	5.15%	0.0473%
Concho Resources Inc	CXO	20,697.29	0.08%	0.40%	11.70%	12.13%	0.0097%
Dominion Energy Inc	D	62,038.81	0.24%	4.73%	4.89%	9.74%	0.0234%
Delta Air Lines Inc	DAL	37,151.18	0.14%	2.60%	12.72%	15.48%	0.0223%
DuPont de Nemours Inc	DD	56,212.11	0.22%	1.36%	65.59%	67.39%	0.1467%
Deere & Co	DE	52,529.33	0.20%	1.83%	9.45%	11.37%	0.0231%
Discover Financial Services	DFS	25,118.12	0.10%	2.12%	7.79%	10.00%	0.0097%
Dollar General Corp	DG	34,914.91	0.14%	0.95%	10.60%	11.59%	0.0157%
Quest Diagnostics Inc	DGX	13,680.73	0.05%	2.06%	7.13%	9.27%	0.0049%
DR Horton Inc	DHI	16,095.12	0.06%	1.39%	12.47%	13.95%	0.0087%
Danaher Corp	DHR	102,321.24	0.40%	0.47%	8.44%	8.93%	0.0354%
Walt Disney Co/The	DIS	251,309.96	0.97%	1.27%	2.08%	3.36%	0.0327%
Discovery Inc	DISCA	21,138.39	0.08%	0.00%	13.35%	13.35%	0.0109%
DISH Network Corp	DISH	18,020.72	0.07%	0.00%	-21.96%	-21.96%	-0.0153%
Digital Realty Trust Inc	DLR	25,649.53	0.10%	3.66%	7.30%	11.09%	0.0110%
Dollar Tree Inc	DLTR	25,513.61	0.10%	0.00%	8.52%	8.52%	0.0084%
Dover Corp	DOV	14,562.01	0.06%	1.99%	11.50%	13.60%	0.0077%
Dow Inc	DOW	36,924.52	0.14%	5.68%	7.15%	13.03%	0.0186%

Company	Ticker	Market		Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
		Capitalization	Weight in Index				
Duke Realty Corp	DRE	11,361.52	0.04%	2.76%	4.62%	7.45%	0.0033%
Darden Restaurants Inc	DRI	14,969.84	0.06%	2.90%	10.75%	13.80%	0.0080%
DTE Energy Co	DTE	23,429.21	0.09%	2.98%	7.43%	10.52%	0.0095%
Duke Energy Corp	DUK	64,238.72	0.25%	4.29%	5.03%	9.43%	0.0235%
DaVita Inc	DVA	9,361.66	0.04%	0.00%	18.83%	18.83%	0.0068%
Devon Energy Corp	DVN	11,841.50	0.05%	1.19%	5.34%	6.56%	0.0030%
DXC Technology Co	DXC	14,813.14	0.06%	1.48%	5.28%	6.80%	0.0039%
Electronic Arts Inc	EA	30,009.29	0.12%	0.00%	13.20%	13.20%	0.0153%
eBay Inc	EBAY	34,425.33	0.13%	1.42%	10.66%	12.15%	0.0162%
Ecolab Inc	ECL	56,910.53	0.22%	0.94%	13.13%	14.13%	0.0312%
Consolidated Edison Inc	ED	29,188.83	0.11%	3.37%	4.18%	7.62%	0.0086%
Equifax Inc	EFX	16,340.24	0.06%	1.16%	11.63%	12.86%	0.0081%
Edison International	EIX	21,962.93	0.09%	3.64%	5.52%	9.26%	0.0079%
Estee Lauder Cos Inc/The	EL	66,262.49	0.26%	0.90%	11.84%	12.80%	0.0328%
Eastman Chemical Co	EMN	10,801.71	0.04%	3.15%	6.50%	9.75%	0.0041%
Emerson Electric Co	EMR	41,034.57	0.16%	2.94%	8.84%	11.91%	0.0189%
EOG Resources Inc	EOG	54,063.04	0.21%	1.02%	7.79%	8.85%	0.0185%
Equinix Inc	EQIX	42,395.68	0.16%	1.95%	18.37%	20.50%	0.0337%
Equity Residential	EQR	28,131.07	0.11%	2.98%	6.73%	9.80%	0.0107%
Eversource Energy	ES	24,503.90	0.09%	2.83%	5.94%	8.85%	0.0084%
Essex Property Trust Inc	ESS	19,184.63	0.07%	2.67%	5.26%	8.00%	0.0059%
E*TRADE Financial Corp	ETFC	10,912.31	0.04%	1.10%	12.73%	13.90%	0.0059%
Eaton Corp PLC	ETN	35,235.77	0.14%	3.42%	8.95%	12.52%	0.0171%
Entergy Corp	ETR	19,549.13	0.08%	3.58%	0.38%	3.96%	0.0030%
Everygy Inc	EVRG	14,682.52	0.06%	3.19%	8.85%	12.18%	0.0069%
Edwards Lifesciences Corp	EW	38,518.59	0.15%	0.00%	14.75%	14.75%	0.0220%
Exelon Corp	EXC	46,499.51	0.18%	3.02%	2.35%	5.41%	0.0097%
Expeditors International of Washington I	EXPD	13,047.61	0.05%	1.27%	9.80%	11.14%	0.0056%
Expedia Group Inc	EXPE	19,808.50	0.08%	0.95%	21.84%	22.90%	0.0176%
Extra Space Storage Inc	EXR	13,522.83	0.05%	3.34%	5.43%	8.86%	0.0046%
Ford Motor Co	F	40,813.05	0.16%	5.87%	-4.77%	0.96%	0.0015%
Diamondback Energy Inc	FANG	17,944.33	0.07%	0.61%	14.55%	15.20%	0.0106%
Fastenal Co	FAST	18,662.00	0.07%	2.94%	7.55%	10.60%	0.0077%
Facebook Inc	FB	550,957.10	2.13%	0.00%	19.22%	19.22%	0.4101%
Fortune Brands Home & Security Inc	FBHS	7,991.39	0.03%	1.53%	9.47%	11.07%	0.0034%
Freeport-McMoRan Inc	FCX	16,841.87	0.07%	1.72%	-7.91%	-6.26%	-0.0041%
FedEx Corp	FDX	42,783.75	0.17%	1.63%	14.40%	16.15%	0.0268%
FirstEnergy Corp	FE	22,751.05	0.09%	3.56%	3.80%	7.42%	0.0065%
F5 Networks Inc	FFIV	8,693.42	0.03%	0.00%	9.95%	9.95%	0.0034%
Fidelity National Information Services I	FIS	39,728.44	0.15%	1.14%	10.92%	12.12%	0.0186%
Fiserv Inc	FISV	35,774.82	0.14%	0.00%	13.00%	13.00%	0.0180%
Fifth Third Bancorp	FITB	20,489.37	0.08%	3.45%	3.95%	7.47%	0.0059%
Foot Locker Inc	FL	4,598.67	0.02%	3.61%	6.55%	10.28%	0.0018%
FLIR Systems Inc	FLIR	7,326.28	N/A	1.26%	N/A	N/A	N/A
Flowserve Corp	FLS	6,909.68	0.03%	1.48%	19.15%	20.77%	0.0056%
FleetCor Technologies Inc	FLT	24,207.42	0.09%	0.00%	19.67%	19.67%	0.0184%
FMC Corp	FMC	10,921.01	0.04%	1.82%	9.33%	11.23%	0.0048%
Fox Corp	FOXA	22,706.76	0.09%	0.22%	1.67%	1.89%	0.0017%
First Republic Bank/CA	FRC	16,273.49	0.06%	0.77%	12.14%	12.95%	0.0082%
Federal Realty Investment Trust	FRT	9,644.90	0.04%	3.23%	5.61%	8.94%	0.0033%
TechnipFMC PLC	FTI	11,622.76	0.05%	2.00%	17.52%	19.69%	0.0089%
Fortinet Inc	FTNT	13,119.54	0.05%	0.00%	24.04%	24.04%	0.0122%
Fortive Corp	FTV	27,317.30	0.11%	0.38%	11.52%	11.92%	0.0126%
General Dynamics Corp	GD	52,522.71	0.20%	2.20%	8.76%	11.05%	0.0225%
General Electric Co	GE	91,568.48	0.35%	0.38%	8.87%	9.26%	0.0329%
Gilead Sciences Inc	GILD	85,906.23	0.33%	3.71%	8.62%	12.49%	0.0416%
General Mills Inc	GIS	31,614.92	0.12%	3.79%	5.53%	9.42%	0.0115%
Corning Inc	GLW	26,077.38	0.10%	2.43%	11.04%	13.60%	0.0137%
General Motors Co	GM	54,650.68	0.21%	3.99%	11.70%	15.92%	0.0337%
Alphabet Inc	GOOGL	751,025.00	2.91%	0.00%	12.45%	12.45%	0.3622%
Genuine Parts Co	GPC	15,129.30	0.06%	2.95%	5.84%	8.87%	0.0052%
Global Payments Inc	GPV	25,090.58	0.10%	0.02%	16.73%	16.76%	0.0163%
Gap Inc/The	GPS	6,792.15	0.03%	5.44%	5.24%	10.82%	0.0028%
Garmin Ltd	GRMN	15,149.80	0.06%	2.91%	7.00%	10.01%	0.0059%
Goldman Sachs Group Inc/The	GS	77,838.06	0.30%	1.67%	1.14%	2.81%	0.0085%
WW Grainger Inc	GWV	14,871.63	0.06%	2.09%	12.47%	14.68%	0.0085%
Halliburton Co	HAL	19,874.27	0.08%	3.20%	8.84%	12.19%	0.0094%
Hasbro Inc	HAS	13,300.26	0.05%	2.57%	9.47%	12.16%	0.0063%
Huntington Bancshares Inc/OH	HBAN	14,461.80	0.06%	4.23%	8.24%	12.64%	0.0071%
Hanesbrands Inc	HBI	6,224.53	0.02%	3.62%	3.25%	6.93%	0.0017%
HCA Healthcare Inc	HCA	46,269.69	0.18%	0.91%	11.62%	12.59%	0.0226%
HCP Inc	HCP	15,285.90	0.06%	4.63%	2.68%	7.37%	0.0044%
Home Depot Inc/The	HD	228,826.50	0.89%	2.60%	9.37%	12.10%	0.1072%
Hess Corp	HES	19,289.60	0.07%	1.66%	-23.46%	-21.99%	-0.0164%
HollyFrontier Corp	HFC	7,903.02	0.03%	2.89%	1.05%	3.96%	0.0012%
Hartford Financial Services Group Inc/Th	HIG	20,142.73	0.08%	2.23%	9.50%	11.83%	0.0092%
Huntington Ingalls Industries Inc	HII	9,338.45	0.04%	1.53%	40.00%	41.84%	0.0151%
Hilton Worldwide Holdings Inc	HLT	28,448.46	0.11%	0.62%	13.10%	13.76%	0.0152%
Harley-Davidson Inc	HOG	5,699.58	0.02%	4.31%	8.60%	13.10%	0.0029%
Hologic Inc	HOLX	12,871.77	0.05%	0.00%	8.39%	8.39%	0.0042%

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Honeywell International Inc	HON	127,056.48	0.49%	1.90%	8.18%	10.16%	0.0500%
Helmerich & Payne Inc	HP	5,538.57	0.02%	5.63%	25.62%	31.97%	0.0069%
Hewlett Packard Enterprise Co	HPE	20,020.27	0.08%	3.06%	5.79%	8.94%	0.0069%
HP Inc	HPQ	31,315.81	0.12%	3.05%	3.11%	6.21%	0.0075%
H&R Block Inc	HRB	5,917.44	0.02%	3.47%	10.00%	13.64%	0.0031%
Hormel Foods Corp	HRL	21,642.06	0.08%	2.07%	5.70%	7.83%	0.0066%
Harris Corp	HRS	22,341.09	N/A	1.45%	N/A	N/A	N/A
Henry Schein Inc	HSIC	10,420.31	0.04%	0.00%	3.25%	3.25%	0.0013%
Host Hotels & Resorts Inc	HST	13,499.08	0.05%	4.62%	15.05%	20.01%	0.0105%
Hershey Co/The	HSY	27,985.40	0.11%	2.24%	7.07%	9.38%	0.0102%
Humana Inc	HUM	35,824.79	0.14%	0.79%	13.47%	14.31%	0.0199%
International Business Machines Corp	IBM	122,268.05	0.47%	4.69%	1.92%	6.65%	0.0315%
Intercontinental Exchange Inc	ICE	48,458.56	0.19%	1.27%	9.35%	10.68%	0.0200%
IDEXX Laboratories Inc	IDXX	23,680.12	0.09%	0.00%	18.30%	18.30%	0.0168%
International Flavors & Fragrances Inc	IFF	15,479.82	0.06%	1.97%	7.80%	9.85%	0.0059%
Illumina Inc	ILMN	54,118.05	0.21%	0.00%	27.09%	27.09%	0.0568%
Incyte Corp	INCY	18,218.70	0.07%	0.00%	43.10%	43.10%	0.0304%
IHS Markit Ltd	INFO	25,555.18	0.10%	0.00%	11.15%	11.15%	0.0110%
Intel Corp	INTC	214,313.99	0.83%	2.60%	8.88%	11.59%	0.0962%
Intuit Inc	INTU	67,748.07	0.26%	0.71%	16.16%	16.93%	0.0444%
International Paper Co	IP	17,212.51	0.07%	4.65%	4.77%	9.53%	0.0064%
Interpublic Group of Cos Inc/The	IPG	8,743.21	0.03%	4.16%	11.75%	16.15%	0.0055%
IPG Photonics Corp	IPGP	8,197.44	0.03%	0.00%	10.49%	10.49%	0.0033%
IQVIA Holdings Inc	IQV	31,736.03	0.12%	0.00%	15.96%	15.96%	0.0196%
Ingersoll-Rand PLC	IR	30,547.51	0.12%	1.71%	9.16%	10.94%	0.0130%
Iron Mountain Inc	IRM	8,979.36	0.03%	7.84%	7.32%	15.45%	0.0054%
Intuitive Surgical Inc	ISRG	60,558.59	0.23%	0.00%	12.30%	12.30%	0.0289%
Gartner Inc	IT	14,499.15	0.06%	0.00%	14.00%	14.00%	0.0079%
Illinois Tool Works Inc	ITW	49,130.14	0.19%	2.66%	7.27%	10.02%	0.0191%
Invesco Ltd	IVZ	9,750.71	0.04%	6.06%	7.12%	13.40%	0.0051%
JB Hunt Transport Services Inc	JBHT	9,939.82	0.04%	1.12%	13.13%	14.32%	0.0055%
Johnson Controls International plc	JCI	37,099.22	0.14%	2.59%	7.80%	10.49%	0.0151%
Jacobs Engineering Group Inc	JEC	11,528.42	0.04%	0.69%	13.10%	13.84%	0.0062%
Jefferies Financial Group Inc	JEF	5,589.91	N/A	2.60%	N/A	N/A	N/A
Jack Henry & Associates Inc	JKHY	10,339.11	0.04%	1.14%	9.03%	10.22%	0.0041%
Johnson & Johnson	JNJ	369,796.20	1.43%	2.70%	5.98%	8.76%	0.1255%
Juniper Networks Inc	JNPR	9,169.39	0.04%	2.84%	7.92%	10.87%	0.0039%
JPMorgan Chase & Co	JPM	362,676.18	1.40%	3.04%	6.80%	9.95%	0.1398%
Nordstrom Inc	JWN	4,927.21	0.02%	4.78%	5.97%	10.89%	0.0021%
Kellogg Co	K	18,240.42	0.07%	4.25%	2.29%	6.58%	0.0046%
KeyCorp	KEY	17,897.12	0.07%	4.01%	6.26%	10.40%	0.0072%
Keysight Technologies Inc	KEYS	16,899.63	N/A	0.00%	N/A	N/A	N/A
Kraft Heinz Co/The	KHC	37,866.90	0.15%	5.15%	0.45%	5.62%	0.0082%
Kimco Realty Corp	KIM	7,799.31	0.03%	6.13%	3.83%	10.08%	0.0030%
KLA-Tencor Corp	KLAC	19,103.51	0.07%	2.52%	9.44%	12.07%	0.0089%
Kimberly-Clark Corp	KMB	45,821.04	0.18%	3.08%	4.17%	7.31%	0.0130%
Kinder Morgan Inc/DE	KMI	47,266.94	0.18%	4.76%	13.90%	18.99%	0.0348%
CarMax Inc	KMX	14,361.26	0.06%	0.00%	10.61%	10.61%	0.0059%
Coca-Cola Co/The	KO	217,230.58	0.84%	3.11%	6.30%	9.51%	0.0800%
Kroger Co/The	KR	17,341.92	0.07%	2.69%	6.00%	8.77%	0.0059%
Kohl's Corp	KSS	7,704.33	0.03%	5.64%	5.55%	11.34%	0.0034%
Kansas City Southern	KSU	12,253.51	0.05%	1.24%	12.50%	13.82%	0.0066%
Loews Corp	L	16,668.23	N/A	0.46%	N/A	N/A	N/A
L Brands Inc	LB	7,212.49	0.03%	4.65%	9.38%	14.25%	0.0040%
Leggett & Platt Inc	LEG	5,036.78	0.02%	4.07%	10.00%	14.27%	0.0028%
Lennar Corp	LEN	15,285.48	0.06%	0.33%	10.09%	10.43%	0.0062%
Laboratory Corp of America Holdings	LH	17,061.46	0.07%	0.00%	7.28%	7.28%	0.0048%
Linde PLC	LIN	108,987.46	0.42%	1.75%	15.05%	16.93%	0.0715%
LKQ Corp	LKQ	8,355.38	0.03%	0.00%	13.30%	13.30%	0.0043%
L3 Technologies Inc	LLL	19,479.04	0.08%	1.42%	5.00%	6.45%	0.0049%
Eli Lilly & Co	LLY	107,558.35	0.42%	2.24%	9.32%	11.66%	0.0486%
Lockheed Martin Corp	LMT	102,714.16	0.40%	2.46%	7.82%	10.38%	0.0413%
Lincoln National Corp	LNC	13,041.02	0.05%	2.34%	9.00%	11.45%	0.0058%
Alliant Energy Corp	LNT	11,651.32	0.05%	2.90%	5.56%	8.54%	0.0039%
Lowe's Cos Inc	LOW	79,004.10	0.31%	2.09%	14.66%	16.90%	0.0517%
Lam Research Corp	LRCX	28,162.20	0.11%	2.22%	9.10%	11.42%	0.0125%
Southwest Airlines Co	LUV	27,576.83	0.11%	1.39%	5.01%	6.44%	0.0069%
Lamb Weston Holdings Inc	LW	9,267.91	0.04%	1.24%	11.83%	13.14%	0.0047%
LyondellBasell Industries NV	LYB	31,896.28	0.12%	4.94%	6.20%	11.29%	0.0139%
Macy's Inc	M	6,628.38	0.03%	7.03%	1.83%	8.92%	0.0023%
Mastercard Inc	MA	270,196.19	1.05%	0.47%	17.28%	17.78%	0.1861%
Mid-America Apartment Communities Inc	MAA	13,424.12	0.05%	3.28%	7.00%	10.39%	0.0054%
Macerich Co/The	MAC	4,730.08	0.02%	8.98%	0.13%	9.12%	0.0017%
Marriott International Inc/MD	MAR	46,715.00	0.18%	1.29%	8.26%	9.61%	0.0174%
Masco Corp	MAS	11,518.86	0.04%	1.21%	11.10%	12.37%	0.0055%
McDonald's Corp	MCD	158,560.12	0.61%	2.26%	8.69%	11.05%	0.0679%
Microchip Technology Inc	MCHP	20,628.23	0.08%	1.69%	10.87%	12.65%	0.0101%
McKesson Corp	MCK	25,047.22	0.10%	1.20%	4.01%	5.23%	0.0051%
Moody's Corp	MCO	37,030.78	0.14%	0.98%	7.05%	8.06%	0.0116%
Mondelez International Inc	MDLZ	77,639.49	0.30%	1.98%	6.94%	8.99%	0.0270%

Company	Ticker	Market		Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
		Capitalization	Weight in Index				
Medtronic PLC	MDT	130,615.25	0.51%	2.17%	7.34%	9.59%	0.0485%
MetLife Inc	MET	47,204.85	0.18%	3.50%	8.46%	12.11%	0.0221%
MGM Resorts International	MGM	15,347.84	0.06%	1.82%	12.35%	14.28%	0.0085%
Mohawk Industries Inc	MHK	10,679.96	0.04%	0.00%	6.82%	6.82%	0.0028%
McCormick & Co Inc/MD	MKC	20,542.51	0.08%	1.44%	6.20%	7.68%	0.0061%
Martin Marietta Materials Inc	MLM	14,377.15	0.06%	0.86%	13.90%	14.81%	0.0083%
Marsh & McLennan Cos Inc	MMC	51,006.58	0.20%	1.75%	11.73%	13.58%	0.0268%
3M Co	MMM	99,917.81	0.39%	3.27%	7.10%	10.49%	0.0406%
Monster Beverage Corp	MNST	34,696.47	0.13%	0.00%	14.45%	14.45%	0.0194%
Altria Group Inc	MO	88,588.06	0.34%	6.96%	6.53%	13.71%	0.0471%
Mosaic Co/The	MOS	9,656.28	0.04%	0.76%	14.00%	14.82%	0.0055%
Marathon Petroleum Corp	MPC	37,027.09	0.14%	3.83%	9.33%	13.34%	0.0191%
Merck & Co Inc	MRK	215,883.93	0.84%	2.62%	11.17%	13.94%	0.1166%
Marathon Oil Corp	MRO	11,622.59	0.05%	1.41%	-2.65%	-1.26%	-0.0006%
Morgan Stanley	MS	73,698.70	0.29%	2.97%	9.49%	12.60%	0.0360%
MSCI Inc	MSCI	20,220.42	0.08%	0.97%	10.00%	11.02%	0.0086%
Microsoft Corp	MSFT	1,026,511.09	3.98%	1.35%	11.85%	13.28%	0.5282%
Motorola Solutions Inc	MSI	27,474.82	0.11%	1.38%	9.00%	10.44%	0.0111%
M&T Bank Corp	MTB	23,235.33	0.09%	2.52%	7.28%	9.89%	0.0089%
Mettler-Toledo International Inc	MTD	20,834.76	0.08%	0.00%	12.97%	12.97%	0.0105%
Micron Technology Inc	MU	42,595.77	0.16%	0.00%	-1.90%	-1.90%	-0.0031%
Maxim Integrated Products Inc	MXIM	16,296.47	0.06%	3.08%	8.97%	12.18%	0.0077%
Mylan NV	MYL	9,814.51	0.04%	0.00%	4.71%	4.71%	0.0018%
Noble Energy Inc	NBL	10,712.39	0.04%	2.02%	6.31%	8.39%	0.0035%
Norwegian Cruise Line Holdings Ltd	NCLH	11,551.66	0.04%	0.36%	10.18%	10.56%	0.0047%
Nasdaq Inc	NDAQ	15,935.80	0.06%	1.92%	7.09%	9.08%	0.0056%
NextEra Energy Inc	NEE	98,114.69	0.38%	2.43%	5.31%	7.81%	0.0297%
Newmont Goldcorp Corp	NEM	31,531.30	0.12%	1.46%	5.10%	6.60%	0.0081%
Netflix Inc	NFLX	160,599.63	0.62%	0.00%	43.23%	43.23%	0.2689%
NiSource Inc	NI	10,745.37	0.04%	2.79%	5.51%	8.37%	0.0035%
NIKE Inc	NKE	131,948.38	0.51%	1.10%	17.48%	18.67%	0.0954%
Nektar Therapeutics	NKTR	6,201.84	0.02%	0.00%	-2.40%	-2.40%	-0.0006%
Nielsen Holdings PLC	NLSN	8,034.16	0.03%	6.33%	12.00%	18.71%	0.0058%
Northrop Grumman Corp	NOC	54,863.97	0.21%	1.62%	5.95%	7.62%	0.0162%
National Oilwell Varco Inc	NOV	8,579.01	0.03%	0.90%	24.00%	25.01%	0.0083%
NRG Energy Inc	NRG	9,382.42	0.04%	0.34%	32.57%	32.97%	0.0120%
Norfolk Southern Corp	NSC	53,015.21	0.21%	1.73%	13.37%	15.21%	0.0312%
NetApp Inc	NTAP	14,809.37	0.06%	3.11%	9.73%	12.99%	0.0075%
Northern Trust Corp	NTRS	19,590.89	0.08%	2.74%	8.75%	11.62%	0.0088%
Nucor Corp	NUE	16,793.69	0.07%	2.91%	0.65%	3.57%	0.0023%
NVIDIA Corp	NVDA	100,016.07	0.39%	0.39%	9.76%	10.17%	0.0394%
Newell Brands Inc	NWL	6,524.20	0.03%	5.96%	-4.75%	1.07%	0.0003%
News Corp	NWSA	7,987.66	0.03%	1.53%	-10.26%	-8.81%	-0.0027%
Realty Income Corp	O	21,826.72	0.08%	3.95%	4.69%	8.73%	0.0074%
ONEOK Inc	OKE	28,401.76	0.11%	5.16%	11.96%	17.42%	0.0192%
Omnicom Group Inc	OMC	18,042.74	0.07%	3.17%	4.06%	7.29%	0.0051%
Oracle Corp	ORCL	190,041.61	0.74%	1.60%	7.63%	9.30%	0.0684%
O'Reilly Automotive Inc	ORLY	28,909.16	0.11%	0.00%	15.22%	15.22%	0.0170%
Occidental Petroleum Corp	OXY	37,610.46	0.15%	6.21%	12.23%	18.82%	0.0274%
Paychex Inc	PAYX	29,566.80	0.11%	3.01%	7.15%	10.27%	0.0118%
People's United Financial Inc	PBCT	6,684.49	0.03%	4.22%	2.00%	6.26%	0.0016%
PACCAR Inc	PCAR	24,826.13	0.10%	4.67%	5.00%	9.79%	0.0094%
Public Service Enterprise Group Inc	PEG	29,729.42	0.12%	3.20%	6.14%	9.43%	0.0109%
PepsiCo Inc	PEP	183,820.87	0.71%	2.89%	5.45%	8.42%	0.0600%
Pfizer Inc	PFE	240,856.13	0.93%	3.31%	5.09%	8.48%	0.0791%
Principal Financial Group Inc	PF	16,133.51	0.06%	3.81%	4.60%	8.50%	0.0053%
Procter & Gamble Co/The	PG	275,038.36	1.07%	2.65%	7.15%	9.89%	0.1054%
Progressive Corp/The	PGR	46,687.11	0.18%	3.45%	6.23%	9.79%	0.0177%
Parker-Hannifin Corp	PH	21,809.80	0.08%	1.82%	9.02%	10.91%	0.0092%
PulteGroup Inc	PHM	8,763.08	0.03%	1.39%	8.15%	9.59%	0.0033%
Packaging Corp of America	PKG	9,007.17	0.03%	3.35%	8.33%	11.83%	0.0041%
PerkinElmer Inc	PKI	10,685.89	0.04%	0.29%	16.09%	16.41%	0.0068%
Prologis Inc	PLD	50,519.09	0.20%	2.64%	7.04%	9.77%	0.0191%
Philip Morris International Inc	PM	122,177.19	0.47%	5.99%	6.78%	12.97%	0.0614%
PNC Financial Services Group Inc/The	PNC	61,973.40	0.24%	3.00%	7.48%	10.59%	0.0254%
Pentair PLC	PNR	6,394.38	0.02%	1.99%	7.24%	9.30%	0.0023%
Pinnacle West Capital Corp	PNW	10,564.18	0.04%	3.20%	5.29%	8.58%	0.0035%
PPG Industries Inc	PPG	27,550.56	0.11%	1.68%	8.62%	10.36%	0.0111%
PPL Corp	PPL	22,369.71	N/A	5.35%	N/A	N/A	N/A
Perrigo Co PLC	PRGO	6,475.91	0.03%	1.59%	-0.80%	0.78%	0.0002%
Prudential Financial Inc	PRU	41,006.00	0.16%	3.99%	9.00%	13.16%	0.0209%
Public Storage	PSA	41,565.89	0.16%	3.39%	5.23%	8.71%	0.0140%
Phillips 66	PSX	42,425.18	0.16%	3.69%	2.05%	5.78%	0.0095%
PVH Corp	PVH	7,089.78	0.03%	0.16%	8.12%	8.29%	0.0023%
Quanta Services Inc	PWR	5,444.66	0.02%	0.42%	22.00%	22.47%	0.0047%
Pioneer Natural Resources Co	PXD	25,913.68	0.10%	0.51%	24.90%	25.48%	0.0256%
PayPal Holdings Inc	PYPL	134,482.83	0.52%	0.00%	19.06%	19.06%	0.0993%
QUALCOMM Inc	QCOM	92,478.22	0.36%	3.32%	15.42%	18.99%	0.0680%
Qorvo Inc	QRVO	7,863.51	0.03%	0.25%	9.62%	9.88%	0.0030%
Royal Caribbean Cruises Ltd	RCL	25,411.42	0.10%	2.35%	11.71%	14.19%	0.0140%

Company	Ticker	Market		Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
		Capitalization	Weight in Index				
Everest Re Group Ltd	RE	10,068.54	0.04%	2.28%	10.00%	12.39%	0.0048%
Regency Centers Corp	REG	11,191.26	0.04%	3.47%	4.32%	7.86%	0.0034%
Regeneron Pharmaceuticals Inc	REGN	34,316.94	0.13%	0.00%	11.92%	11.92%	0.0158%
Regions Financial Corp	RF	15,137.58	0.06%	4.05%	9.22%	13.46%	0.0079%
Robert Half International Inc	RHI	6,758.97	0.03%	2.19%	9.05%	11.34%	0.0030%
Red Hat Inc	RHT	33,438.74	0.13%	0.00%	20.30%	20.30%	0.0263%
Raymond James Financial Inc	RJF	11,905.09	0.05%	1.57%	11.10%	12.75%	0.0059%
Ralph Lauren Corp	RL	8,778.26	0.03%	2.42%	7.84%	10.35%	0.0035%
ResMed Inc	RMD	17,498.20	0.07%	1.33%	11.05%	12.45%	0.0084%
Rockwell Automation Inc	ROK	19,391.25	0.08%	2.34%	11.48%	13.96%	0.0105%
Rollins Inc	ROL	11,748.49	0.05%	1.55%	10.00%	11.63%	0.0053%
Roper Technologies Inc	ROP	38,032.81	0.15%	0.53%	12.93%	13.49%	0.0199%
Ross Stores Inc	ROST	36,148.63	0.14%	1.03%	9.40%	10.48%	0.0147%
Republic Services Inc	RSG	27,862.22	0.11%	1.76%	13.26%	15.13%	0.0163%
Raytheon Co	RTN	48,432.73	0.19%	2.16%	9.31%	11.56%	0.0217%
SBA Communications Corp	SBAC	25,463.38	0.10%	0.00%	42.50%	42.50%	0.0419%
Starbucks Corp	SBUX	101,534.90	0.39%	1.78%	12.72%	14.60%	0.0574%
Charles Schwab Corp/The	SCHW	53,654.03	0.21%	1.69%	11.14%	12.93%	0.0269%
Sealed Air Corp	SEE	6,661.00	0.03%	1.54%	5.73%	7.32%	0.0019%
Sherwin-Williams Co/The	SHW	42,307.59	0.16%	0.94%	9.46%	10.44%	0.0171%
SVB Financial Group	SIVB	11,684.79	0.05%	0.00%	11.00%	11.00%	0.0050%
JM Smucker Co/The	SJM	13,136.20	0.05%	3.06%	4.03%	7.15%	0.0036%
Schlumberger Ltd	SLB	55,044.76	0.21%	5.03%	31.36%	37.18%	0.0793%
SL Green Realty Corp	SLG	6,859.57	0.03%	4.25%	-0.84%	3.39%	0.0009%
Snap-on Inc	SNA	9,177.19	0.04%	2.30%	7.35%	9.73%	0.0035%
Synopsys Inc	SNPS	19,290.52	0.07%	0.00%	13.60%	13.60%	0.0102%
Southern Co/The	SO	57,537.25	0.22%	4.46%	3.75%	8.29%	0.0185%
Simon Property Group Inc	SPG	49,364.82	0.19%	5.17%	4.87%	10.17%	0.0194%
S&P Global Inc	SPGI	56,081.90	0.22%	0.99%	9.20%	10.24%	0.0222%
Sempra Energy	SRE	37,715.37	0.15%	2.82%	8.74%	11.69%	0.0171%
SunTrust Banks Inc	STI	27,895.49	0.11%	3.36%	6.22%	9.68%	0.0105%
State Street Corp	STT	20,919.57	0.08%	3.55%	7.27%	10.94%	0.0089%
Seagate Technology PLC	STX	13,044.83	0.05%	5.34%	4.60%	10.07%	0.0051%
Constellation Brands Inc	STZ	37,804.60	0.15%	1.51%	8.09%	9.66%	0.0142%
Stanley Black & Decker Inc	SWK	21,913.10	0.08%	1.86%	9.10%	11.05%	0.0094%
Skyworks Solutions Inc	SWKS	13,344.03	0.05%	2.00%	10.57%	12.67%	0.0065%
Synchrony Financial	SYF	23,898.60	0.09%	2.61%	4.03%	6.69%	0.0062%
Stryker Corp	SYK	76,847.88	0.30%	1.11%	8.10%	9.26%	0.0276%
Symantec Corp	SYMC	13,451.90	0.05%	1.44%	7.26%	8.76%	0.0046%
Sysco Corp	SYU	36,348.34	0.14%	2.17%	12.13%	14.44%	0.0203%
AT&T Inc	T	244,555.98	0.95%	6.11%	5.54%	11.82%	0.1119%
Molson Coors Brewing Co	TAP	12,128.28	0.05%	3.69%	-0.23%	3.45%	0.0016%
TransDigm Group Inc	TDG	25,728.44	0.10%	0.00%	13.09%	13.09%	0.0130%
TE Connectivity Ltd	TEL	32,265.04	0.12%	1.86%	9.93%	11.89%	0.0149%
Teleflex Inc	TFX	15,283.93	0.06%	0.41%	12.97%	13.40%	0.0079%
Target Corp	TGT	44,373.29	0.17%	3.04%	6.75%	9.89%	0.0170%
Tiffany & Co	TIF	11,368.59	0.04%	2.48%	9.25%	11.84%	0.0052%
TJX Cos Inc/The	TJX	64,125.86	0.25%	1.72%	10.05%	11.86%	0.0295%
Torchmark Corp	TMK	9,835.28	0.04%	0.75%	7.91%	8.69%	0.0033%
Thermo Fisher Scientific Inc	TMO	117,466.46	0.46%	0.25%	10.83%	11.09%	0.0505%
Tapestry Inc	TPR	9,206.01	0.04%	4.25%	10.20%	14.67%	0.0052%
TripAdvisor Inc	TRIP	6,435.65	0.02%	0.00%	9.34%	9.34%	0.0023%
T Rowe Price Group Inc	TROW	25,943.72	0.10%	2.72%	7.10%	9.92%	0.0100%
Travelers Cos Inc/The	TRV	39,160.52	0.15%	2.16%	13.06%	15.36%	0.0233%
Tractor Supply Co	TSCO	13,125.83	0.05%	1.23%	11.00%	12.29%	0.0062%
Tyson Foods Inc	TSN	29,455.12	0.11%	1.86%	3.10%	4.98%	0.0057%
Total System Services Inc	TSS	22,699.58	0.09%	0.42%	12.14%	12.58%	0.0111%
Take-Two Interactive Software Inc	TTWO	12,776.84	0.05%	0.00%	8.80%	8.80%	0.0044%
Twitter Inc	TWTR	26,825.23	0.10%	0.00%	31.76%	31.76%	0.0330%
Texas Instruments Inc	TXN	107,668.54	0.42%	2.73%	9.87%	12.73%	0.0531%
Textron Inc	TXT	12,345.71	0.05%	0.15%	12.06%	12.21%	0.0058%
Under Armour Inc	UAA	10,658.97	0.04%	0.00%	31.19%	31.19%	0.0129%
United Continental Holdings Inc	UAL	23,136.94	0.09%	0.00%	13.81%	13.81%	0.0124%
UDR Inc	UDR	12,649.77	0.05%	3.05%	5.49%	8.62%	0.0042%
Universal Health Services Inc	UHS	11,753.36	0.05%	0.31%	9.38%	9.71%	0.0044%
Ulta Beauty Inc	ULTA	20,278.41	0.08%	0.00%	21.00%	21.00%	0.0165%
UnitedHealth Group Inc	UNH	231,893.22	0.90%	1.59%	13.74%	15.44%	0.1387%
Unum Group	UNM	7,108.60	0.03%	3.18%	9.00%	12.33%	0.0034%
Union Pacific Corp	UNP	119,702.51	0.46%	2.12%	13.02%	15.28%	0.0708%
United Parcel Service Inc	UPS	88,890.23	0.34%	3.70%	8.79%	12.65%	0.0436%
United Rentals Inc	URI	10,427.91	0.04%	0.00%	12.00%	12.00%	0.0048%
US Bancorp	USB	83,424.07	0.32%	3.02%	6.70%	9.82%	0.0317%
United Technologies Corp	UTX	112,350.33	0.44%	2.28%	8.87%	11.25%	0.0489%
Visa Inc	V	346,417.34	1.34%	0.58%	15.54%	16.17%	0.2169%
Varian Medical Systems Inc	VAR	12,380.44	0.05%	0.00%	8.55%	8.55%	0.0041%
VF Corp	VFC	34,691.72	0.13%	2.22%	-19.07%	-17.05%	-0.0229%
Viacom Inc	VIAB	12,248.94	0.05%	2.70%	3.51%	6.25%	0.0030%
Valero Energy Corp	VLO	35,720.04	0.14%	4.20%	13.02%	17.49%	0.0242%
Vulcan Materials Co	VMC	18,137.57	0.07%	0.88%	16.30%	17.25%	0.0121%
Vornado Realty Trust	VNO	12,231.09	0.05%	4.32%	4.23%	8.63%	0.0041%

Company	Ticker	Market		Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
		Capitalization	Weight in Index				
Verisk Analytics Inc	VRSK	23,970.47	0.09%	0.51%	9.46%	9.99%	0.0093%
VeriSign Inc	VRSN	24,928.39	0.10%	0.00%	8.80%	8.80%	0.0085%
Vertex Pharmaceuticals Inc	VRTX	46,967.53	0.18%	0.00%	51.00%	51.00%	0.0928%
Ventas Inc	VTR	25,249.30	0.10%	4.65%	4.34%	9.09%	0.0089%
Verizon Communications Inc	VZ	236,272.92	0.92%	4.25%	2.34%	6.64%	0.0608%
Wabtec Corp	WAB	13,499.32	0.05%	0.00%	15.00%	15.00%	0.0078%
Waters Corp	WAT	14,953.85	0.06%	0.00%	9.90%	9.90%	0.0057%
Walgreens Boots Alliance Inc	WBA	49,374.85	0.19%	3.31%	5.36%	8.75%	0.0167%
WellCare Health Plans Inc	WCG	14,342.40	0.06%	0.00%	17.22%	17.22%	0.0096%
Western Digital Corp	WDC	13,932.04	0.05%	4.21%	-5.24%	-1.14%	-0.0006%
WEC Energy Group Inc	WEC	26,298.10	0.10%	2.83%	6.13%	9.05%	0.0092%
Welltower Inc	WELL	33,014.81	0.13%	4.27%	6.11%	10.51%	0.0134%
Wells Fargo & Co	WFC	212,672.31	0.82%	3.91%	10.36%	14.47%	0.1192%
Whirlpool Corp	WHR	9,016.98	0.03%	3.33%	4.97%	8.38%	0.0029%
Willis Towers Watson PLC	WLTW	24,753.90	0.10%	1.32%	13.97%	15.38%	0.0147%
Waste Management Inc	WM	49,004.50	0.19%	1.76%	7.51%	9.34%	0.0177%
Williams Cos Inc/The	WMB	33,978.04	0.13%	5.40%	3.90%	9.40%	0.0124%
Walmart Inc	WMT	315,418.25	1.22%	1.92%	3.56%	5.52%	0.0674%
Westrock Co	WRK	9,374.35	0.04%	4.97%	3.17%	8.21%	0.0030%
Western Union Co/The	WU	8,566.79	0.03%	3.91%	3.36%	7.34%	0.0024%
Weyerhaeuser Co	WY	19,617.67	0.08%	5.17%	5.20%	10.51%	0.0080%
Wynn Resorts Ltd	WYNN	13,348.98	0.05%	2.98%	23.23%	26.56%	0.0137%
Cimarex Energy Co	XEC	6,018.03	0.02%	1.21%	29.26%	30.64%	0.0071%
Xcel Energy Inc	XEL	30,617.91	0.12%	2.71%	5.42%	8.20%	0.0097%
Xilinx Inc	XLNX	29,599.38	0.11%	1.26%	9.60%	10.92%	0.0125%
Exxon Mobil Corp	XOM	324,228.73	1.26%	4.45%	15.93%	20.73%	0.2604%
DENTSPLY SIRONA Inc	XRAY	13,654.93	0.05%	0.59%	12.57%	13.20%	0.0070%
Xerox Corp	XRX	7,954.03	0.03%	2.86%	6.50%	9.45%	0.0029%
Xylem Inc/NY	XYL	15,049.60	0.06%	1.15%	13.97%	15.20%	0.0089%
Yum! Brands Inc	YUM	33,862.27	0.13%	1.52%	12.43%	14.05%	0.0184%
Zimmer Biomet Holdings Inc	ZBH	24,112.95	0.09%	0.84%	5.66%	6.52%	0.0061%
Zions Bancorp NA	ZION	8,394.35	0.03%	2.83%	7.60%	10.54%	0.0034%
Zoetis Inc	ZTS	54,322.69	0.21%	0.55%	10.81%	11.39%	0.0240%
Total Market Capitalization:		25,816,650.84					14.88%

Notes:

[1] Equals sum of Col. [9]

[2] Source: Bloomberg Professional

[3] Equals [1] - [2]

[4] Source: Bloomberg Professional

[5] Equals weight in S&P 500 based on market capitalization

[6] Source: Bloomberg Professional

[7] Source: Bloomberg Professional

[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]

[9] Equals Col. [5] x Col. [8]

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

[1]	[2]	[3]
S&P 500	Current 30-Year	
Est. Required	Treasury (30-day	Implied Market
Market Return	average)	Risk Premium
14.78%	2.63%	12.15%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
Agilent Technologies Inc	A	23,262.68	0.10%	0.90%	9.50%	10.44%	0.0101%
American Airlines Group Inc	AAL	14,281.54	0.06%	1.24%	6.50%	7.78%	0.0046%
Advance Auto Parts Inc	AAP	10,995.13	0.05%	0.16%	14.00%	14.17%	0.0065%
Apple Inc	AAPL	918,968.80	3.81%	1.57%	12.50%	14.17%	0.5396%
AbbVie Inc	ABBV	123,639.20	0.51%	5.46%	12.50%	18.30%	0.0938%
AmerisourceBergen Corp	ABC	17,981.89	0.07%	1.92%	8.00%	10.00%	0.0074%
ABIOMED Inc	ABMD	11,746.87	0.05%	0.00%	24.50%	24.50%	0.0119%
Abbott Laboratories	ABT	149,849.50	0.62%	1.51%	10.00%	11.59%	0.0719%
Accenture PLC	ACN	119,105.00	0.49%	1.64%	9.00%	10.71%	0.0529%
Adobe Inc	ADBE	147,581.90	0.61%	0.00%	19.50%	19.50%	0.1193%
Analog Devices Inc	ADI	41,620.30	0.17%	1.92%	10.00%	12.02%	0.0207%
Archer-Daniels-Midland Co	ADM	23,128.00	0.10%	3.39%	9.50%	13.05%	0.0125%
Automatic Data Processing Inc	ADP	73,865.15	0.31%	2.04%	13.50%	15.68%	0.0480%
Alliance Data Systems Corp	ADS	7,227.34	0.03%	1.82%	12.00%	13.93%	0.0042%
Autodesk Inc	ADSK	37,214.61	N/A	0.00%	N/A	N/A	N/A
Ameren Corp	AEE	18,999.62	0.08%	2.57%	6.50%	9.15%	0.0072%
American Electric Power Co Inc	AEP	44,837.80	0.19%	3.08%	4.00%	7.14%	0.0133%
AES Corp/VA	AES	11,236.36	N/A	3.25%	N/A	N/A	N/A
Aflac Inc	AFL	41,310.59	0.17%	1.97%	7.50%	9.54%	0.0163%
Allergan PLC	AGN	42,882.80	0.18%	2.26%	4.00%	6.31%	0.0112%
American International Group Inc	AIG	47,183.23	N/A	2.36%	N/A	N/A	N/A
Apartment Investment & Management Co	AIV	7,887.84	0.03%	3.02%	-3.00%	-0.03%	0.0000%
Assurant Inc	AIZ	6,643.45	0.03%	2.23%	6.50%	8.80%	0.0024%
Arthur J Gallagher & Co	AJG	16,213.75	0.07%	1.97%	15.50%	17.62%	0.0118%
Akamai Technologies Inc	AKAM	13,060.62	0.05%	0.00%	18.00%	18.00%	0.0097%
Albemarle Corp	ALB	7,362.47	0.03%	2.12%	5.50%	7.68%	0.0023%
Align Technology Inc	ALGN	23,653.60	0.10%	0.00%	27.00%	27.00%	0.0265%
Alaska Air Group Inc	ALK	7,499.16	0.03%	2.31%	5.50%	7.87%	0.0024%
Allstate Corp/The	ALL	34,482.15	0.14%	1.93%	10.50%	12.53%	0.0179%
Allegion PLC	ALLE	10,186.40	0.04%	1.00%	8.50%	9.54%	0.0040%
Alexion Pharmaceuticals Inc	ALXN	28,883.68	0.12%	0.00%	21.00%	21.00%	0.0251%
Applied Materials Inc	AMAT	40,444.56	0.17%	1.97%	8.50%	10.55%	0.0177%
Amcor PLC	AMCR	N/A	N/A	0.00%	N/A	N/A	N/A
Advanced Micro Devices Inc	AMD	32,470.82	0.13%	0.00%	27.50%	27.50%	0.0370%
AMETEK Inc	AME	20,182.16	0.08%	0.63%	10.50%	11.16%	0.0093%
Affiliated Managers Group Inc	AMG	5,183.10	0.02%	1.48%	10.00%	11.55%	0.0025%
Amgen Inc	AMGN	113,098.70	0.47%	3.21%	7.00%	10.32%	0.0484%
Ameriprise Financial Inc	AMP	20,032.33	0.08%	2.60%	13.00%	15.77%	0.0131%
American Tower Corp	AMT	96,136.88	0.40%	1.88%	9.50%	11.47%	0.0457%
Amazon.com Inc	AMZN	943,749.40	3.91%	0.00%	39.00%	39.00%	1.5253%
Arista Networks Inc	ANET	19,016.16	0.08%	0.00%	11.00%	11.00%	0.0087%
ANSYS Inc	ANSS	17,085.95	0.07%	0.00%	11.00%	11.00%	0.0078%
Anthem Inc	ANTM	74,949.20	0.31%	1.10%	19.00%	20.20%	0.0628%
Aon PLC	AON	46,618.96	0.19%	0.91%	10.00%	10.96%	0.0212%
AO Smith Corp	AOS	7,660.92	0.03%	1.92%	9.50%	11.51%	0.0037%
Apache Corp	APA	11,093.10	0.05%	3.39%	50.00%	54.24%	0.0249%
Anadarko Petroleum Corp	APC	34,556.34	N/A	1.70%	N/A	N/A	N/A
Air Products & Chemicals Inc	APD	48,880.53	0.20%	2.09%	9.00%	11.18%	0.0227%
Amphenol Corp	APH	28,572.24	0.12%	0.96%	9.50%	10.51%	0.0124%
Aptiv PLC	APTIV	20,232.71	0.08%	1.12%	11.00%	12.18%	0.0102%
Alexandria Real Estate Equities Inc	ARE	16,644.03	N/A	2.67%	N/A	N/A	N/A
Arconic Inc	ARNC	10,834.39	N/A	0.33%	N/A	N/A	N/A
Atmos Energy Corp	ATO	12,388.50	0.05%	2.09%	7.50%	9.67%	0.0050%
Activision Blizzard Inc	ATVI	34,979.75	0.14%	0.81%	9.50%	10.35%	0.0150%
AvalonBay Communities Inc	AVB	29,151.78	0.12%	2.93%	4.00%	6.99%	0.0084%
Broadcom Inc	AVGO	111,340.90	0.46%	3.80%	33.50%	37.94%	0.1750%
Avery Dennison Corp	AVY	9,523.58	0.04%	2.11%	11.00%	13.23%	0.0052%
American Water Works Co Inc	AWK	21,334.83	0.09%	1.69%	9.50%	11.27%	0.0100%
American Express Co	AXP	104,558.00	0.43%	1.37%	10.00%	11.44%	0.0496%
AutoZone Inc	AZO	27,766.13	0.12%	0.00%	13.50%	13.50%	0.0155%
Boeing Co/The	BA	211,211.50	0.88%	2.33%	15.50%	18.01%	0.1576%
Bank of America Corp	BAC	270,498.40	1.12%	2.34%	10.50%	12.96%	0.1453%
Baxter International Inc	BAX	41,844.34	0.17%	1.07%	10.50%	11.63%	0.0202%
BB&T Corp	BBT	37,307.96	0.15%	3.61%	8.00%	11.75%	0.0182%
Best Buy Co Inc	BBY	18,260.13	0.08%	2.92%	10.50%	13.57%	0.0103%
Becton Dickinson and Co	BDX	66,116.70	0.27%	1.27%	10.00%	11.33%	0.0311%
Franklin Resources Inc	BEN	17,536.44	0.07%	3.19%	7.50%	10.81%	0.0079%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Brown-Forman Corp	BF/B	26,444.87	0.11%	1.21%	13.50%	14.79%	0.0162%
Baker Hughes a GE Co	BHGE	12,545.40	N/A	2.96%	N/A	N/A	N/A
Biogen Inc	BIIB	45,559.04	0.19%	0.00%	5.50%	5.50%	0.0104%
Bank of New York Mellon Corp/The	BK	41,288.14	0.17%	2.60%	8.50%	11.21%	0.0192%
Booking Holdings Inc	BKNG	82,243.84	0.34%	0.00%	11.50%	11.50%	0.0392%
BlackRock Inc	BLK	71,932.11	0.30%	2.84%	9.50%	12.47%	0.0372%
Ball Corp	BLL	22,493.04	0.09%	0.89%	23.00%	23.99%	0.0224%
Bristol-Myers Squibb Co	BMJ	79,969.66	0.33%	3.35%	11.50%	15.04%	0.0499%
Broadridge Financial Solutions Inc	BR	15,117.69	0.06%	1.65%	11.00%	12.74%	0.0080%
Berkshire Hathaway Inc	BRK/B	-	N/A	0.00%	N/A	N/A	N/A
Boston Scientific Corp	BSX	58,209.80	0.24%	0.00%	16.00%	16.00%	0.0386%
BorgWarner Inc	BWA	8,750.77	0.04%	1.61%	7.00%	8.67%	0.0031%
Boston Properties Inc	BXP	21,434.14	0.09%	2.77%	4.50%	7.33%	0.0065%
Citigroup Inc	C	157,479.10	0.65%	2.91%	10.00%	13.06%	0.0852%
Conagra Brands Inc	CAG	14,188.72	0.06%	3.01%	5.50%	8.59%	0.0051%
Cardinal Health Inc	CAH	13,341.46	0.06%	4.29%	17.00%	21.65%	0.0120%
Caterpillar Inc	CAT	76,396.54	0.32%	3.08%	13.00%	16.28%	0.0515%
Chubb Ltd	CB	68,433.61	0.28%	2.01%	10.00%	12.11%	0.0343%
Choe Global Markets Inc	CBOE	11,953.45	0.05%	1.16%	14.50%	15.74%	0.0078%
CBRE Group Inc	CBRE	16,998.25	0.07%	0.00%	10.50%	10.50%	0.0074%
CBS Corp	CBS	18,987.98	0.08%	1.42%	9.50%	10.99%	0.0086%
Crown Castle International Corp	CCI	56,958.73	0.24%	3.51%	10.50%	14.19%	0.0335%
Carnival Corp	CCL	25,717.60	0.11%	4.10%	10.00%	14.31%	0.0152%
Cadence Design Systems Inc	CDNS	20,422.45	0.08%	0.00%	12.50%	12.50%	0.0106%
Celanese Corp	CE	13,308.19	0.06%	2.36%	11.00%	13.49%	0.0074%
Celgene Corp	CELG	69,162.02	0.29%	0.00%	13.50%	13.50%	0.0387%
Cerner Corp	CERN	23,319.76	0.10%	1.00%	9.00%	10.05%	0.0097%
CF Industries Holdings Inc	CF	10,380.62	N/A	2.60%	N/A	N/A	N/A
Citizens Financial Group Inc	CFG	16,120.65	0.07%	3.72%	12.00%	15.94%	0.0107%
Church & Dwight Co Inc	CHD	18,789.60	0.08%	1.19%	9.00%	10.24%	0.0080%
CH Robinson Worldwide Inc	CHRW	11,498.68	0.05%	2.38%	9.00%	11.49%	0.0055%
Charter Communications Inc	CHTR	89,088.41	0.37%	0.00%	16.00%	16.00%	0.0591%
Cigna Corp	CI	60,618.26	0.25%	0.03%	14.50%	14.53%	0.0365%
Cincinnati Financial Corp	CINF	17,289.41	0.07%	2.11%	8.50%	10.70%	0.0077%
Colgate-Palmolive Co	CL	63,186.71	0.26%	2.34%	6.00%	8.41%	0.0220%
Clorox Co/The	CLX	19,768.93	0.08%	2.74%	6.50%	9.33%	0.0076%
Comerica Inc	CMA	10,882.37	0.05%	3.83%	12.00%	16.06%	0.0072%
Comcast Corp	CMCSA	198,242.30	0.82%	1.92%	13.50%	15.55%	0.1277%
CME Group Inc	CME	70,981.92	0.29%	1.51%	3.00%	4.53%	0.0133%
Chipotle Mexican Grill Inc	CMG	20,481.02	0.08%	0.00%	26.00%	26.00%	0.0221%
Cummins Inc	CMI	27,027.00	0.11%	2.66%	8.00%	10.77%	0.0121%
CMS Energy Corp	CMS	16,766.67	0.07%	2.69%	7.00%	9.78%	0.0068%
Centene Corp	CNC	22,888.83	0.09%	0.00%	15.50%	15.50%	0.0147%
CenterPoint Energy Inc	CNP	15,085.13	0.06%	3.90%	12.50%	16.64%	0.0104%
Capital One Financial Corp	COF	43,029.18	0.18%	1.75%	6.00%	7.80%	0.0139%
Cabot Oil & Gas Corp	COG	9,987.23	0.04%	1.53%	50.00%	51.91%	0.0215%
Cooper Cos Inc/The	COO	16,208.28	0.07%	0.02%	14.50%	14.52%	0.0098%
ConocoPhillips	COP	68,601.68	0.28%	2.01%	37.00%	39.38%	0.1120%
Costco Wholesale Corp	COST	117,583.50	0.49%	0.97%	8.50%	9.51%	0.0463%
Coty Inc	COTY	10,136.39	0.04%	3.71%	9.00%	12.88%	0.0054%
Campbell Soup Co	CPB	12,350.03	0.05%	3.41%	1.00%	4.43%	0.0023%
Capri Holdings Ltd	CPRI	5,275.07	0.02%	0.00%	7.50%	7.50%	0.0016%
Copart Inc	CPRT	17,103.85	0.07%	0.00%	12.50%	12.50%	0.0089%
salesforce.com Inc	CRM	121,987.20	0.51%	0.00%	57.00%	57.00%	0.2881%
Cisco Systems Inc	CSCO	247,609.30	1.03%	2.44%	8.00%	10.54%	0.1081%
CSX Corp	CSX	69,196.73	0.29%	1.21%	14.50%	15.80%	0.0453%
Cintas Corp	CTAS	24,410.33	0.10%	0.97%	16.00%	17.05%	0.0172%
CenturyLink Inc	CTL	12,376.55	0.05%	8.81%	1.00%	9.85%	0.0051%
Cognizant Technology Solutions Corp	CTSH	36,512.73	0.15%	1.25%	5.00%	6.28%	0.0095%
Corteva Inc	CTVA	N/A	N/A	0.00%	N/A	N/A	N/A
Citrix Systems Inc	CTXS	13,108.22	0.05%	1.41%	7.00%	8.46%	0.0046%
CVS Health Corp	CVS	69,923.27	0.29%	3.71%	6.50%	10.33%	0.0299%
Chevron Corp	CVX	236,719.30	0.98%	3.83%	16.50%	20.65%	0.2025%
Concho Resources Inc	CXO	21,056.98	0.09%	0.48%	21.00%	21.53%	0.0188%
Dominion Energy Inc	D	62,082.82	0.26%	4.81%	6.50%	11.47%	0.0295%
Delta Air Lines Inc	DAL	36,660.13	0.15%	2.75%	9.50%	12.38%	0.0188%
DuPont de Nemours Inc	DD	N/A	N/A	0.00%	N/A	N/A	N/A
Deere & Co	DE	51,594.27	0.21%	1.87%	14.00%	16.00%	0.0342%
Discover Financial Services	DFS	25,507.01	0.11%	2.04%	7.50%	9.62%	0.0102%
Dollar General Corp	DG	35,857.82	0.15%	0.92%	12.50%	13.48%	0.0200%
Quest Diagnostics Inc	DGX	13,445.56	0.06%	2.11%	8.50%	10.70%	0.0060%
DR Horton Inc	DHI	17,048.45	0.07%	1.34%	6.50%	7.88%	0.0056%
Danaher Corp	DHR	102,824.70	0.43%	0.47%	12.50%	13.00%	0.0554%
Walt Disney Co/The	DIS	252,653.60	1.05%	1.24%	6.50%	7.78%	0.0815%
Discovery Inc	DISCA	16,235.62	0.07%	0.00%	15.00%	15.00%	0.0101%
DISH Network Corp	DISH	18,297.13	0.08%	0.00%	-2.00%	-2.00%	-0.0015%
Digital Realty Trust Inc	DLR	25,778.48	0.11%	3.46%	5.00%	8.55%	0.0091%
Dollar Tree Inc	DLTR	26,323.70	0.11%	0.00%	15.50%	15.50%	0.0169%
Dover Corp	DOV	14,249.51	0.06%	1.96%	11.00%	13.07%	0.0077%
Dow Inc	DOW	36,639.96	N/A	5.83%	N/A	N/A	N/A

Company	Ticker	Market		Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
		Capitalization	Weight in Index				
Duke Realty Corp	DRE	11,637.54	0.05%	2.74%	7.00%	9.84%	0.0047%
Darden Restaurants Inc	DRI	14,593.56	0.06%	2.97%	12.00%	15.15%	0.0092%
DTE Energy Co	DTE	24,033.75	0.10%	3.02%	5.50%	8.60%	0.0086%
Duke Energy Corp	DUK	64,486.24	0.27%	4.28%	6.00%	10.41%	0.0278%
DaVita Inc	DVA	8,720.82	0.04%	0.00%	11.00%	11.00%	0.0040%
Devon Energy Corp	DVN	11,663.08	0.05%	1.28%	26.50%	27.95%	0.0135%
DXC Technology Co	DXC	14,684.01	0.06%	1.54%	14.50%	16.15%	0.0098%
Electronic Arts Inc	EA	27,780.59	0.12%	0.00%	10.00%	10.00%	0.0115%
eBay Inc	EBAY	34,969.92	0.14%	1.43%	10.00%	11.50%	0.0167%
Ecolab Inc	ECL	55,438.15	0.23%	0.96%	10.00%	11.01%	0.0253%
Consolidated Edison Inc	ED	29,063.76	0.12%	3.39%	3.00%	6.44%	0.0078%
Equifax Inc	EFX	16,305.58	0.07%	1.16%	8.00%	9.21%	0.0062%
Edison International	EIX	20,780.22	0.09%	3.84%	15.00%	19.13%	0.0165%
Estee Lauder Cos Inc/The	EL	66,189.98	0.27%	0.95%	12.50%	13.51%	0.0371%
Eastman Chemical Co	EMN	10,483.80	0.04%	3.28%	8.00%	11.41%	0.0050%
Emerson Electric Co	EMR	41,218.89	0.17%	3.01%	12.00%	15.19%	0.0259%
EOG Resources Inc	EOG	53,069.80	0.22%	1.26%	34.50%	35.98%	0.0791%
Equinix Inc	EQIX	42,738.66	0.18%	1.97%	25.00%	27.22%	0.0482%
Equity Residential	EQR	29,120.20	0.12%	2.91%	-12.00%	-9.26%	-0.0112%
Eversource Energy	ES	24,603.91	0.10%	2.80%	5.50%	8.38%	0.0085%
Essex Property Trust Inc	ESS	19,958.74	0.08%	2.61%	2.00%	4.64%	0.0038%
E*TRADE Financial Corp	ETFC	11,119.21	0.05%	1.23%	17.50%	18.84%	0.0087%
Eaton Corp PLC	ETN	34,964.98	0.14%	3.44%	9.00%	12.59%	0.0182%
Entergy Corp	ETR	19,644.91	0.08%	3.58%	0.50%	4.09%	0.0033%
Every Inc	EVRG	15,011.08	N/A	3.28%	N/A	N/A	N/A
Edwards Lifesciences Corp	EW	40,194.11	0.17%	0.00%	15.00%	15.00%	0.0250%
Exelon Corp	EXC	48,783.04	0.20%	2.93%	10.50%	13.58%	0.0275%
Expeditors International of Washington I	EXPD	13,101.89	0.05%	1.31%	7.50%	8.86%	0.0048%
Expedia Group Inc	EXPE	19,276.45	0.08%	0.99%	24.00%	25.11%	0.0201%
Extra Space Storage Inc	EXR	13,864.50	0.06%	3.35%	6.00%	9.45%	0.0054%
Ford Motor Co	F	39,343.69	0.16%	5.98%	3.50%	9.58%	0.0156%
Diamondback Energy Inc	FANG	17,709.28	0.07%	0.70%	17.00%	17.76%	0.0130%
Fastenal Co	FAST	19,030.96	0.08%	2.59%	8.50%	11.20%	0.0088%
Facebook Inc	FB	541,011.10	2.24%	0.00%	16.50%	16.50%	0.3699%
Fortune Brands Home & Security Inc	FBHS	7,788.52	0.03%	1.58%	10.50%	12.16%	0.0039%
Freeport-McMoRan Inc	FCX	16,512.38	0.07%	1.76%	22.50%	24.46%	0.0167%
FedEx Corp	FDX	43,906.89	0.18%	1.69%	7.50%	9.25%	0.0168%
FirstEnergy Corp	FE	23,208.07	0.10%	3.57%	8.00%	11.71%	0.0113%
F5 Networks Inc	FFIV	8,494.00	0.04%	0.00%	12.00%	12.00%	0.0042%
Fidelity National Information Services I	FIS	40,013.24	0.17%	1.13%	18.00%	19.23%	0.0319%
Fiserv Inc	FISV	35,969.99	0.15%	0.00%	10.50%	10.50%	0.0157%
Fifth Third Bancorp	FITB	20,185.78	0.08%	3.52%	7.00%	10.64%	0.0089%
Foot Locker Inc	FL	4,694.41	0.02%	3.64%	12.00%	15.86%	0.0031%
FLIR Systems Inc	FLIR	7,305.11	0.03%	1.30%	12.00%	13.38%	0.0040%
Flowserve Corp	FLS	6,685.11	0.03%	1.49%	13.50%	15.09%	0.0042%
FleetCor Technologies Inc	FLT	23,940.72	0.10%	0.00%	12.50%	12.50%	0.0124%
FMC Corp	FMC	10,803.86	0.04%	2.01%	15.00%	17.16%	0.0077%
Fox Corp	FOXA	N/A	N/A	0.00%	N/A	N/A	N/A
First Republic Bank/CA	FRC	16,063.03	0.07%	0.79%	10.50%	11.33%	0.0075%
Federal Realty Investment Trust	FRT	9,976.97	0.04%	3.07%	4.00%	7.13%	0.0029%
TechnipFMC PLC	FTI	N/A	N/A	0.00%	N/A	N/A	N/A
Fortinet Inc	FTNT	13,133.66	0.05%	0.00%	25.00%	25.00%	0.0136%
Fortive Corp	FTV	27,074.70	N/A	0.35%	N/A	N/A	N/A
General Dynamics Corp	GD	51,407.66	0.21%	2.29%	6.00%	8.36%	0.0178%
General Electric Co	GE	92,702.18	0.38%	0.38%	3.50%	3.89%	0.0149%
Gilead Sciences Inc	GILD	87,358.19	0.36%	3.68%	-5.50%	-1.92%	-0.0070%
General Mills Inc	GIS	32,336.37	0.13%	3.67%	4.00%	7.74%	0.0104%
Corning Inc	GLW	25,899.84	0.11%	2.42%	15.00%	17.60%	0.0189%
General Motors Co	GM	52,423.80	0.22%	4.22%	2.50%	6.77%	0.0147%
Alphabet Inc	GOOGL	N/A	N/A	0.00%	N/A	N/A	N/A
Genuine Parts Co	GPC	15,159.98	0.06%	2.94%	8.50%	11.56%	0.0073%
Global Payments Inc	GPN	25,417.35	0.11%	0.03%	17.50%	17.53%	0.0185%
Gap Inc/The	GPS	6,841.80	0.03%	5.36%	6.00%	11.52%	0.0033%
Garmin Ltd	GRMN	15,518.09	0.06%	2.79%	10.00%	12.93%	0.0083%
Goldman Sachs Group Inc/The	GS	71,777.09	0.30%	1.74%	8.50%	10.31%	0.0307%
WW Grainger Inc	GWV	15,346.90	0.06%	2.08%	8.50%	10.67%	0.0068%
Halliburton Co	HAL	19,951.36	0.08%	3.15%	24.50%	28.04%	0.0232%
Hasbro Inc	HAS	13,580.72	0.06%	2.52%	7.50%	10.11%	0.0057%
Huntington Bancshares Inc/OH	HBAN	13,875.79	0.06%	4.53%	11.50%	16.29%	0.0094%
Hanesbrands Inc	HBI	6,343.82	0.03%	3.42%	4.00%	7.49%	0.0020%
HCA Healthcare Inc	HCA	43,935.41	0.18%	1.25%	12.50%	13.83%	0.0252%
HCP Inc	HCP	15,895.84	0.07%	4.45%	32.50%	37.67%	0.0248%
Home Depot Inc/The	HD	232,586.30	0.96%	2.58%	9.00%	11.70%	0.1127%
Hess Corp	HES	18,658.51	N/A	1.63%	N/A	N/A	N/A
HollyFrontier Corp	HFC	7,453.89	0.03%	3.14%	18.50%	21.93%	0.0068%
Hartford Financial Services Group Inc/Th	HIG	20,074.92	0.08%	2.16%	11.00%	13.28%	0.0110%
Huntington Ingalls Industries Inc	HII	9,350.02	0.04%	1.53%	7.00%	8.58%	0.0033%
Hilton Worldwide Holdings Inc	HLT	28,258.91	0.12%	0.62%	17.00%	17.67%	0.0207%
Harley-Davidson Inc	HOG	5,728.22	0.02%	4.17%	8.50%	12.85%	0.0030%
Hologic Inc	HOLX	13,190.10	0.05%	0.00%	18.50%	18.50%	0.0101%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Honeywell International Inc	HON	128,293.60	0.53%	1.86%	8.00%	9.93%	0.0528%
Helmerich & Payne Inc	HP	5,587.67	N/A	5.56%	N/A	N/A	N/A
Hewlett Packard Enterprise Co	HPE	20,193.48	0.08%	3.27%	6.50%	9.88%	0.0083%
HP Inc	HPQ	31,415.16	0.13%	3.21%	8.50%	11.85%	0.0154%
H&R Block Inc	HRB	5,749.35	0.02%	3.71%	7.00%	10.84%	0.0026%
Hormel Foods Corp	HRL	22,280.02	0.09%	2.07%	9.00%	11.16%	0.0103%
Harris Corp	HRS	23,543.56	0.10%	1.39%	12.00%	13.47%	0.0131%
Henry Schein Inc	HSIC	10,569.78	0.04%	0.00%	7.00%	7.00%	0.0031%
Host Hotels & Resorts Inc	HST	13,808.46	0.06%	4.29%	4.00%	8.38%	0.0048%
Hershey Co/The	HSY	28,715.29	0.12%	2.10%	6.00%	8.16%	0.0097%
Humana Inc	HUM	34,951.11	0.14%	0.85%	11.50%	12.40%	0.0180%
International Business Machines Corp	IBM	123,110.40	0.51%	4.69%	2.00%	6.74%	0.0344%
Intercontinental Exchange Inc	ICE	48,832.95	0.20%	1.27%	10.50%	11.84%	0.0240%
IDEXX Laboratories Inc	IDXX	23,482.69	0.10%	0.00%	13.00%	13.00%	0.0127%
International Flavors & Fragrances Inc	IFF	16,073.84	0.07%	2.04%	8.50%	10.63%	0.0071%
Illumina Inc	ILMN	52,709.79	0.22%	0.00%	14.00%	14.00%	0.0306%
Incyte Corp	INCY	18,553.77	N/A	0.00%	N/A	N/A	N/A
IHS Markit Ltd	INFO	23,938.03	0.10%	0.00%	17.00%	17.00%	0.0169%
Intel Corp	INTC	211,269.60	0.88%	2.67%	10.50%	13.31%	0.1165%
Intuit Inc	INTU	69,154.00	0.29%	0.71%	13.00%	13.76%	0.0394%
International Paper Co	IP	17,384.43	0.07%	4.59%	11.50%	16.35%	0.0118%
Interpublic Group of Cos Inc/The	IPG	8,700.64	0.04%	4.32%	11.00%	15.56%	0.0056%
IPG Photonics Corp	IPGP	7,679.95	0.03%	0.00%	10.50%	10.50%	0.0033%
IQVIA Holdings Inc	IQV	30,471.34	0.13%	0.00%	12.50%	12.50%	0.0158%
Ingersoll-Rand PLC	IR	30,412.44	0.13%	1.68%	12.00%	13.78%	0.0174%
Iron Mountain Inc	IRM	9,336.32	0.04%	7.50%	8.50%	16.32%	0.0063%
Intuitive Surgical Inc	ISRG	61,513.98	0.25%	0.00%	14.00%	14.00%	0.0357%
Gartner Inc	IT	14,451.12	0.06%	0.00%	14.00%	14.00%	0.0084%
Illinois Tool Works Inc	ITW	49,580.24	0.21%	2.63%	9.00%	11.75%	0.0241%
Invesco Ltd	IVZ	8,313.80	0.03%	5.98%	7.00%	13.19%	0.0045%
JB Hunt Transport Services Inc	JBHT	9,881.11	0.04%	1.17%	10.00%	11.23%	0.0046%
Johnson Controls International plc	JCI	35,653.34	0.15%	2.62%	2.00%	4.65%	0.0069%
Jacobs Engineering Group Inc	JEC	11,173.78	0.05%	0.83%	12.50%	13.38%	0.0062%
Jefferies Financial Group Inc	JEF	5,491.94	0.02%	2.72%	18.50%	21.47%	0.0049%
Jack Henry & Associates Inc	JKHY	10,676.65	0.04%	1.15%	10.50%	11.71%	0.0052%
Johnson & Johnson	JNJ	377,658.00	1.57%	2.71%	12.00%	14.87%	0.2328%
Juniper Networks Inc	JNPR	9,482.88	0.04%	2.82%	6.00%	8.90%	0.0035%
JPMorgan Chase & Co	JPM	357,453.40	1.48%	2.96%	8.50%	11.59%	0.1716%
Nordstrom Inc	JWN	5,134.27	0.02%	4.46%	6.50%	11.10%	0.0024%
Kellogg Co	K	18,764.60	0.08%	4.13%	4.50%	8.72%	0.0068%
KeyCorp	KEY	17,102.58	0.07%	4.33%	10.50%	15.06%	0.0107%
Keysight Technologies Inc	KEYS	16,583.84	0.07%	0.00%	16.00%	16.00%	0.0110%
Kraft Heinz Co/The	KHC	37,947.47	0.16%	5.20%	3.50%	8.79%	0.0138%
Kimco Realty Corp	KIM	8,061.17	0.03%	5.96%	5.00%	11.11%	0.0037%
KLA-Tencor Corp	KLAC	18,390.74	0.08%	2.64%	11.50%	14.29%	0.0109%
Kimberly-Clark Corp	KMB	46,862.70	0.19%	3.02%	7.00%	10.13%	0.0197%
Kinder Morgan Inc/DE	KMI	47,737.14	0.20%	4.74%	35.50%	41.08%	0.0813%
CarMax Inc	KMX	14,258.16	0.06%	0.00%	11.50%	11.50%	0.0068%
Coca-Cola Co/The	KO	220,484.90	0.91%	3.10%	6.50%	9.70%	0.0886%
Kroger Co/The	KR	18,457.74	0.08%	2.68%	4.50%	7.24%	0.0055%
Kohl's Corp	KSS	7,594.56	0.03%	5.72%	11.00%	17.03%	0.0054%
Kansas City Southern	KSU	11,872.58	0.05%	1.22%	12.00%	13.29%	0.0065%
Loews Corp	L	16,515.60	0.07%	0.46%	12.00%	12.49%	0.0085%
L Brands Inc	LB	6,601.92	0.03%	5.02%	-4.00%	0.92%	0.0003%
Leggett & Platt Inc	LEG	5,031.54	0.02%	4.17%	9.00%	13.36%	0.0028%
Lennar Corp	LEN	17,040.97	0.07%	0.30%	8.50%	8.81%	0.0062%
Laboratory Corp of America Holdings	LH	16,580.61	0.07%	0.00%	8.00%	8.00%	0.0055%
Linde PLC	LIN	110,009.40	N/A	1.85%	N/A	N/A	N/A
LKQ Corp	LKQ	8,373.69	0.03%	0.00%	10.00%	10.00%	0.0035%
L3 Technologies Inc	LLL	20,547.94	0.09%	1.31%	7.00%	8.36%	0.0071%
Eli Lilly & Co	LLY	112,189.20	0.46%	2.23%	11.50%	13.86%	0.0644%
Lockheed Martin Corp	LMT	102,505.10	0.42%	2.54%	11.50%	14.19%	0.0603%
Lincoln National Corp	LNC	12,976.96	0.05%	2.38%	9.00%	11.49%	0.0062%
Alliant Energy Corp	LNT	11,864.95	0.05%	2.84%	6.50%	9.43%	0.0046%
Lowe's Cos Inc	LOW	80,644.80	0.33%	2.17%	11.50%	13.79%	0.0461%
Lam Research Corp	LRCX	27,573.03	0.11%	2.39%	11.00%	13.52%	0.0155%
Southwest Airlines Co	LUV	27,978.71	0.12%	1.40%	11.00%	12.48%	0.0145%
Lamb Weston Holdings Inc	LW	8,979.13	N/A	1.30%	N/A	N/A	N/A
LyondellBasell Industries NV	LYB	32,066.53	0.13%	4.85%	5.50%	10.48%	0.0139%
Macy's Inc	M	6,770.47	0.03%	6.89%	3.50%	10.51%	0.0029%
Mastercard Inc	MA	273,192.90	1.13%	0.50%	16.00%	16.54%	0.1873%
Mid-America Apartment Communities Inc	MAA	13,659.00	0.06%	3.20%	-3.00%	0.15%	0.0001%
Macerich Co/The	MAC	4,815.67	0.02%	8.92%	3.00%	12.05%	0.0024%
Marriott International Inc/MD	MAR	45,682.76	0.19%	1.40%	12.50%	13.99%	0.0265%
Masco Corp	MAS	11,348.61	0.05%	1.29%	10.50%	11.86%	0.0056%
McDonald's Corp	MCD	156,620.60	0.65%	2.34%	8.50%	10.94%	0.0710%
Microchip Technology Inc	MCHP	20,332.95	0.08%	1.76%	10.50%	12.35%	0.0104%
McKesson Corp	MCK	25,814.40	0.11%	1.16%	9.00%	10.21%	0.0109%
Moody's Corp	MCO	38,799.60	0.16%	1.01%	11.00%	12.07%	0.0194%
Mondelez International Inc	MDLZ	80,076.86	0.33%	1.98%	8.50%	10.56%	0.0351%

Company	Ticker	Market		Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
		Capitalization	Weight in Index				
Medtronic PLC	MDT	133,067.30	0.55%	2.11%	7.50%	9.69%	0.0534%
MetLife Inc	MET	46,900.93	0.19%	3.57%	7.50%	11.20%	0.0218%
MGM Resorts International	MGM	15,045.74	0.06%	1.86%	22.50%	24.57%	0.0153%
Mohawk Industries Inc	MHK	10,751.05	0.04%	0.00%	3.50%	3.50%	0.0016%
McCormick & Co Inc/MD	MKC	20,589.29	0.09%	1.48%	8.50%	10.04%	0.0086%
Martin Marietta Materials Inc	MLM	14,021.68	0.06%	0.88%	9.00%	9.92%	0.0058%
Marsh & McLennan Cos Inc	MMC	49,419.05	0.20%	1.87%	9.50%	11.46%	0.0235%
3M Co	MMM	100,263.70	0.42%	3.31%	8.50%	11.95%	0.0497%
Monster Beverage Corp	MNST	34,526.11	0.14%	0.00%	13.50%	13.50%	0.0193%
Altria Group Inc	MO	94,074.36	0.39%	6.37%	8.50%	15.14%	0.0590%
Mosaic Co/The	MOS	9,116.17	0.04%	0.89%	22.00%	22.99%	0.0087%
Marathon Petroleum Corp	MPC	34,650.65	0.14%	4.08%	11.50%	15.81%	0.0227%
Merck & Co Inc	MRK	218,527.80	0.91%	2.60%	8.50%	11.21%	0.1015%
Marathon Oil Corp	MRO	11,570.20	N/A	1.84%	N/A	N/A	N/A
Morgan Stanley	MS	73,273.38	0.30%	2.76%	10.00%	12.90%	0.0392%
MSCI Inc	MSCI	20,105.23	0.08%	1.06%	18.50%	19.66%	0.0164%
Microsoft Corp	MSFT	1,049,859.00	4.35%	1.34%	13.50%	14.93%	0.6496%
Motorola Solutions Inc	MSI	27,498.53	0.11%	1.37%	10.50%	11.94%	0.0136%
M&T Bank Corp	MTB	22,654.86	0.09%	2.41%	9.50%	12.02%	0.0113%
Mettler-Toledo International Inc	MTD	20,372.94	0.08%	0.00%	10.00%	10.00%	0.0084%
Micron Technology Inc	MU	40,228.70	0.17%	0.00%	11.50%	11.50%	0.0192%
Maxim Integrated Products Inc	MXIM	15,893.27	0.07%	3.15%	8.00%	11.28%	0.0074%
Mylan NV	MYL	9,404.59	0.04%	0.00%	6.50%	6.50%	0.0025%
Noble Energy Inc	NBL	10,505.25	N/A	2.21%	N/A	N/A	N/A
Norwegian Cruise Line Holdings Ltd	NCLH	11,320.69	0.05%	0.00%	16.00%	16.00%	0.0075%
Nasdaq Inc	NDAQ	16,195.62	0.07%	1.92%	8.00%	10.00%	0.0067%
NextEra Energy Inc	NEE	98,856.02	0.41%	2.50%	10.00%	12.63%	0.0517%
Newmont Goldcorp Corp	NEM	20,180.46	0.08%	1.49%	2.50%	4.01%	0.0034%
Netflix Inc	NFLX	159,666.90	0.66%	0.00%	32.00%	32.00%	0.2117%
NiSource Inc	NI	10,973.75	0.05%	2.72%	12.50%	15.39%	0.0070%
NIKE Inc	NKE	134,082.50	0.56%	1.03%	14.50%	15.60%	0.0867%
Nektar Therapeutics	NKTR	6,165.93	N/A	0.00%	N/A	N/A	N/A
Nielsen Holdings PLC	NLSN	8,336.34	0.03%	5.97%	45.50%	52.83%	0.0183%
Northrop Grumman Corp	NOC	55,008.60	0.23%	1.63%	9.50%	11.21%	0.0255%
National Oilwell Varco Inc	NOV	8,382.44	N/A	0.92%	N/A	N/A	N/A
NRG Energy Inc	NRG	9,374.53	N/A	0.34%	N/A	N/A	N/A
Norfolk Southern Corp	NSC	52,211.98	0.22%	1.75%	15.00%	16.88%	0.0365%
NetApp Inc	NTAP	15,479.49	0.06%	3.06%	18.50%	21.84%	0.0140%
Northern Trust Corp	NTRS	18,663.63	0.08%	2.80%	8.50%	11.42%	0.0088%
Nucor Corp	NUE	16,400.53	0.07%	2.97%	13.00%	16.16%	0.0110%
NVIDIA Corp	NVDA	93,846.91	0.39%	0.42%	11.50%	11.94%	0.0465%
Newell Brands Inc	NWL	6,376.12	0.03%	6.11%	4.50%	10.75%	0.0028%
News Corp	NWSA	7,933.62	N/A	1.48%	N/A	N/A	N/A
Realty Income Corp	O	22,261.25	0.09%	3.75%	4.50%	8.33%	0.0077%
ONEOK Inc	OKE	27,968.14	0.12%	5.42%	16.00%	21.85%	0.0253%
Omnicom Group Inc	OMC	17,774.16	0.07%	3.28%	6.50%	9.89%	0.0073%
Oracle Corp	ORCL	196,216.60	0.81%	1.69%	10.00%	11.77%	0.0957%
O'Reilly Automotive Inc	ORLY	29,416.34	0.12%	0.00%	12.00%	12.00%	0.0146%
Occidental Petroleum Corp	OXY	38,366.14	0.16%	6.14%	27.50%	34.48%	0.0548%
Paychex Inc	PAYX	31,469.06	0.13%	2.83%	10.50%	13.48%	0.0176%
People's United Financial Inc	PBCT	6,525.14	0.03%	4.34%	9.00%	13.54%	0.0037%
PACCAR Inc	PCAR	25,027.69	0.10%	4.57%	7.50%	12.24%	0.0127%
Public Service Enterprise Group Inc	PEG	30,809.52	0.13%	3.11%	6.00%	9.20%	0.0118%
PepsiCo Inc	PEP	188,068.30	0.78%	2.85%	6.50%	9.44%	0.0736%
Pfizer Inc	PFE	242,285.20	1.00%	3.30%	11.00%	14.48%	0.1454%
Principal Financial Group Inc	PFJ	16,057.70	0.07%	3.74%	5.50%	9.34%	0.0062%
Procter & Gamble Co/The	PG	280,280.80	1.16%	2.67%	8.50%	11.28%	0.1311%
Progressive Corp/The	PGR	47,812.08	0.20%	0.49%	15.50%	16.03%	0.0318%
Parker-Hannifin Corp	PH	22,075.28	0.09%	2.05%	11.50%	13.67%	0.0125%
PulteGroup Inc	PHM	9,074.59	0.04%	1.38%	8.00%	9.44%	0.0035%
Packaging Corp of America	PKG	8,939.70	0.04%	3.34%	6.00%	9.44%	0.0035%
PerkinElmer Inc	PKI	10,652.19	0.04%	0.29%	11.00%	11.31%	0.0050%
Prologis Inc	PLD	51,930.72	0.22%	2.62%	6.50%	9.21%	0.0198%
Philip Morris International Inc	PM	120,153.50	0.50%	5.91%	7.00%	13.12%	0.0653%
PNC Financial Services Group Inc/The	PNC	60,070.80	0.25%	2.86%	8.00%	10.97%	0.0273%
Pentair PLC	PNR	6,390.95	0.03%	1.94%	6.50%	8.50%	0.0023%
Pinnacle West Capital Corp	PNW	11,066.02	0.05%	3.08%	5.00%	8.16%	0.0037%
PPG Industries Inc	PPG	27,191.75	0.11%	1.67%	7.50%	9.23%	0.0104%
PPL Corp	PPL	22,752.04	0.09%	5.23%	1.50%	6.77%	0.0064%
Perrigo Co PLC	PRGO	5,913.28	0.02%	1.93%	2.50%	4.45%	0.0011%
Prudential Financial Inc	PRU	40,787.96	0.17%	4.00%	7.00%	11.14%	0.0188%
Public Storage	PSA	42,223.29	0.17%	3.46%	5.50%	9.06%	0.0158%
Phillips 66	PSX	41,196.04	0.17%	4.07%	10.00%	14.27%	0.0244%
PVH Corp	PVH	6,792.65	0.03%	0.17%	9.50%	9.68%	0.0027%
Quanta Services Inc	PWR	5,578.10	0.02%	0.41%	15.50%	15.94%	0.0037%
Pioneer Natural Resources Co	PXD	25,994.25	0.11%	0.42%	37.50%	38.00%	0.0409%
PayPal Holdings Inc	PYPL	139,221.90	0.58%	0.00%	19.00%	19.00%	0.1096%
QUALCOMM Inc	QCOM	88,306.37	0.37%	3.41%	10.50%	14.09%	0.0516%
Qorvo Inc	QRVO	7,975.38	N/A	0.00%	N/A	N/A	N/A
Royal Caribbean Cruises Ltd	RCL	24,881.97	0.10%	2.36%	12.50%	15.01%	0.0155%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Everest Re Group Ltd	RE	10,297.12	0.04%	2.30%	9.00%	11.40%	0.0049%
Regency Centers Corp	REG	11,736.56	0.05%	3.35%	16.00%	19.62%	0.0095%
Regeneron Pharmaceuticals Inc	REGN	34,506.72	0.14%	0.00%	10.00%	10.00%	0.0143%
Regions Financial Corp	RF	14,788.84	0.06%	3.97%	10.50%	14.68%	0.0090%
Robert Half International Inc	RHI	6,782.16	0.03%	2.20%	9.50%	11.80%	0.0033%
Red Hat Inc	RHT	33,282.79	0.14%	0.00%	15.50%	15.50%	0.0214%
Raymond James Financial Inc	RJF	11,332.02	0.05%	1.74%	10.00%	11.83%	0.0056%
Ralph Lauren Corp	RL	8,974.47	0.04%	2.39%	7.50%	9.98%	0.0037%
ResMed Inc	RMD	17,670.26	0.07%	1.20%	14.50%	15.79%	0.0116%
Rockwell Automation Inc	ROK	19,298.92	0.08%	2.40%	9.50%	12.01%	0.0096%
Rollins Inc	ROL	12,436.31	0.05%	1.11%	13.00%	14.18%	0.0073%
Roper Technologies Inc	ROP	38,172.99	0.16%	0.50%	11.50%	12.03%	0.0190%
Ross Stores Inc	ROST	38,195.24	0.16%	1.00%	11.00%	12.06%	0.0191%
Republic Services Inc	RSG	30,799.44	0.13%	1.81%	11.50%	13.41%	0.0171%
Raytheon Co	RTN	50,999.20	0.21%	2.07%	10.00%	12.17%	0.0257%
SBA Communications Corp	SBAC	26,453.74	0.11%	0.00%	28.50%	28.50%	0.0312%
Starbucks Corp	SBUX	102,474.90	0.42%	1.89%	13.50%	15.52%	0.0659%
Charles Schwab Corp/The	SCHW	53,416.07	0.22%	1.70%	12.00%	13.80%	0.0306%
Sealed Air Corp	SEE	6,801.73	0.03%	1.47%	22.50%	24.14%	0.0068%
Sherwin-Williams Co/The	SHW	43,541.76	0.18%	0.96%	10.50%	11.51%	0.0208%
SVB Financial Group	SIVB	11,214.70	0.05%	0.00%	19.50%	19.50%	0.0091%
JM Smucker Co/The	SJM	13,781.18	0.06%	2.86%	5.50%	8.44%	0.0048%
Schlumberger Ltd	SLB	52,980.92	0.22%	5.23%	24.00%	29.86%	0.0656%
SL Green Realty Corp	SLG	7,292.64	0.03%	4.04%	4.00%	8.12%	0.0025%
Snap-on Inc	SNA	9,307.15	0.04%	2.34%	7.00%	9.42%	0.0036%
Synopsys Inc	SNPS	18,552.95	0.08%	0.00%	10.00%	10.00%	0.0077%
Southern Co/The	SO	58,277.38	0.24%	4.46%	3.50%	8.04%	0.0194%
Simon Property Group Inc	SPG	50,940.13	0.21%	5.28%	5.50%	10.93%	0.0231%
S&P Global Inc	SPGI	56,918.01	0.24%	0.99%	13.00%	14.05%	0.0332%
Sempra Energy	SRE	38,447.68	0.16%	2.82%	11.00%	13.98%	0.0223%
SunTrust Banks Inc	STI	27,763.12	0.12%	3.20%	10.00%	13.36%	0.0154%
State Street Corp	STT	20,874.11	0.09%	3.50%	6.00%	9.61%	0.0083%
Seagate Technology PLC	STX	12,794.63	0.05%	5.46%	6.00%	11.62%	0.0062%
Constellation Brands Inc	STZ	35,264.59	0.15%	1.64%	9.50%	11.22%	0.0164%
Stanley Black & Decker Inc	SWK	22,178.22	0.09%	1.85%	9.50%	11.44%	0.0105%
Skyworks Solutions Inc	SWKS	13,097.57	0.05%	2.00%	7.50%	9.58%	0.0052%
Synchrony Financial	SYF	23,585.81	0.10%	2.57%	10.00%	12.70%	0.0124%
Stryker Corp	SYK	75,988.09	0.31%	1.02%	15.00%	16.10%	0.0507%
Symantec Corp	SYMC	13,137.84	0.05%	1.46%	9.00%	10.53%	0.0057%
Sysco Corp	SYU	36,086.83	0.15%	2.20%	12.00%	14.33%	0.0214%
AT&T Inc	T	237,451.70	0.98%	6.33%	5.50%	12.00%	0.1181%
Molson Coors Brewing Co	TAP	11,897.67	0.05%	3.18%	5.50%	8.77%	0.0043%
TransDigm Group Inc	TDG	26,396.66	0.11%	0.00%	11.00%	11.00%	0.0120%
TE Connectivity Ltd	TEL	32,361.33	0.13%	1.92%	8.50%	10.50%	0.0141%
Teleflex Inc	TFX	15,845.63	0.07%	0.41%	15.00%	15.44%	0.0101%
Target Corp	TGT	44,166.42	0.18%	3.06%	8.00%	11.18%	0.0205%
Tiffany & Co	TIF	11,668.97	0.05%	2.50%	10.50%	13.13%	0.0063%
TJX Cos Inc/The	TJX	65,277.92	0.27%	1.71%	13.50%	15.33%	0.0415%
Torchmark Corp	TMK	9,824.09	0.04%	0.77%	10.00%	10.81%	0.0044%
Thermo Fisher Scientific Inc	TMO	117,330.40	0.49%	0.26%	10.00%	10.27%	0.0499%
Tapestry Inc	TPR	8,958.29	0.04%	4.37%	12.00%	16.63%	0.0062%
TripAdvisor Inc	TRIP	6,498.25	0.03%	0.00%	18.00%	18.00%	0.0048%
T Rowe Price Group Inc	TROW	25,910.58	0.11%	2.81%	10.00%	12.95%	0.0139%
Travelers Cos Inc/The	TRV	39,858.56	0.17%	2.16%	9.00%	11.26%	0.0186%
Tractor Supply Co	TSCO	12,884.36	0.05%	1.31%	11.50%	12.89%	0.0069%
Tyson Foods Inc	TSN	28,699.95	0.12%	1.97%	6.50%	8.53%	0.0101%
Total System Services Inc	TSS	22,951.28	0.10%	0.40%	10.00%	10.42%	0.0099%
Take-Two Interactive Software Inc	TTWO	12,512.67	0.05%	0.00%	28.00%	28.00%	0.0145%
Twitter Inc	TWTR	27,214.84	N/A	0.00%	N/A	N/A	N/A
Texas Instruments Inc	TXN	105,812.00	0.44%	2.73%	6.00%	8.81%	0.0386%
Textron Inc	TXT	12,213.02	0.05%	0.15%	13.00%	13.16%	0.0067%
Under Armour Inc	UAA	11,985.43	0.05%	0.00%	12.00%	12.00%	0.0060%
United Continental Holdings Inc	UAL	23,028.57	0.10%	0.00%	8.50%	8.50%	0.0081%
UDR Inc	UDR	12,829.42	0.05%	2.94%	1.50%	4.46%	0.0024%
Universal Health Services Inc	UHS	11,209.81	0.05%	0.32%	11.00%	11.34%	0.0053%
Ultra Beauty Inc	ULTA	20,994.07	0.09%	0.00%	19.00%	19.00%	0.0165%
UnitedHealth Group Inc	UNH	236,115.30	0.98%	1.74%	13.50%	15.36%	0.1503%
Unum Group	UNM	6,960.99	0.03%	3.48%	9.00%	12.64%	0.0036%
Union Pacific Corp	UNP	118,616.80	0.49%	2.10%	14.50%	16.75%	0.0823%
United Parcel Service Inc	UPS	89,027.40	0.37%	3.71%	8.50%	12.37%	0.0456%
United Rentals Inc	URI	10,304.80	0.04%	0.00%	14.50%	14.50%	0.0062%
US Bancorp	USB	83,405.77	0.35%	3.01%	6.00%	9.10%	0.0315%
United Technologies Corp	UTX	112,123.70	0.46%	2.26%	9.00%	11.36%	0.0528%
Visa Inc	V	347,132.50	1.44%	0.62%	15.00%	15.67%	0.2254%
Varian Medical Systems Inc	VAR	12,436.03	0.05%	0.00%	10.00%	10.00%	0.0052%
VF Corp	VFC	35,042.77	0.15%	2.30%	10.00%	12.42%	0.0180%
Viacom Inc	VIAB	12,385.34	0.05%	2.61%	6.00%	8.69%	0.0045%
Valero Energy Corp	VLO	33,273.93	0.14%	4.51%	11.50%	16.27%	0.0224%
Vulcan Materials Co	VMC	17,658.95	0.07%	0.93%	14.00%	15.00%	0.0110%
Vornado Realty Trust	VNO	12,880.18	0.05%	3.91%	-3.50%	0.34%	0.0002%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Verisk Analytics Inc	VRSK	23,894.98	0.10%	0.69%	9.50%	10.22%	0.0101%
VeriSign Inc	VRSN	25,193.89	0.10%	0.00%	10.50%	10.50%	0.0110%
Vertex Pharmaceuticals Inc	VRTX	46,699.46	0.19%	0.00%	50.00%	50.00%	0.0968%
Ventas Inc	VTR	25,587.61	0.11%	4.50%	3.00%	7.57%	0.0080%
Verizon Communications Inc	VZ	237,141.40	0.98%	4.27%	4.00%	8.36%	0.0821%
Wabtec Corp	WAB	11,770.11	0.05%	0.66%	13.50%	14.20%	0.0069%
Waters Corp	WAT	14,856.91	0.06%	0.00%	10.50%	10.50%	0.0065%
Walgreens Boots Alliance Inc	WBA	52,439.30	0.22%	3.33%	9.50%	12.99%	0.0282%
WellCare Health Plans Inc	WCG	14,852.17	0.06%	0.00%	21.50%	21.50%	0.0132%
Western Digital Corp	WDC	11,614.52	0.05%	5.05%	0.50%	5.56%	0.0027%
WEC Energy Group Inc	WEC	26,935.25	0.11%	2.85%	6.00%	8.94%	0.0100%
Welltower Inc	WELL	30,687.01	0.13%	4.15%	8.00%	12.32%	0.0157%
Wells Fargo & Co	WFC	206,917.90	0.86%	4.01%	5.00%	9.11%	0.0781%
Whirlpool Corp	WHR	8,898.12	0.04%	3.40%	6.50%	10.01%	0.0037%
Willis Towers Watson PLC	WLTW	24,759.41	0.10%	1.36%	16.50%	17.97%	0.0184%
Waste Management Inc	WM	49,293.82	0.20%	1.77%	8.00%	9.84%	0.0201%
Williams Cos Inc/The	WMB	34,053.18	0.14%	5.56%	20.00%	26.12%	0.0369%
Walmart Inc	WMT	315,735.90	1.31%	1.94%	7.00%	9.01%	0.1179%
Westrock Co	WRK	9,376.85	0.04%	4.99%	9.50%	14.73%	0.0057%
Western Union Co/The	WU	8,610.38	0.04%	4.02%	6.00%	10.14%	0.0036%
Weyerhaeuser Co	WY	19,781.01	0.08%	5.12%	17.50%	23.07%	0.0189%
Wynn Resorts Ltd	WYNN	13,182.97	0.05%	3.27%	18.00%	21.56%	0.0118%
Cimarex Energy Co	XEC	5,770.12	0.02%	1.41%	18.00%	19.54%	0.0047%
Xcel Energy Inc	XEL	31,554.29	0.13%	2.69%	5.50%	8.26%	0.0108%
Xilinx Inc	XLNX	29,053.10	0.12%	1.29%	11.50%	12.86%	0.0155%
Exxon Mobil Corp	XOM	324,144.10	1.34%	4.54%	14.50%	19.37%	0.2602%
DENTSPLY SIRONA Inc	XRAY	12,852.83	0.05%	0.61%	3.00%	3.62%	0.0019%
Xerox Corp	XRX	8,026.27	0.03%	2.82%	10.50%	13.47%	0.0045%
Xylem Inc/NY	XYL	14,985.67	0.06%	1.15%	14.00%	15.23%	0.0095%
Yum! Brands Inc	YUM	33,849.72	0.14%	1.57%	12.00%	13.66%	0.0192%
Zimmer Biomet Holdings Inc	ZBH	24,516.61	0.10%	0.82%	4.50%	5.34%	0.0054%
Zions Bancorp NA	ZION	8,103.58	0.03%	2.84%	10.00%	12.98%	0.0044%
Zoetis Inc	ZTS	54,115.57	0.22%	0.58%	13.00%	13.62%	0.0305%
Total Market Capitalization:		24,130,896.91					14.78%

Notes:

[1] Equals sum of Col. [9]

[2] Source: Bloomberg Professional

[3] Equals [1] - [2]

[4] Source: Value Line

[5] Equals weight in S&P 500 based on market capitalization

[6] Source: Value Line

[7] Source: Value Line

[8] Equals ([6] x (1 + (0.5 x [7]))) + [7]

[9] Equals Col. [5] x Col. [8]

EXHIBIT RBH-R-4

Bloomberg and Value Line Beta Coefficients

Company	Ticker	[1]	[2]
		Bloomberg	Value Line
Atmos Energy Corporation	ATO	0.501	0.650
Chesapeake Utilities Corporation	CPK	0.614	0.650
New Jersey Resources Corporation	NJR	0.624	0.700
Northwest Natural Holding Company	NWN	0.558	0.600
ONE Gas, Inc.	OGS	0.535	0.650
South Jersey Industries, Inc.	SJI	0.708	0.800
Spire Inc.	SR	0.479	0.650
Southwest Gas Corporation	SWX	0.582	0.700
Mean		0.575	0.675

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line

EXHIBIT RBH-R-5

Capital Asset Pricing Model Results
Bloomberg and Value Line Derived Market Risk Premium

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
			Ex-Ante Market Risk Premium		CAPM Result		ECAPM Result	
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg Market DCF Derived	Value Line Market DCF Derived
PROXY GROUP AVERAGE BLOOMBERG BETA COEFFICIENT								
Current 30-Year Treasury [9]	2.63%	0.575	12.25%	12.15%	9.68%	9.62%	10.98%	10.91%
Near Term Projected 30-Year Treasury [10]	2.70%	0.575	12.25%	12.15%	9.75%	9.69%	11.05%	10.98%
Long Term Projected 30-Year Treasury [11]	3.70%	0.575	12.25%	12.15%	10.75%	10.69%	12.05%	11.98%
Mean					10.06%	10.00%	11.36%	11.29%

			Ex-Ante Market Risk Premium		CAPM Result		ECAPM Result	
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg Market DCF Derived	Value Line Market DCF Derived
PROXY GROUP AVERAGE VALUE LINE AVERAGE BETA COEFFICIENT								
Current 30-Year Treasury [9]	2.63%	0.675	12.25%	12.15%	10.90%	10.83%	11.89%	11.82%
Near Term Projected 30-Year Treasury [10]	2.70%	0.675	12.25%	12.15%	10.97%	10.90%	11.96%	11.89%
Long Term Projected 30-Year Treasury [11]	3.70%	0.675	12.25%	12.15%	11.97%	11.90%	12.96%	12.89%
Mean					11.28%	11.21%	12.27%	12.20%

Notes:

[1] See Notes [9], [10], and [11]

[2] Source: Exhibit RBH-R-4

[3] Source: Exhibit RBH-R-3

[4] Source: Exhibit RBH-R-3

[5] Equals Col. [1] + (Col. [2] x Col. [3])

[6] Equals Col. [1] + (Col. [2] x Col. [4])

[7] Equals Col. [1] + (0.75 x Col. [2] x Col. [3]) + (0.25 x Col. [3])

[8] Equals Col. [1] + (0.75 x Col. [2] x Col. [4]) + (0.25 x Col. [4])

[9] Source: Bloomberg Professional

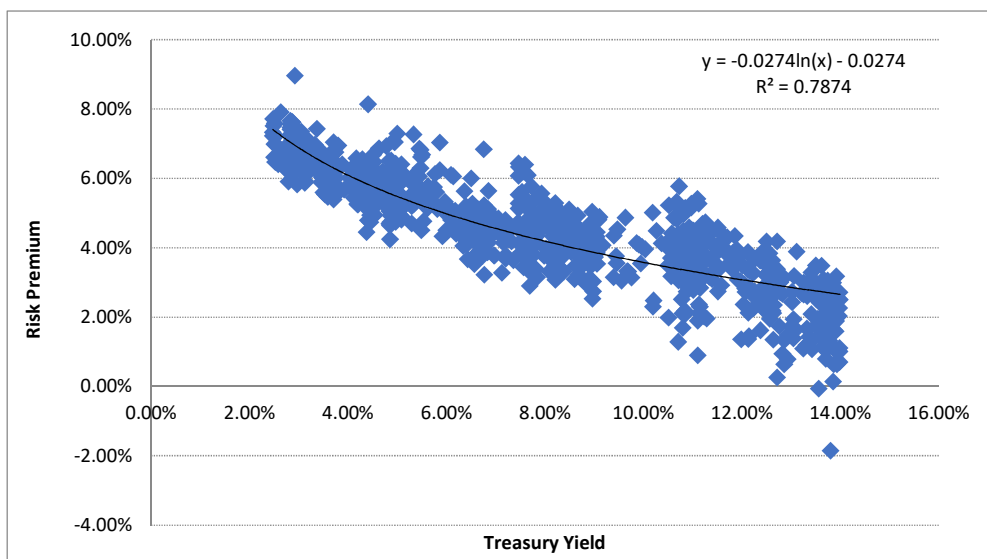
[10] Source: Blue Chip Financial Forecasts, Vol. 38, No. 7, July 1, 2019, at 2.

[11] Source: Blue Chip Financial Forecasts, Vol. 38, No. 6, June 1, 2019, at 14.

EXHIBIT RBH-R-6

Bond Yield Plus Risk Premium

[1]	[2]	[3]	[4]	[5]
Constant	Slope	30-Year Treasury Yield	Risk Premium	Return on Equity
-2.74%	-2.74%			
Current 30-Year Treasury		2.63%	7.24%	9.87%
Near Term Projected 30-Year Treasury		2.70%	7.17%	9.87%
Long Term Projected 30-Year Treasury		3.70%	6.31%	10.01%



Notes:

[1] Constant of regression equation

[2] Slope of regression equation

[3] Source: Current = Bloomberg Professional

Near Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 7, July 1, 2019, at 2.

Long Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 6, June 1 2019, at 14.

[4] Equals [1] + $\ln([3]) \times [2]$

[5] Equals [3] + [4]

[6] Source: S&P Global Market Intelligence

[7] Source: S&P Global Market Intelligence

[8] Source: Bloomberg Professional, equals 186-trading day average (i.e. lag period)

[9] Equals [7] - [8]

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
1/3/1980	12.55%	9.40%	3.15%
1/4/1980	13.75%	9.40%	4.35%
1/14/1980	13.20%	9.45%	3.75%
1/18/1980	14.00%	9.48%	4.52%
1/31/1980	12.61%	9.56%	3.05%
2/8/1980	14.50%	9.63%	4.87%
2/14/1980	13.00%	9.68%	3.32%
2/15/1980	13.00%	9.69%	3.31%
2/29/1980	14.00%	9.86%	4.14%
3/5/1980	14.00%	9.91%	4.09%
3/7/1980	13.50%	9.95%	3.55%
3/14/1980	14.00%	10.04%	3.96%
3/27/1980	12.69%	10.21%	2.48%
4/1/1980	14.75%	10.27%	4.48%
4/29/1980	12.50%	10.51%	1.99%
5/7/1980	14.27%	10.56%	3.71%
5/8/1980	13.75%	10.57%	3.18%
5/19/1980	15.50%	10.63%	4.87%
5/27/1980	14.60%	10.66%	3.94%
5/29/1980	16.00%	10.68%	5.32%
6/10/1980	13.78%	10.72%	3.06%
6/25/1980	14.25%	10.74%	3.51%
7/9/1980	14.51%	10.78%	3.73%
7/17/1980	12.90%	10.79%	2.11%
7/18/1980	13.80%	10.80%	3.00%
7/22/1980	14.10%	10.80%	3.30%
7/23/1980	14.19%	10.79%	3.40%
8/1/1980	12.50%	10.80%	1.70%
8/11/1980	14.85%	10.82%	4.03%
8/21/1980	13.03%	10.85%	2.18%
8/28/1980	13.61%	10.88%	2.73%
8/28/1980	14.00%	10.88%	3.12%
9/4/1980	14.00%	10.90%	3.10%
9/24/1980	15.00%	10.99%	4.01%
10/9/1980	14.50%	11.06%	3.44%
10/9/1980	14.50%	11.06%	3.44%
10/24/1980	14.00%	11.09%	2.91%
10/27/1980	15.20%	11.10%	4.10%
10/27/1980	15.20%	11.10%	4.10%
10/28/1980	12.00%	11.10%	0.90%
10/28/1980	13.00%	11.10%	1.90%
10/31/1980	14.50%	11.12%	3.38%
11/4/1980	15.00%	11.12%	3.88%
11/6/1980	14.35%	11.13%	3.22%
11/10/1980	13.25%	11.14%	2.11%
11/17/1980	15.50%	11.14%	4.36%
11/19/1980	13.50%	11.13%	2.37%
12/5/1980	14.60%	11.13%	3.47%
12/8/1980	16.40%	11.13%	5.27%
12/12/1980	15.45%	11.14%	4.31%
12/17/1980	14.20%	11.15%	3.05%
12/17/1980	14.40%	11.15%	3.25%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/18/1980	14.00%	11.16%	2.84%
12/22/1980	13.45%	11.15%	2.30%
12/26/1980	14.00%	11.14%	2.86%
12/30/1980	14.50%	11.13%	3.37%
12/31/1980	14.56%	11.13%	3.43%
1/7/1981	14.30%	11.13%	3.17%
1/12/1981	14.95%	11.14%	3.81%
1/26/1981	15.25%	11.20%	4.05%
1/30/1981	13.25%	11.24%	2.01%
2/11/1981	14.50%	11.34%	3.16%
2/20/1981	14.50%	11.40%	3.10%
3/12/1981	15.65%	11.61%	4.04%
3/25/1981	15.30%	11.75%	3.55%
4/1/1981	15.30%	11.83%	3.47%
4/9/1981	15.00%	11.92%	3.08%
4/29/1981	13.50%	12.13%	1.37%
4/29/1981	14.25%	12.13%	2.12%
4/30/1981	13.60%	12.15%	1.45%
4/30/1981	15.00%	12.15%	2.85%
5/21/1981	14.00%	12.38%	1.62%
6/3/1981	14.67%	12.46%	2.21%
6/22/1981	16.00%	12.58%	3.42%
6/25/1981	14.75%	12.61%	2.14%
7/2/1981	14.00%	12.65%	1.35%
7/10/1981	16.00%	12.70%	3.30%
7/14/1981	16.90%	12.72%	4.18%
7/21/1981	15.78%	12.78%	3.00%
7/27/1981	13.77%	12.83%	0.94%
7/27/1981	15.50%	12.83%	2.67%
7/31/1981	13.50%	12.87%	0.63%
7/31/1981	14.20%	12.87%	1.33%
8/12/1981	13.72%	12.94%	0.78%
8/12/1981	13.72%	12.94%	0.78%
8/12/1981	14.41%	12.94%	1.47%
8/25/1981	15.45%	13.02%	2.43%
8/27/1981	14.43%	13.05%	1.38%
8/28/1981	15.00%	13.06%	1.94%
9/23/1981	14.34%	13.25%	1.09%
9/24/1981	16.25%	13.26%	2.99%
9/29/1981	14.50%	13.31%	1.19%
9/30/1981	15.94%	13.33%	2.61%
10/2/1981	14.80%	13.37%	1.43%
10/12/1981	16.25%	13.43%	2.82%
10/20/1981	15.25%	13.51%	1.74%
10/20/1981	16.50%	13.51%	2.99%
10/20/1981	17.00%	13.51%	3.49%
10/23/1981	15.50%	13.55%	1.95%
10/26/1981	13.50%	13.56%	-0.06%
10/29/1981	16.50%	13.60%	2.90%
11/4/1981	15.33%	13.63%	1.70%
11/6/1981	15.17%	13.64%	1.53%
11/12/1981	15.00%	13.65%	1.35%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
11/25/1981	15.25%	13.66%	1.59%
11/25/1981	16.10%	13.66%	2.44%
11/25/1981	16.10%	13.66%	2.44%
11/30/1981	16.75%	13.66%	3.09%
12/1/1981	15.70%	13.66%	2.04%
12/1/1981	16.00%	13.66%	2.34%
12/15/1981	15.81%	13.70%	2.11%
12/17/1981	14.75%	13.71%	1.04%
12/22/1981	15.70%	13.72%	1.98%
12/22/1981	16.00%	13.72%	2.28%
12/30/1981	16.00%	13.75%	2.25%
12/30/1981	16.25%	13.75%	2.50%
1/4/1982	15.50%	13.75%	1.75%
1/14/1982	11.95%	13.81%	-1.86%
1/25/1982	16.25%	13.84%	2.41%
1/27/1982	16.84%	13.85%	2.99%
1/31/1982	14.00%	13.86%	0.14%
2/2/1982	16.24%	13.86%	2.38%
2/8/1982	15.50%	13.88%	1.62%
2/9/1982	14.95%	13.88%	1.07%
2/9/1982	15.75%	13.88%	1.87%
2/11/1982	16.00%	13.89%	2.11%
3/1/1982	15.96%	13.91%	2.05%
3/3/1982	15.00%	13.92%	1.08%
3/8/1982	17.10%	13.92%	3.18%
3/26/1982	16.00%	13.97%	2.03%
3/31/1982	16.25%	13.98%	2.27%
4/1/1982	16.50%	13.98%	2.52%
4/6/1982	15.00%	13.99%	1.01%
4/9/1982	16.50%	13.99%	2.51%
4/12/1982	15.10%	13.99%	1.11%
4/12/1982	16.70%	13.99%	2.71%
4/18/1982	14.70%	13.99%	0.71%
4/27/1982	15.00%	13.97%	1.03%
5/10/1982	14.57%	13.94%	0.63%
5/14/1982	15.80%	13.92%	1.88%
5/20/1982	15.82%	13.91%	1.91%
5/21/1982	15.50%	13.90%	1.60%
5/25/1982	16.25%	13.89%	2.36%
6/2/1982	14.50%	13.86%	0.64%
6/7/1982	16.00%	13.85%	2.15%
6/23/1982	15.50%	13.81%	1.69%
6/25/1982	16.50%	13.81%	2.69%
7/1/1982	15.55%	13.79%	1.76%
7/1/1982	16.00%	13.79%	2.21%
7/2/1982	15.10%	13.78%	1.32%
7/13/1982	16.80%	13.75%	3.05%
7/22/1982	14.50%	13.71%	0.79%
7/28/1982	16.10%	13.67%	2.43%
7/30/1982	14.82%	13.66%	1.16%
8/4/1982	15.58%	13.64%	1.94%
8/6/1982	16.50%	13.63%	2.87%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
8/11/1982	17.11%	13.62%	3.49%
8/25/1982	16.00%	13.59%	2.41%
8/30/1982	16.25%	13.58%	2.67%
9/3/1982	15.50%	13.57%	1.93%
9/9/1982	16.04%	13.55%	2.49%
9/15/1982	16.04%	13.52%	2.52%
9/17/1982	15.25%	13.51%	1.74%
9/29/1982	14.50%	13.43%	1.07%
9/30/1982	14.74%	13.42%	1.32%
9/30/1982	15.50%	13.42%	2.08%
9/30/1982	16.50%	13.42%	3.08%
9/30/1982	16.70%	13.42%	3.28%
10/1/1982	16.50%	13.40%	3.10%
10/8/1982	15.00%	13.33%	1.67%
10/15/1982	15.90%	13.25%	2.65%
10/19/1982	15.90%	13.22%	2.68%
10/27/1982	17.00%	13.12%	3.88%
10/28/1982	14.75%	13.10%	1.65%
11/2/1982	16.25%	13.07%	3.18%
11/4/1982	15.75%	13.02%	2.73%
11/5/1982	14.73%	13.00%	1.73%
11/17/1982	16.00%	12.86%	3.14%
11/23/1982	15.50%	12.79%	2.71%
11/24/1982	14.50%	12.77%	1.73%
11/24/1982	16.02%	12.77%	3.25%
11/30/1982	12.98%	12.72%	0.26%
11/30/1982	15.50%	12.72%	2.78%
11/30/1982	15.50%	12.72%	2.78%
11/30/1982	15.65%	12.72%	2.93%
11/30/1982	16.00%	12.72%	3.28%
11/30/1982	16.10%	12.72%	3.38%
12/3/1982	15.33%	12.68%	2.65%
12/8/1982	15.75%	12.63%	3.12%
12/13/1982	16.00%	12.58%	3.42%
12/14/1982	16.40%	12.56%	3.84%
12/17/1982	16.25%	12.52%	3.73%
12/20/1982	15.00%	12.50%	2.50%
12/21/1982	15.70%	12.49%	3.21%
12/28/1982	15.25%	12.42%	2.83%
12/28/1982	15.25%	12.42%	2.83%
12/29/1982	16.25%	12.40%	3.85%
12/29/1982	16.25%	12.40%	3.85%
1/11/1983	15.90%	12.25%	3.65%
1/12/1983	15.50%	12.24%	3.26%
1/18/1983	15.00%	12.18%	2.82%
1/24/1983	15.50%	12.13%	3.37%
1/24/1983	16.00%	12.13%	3.87%
1/28/1983	14.90%	12.07%	2.83%
1/31/1983	15.00%	12.06%	2.94%
2/10/1983	15.00%	11.97%	3.03%
2/25/1983	15.70%	11.83%	3.87%
3/2/1983	15.25%	11.78%	3.47%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
3/16/1983	16.00%	11.61%	4.39%
3/21/1983	14.96%	11.55%	3.41%
3/23/1983	15.40%	11.52%	3.88%
3/23/1983	16.10%	11.52%	4.58%
3/24/1983	15.00%	11.50%	3.50%
4/12/1983	13.25%	11.29%	1.96%
4/29/1983	15.05%	11.08%	3.97%
5/3/1983	15.40%	11.05%	4.35%
5/9/1983	15.50%	10.99%	4.51%
5/19/1983	14.85%	10.89%	3.96%
5/31/1983	14.00%	10.83%	3.17%
6/2/1983	14.50%	10.81%	3.69%
6/7/1983	14.50%	10.79%	3.71%
6/9/1983	14.85%	10.78%	4.07%
6/20/1983	14.15%	10.73%	3.42%
6/20/1983	16.50%	10.73%	5.77%
6/27/1983	14.50%	10.71%	3.79%
6/30/1983	14.80%	10.70%	4.10%
6/30/1983	15.90%	10.70%	5.20%
7/1/1983	14.80%	10.69%	4.11%
7/5/1983	15.00%	10.69%	4.31%
7/8/1983	15.50%	10.69%	4.81%
7/19/1983	15.00%	10.70%	4.30%
7/19/1983	15.10%	10.70%	4.40%
8/18/1983	15.30%	10.81%	4.49%
8/19/1983	15.79%	10.82%	4.97%
8/29/1983	16.00%	10.85%	5.15%
8/31/1983	14.75%	10.87%	3.88%
8/31/1983	15.25%	10.87%	4.38%
9/8/1983	14.75%	10.90%	3.85%
9/16/1983	15.51%	10.93%	4.58%
9/26/1983	14.50%	10.96%	3.54%
9/28/1983	14.25%	10.97%	3.28%
9/30/1983	16.15%	10.98%	5.17%
9/30/1983	16.25%	10.98%	5.27%
10/1/1983	16.25%	10.98%	5.27%
10/13/1983	15.52%	11.02%	4.50%
10/19/1983	15.20%	11.04%	4.16%
10/26/1983	14.75%	11.07%	3.68%
10/27/1983	14.88%	11.07%	3.81%
10/27/1983	15.33%	11.07%	4.26%
11/9/1983	14.82%	11.10%	3.72%
11/9/1983	16.51%	11.10%	5.41%
11/9/1983	16.51%	11.10%	5.41%
12/1/1983	14.50%	11.17%	3.33%
12/8/1983	15.90%	11.21%	4.69%
12/9/1983	15.30%	11.21%	4.09%
12/12/1983	14.50%	11.22%	3.28%
12/12/1983	15.50%	11.22%	4.28%
12/20/1983	15.40%	11.26%	4.14%
12/20/1983	16.00%	11.26%	4.74%
12/22/1983	15.75%	11.27%	4.48%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/29/1983	15.00%	11.30%	3.70%
12/30/1983	15.00%	11.30%	3.70%
1/10/1984	15.90%	11.34%	4.56%
1/13/1984	15.50%	11.37%	4.13%
1/18/1984	15.53%	11.39%	4.14%
1/26/1984	15.90%	11.42%	4.48%
2/14/1984	14.25%	11.52%	2.73%
2/28/1984	14.50%	11.59%	2.91%
3/20/1984	16.00%	11.70%	4.30%
3/23/1984	15.50%	11.73%	3.77%
4/9/1984	15.20%	11.81%	3.39%
4/18/1984	16.20%	11.86%	4.34%
4/27/1984	15.85%	11.90%	3.95%
5/15/1984	13.35%	11.99%	1.36%
5/16/1984	15.00%	12.00%	3.00%
5/22/1984	14.40%	12.04%	2.36%
6/13/1984	15.50%	12.19%	3.31%
7/10/1984	16.00%	12.37%	3.63%
8/7/1984	16.69%	12.51%	4.18%
8/9/1984	15.33%	12.52%	2.81%
8/17/1984	14.82%	12.54%	2.28%
8/21/1984	14.64%	12.55%	2.09%
8/27/1984	14.52%	12.57%	1.95%
8/28/1984	14.75%	12.57%	2.18%
8/30/1984	15.60%	12.58%	3.02%
9/12/1984	15.60%	12.60%	3.00%
9/12/1984	15.90%	12.60%	3.30%
9/25/1984	16.25%	12.62%	3.63%
10/2/1984	14.80%	12.63%	2.17%
10/9/1984	14.75%	12.64%	2.11%
10/10/1984	15.50%	12.64%	2.86%
10/18/1984	15.00%	12.65%	2.35%
10/24/1984	15.50%	12.65%	2.85%
11/7/1984	15.00%	12.64%	2.36%
11/20/1984	15.92%	12.63%	3.29%
11/30/1984	15.50%	12.60%	2.90%
12/18/1984	15.00%	12.55%	2.45%
12/20/1984	15.00%	12.54%	2.46%
12/28/1984	15.75%	12.51%	3.24%
12/28/1984	16.25%	12.51%	3.74%
1/2/1985	16.00%	12.50%	3.50%
1/31/1985	14.75%	12.37%	2.38%
2/7/1985	14.85%	12.32%	2.53%
2/15/1985	15.00%	12.26%	2.74%
2/20/1985	14.50%	12.24%	2.26%
2/22/1985	14.86%	12.24%	2.62%
3/14/1985	15.50%	12.15%	3.35%
3/28/1985	14.80%	12.08%	2.72%
4/9/1985	15.50%	12.01%	3.49%
4/16/1985	15.70%	11.96%	3.74%
6/10/1985	15.75%	11.58%	4.17%
6/26/1985	14.82%	11.46%	3.36%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
7/9/1985	15.00%	11.38%	3.62%
7/26/1985	14.50%	11.26%	3.24%
8/29/1985	14.50%	11.11%	3.39%
8/30/1985	14.38%	11.10%	3.28%
9/12/1985	15.25%	11.07%	4.18%
9/23/1985	15.30%	11.03%	4.27%
9/25/1985	14.50%	11.02%	3.48%
9/26/1985	13.80%	11.01%	2.79%
9/26/1985	14.50%	11.01%	3.49%
10/25/1985	15.25%	10.91%	4.34%
11/8/1985	12.94%	10.85%	2.09%
11/20/1985	14.90%	10.81%	4.09%
11/25/1985	13.30%	10.79%	2.51%
12/6/1985	12.00%	10.71%	1.29%
12/11/1985	14.90%	10.67%	4.23%
12/20/1985	14.88%	10.58%	4.30%
12/20/1985	15.00%	10.58%	4.42%
12/20/1985	15.00%	10.58%	4.42%
12/30/1985	15.75%	10.52%	5.23%
12/31/1985	14.00%	10.51%	3.49%
12/31/1985	14.50%	10.51%	3.99%
1/17/1986	14.50%	10.37%	4.13%
2/11/1986	12.50%	10.20%	2.30%
2/12/1986	15.20%	10.19%	5.01%
3/11/1986	14.00%	9.97%	4.03%
4/2/1986	12.90%	9.76%	3.14%
4/28/1986	13.01%	9.46%	3.55%
5/21/1986	13.25%	9.17%	4.08%
5/28/1986	14.00%	9.11%	4.89%
5/29/1986	13.90%	9.10%	4.80%
6/2/1986	13.00%	9.07%	3.93%
6/11/1986	14.00%	8.96%	5.04%
6/13/1986	13.55%	8.93%	4.62%
6/27/1986	11.88%	8.76%	3.12%
7/14/1986	12.60%	8.57%	4.03%
7/30/1986	13.30%	8.37%	4.93%
8/14/1986	13.50%	8.21%	5.29%
9/5/1986	13.30%	8.01%	5.29%
9/23/1986	12.75%	7.90%	4.85%
10/30/1986	13.00%	7.66%	5.34%
10/31/1986	13.75%	7.65%	6.10%
11/10/1986	14.00%	7.60%	6.40%
11/19/1986	13.75%	7.56%	6.19%
11/25/1986	13.15%	7.54%	5.61%
12/22/1986	13.80%	7.47%	6.33%
12/30/1986	13.90%	7.47%	6.43%
1/20/1987	12.75%	7.47%	5.28%
1/23/1987	13.55%	7.47%	6.08%
1/27/1987	12.16%	7.47%	4.69%
2/13/1987	12.60%	7.47%	5.13%
2/24/1987	12.00%	7.47%	4.53%
3/30/1987	12.20%	7.46%	4.74%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
3/31/1987	13.00%	7.47%	5.53%
5/5/1987	12.85%	7.60%	5.25%
5/28/1987	13.50%	7.73%	5.77%
6/15/1987	13.20%	7.81%	5.39%
6/30/1987	12.60%	7.85%	4.75%
7/10/1987	12.90%	7.88%	5.02%
7/27/1987	13.50%	7.94%	5.56%
8/25/1987	11.40%	8.09%	3.31%
9/18/1987	13.00%	8.28%	4.72%
10/20/1987	12.60%	8.55%	4.05%
10/20/1987	12.98%	8.55%	4.43%
11/12/1987	12.75%	8.68%	4.07%
11/13/1987	12.75%	8.69%	4.06%
11/24/1987	12.50%	8.74%	3.76%
12/8/1987	12.50%	8.82%	3.68%
12/22/1987	12.00%	8.91%	3.09%
12/31/1987	12.85%	8.95%	3.90%
12/31/1987	13.25%	8.95%	4.30%
1/15/1988	13.15%	8.99%	4.16%
1/20/1988	12.75%	8.99%	3.76%
1/29/1988	13.20%	8.99%	4.21%
2/4/1988	12.60%	8.99%	3.61%
3/23/1988	13.00%	8.95%	4.05%
5/27/1988	13.18%	9.02%	4.16%
6/14/1988	13.50%	9.00%	4.50%
6/17/1988	11.72%	8.98%	2.74%
6/24/1988	11.50%	8.97%	2.53%
7/1/1988	12.75%	8.94%	3.81%
7/8/1988	12.00%	8.93%	3.07%
7/18/1988	12.00%	8.90%	3.10%
7/20/1988	13.40%	8.89%	4.51%
8/8/1988	12.74%	8.90%	3.84%
9/20/1988	12.90%	8.93%	3.97%
9/26/1988	12.40%	8.93%	3.47%
9/27/1988	13.65%	8.93%	4.72%
9/30/1988	13.25%	8.94%	4.31%
10/13/1988	13.10%	8.93%	4.17%
10/21/1988	12.80%	8.94%	3.86%
10/25/1988	13.25%	8.94%	4.31%
10/26/1988	13.50%	8.94%	4.56%
10/27/1988	12.95%	8.95%	4.00%
10/28/1988	13.00%	8.95%	4.05%
11/15/1988	12.00%	8.98%	3.02%
11/29/1988	12.75%	9.02%	3.73%
12/19/1988	13.00%	9.05%	3.95%
12/21/1988	12.90%	9.05%	3.85%
12/22/1988	13.50%	9.06%	4.44%
1/26/1989	12.60%	9.06%	3.54%
1/27/1989	13.00%	9.06%	3.94%
2/8/1989	13.37%	9.05%	4.32%
3/8/1989	13.00%	9.04%	3.96%
5/4/1989	13.00%	9.04%	3.96%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
6/8/1989	13.50%	8.96%	4.54%
7/19/1989	11.80%	8.84%	2.96%
7/25/1989	12.80%	8.82%	3.98%
7/31/1989	13.00%	8.81%	4.19%
8/14/1989	12.50%	8.76%	3.74%
8/22/1989	12.80%	8.73%	4.07%
8/23/1989	12.90%	8.72%	4.18%
9/21/1989	12.10%	8.62%	3.48%
10/6/1989	13.00%	8.57%	4.43%
10/17/1989	12.41%	8.54%	3.87%
10/18/1989	13.25%	8.54%	4.71%
10/20/1989	12.90%	8.53%	4.37%
10/31/1989	13.60%	8.49%	5.11%
11/3/1989	12.93%	8.48%	4.45%
11/5/1989	13.20%	8.48%	4.72%
11/9/1989	12.60%	8.45%	4.15%
11/9/1989	13.00%	8.45%	4.55%
11/28/1989	12.75%	8.37%	4.38%
12/7/1989	13.25%	8.32%	4.93%
12/15/1989	13.00%	8.27%	4.73%
12/20/1989	12.90%	8.25%	4.65%
12/21/1989	12.80%	8.25%	4.55%
12/21/1989	12.90%	8.25%	4.65%
12/27/1989	12.50%	8.23%	4.27%
1/9/1990	13.00%	8.19%	4.81%
1/18/1990	12.50%	8.16%	4.34%
1/26/1990	12.10%	8.14%	3.96%
3/21/1990	12.80%	8.15%	4.65%
3/28/1990	13.00%	8.16%	4.84%
4/5/1990	12.20%	8.17%	4.03%
4/12/1990	13.25%	8.19%	5.06%
4/30/1990	12.45%	8.24%	4.21%
5/31/1990	12.40%	8.31%	4.09%
6/15/1990	13.20%	8.33%	4.87%
6/27/1990	12.90%	8.34%	4.56%
6/29/1990	13.25%	8.35%	4.90%
7/6/1990	12.10%	8.36%	3.74%
7/19/1990	11.70%	8.39%	3.31%
8/31/1990	12.50%	8.53%	3.97%
8/31/1990	12.50%	8.53%	3.97%
9/13/1990	12.50%	8.58%	3.92%
9/18/1990	12.75%	8.60%	4.15%
9/20/1990	12.50%	8.61%	3.89%
10/2/1990	13.00%	8.65%	4.35%
10/17/1990	11.90%	8.68%	3.22%
10/31/1990	12.95%	8.70%	4.25%
11/9/1990	13.25%	8.71%	4.54%
11/19/1990	13.00%	8.70%	4.30%
11/21/1990	12.10%	8.70%	3.40%
11/21/1990	12.50%	8.70%	3.80%
11/28/1990	12.75%	8.70%	4.05%
11/29/1990	12.75%	8.70%	4.05%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/18/1990	13.10%	8.68%	4.42%
12/20/1990	12.50%	8.67%	3.83%
12/21/1990	12.50%	8.67%	3.83%
12/21/1990	13.00%	8.67%	4.33%
12/21/1990	13.60%	8.67%	4.93%
1/3/1991	13.02%	8.66%	4.36%
1/16/1991	13.25%	8.63%	4.62%
1/25/1991	11.70%	8.60%	3.10%
2/15/1991	12.70%	8.56%	4.14%
2/15/1991	12.80%	8.56%	4.24%
4/3/1991	13.00%	8.51%	4.49%
4/30/1991	12.45%	8.47%	3.98%
4/30/1991	13.00%	8.47%	4.53%
6/25/1991	11.70%	8.34%	3.36%
6/28/1991	12.50%	8.33%	4.17%
7/1/1991	11.70%	8.33%	3.37%
7/19/1991	12.10%	8.30%	3.80%
7/19/1991	12.30%	8.30%	4.00%
7/22/1991	12.90%	8.30%	4.60%
8/15/1991	12.25%	8.27%	3.98%
8/29/1991	13.30%	8.26%	5.04%
9/27/1991	12.50%	8.23%	4.27%
9/30/1991	12.40%	8.23%	4.17%
10/3/1991	11.30%	8.22%	3.08%
10/9/1991	11.70%	8.21%	3.49%
10/15/1991	13.40%	8.20%	5.20%
11/1/1991	12.90%	8.20%	4.70%
11/8/1991	12.75%	8.20%	4.55%
11/26/1991	11.60%	8.18%	3.42%
11/26/1991	12.00%	8.18%	3.82%
11/27/1991	12.70%	8.18%	4.52%
12/6/1991	12.70%	8.16%	4.54%
12/10/1991	11.75%	8.15%	3.60%
12/19/1991	12.60%	8.14%	4.46%
12/19/1991	12.80%	8.14%	4.66%
12/30/1991	12.10%	8.11%	3.99%
1/22/1992	12.84%	8.05%	4.79%
1/31/1992	12.00%	8.03%	3.97%
2/20/1992	13.00%	8.00%	5.00%
2/27/1992	11.75%	7.98%	3.77%
3/18/1992	12.50%	7.94%	4.56%
5/15/1992	12.75%	7.86%	4.89%
6/24/1992	12.20%	7.85%	4.35%
6/29/1992	11.00%	7.85%	3.15%
7/14/1992	12.00%	7.83%	4.17%
7/22/1992	11.20%	7.82%	3.38%
8/10/1992	12.10%	7.79%	4.31%
8/26/1992	12.43%	7.75%	4.68%
9/30/1992	11.60%	7.72%	3.88%
10/6/1992	12.25%	7.72%	4.53%
10/13/1992	12.75%	7.71%	5.04%
10/23/1992	11.65%	7.71%	3.94%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
10/28/1992	12.25%	7.71%	4.54%
10/29/1992	12.75%	7.70%	5.05%
10/30/1992	11.40%	7.70%	3.70%
11/9/1992	10.60%	7.70%	2.90%
11/25/1992	11.00%	7.67%	3.33%
11/25/1992	12.00%	7.67%	4.33%
12/3/1992	11.85%	7.66%	4.19%
12/16/1992	11.90%	7.63%	4.27%
12/22/1992	12.30%	7.62%	4.68%
12/22/1992	12.40%	7.62%	4.78%
12/30/1992	12.00%	7.61%	4.39%
12/31/1992	12.00%	7.60%	4.40%
1/12/1993	12.00%	7.58%	4.42%
1/12/1993	12.00%	7.58%	4.42%
2/2/1993	11.40%	7.53%	3.87%
2/22/1993	11.60%	7.47%	4.13%
4/23/1993	11.75%	7.27%	4.48%
5/3/1993	11.50%	7.25%	4.25%
5/3/1993	11.75%	7.25%	4.50%
6/3/1993	12.00%	7.20%	4.80%
6/7/1993	11.50%	7.20%	4.30%
6/22/1993	11.75%	7.16%	4.59%
7/21/1993	11.78%	7.06%	4.72%
7/21/1993	11.90%	7.06%	4.84%
7/23/1993	11.50%	7.05%	4.45%
7/29/1993	11.50%	7.03%	4.47%
8/12/1993	10.75%	6.97%	3.78%
8/24/1993	11.50%	6.91%	4.59%
8/31/1993	11.90%	6.88%	5.02%
9/1/1993	11.25%	6.87%	4.38%
9/1/1993	11.47%	6.87%	4.60%
9/27/1993	10.50%	6.74%	3.76%
9/29/1993	11.00%	6.72%	4.28%
9/30/1993	11.60%	6.71%	4.89%
10/8/1993	11.50%	6.67%	4.83%
10/14/1993	11.20%	6.65%	4.55%
10/15/1993	11.75%	6.64%	5.11%
10/25/1993	11.55%	6.60%	4.95%
10/28/1993	11.50%	6.58%	4.92%
10/29/1993	10.10%	6.57%	3.53%
10/29/1993	10.20%	6.57%	3.63%
10/29/1993	11.25%	6.57%	4.68%
11/2/1993	10.80%	6.56%	4.24%
11/12/1993	11.80%	6.53%	5.27%
11/23/1993	12.50%	6.50%	6.00%
11/26/1993	11.00%	6.50%	4.50%
12/1/1993	11.45%	6.49%	4.96%
12/16/1993	10.60%	6.45%	4.15%
12/16/1993	11.20%	6.45%	4.75%
12/21/1993	11.30%	6.44%	4.86%
12/22/1993	11.00%	6.44%	4.56%
12/23/1993	10.10%	6.43%	3.67%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
1/5/1994	11.50%	6.41%	5.09%
1/10/1994	11.00%	6.40%	4.60%
1/25/1994	12.00%	6.37%	5.63%
2/2/1994	10.40%	6.35%	4.05%
2/9/1994	10.70%	6.33%	4.37%
4/6/1994	11.24%	6.34%	4.90%
4/25/1994	11.00%	6.39%	4.61%
6/16/1994	10.50%	6.64%	3.86%
6/23/1994	10.60%	6.68%	3.92%
7/19/1994	10.70%	6.84%	3.86%
9/29/1994	10.90%	7.21%	3.69%
9/29/1994	11.00%	7.21%	3.79%
10/7/1994	11.87%	7.26%	4.61%
10/18/1994	11.50%	7.32%	4.18%
10/18/1994	11.50%	7.32%	4.18%
10/24/1994	11.00%	7.36%	3.64%
11/22/1994	12.12%	7.53%	4.59%
11/29/1994	11.30%	7.55%	3.75%
12/1/1994	11.00%	7.57%	3.43%
12/8/1994	11.50%	7.59%	3.91%
12/8/1994	11.70%	7.59%	4.11%
12/12/1994	11.82%	7.60%	4.22%
12/14/1994	11.50%	7.61%	3.89%
12/19/1994	11.50%	7.62%	3.88%
4/19/1995	11.00%	7.72%	3.28%
9/11/1995	11.30%	7.16%	4.14%
9/15/1995	10.40%	7.13%	3.27%
9/29/1995	11.50%	7.06%	4.44%
10/13/1995	10.76%	6.98%	3.78%
11/7/1995	12.50%	6.86%	5.64%
11/8/1995	11.10%	6.85%	4.25%
11/8/1995	11.30%	6.85%	4.45%
11/17/1995	10.90%	6.80%	4.10%
11/20/1995	11.40%	6.80%	4.60%
11/27/1995	13.60%	6.76%	6.84%
12/14/1995	11.30%	6.67%	4.63%
12/20/1995	11.60%	6.64%	4.96%
1/31/1996	11.30%	6.45%	4.85%
3/11/1996	11.60%	6.40%	5.20%
4/3/1996	11.13%	6.40%	4.73%
4/15/1996	10.50%	6.40%	4.10%
4/17/1996	10.77%	6.40%	4.37%
4/26/1996	10.60%	6.40%	4.20%
5/10/1996	11.00%	6.40%	4.60%
5/13/1996	11.25%	6.40%	4.85%
7/3/1996	11.25%	6.49%	4.76%
7/22/1996	11.25%	6.54%	4.71%
10/3/1996	10.00%	6.77%	3.23%
10/29/1996	11.30%	6.85%	4.45%
11/26/1996	11.30%	6.86%	4.44%
11/27/1996	11.30%	6.86%	4.44%
11/29/1996	11.00%	6.86%	4.14%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/12/1996	11.96%	6.85%	5.11%
12/17/1996	11.50%	6.85%	4.65%
1/22/1997	11.30%	6.83%	4.47%
1/27/1997	11.25%	6.83%	4.42%
1/31/1997	11.25%	6.83%	4.42%
2/13/1997	11.00%	6.82%	4.18%
2/13/1997	11.80%	6.82%	4.98%
2/20/1997	11.80%	6.81%	4.99%
3/27/1997	10.75%	6.79%	3.96%
4/29/1997	11.70%	6.81%	4.89%
7/17/1997	12.00%	6.77%	5.23%
10/29/1997	10.75%	6.70%	4.05%
10/31/1997	11.25%	6.70%	4.55%
12/24/1997	10.75%	6.53%	4.22%
4/28/1998	10.90%	6.10%	4.80%
4/30/1998	12.20%	6.10%	6.10%
6/30/1998	11.00%	5.94%	5.06%
8/26/1998	10.93%	5.82%	5.11%
9/3/1998	11.40%	5.80%	5.60%
9/15/1998	11.90%	5.77%	6.13%
10/7/1998	11.06%	5.70%	5.36%
10/30/1998	11.40%	5.63%	5.77%
12/10/1998	12.20%	5.51%	6.69%
12/17/1998	12.10%	5.49%	6.61%
2/19/1999	11.15%	5.31%	5.84%
3/1/1999	10.65%	5.31%	5.34%
3/1/1999	10.65%	5.31%	5.34%
6/8/1999	11.25%	5.36%	5.89%
11/12/1999	10.25%	5.92%	4.33%
12/14/1999	10.50%	6.00%	4.50%
1/28/2000	10.71%	6.16%	4.55%
2/17/2000	10.60%	6.20%	4.40%
5/25/2000	10.80%	6.20%	4.60%
6/19/2000	11.05%	6.18%	4.87%
6/22/2000	11.25%	6.18%	5.07%
7/17/2000	11.06%	6.15%	4.91%
7/20/2000	12.20%	6.14%	6.06%
8/11/2000	11.00%	6.11%	4.89%
9/27/2000	11.25%	6.00%	5.25%
9/29/2000	11.16%	5.99%	5.17%
10/5/2000	11.30%	5.98%	5.32%
11/28/2000	12.90%	5.87%	7.03%
11/30/2000	12.10%	5.86%	6.24%
2/5/2001	11.50%	5.75%	5.75%
3/15/2001	11.25%	5.66%	5.59%
5/8/2001	10.75%	5.61%	5.14%
10/24/2001	10.30%	5.54%	4.76%
10/24/2001	11.00%	5.54%	5.46%
1/9/2002	10.00%	5.50%	4.50%
1/30/2002	11.00%	5.47%	5.53%
1/31/2002	11.00%	5.47%	5.53%
4/17/2002	11.50%	5.44%	6.06%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
4/29/2002	11.00%	5.44%	5.56%
6/11/2002	11.77%	5.47%	6.30%
6/20/2002	12.30%	5.48%	6.82%
8/28/2002	11.00%	5.49%	5.51%
9/11/2002	11.20%	5.45%	5.75%
9/12/2002	12.30%	5.45%	6.85%
10/28/2002	11.30%	5.34%	5.96%
10/30/2002	10.60%	5.34%	5.26%
11/1/2002	12.60%	5.34%	7.26%
11/7/2002	11.40%	5.33%	6.07%
11/8/2002	10.75%	5.33%	5.42%
11/20/2002	10.00%	5.30%	4.70%
11/20/2002	10.50%	5.30%	5.20%
12/4/2002	10.75%	5.26%	5.49%
12/30/2002	11.20%	5.18%	6.02%
1/6/2003	11.25%	5.16%	6.09%
2/28/2003	12.30%	5.00%	7.30%
3/7/2003	9.96%	4.98%	4.98%
3/12/2003	11.40%	4.97%	6.43%
3/20/2003	12.00%	4.95%	7.05%
4/3/2003	12.00%	4.92%	7.08%
5/2/2003	11.40%	4.88%	6.52%
5/15/2003	11.05%	4.87%	6.18%
6/26/2003	11.00%	4.80%	6.20%
7/1/2003	11.00%	4.80%	6.20%
7/29/2003	11.71%	4.78%	6.93%
8/22/2003	10.20%	4.81%	5.39%
9/17/2003	9.90%	4.85%	5.05%
9/25/2003	10.25%	4.85%	5.40%
10/17/2003	10.54%	4.87%	5.67%
10/22/2003	10.46%	4.87%	5.59%
10/22/2003	10.71%	4.87%	5.84%
10/30/2003	11.00%	4.88%	6.12%
10/31/2003	10.20%	4.88%	5.32%
10/31/2003	10.75%	4.88%	5.87%
11/10/2003	10.60%	4.89%	5.71%
12/9/2003	10.50%	4.93%	5.57%
12/18/2003	10.50%	4.94%	5.56%
12/19/2003	12.00%	4.94%	7.06%
12/19/2003	12.00%	4.94%	7.06%
1/13/2004	10.25%	4.95%	5.30%
1/13/2004	12.00%	4.95%	7.05%
2/9/2004	11.25%	4.99%	6.26%
3/16/2004	10.90%	5.05%	5.85%
3/16/2004	10.90%	5.05%	5.85%
5/25/2004	10.00%	5.06%	4.94%
6/2/2004	11.22%	5.07%	6.15%
6/30/2004	10.50%	5.10%	5.40%
7/8/2004	10.00%	5.10%	4.90%
7/22/2004	10.25%	5.10%	5.15%
8/26/2004	10.50%	5.10%	5.40%
8/26/2004	10.50%	5.10%	5.40%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
9/9/2004	10.40%	5.10%	5.30%
9/21/2004	10.50%	5.09%	5.41%
9/27/2004	10.30%	5.09%	5.21%
9/27/2004	10.50%	5.09%	5.41%
10/20/2004	10.20%	5.08%	5.12%
11/30/2004	10.60%	5.08%	5.52%
12/8/2004	9.90%	5.09%	4.81%
12/21/2004	11.50%	5.09%	6.41%
12/22/2004	11.50%	5.09%	6.41%
12/28/2004	10.25%	5.09%	5.16%
2/18/2005	10.30%	4.95%	5.35%
3/29/2005	11.00%	4.86%	6.14%
4/13/2005	10.60%	4.83%	5.77%
4/28/2005	11.00%	4.80%	6.20%
5/17/2005	10.00%	4.76%	5.24%
6/8/2005	10.18%	4.71%	5.47%
6/10/2005	10.90%	4.71%	6.19%
7/6/2005	10.50%	4.65%	5.85%
7/19/2005	11.50%	4.63%	6.87%
8/11/2005	10.40%	4.60%	5.80%
9/19/2005	9.45%	4.53%	4.92%
9/30/2005	10.51%	4.52%	5.99%
10/4/2005	9.90%	4.52%	5.38%
10/4/2005	10.75%	4.52%	6.23%
10/14/2005	10.40%	4.51%	5.89%
10/31/2005	10.25%	4.53%	5.72%
11/2/2005	9.70%	4.53%	5.17%
11/30/2005	10.00%	4.53%	5.47%
12/9/2005	9.70%	4.53%	5.17%
12/12/2005	11.00%	4.53%	6.47%
12/20/2005	10.13%	4.52%	5.61%
12/21/2005	10.40%	4.52%	5.88%
12/21/2005	11.00%	4.52%	6.48%
12/22/2005	10.20%	4.52%	5.68%
12/22/2005	11.00%	4.52%	6.48%
12/28/2005	10.00%	4.52%	5.48%
1/5/2006	11.00%	4.52%	6.48%
1/25/2006	11.20%	4.52%	6.68%
1/25/2006	11.20%	4.52%	6.68%
2/3/2006	10.50%	4.52%	5.98%
2/15/2006	9.50%	4.53%	4.97%
4/26/2006	10.60%	4.65%	5.95%
7/24/2006	9.60%	4.87%	4.73%
7/24/2006	10.00%	4.87%	5.13%
9/20/2006	11.00%	4.93%	6.07%
9/26/2006	10.75%	4.94%	5.81%
10/20/2006	9.80%	4.96%	4.84%
11/2/2006	9.71%	4.97%	4.74%
11/9/2006	10.00%	4.98%	5.02%
11/21/2006	11.00%	4.98%	6.02%
12/5/2006	10.20%	4.97%	5.23%
1/5/2007	10.40%	4.95%	5.45%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
1/9/2007	11.00%	4.94%	6.06%
1/11/2007	10.90%	4.94%	5.96%
1/19/2007	10.80%	4.93%	5.87%
1/26/2007	10.00%	4.92%	5.08%
2/8/2007	10.40%	4.91%	5.49%
3/14/2007	10.10%	4.85%	5.25%
3/20/2007	10.25%	4.84%	5.41%
3/21/2007	11.35%	4.84%	6.51%
3/22/2007	10.50%	4.84%	5.66%
3/29/2007	10.00%	4.83%	5.17%
6/13/2007	10.75%	4.82%	5.93%
6/29/2007	9.53%	4.84%	4.69%
6/29/2007	10.10%	4.84%	5.26%
7/3/2007	10.25%	4.85%	5.40%
7/13/2007	9.50%	4.86%	4.64%
7/24/2007	10.40%	4.87%	5.53%
8/1/2007	10.15%	4.88%	5.27%
8/29/2007	10.50%	4.91%	5.59%
9/10/2007	9.71%	4.92%	4.79%
9/19/2007	10.00%	4.91%	5.09%
9/25/2007	9.70%	4.92%	4.78%
10/8/2007	10.48%	4.92%	5.56%
10/19/2007	10.50%	4.91%	5.59%
10/25/2007	9.65%	4.91%	4.74%
11/15/2007	10.00%	4.89%	5.11%
11/20/2007	9.90%	4.89%	5.01%
11/27/2007	10.00%	4.89%	5.11%
11/29/2007	10.90%	4.88%	6.02%
12/14/2007	10.80%	4.87%	5.93%
12/18/2007	10.40%	4.86%	5.54%
12/19/2007	9.80%	4.86%	4.94%
12/19/2007	9.80%	4.86%	4.94%
12/19/2007	10.20%	4.86%	5.34%
12/21/2007	9.10%	4.86%	4.24%
1/8/2008	10.75%	4.83%	5.92%
1/17/2008	10.75%	4.81%	5.94%
1/17/2008	10.75%	4.81%	5.94%
2/5/2008	9.99%	4.77%	5.22%
2/5/2008	10.19%	4.77%	5.42%
2/13/2008	10.20%	4.76%	5.44%
3/31/2008	10.00%	4.63%	5.37%
5/28/2008	10.50%	4.53%	5.97%
6/24/2008	10.00%	4.52%	5.48%
6/27/2008	10.00%	4.52%	5.48%
7/31/2008	10.70%	4.50%	6.20%
7/31/2008	10.82%	4.50%	6.32%
8/27/2008	10.25%	4.50%	5.75%
9/2/2008	10.25%	4.50%	5.75%
9/19/2008	10.70%	4.48%	6.22%
9/24/2008	10.68%	4.48%	6.20%
9/24/2008	10.68%	4.48%	6.20%
9/24/2008	10.68%	4.48%	6.20%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
9/30/2008	10.20%	4.48%	5.72%
10/3/2008	10.30%	4.48%	5.82%
10/8/2008	10.15%	4.47%	5.68%
10/20/2008	10.06%	4.47%	5.59%
10/24/2008	10.60%	4.46%	6.14%
10/24/2008	10.60%	4.46%	6.14%
11/21/2008	10.50%	4.42%	6.08%
11/21/2008	10.50%	4.42%	6.08%
11/21/2008	10.50%	4.42%	6.08%
11/24/2008	10.50%	4.41%	6.09%
12/3/2008	10.39%	4.38%	6.01%
12/24/2008	10.00%	4.26%	5.74%
12/26/2008	10.10%	4.24%	5.86%
12/29/2008	10.20%	4.23%	5.97%
1/13/2009	10.45%	4.14%	6.31%
2/2/2009	10.05%	4.03%	6.02%
3/9/2009	10.30%	3.89%	6.41%
3/25/2009	10.17%	3.83%	6.34%
4/2/2009	10.75%	3.80%	6.95%
5/5/2009	10.75%	3.71%	7.04%
5/15/2009	10.20%	3.70%	6.50%
5/29/2009	9.54%	3.70%	5.84%
6/3/2009	10.10%	3.70%	6.40%
6/22/2009	10.00%	3.73%	6.27%
6/29/2009	10.21%	3.73%	6.48%
6/30/2009	9.31%	3.74%	5.57%
7/17/2009	9.26%	3.75%	5.51%
7/17/2009	10.50%	3.75%	6.75%
10/16/2009	10.40%	4.09%	6.31%
10/26/2009	10.10%	4.11%	5.99%
10/28/2009	10.15%	4.12%	6.03%
10/28/2009	10.15%	4.12%	6.03%
10/30/2009	9.95%	4.13%	5.82%
11/20/2009	9.45%	4.19%	5.26%
12/14/2009	10.50%	4.25%	6.25%
12/16/2009	10.75%	4.26%	6.49%
12/17/2009	10.30%	4.26%	6.04%
12/18/2009	10.40%	4.27%	6.13%
12/18/2009	10.40%	4.27%	6.13%
12/18/2009	10.50%	4.27%	6.23%
12/22/2009	10.20%	4.28%	5.92%
12/22/2009	10.40%	4.28%	6.12%
12/28/2009	10.85%	4.30%	6.55%
12/29/2009	10.38%	4.30%	6.08%
1/11/2010	10.24%	4.34%	5.90%
1/21/2010	10.23%	4.37%	5.86%
1/21/2010	10.33%	4.37%	5.96%
1/26/2010	10.40%	4.37%	6.03%
2/10/2010	10.00%	4.39%	5.61%
2/23/2010	10.50%	4.40%	6.10%
3/9/2010	9.60%	4.40%	5.20%
3/24/2010	10.13%	4.42%	5.71%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
3/31/2010	10.70%	4.43%	6.27%
4/1/2010	9.50%	4.43%	5.07%
4/2/2010	10.10%	4.44%	5.66%
4/8/2010	10.35%	4.44%	5.91%
4/29/2010	9.19%	4.46%	4.73%
4/29/2010	9.40%	4.46%	4.94%
4/29/2010	9.40%	4.46%	4.94%
5/17/2010	10.55%	4.46%	6.09%
5/24/2010	10.05%	4.46%	5.59%
6/3/2010	11.00%	4.46%	6.54%
6/16/2010	10.00%	4.46%	5.54%
6/18/2010	10.30%	4.46%	5.84%
8/9/2010	12.55%	4.41%	8.14%
8/17/2010	10.10%	4.40%	5.70%
9/16/2010	9.60%	4.31%	5.29%
9/16/2010	10.00%	4.31%	5.69%
9/16/2010	10.00%	4.31%	5.69%
9/16/2010	10.30%	4.31%	5.99%
10/21/2010	10.40%	4.20%	6.20%
11/2/2010	9.75%	4.17%	5.58%
11/2/2010	9.75%	4.17%	5.58%
11/3/2010	10.75%	4.17%	6.58%
11/19/2010	10.20%	4.14%	6.06%
12/1/2010	10.00%	4.12%	5.88%
12/6/2010	9.56%	4.12%	5.44%
12/6/2010	10.09%	4.12%	5.97%
12/9/2010	10.25%	4.12%	6.13%
12/14/2010	10.33%	4.11%	6.22%
12/17/2010	10.10%	4.11%	5.99%
12/20/2010	10.10%	4.11%	5.99%
12/23/2010	9.92%	4.10%	5.82%
1/6/2011	10.35%	4.09%	6.26%
1/12/2011	10.30%	4.08%	6.22%
1/13/2011	10.30%	4.08%	6.22%
3/10/2011	10.10%	4.16%	5.94%
3/31/2011	9.45%	4.20%	5.25%
4/18/2011	10.05%	4.24%	5.81%
5/26/2011	10.50%	4.32%	6.18%
6/21/2011	10.00%	4.36%	5.64%
6/29/2011	8.83%	4.38%	4.45%
8/1/2011	9.20%	4.41%	4.79%
9/1/2011	10.10%	4.32%	5.78%
11/14/2011	9.60%	3.93%	5.67%
12/13/2011	9.50%	3.76%	5.74%
12/20/2011	10.00%	3.71%	6.29%
12/22/2011	10.40%	3.70%	6.70%
1/10/2012	9.06%	3.59%	5.47%
1/10/2012	9.45%	3.59%	5.86%
1/10/2012	9.45%	3.59%	5.86%
1/23/2012	10.20%	3.52%	6.68%
1/31/2012	10.00%	3.48%	6.52%
4/24/2012	9.50%	3.15%	6.35%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
4/24/2012	9.75%	3.15%	6.60%
5/7/2012	9.80%	3.13%	6.67%
5/22/2012	9.60%	3.10%	6.50%
5/24/2012	9.70%	3.09%	6.61%
6/7/2012	10.30%	3.06%	7.24%
6/15/2012	10.40%	3.05%	7.35%
6/18/2012	9.60%	3.05%	6.55%
7/2/2012	9.75%	3.04%	6.71%
10/24/2012	10.30%	2.92%	7.38%
10/26/2012	9.50%	2.92%	6.58%
10/31/2012	9.30%	2.91%	6.39%
10/31/2012	9.90%	2.91%	6.99%
10/31/2012	10.00%	2.91%	7.09%
11/1/2012	9.45%	2.91%	6.54%
11/8/2012	10.10%	2.91%	7.19%
11/9/2012	10.30%	2.90%	7.40%
11/26/2012	10.00%	2.88%	7.12%
11/28/2012	10.40%	2.88%	7.52%
11/28/2012	10.50%	2.88%	7.62%
12/4/2012	10.00%	2.87%	7.13%
12/4/2012	10.50%	2.87%	7.63%
12/20/2012	9.50%	2.84%	6.66%
12/20/2012	10.10%	2.84%	7.26%
12/20/2012	10.25%	2.84%	7.41%
12/20/2012	10.30%	2.84%	7.46%
12/20/2012	10.40%	2.84%	7.56%
12/20/2012	10.50%	2.84%	7.66%
12/26/2012	9.80%	2.83%	6.97%
2/22/2013	9.60%	2.86%	6.74%
3/14/2013	9.30%	2.89%	6.41%
3/27/2013	9.80%	2.92%	6.88%
4/23/2013	9.80%	2.96%	6.84%
5/10/2013	9.25%	2.96%	6.29%
6/13/2013	9.40%	3.02%	6.38%
6/18/2013	9.28%	3.02%	6.26%
6/18/2013	9.28%	3.02%	6.26%
6/25/2013	9.80%	3.04%	6.76%
9/23/2013	9.60%	3.33%	6.27%
11/6/2013	10.20%	3.42%	6.78%
11/13/2013	9.84%	3.44%	6.40%
11/14/2013	10.25%	3.45%	6.80%
11/22/2013	9.50%	3.47%	6.03%
12/5/2013	10.20%	3.50%	6.70%
12/13/2013	9.60%	3.52%	6.08%
12/16/2013	9.73%	3.53%	6.20%
12/17/2013	10.00%	3.53%	6.47%
12/18/2013	9.08%	3.54%	5.54%
12/23/2013	9.72%	3.55%	6.17%
12/30/2013	10.00%	3.58%	6.42%
1/21/2014	9.65%	3.66%	5.99%
1/22/2014	9.18%	3.66%	5.52%
2/20/2014	9.30%	3.72%	5.58%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
2/21/2014	9.85%	3.72%	6.13%
2/28/2014	9.55%	3.73%	5.82%
3/16/2014	9.72%	3.74%	5.98%
4/21/2014	9.50%	3.73%	5.77%
4/22/2014	9.80%	3.73%	6.07%
5/8/2014	9.10%	3.71%	5.39%
5/8/2014	9.59%	3.71%	5.88%
6/6/2014	10.40%	3.66%	6.74%
6/12/2014	10.10%	3.66%	6.44%
6/12/2014	10.10%	3.66%	6.44%
6/12/2014	10.10%	3.66%	6.44%
7/7/2014	9.30%	3.63%	5.67%
7/25/2014	9.30%	3.60%	5.70%
7/31/2014	9.90%	3.59%	6.31%
9/4/2014	9.10%	3.50%	5.60%
9/24/2014	9.35%	3.46%	5.89%
9/30/2014	9.75%	3.44%	6.31%
10/29/2014	10.80%	3.37%	7.43%
11/6/2014	10.20%	3.35%	6.85%
11/14/2014	10.20%	3.33%	6.87%
11/14/2014	10.30%	3.33%	6.97%
11/26/2014	10.20%	3.30%	6.90%
12/3/2014	10.00%	3.28%	6.72%
1/13/2015	10.30%	3.16%	7.14%
1/21/2015	9.05%	3.13%	5.92%
1/21/2015	9.05%	3.13%	5.92%
4/9/2015	9.50%	2.88%	6.62%
5/11/2015	9.80%	2.81%	6.99%
6/17/2015	9.00%	2.79%	6.21%
8/21/2015	9.75%	2.78%	6.97%
10/7/2015	9.55%	2.82%	6.73%
10/13/2015	9.75%	2.83%	6.92%
10/15/2015	9.00%	2.84%	6.16%
10/30/2015	9.80%	2.87%	6.93%
11/19/2015	10.00%	2.90%	7.10%
12/3/2015	10.00%	2.91%	7.09%
12/9/2015	9.60%	2.92%	6.68%
12/11/2015	9.90%	2.93%	6.97%
12/18/2015	9.50%	2.94%	6.56%
1/6/2016	9.50%	2.97%	6.53%
1/6/2016	9.50%	2.97%	6.53%
1/28/2016	9.40%	2.97%	6.43%
2/10/2016	9.60%	2.95%	6.65%
2/16/2016	9.50%	2.94%	6.56%
2/29/2016	9.40%	2.92%	6.48%
4/29/2016	9.80%	2.83%	6.97%
5/5/2016	9.49%	2.82%	6.67%
6/1/2016	9.55%	2.80%	6.75%
6/3/2016	9.65%	2.79%	6.86%
6/15/2016	9.00%	2.77%	6.23%
6/15/2016	9.00%	2.77%	6.23%
9/2/2016	9.50%	2.56%	6.94%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
9/23/2016	9.75%	2.51%	7.24%
9/27/2016	9.50%	2.51%	6.99%
9/29/2016	9.11%	2.50%	6.61%
10/13/2016	10.20%	2.48%	7.72%
10/28/2016	9.70%	2.47%	7.23%
11/9/2016	9.80%	2.47%	7.33%
11/18/2016	10.00%	2.49%	7.51%
12/9/2016	10.10%	2.51%	7.59%
12/15/2016	9.00%	2.52%	6.48%
12/15/2016	9.00%	2.52%	6.48%
12/20/2016	9.75%	2.53%	7.22%
12/22/2016	9.50%	2.54%	6.96%
1/24/2017	9.00%	2.59%	6.41%
2/21/2017	10.55%	2.63%	7.92%
3/1/2017	9.25%	2.65%	6.60%
4/11/2017	9.50%	2.77%	6.73%
4/20/2017	8.70%	2.79%	5.91%
4/28/2017	9.50%	2.82%	6.68%
5/23/2017	9.60%	2.88%	6.72%
6/6/2017	9.70%	2.91%	6.79%
6/22/2017	9.70%	2.94%	6.76%
6/30/2017	9.60%	2.95%	6.65%
7/20/2017	9.55%	2.97%	6.58%
7/31/2017	10.10%	2.98%	7.12%
9/13/2017	9.40%	2.93%	6.47%
9/19/2017	9.70%	2.92%	6.78%
9/22/2017	11.88%	2.92%	8.96%
9/27/2017	10.20%	2.92%	7.28%
10/20/2017	9.60%	2.90%	6.70%
10/26/2017	10.20%	2.90%	7.30%
10/30/2017	10.05%	2.90%	7.15%

[6]	[7]	[8]	[9]
Date of Natural Gas Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/5/2017	9.50%	2.86%	6.64%
12/7/2017	9.80%	2.85%	6.95%
12/13/2017	9.25%	2.85%	6.40%
12/28/2017	9.50%	2.84%	6.66%
1/31/2018	9.80%	2.83%	6.97%
2/21/2018	9.80%	2.84%	6.96%
2/21/2018	9.80%	2.84%	6.96%
2/28/2018	9.50%	2.85%	6.65%
3/15/2018	9.00%	2.87%	6.13%
3/26/2018	10.19%	2.88%	7.31%
4/26/2018	9.50%	2.91%	6.59%
4/27/2018	9.30%	2.91%	6.39%
5/2/2018	9.50%	2.91%	6.59%
5/3/2018	9.70%	2.91%	6.79%
5/29/2018	9.40%	2.95%	6.45%
6/6/2018	9.80%	2.96%	6.84%
6/14/2018	8.80%	2.97%	5.83%
7/16/2018	9.60%	2.98%	6.62%
7/20/2018	9.40%	2.99%	6.41%
8/24/2018	9.28%	3.02%	6.26%
8/28/2018	10.00%	3.03%	6.97%
9/13/2018	10.00%	3.04%	6.96%
9/14/2018	10.00%	3.05%	6.95%
9/19/2018	9.85%	3.05%	6.80%
9/20/2018	9.80%	3.06%	6.74%
9/26/2018	9.40%	3.06%	6.34%
9/26/2018	10.20%	3.06%	7.14%
9/28/2018	9.50%	3.07%	6.43%
9/28/2018	9.50%	3.07%	6.43%
10/5/2018	9.61%	3.08%	6.53%
10/15/2018	9.80%	3.09%	6.71%
10/26/2018	9.40%	3.11%	6.29%
10/29/2018	9.60%	3.11%	6.49%
11/1/2018	9.87%	3.11%	6.76%
11/8/2018	9.70%	3.12%	6.58%
11/8/2018	9.70%	3.12%	6.58%
12/11/2018	9.70%	3.14%	6.56%
12/12/2018	9.30%	3.14%	6.16%
12/13/2018	9.60%	3.14%	6.46%
12/19/2018	9.30%	3.15%	6.15%
12/21/2018	9.35%	3.15%	6.20%
12/24/2018	9.25%	3.15%	6.10%
12/24/2018	9.25%	3.15%	6.10%
1/4/2019	9.80%	3.14%	6.66%
1/18/2019	9.70%	3.14%	6.56%
3/14/2019	9.00%	3.12%	5.88%
3/27/2019	9.70%	3.12%	6.58%
4/30/2019	9.73%	3.11%	6.62%
5/7/2019	9.65%	3.10%	6.55%
5/21/2019	9.80%	3.10%	6.70%
Average:			4.70%
Count:			1,121

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EXHIBIT RBH-R-7

Expected Earnings Analysis

		[1] Expected ROE	[2]	[3]	[4]	[5]	[6]
Company	Ticker	2022-24	Shares Outstanding			Adjustment Factor	Adjusted ROE
			2019	2022-24	% Increase		
Atmos Energy Corporation	ATO	10.0%	120.00	145.00	3.86%	1.019	10.19%
Chesapeake Utilities Corporation	CPK	10.0%	17.00	20.00	3.30%	1.016	10.16%
New Jersey Resources Corporation	NJR	11.5%	88.00	89.00	0.23%	1.001	11.51%
Northwest Natural Holding Company	NWN	12.0%	30.00	32.00	1.30%	1.006	12.08%
ONE Gas, Inc.	OGS	10.0%	53.00	55.00	0.74%	1.004	10.04%
South Jersey Industries, Inc.	SJI	12.0%	94.00	100.00	1.25%	1.006	12.07%
Spire Inc.	SR	4.5%	51.00	55.00	1.52%	1.008	4.53%
Southwest Gas Corporation	SWX	9.5%	54.00	58.00	1.44%	1.007	9.57%
						Median Average	10.18% 10.02%

Notes:

- [1] Source: Value Line
[2] Source: Value Line
[3] Source: Value Line
[4] Equals $= ([3] / [2])^{(1/5)} - 1$
[5] Equals $(2 \times (1 + [4])) / (2 + [4])$
[6] Equals [1] x [5]

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EXHIBIT RBH-R-8

Proof Concept: Earnings, Dividends, Book Value and
Stock Price Growth Rate Equivalence in Constant Growth DCF

Line Description	IMPLIED GROWTH RATE AT ALLOWED ROE:	
Input	Dividend Yield	3.90% [1]
Assumes g = Allowed ROE - Div. Yield	Assumed Growth Rate	6.70%
Input	Total Return	10.60% [1]
Input	Payout Ratio	64.42% [2]
Input	Book Value/Share	20 [2]

		0	1	2	3	4	5	6	7	8	9	10	250
BV/S Escalates at Constant Growth g	Book Value/Share	\$ 20.00	\$ 21.34	\$ 22.77	\$ 24.30	\$ 25.92	\$ 27.66	\$ 29.51	\$ 31.49	\$ 33.60	\$ 35.85	\$ 38.25	\$ 219,854,243.12
Demonstrating Constant BV/S growth			6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%
Earnings based on ROE applied to BV/S	Earnings/share	\$ 2.12	\$ 2.26	\$ 2.41	\$ 2.58	\$ 2.75	\$ 2.93	\$ 3.13	\$ 3.34	\$ 3.56	\$ 3.80	\$ 4.05	\$ 23,304,549.77
Demonstrating Constant EPS growth			6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%
Demonstrating Constant Return Earned based on BV/S and EPS	Allowed ROE	10.60%	10.60%	10.60%	10.60%	10.60%	10.60%	10.60%	10.60%	10.60%	10.60%	10.60%	10.60%
Div/S based on EPS and Constant Payout ratio	Dividends/Share	\$ 1.37	\$ 1.46	\$ 1.55	\$ 1.66	\$ 1.77	\$ 1.89	\$ 2.02	\$ 2.15	\$ 2.29	\$ 2.45	\$ 2.61	\$ 15,012,856.84
Demonstrating Constant Div/S growth			6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%
Retained Earnings based on difference between EPS and Div/S	Earnings retained to book value	\$ 0.75	\$ 0.80	\$ 0.86	\$ 0.92	\$ 0.98	\$ 1.04	\$ 1.11	\$ 1.19	\$ 1.27	\$ 1.35	\$ 1.44	\$ 8,291,692.93
Demonstrating Constant growth in Retained Earnings			6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%	6.70%
Demonstrating Constant Market/Book ratio	Market/Book Ratio	1.868	1.868	1.868	1.868	1.868	1.868	1.868	1.868	1.868	1.868	1.868	1.868
DCF calculation of market price = [Div/S]*[1+g]/[ROE-g]	Market Price	\$ 37.36	\$ 39.87	\$ 42.54	\$ 45.39	\$ 48.43	\$ 51.67	\$ 55.14	\$ 58.83	\$ 62.77	\$ 66.98	\$ 71.47	\$ 410,736,365.30
Demonstrating Price Appreciation equals Long Term Growth Rate	Price Appreciation	6.70%	OK	<== Price appreciation should equal long term growth rate									
Demonstrating Constant Price/Earnings Ratio	Price/Earnings	17.62	17.62	17.62	17.62	17.62	17.62	17.62	17.62	17.62	17.62	17.62	17.62
Present Value Factor calculated based upon the current period and the Constant ROE	Present Value Factor		0.9042	0.8175	0.7392	0.6683	0.6043	0.5463	0.4940	0.4466	0.4038	0.3651	0.00

CASE 1	DIVIDENDS IN PERPETUITY												
Present value of Div/S obtained by multiplying nominal Div/S by the Present Value Factor for the period	Present Value Dividend	1.3176	1.2711	1.2263	1.1830	1.1413	1.1011	1.0622	1.0248	0.9886	0.9538		0.00
Total Value of investment sum of all Present Value Dividends in perpetuity (250 instances for demonstration purposes)	Value of Investment	\$ 37.36											

CASE 2	10-YEAR HOLDING PERIOD																				
Present value of Div/S obtained by multiplying nominal Div/S by the Present Value Factor for the period	Present Value of Dividend	\$	1.32	\$	1.27	\$	1.23	\$	1.18	\$	1.14	\$	1.10	\$	1.06	\$	1.02	\$	0.99	\$	0.95
Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 10th Period (Terminal Value)	Present Value of Stock Price		--		--		--		--		--		--		--		--		--		26.09
Value of dividends = sum of all Present Value Dividends for periods 1-10	Value of Dividends	\$	11.27																		
Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 10th Period (Terminal Value)	Value of Stock Price	\$	26.09																		
Total Value of investment sum of all Present Value Dividends for periods 1-10 and Present Value of Stock in period 10 (Terminal Value)	Value of Investment	\$	37.36																		

CASE 3		5-YEAR HOLDING PERIOD									
Present value of Div/S obtained by multiplying nominal Div/S by the Present Value Factor for the period	Present Value of Dividend	\$	1.32	\$	1.27	\$	1.23	\$	1.18	\$	1.14
Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 5th Period (Terminal Value)	Present Value of Stock Price		--		--		--		--		31.23
Value of dividends = sum of all Present Value Dividends for periods 1-5	Value of Dividends	\$	6.14								
Present value of Stock Price obtained by multiplying nominal Stock Price by the Present Value Factor for the 5th Period (Terminal Value)	Value of Stock Price	\$	31.23								
Total Value of investment sum of all Present Value Dividends for periods 1-5 and Present Value of Stock in period 5 (Terminal Value)	Value of Investment	\$	37.36								

[1] Note, for purposes of this exhibit, these data are illustrative only.

[2] Note: Illustrative only.

EXHIBIT RBH-R-9

Growth Rate Regression Analysis

Company	Ticker	Median P/E	Past 10 Year Earnings Growth Rate	Past 10 Year Dividend Growth Rate	Past 10 Year Book Value Growth Rate	Past 5 Year Earnings Growth Rate	Past 5 Year Dividend Growth Rate	Past 5 Year Book Value Growth Rate	Proj. Earnings Growth Rate	Proj. Dividend Growth Rate	Proj. Book Value Growth Rate
Atmos Energy Corporation	ATO	16.00	6.50%	3.50%	5.50%	10.00%	5.50%	7.00%	7.50%	7.00%	7.00%
Chesapeake Utilities Corporation	CPK	17.00	9.00%	5.00%	10.00%	8.00%	6.00%	10.50%	9.00%	9.00%	9.00%
Spire Inc	SR	17.00	4.00%	4.00%	7.50%	7.50%	5.00%	8.00%	5.50%	4.00%	4.00%
New Jersey Resources Corporation	NJR	16.00	7.00%	7.50%	7.00%	5.50%	6.50%	8.00%	3.50%	4.00%	7.00%
NiSource Inc.	NI	20.00	-3.00%	-2.50%	-3.50%	-7.50%	-5.50%	-6.50%	12.50%	9.00%	7.00%
Northwest Natural Gas Company	NWN	21.00	-10.50%	2.50%	2.00%	-18.00%	1.00%	-	27.00%	2.50%	1.00%
ONE Gas, Inc.	OGS	NMF	-	-	-	-	-	-	8.00%	8.50%	4.50%
South Jersey Industries, Inc.	SJI	18.00	1.50%	8.00%	6.50%	-2.50%	6.00%	6.00%	10.50%	4.00%	4.50%
Southwest Gas Corporation	SWX	17.00	7.00%	8.50%	5.50%	4.50%	10.50%	6.00%	9.00%	5.00%	7.50%
UGI Corporation	UGI	16.00	7.00%	7.50%	9.00%	11.50%	6.50%	7.00%	7.00%	6.50%	8.50%
ALLETE, Inc.	ALE	17.00	1.00%	3.00%	5.50%	4.00%	3.00%	5.50%	5.00%	5.00%	3.00%
Alliant Energy Corporation	LNT	16.00	4.50%	7.50%	4.00%	4.50%	7.00%	4.50%	6.50%	5.50%	7.50%
Ameren Corporation	AEE	16.00	0.50%	-3.50%	-0.50%	4.50%	2.50%	0.50%	6.50%	6.00%	5.00%
American Electric Power Company, Inc.	AEP	15.00	3.00%	4.50%	4.00%	5.00%	5.00%	3.50%	4.00%	6.00%	4.50%
Avangrid, Inc.	AGR	NMF	-	-	-	-	-	-	10.00%	3.00%	1.50%
Avista Corporation	AVA	17.00	5.50%	8.50%	4.00%	5.00%	4.50%	4.50%	3.50%	4.00%	3.50%
Black Hills Corporation	BKH	18.00	6.50%	3.00%	2.50%	11.00%	4.00%	3.00%	6.00%	6.50%	5.50%
CenterPoint Energy, Inc.	CNP	17.00	-1.50%	5.50%	6.50%	-3.00%	7.50%	1.00%	12.50%	2.50%	13.50%
CMS Energy Corporation	CMS	17.00	10.00%	21.50%	4.50%	7.00%	7.00%	5.50%	7.00%	7.00%	7.50%
Consolidated Edison, Inc.	ED	15.00	2.50%	2.00%	4.00%	2.00%	2.50%	4.00%	3.00%	3.50%	3.00%
Dominion Energy Inc.	D	20.00	3.00%	7.50%	4.50%	3.50%	7.50%	6.50%	6.50%	5.00%	7.00%
DTE Energy Company	DTE	16.00	8.00%	4.50%	4.00%	8.00%	6.50%	4.50%	5.50%	6.00%	5.50%
Duke Energy Corporation	DUK	18.00	2.50%	7.00%	1.00%	0.50%	3.00%	1.50%	6.00%	3.00%	2.50%
Edison International	EIX	13.00	-3.50%	6.50%	3.00%	-9.00%	11.00%	3.00%	NMF	3.50%	3.00%
El Paso Electric Company	EE	16.00	4.00%	-	7.00%	-	8.00%	5.50%	4.50%	6.50%	4.00%
Entergy Corporation	ETR	12.00	0.50%	3.00%	1.00%	-0.50%	1.00%	-2.50%	0.50%	2.50%	5.00%
Evergy, Inc.	EVRG	NMF	-	-	-	-	-	-	NMF	NMF	NMF
Exelon Corporation	EXC	14.00	-5.50%	-3.50%	7.00%	-3.50%	-7.00%	4.50%	10.50%	5.50%	5.50%
FirstEnergy Corp.	FE	17.00	-7.00%	-2.50%	-8.00%	-2.50%	-5.00%	-17.50%	8.00%	3.50%	9.00%
Hawaiian Electric Industries, Inc.	HE	18.00	5.00%	-	3.00%	4.00%	-	3.50%	4.50%	3.00%	4.00%
IDACORP, Inc.	IDA	14.00	7.00%	6.50%	5.50%	4.00%	10.00%	5.00%	3.50%	6.00%	4.00%
MGE Energy, Inc.	MGEE	18.00	4.50%	3.00%	5.50%	3.50%	4.00%	6.00%	9.00%	4.50%	6.00%
NextEra Energy, Inc.	NEE	16.00	6.00%	9.00%	8.50%	6.00%	10.50%	9.50%	10.00%	10.00%	5.50%
Eversource Energy	ES	18.00	8.00%	9.50%	6.50%	7.00%	8.00%	5.00%	5.50%	5.50%	5.00%
NorthWestern Corporation	NWE	16.00	8.50%	5.00%	5.50%	7.00%	7.00%	8.00%	3.00%	4.50%	3.00%
OGE Energy Corp.	OGE	17.00	4.00%	6.50%	7.50%	1.00%	9.50%	6.00%	6.50%	7.50%	3.50%
Otter Tail Corporation	OTTR	22.00	2.00%	1.00%	-	14.00%	1.50%	3.50%	5.00%	4.00%	4.50%
Pinnacle West Capital Corporation	PNW	15.00	4.50%	2.50%	2.50%	5.00%	3.00%	4.50%	5.00%	6.00%	3.50%
PNM Resources, Inc.	PNM	18.00	7.00%	2.50%	-	6.00%	11.00%	1.00%	8.50%	7.00%	4.50%
Portland General Electric Company	POR	16.00	3.50%	4.50%	2.50%	4.00%	4.50%	3.50%	4.50%	6.50%	3.00%
PPL Corporation	PPL	13.00	0.00%	2.50%	1.00%	-0.50%	2.00%	-4.00%	1.50%	2.00%	6.00%
Public Service Enterprise Group Incorporated	PEG	13.00	1.50%	3.50%	6.50%	1.00%	4.00%	5.00%	6.00%	5.00%	5.00%
Sempra Energy	SRE	19.00	1.00%	10.00%	5.50%	2.00%	7.50%	4.00%	11.00%	8.00%	6.50%
Southern Company	SO	16.00	3.00%	3.50%	4.00%	2.50%	3.50%	3.00%	3.50%	3.00%	3.50%
WEC Energy Group, Inc.	WEC	17.00	8.50%	15.50%	8.50%	6.00%	11.00%	10.50%	6.00%	6.00%	3.50%
Xcel Energy Inc.	XEL	15.00	5.50%	4.50%	4.50%	5.00%	6.00%	4.50%	5.50%	6.00%	4.50%

Notes:

Source: Value Line Reports as of June 28, 2019

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.53085
R Square	0.28181
Adjusted R Square	0.26385
Standard Error	1.73333
Observations	42

ANOVA

	df	SS	MS	F	Significance F
Regression	1	47.15555	47.15555	15.69526	0.00030
Residual	40	120.17778	3.00444		
Total	41	167.33333			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	14.94021	0.51131	29.21924	0.00000	13.90681	15.97361
Proj. Earnings Growth Rate	25.39796	6.41083	3.96172	0.00030	12.44118	38.35474

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.11576
R Square	0.01340
Adjusted R Square	-0.01066
Standard Error	2.08389
Observations	43

ANOVA

	df	SS	MS	F	Significance F
Regression	1	2.41819	2.41819	0.55685	0.45979
Residual	41	178.04693	4.34261		
Total	42	180.46512			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	15.91033	0.95378	16.68143	0.00000	13.98415	17.83652
Proj. Dividend Growth Rate	12.71173	17.03473	0.74622	0.45979	-21.69060	47.11407

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.04030
R Square	0.00162
Adjusted R Square	-0.02273
Standard Error	2.09629
Observations	43

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.29309	0.29309	0.06670	0.79750
Residual	41	180.17202	4.39444		
Total	42	180.46512			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	16.38672	0.81879	20.01327	0.00000	14.73313	18.04031
Proj. Book Value Growth Rate	3.71221	14.37415	0.25826	0.79750	-25.31698	32.74140

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.09830
R Square	0.00966
Adjusted R Square	-0.01509
Standard Error	2.03541
Observations	42

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1.61704	1.61704	0.39031	0.53568
Residual	40	165.71630	4.14291		
Total	41	167.33333			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	16.81783	0.39647	42.41937	0.00000	16.01654	17.61912
Past 10 Year Earnings Growth Rate	-4.47107	7.15655	-0.62475	0.53568	-18.93500	9.99287

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.06269
R Square	0.00393
Adjusted R Square	-0.02161
Standard Error	2.13276
Observations	41

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.69997	0.69997	0.15388	0.69699
Residual	39	177.39759	4.54866		
Total	40	178.09756			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	16.41494	0.49952	32.86131	0.00000	15.40457	17.42532
Past 10 Year Dividend Growth Rate	2.87851	7.33786	0.39228	0.69699	-11.96372	17.72074

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.07123
R Square	0.00507
Adjusted R Square	-0.02044
Standard Error	1.94277
Observations	41

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.75073	0.75073	0.19890	0.65807
Residual	39	147.20049	3.77437		
Total	40	147.95122			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	16.59483	0.50528	32.84299	0.00000	15.57281	17.61685
Past 10 Year Book Value Growth Rate	-4.09307	9.17762	-0.44598	0.65807	-22.65656	14.47042

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.02190
R Square	0.00048
Adjusted R Square	-0.02451
Standard Error	2.12151
Observations	42

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.08637	0.08637	0.01919	0.89052
Residual	40	180.03268	4.50082		
Total	41	180.11905			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	16.56999	0.37467	44.22566	0.00000	15.81276	17.32723
Past 5 Year Earnings Growth Rate	0.79725	5.75523	0.13853	0.89052	-10.83450	12.42900

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.05161
R Square	0.00266
Adjusted R Square	-0.02227
Standard Error	2.10909
Observations	42

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.47517	0.47517	0.10682	0.74549
Residual	40	177.92959	4.44824		
Total	41	178.40476			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	16.67850	0.51601	32.32199	0.00000	15.63560	17.72140
Past 5 Year Dividend Growth Rate	-2.58682	7.91469	-0.32684	0.74549	-18.58301	13.40937

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.02677
R Square	0.00072
Adjusted R Square	-0.02427
Standard Error	2.00226
Observations	42

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.11502	0.11502	0.02869	0.86635
Residual	40	160.36117	4.00903		
Total	41	160.47619			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	16.43336	0.39926	41.15996	0.00000	15.62643	17.24028
Past 5 Year Book Value Growth Rate	1.11052	6.55635	0.16938	0.86635	-12.14036	14.36139

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.71747
R Square	0.51477
Adjusted R Square	0.34680
Standard Error	1.37218
Observations	36

ANOVA

	df	SS	MS	F	Significance F
Regression	9	51.93439	5.77049	3.06474	0.01221
Residual	26	48.95450	1.88287		
Total	35	100.88889			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	14.82193	0.92280	16.06189	0.00000	12.92509	16.71878
Past 10 Year Earnings Growth Rate	4.26574	17.34646	0.24591	0.80768	-31.39042	39.92190
Past 10 Year Dividend Growth Rate	8.61351	7.93510	1.08549	0.28767	-7.69733	24.92434
Past 10 Year Book Value Growth Rate	-40.52140	21.26476	-1.90557	0.06782	-84.23175	3.18895
Past 5 Year Earnings Growth Rate	9.67661	11.10394	0.87146	0.39148	-13.14788	32.50109
Past 5 Year Dividend Growth Rate	4.54908	10.63041	0.42793	0.67223	-17.30204	26.40019
Past 5 Year Book Value Growth Rate	14.18284	18.30905	0.77464	0.44554	-23.45196	51.81763
Proj. Earnings Growth Rate	59.13230	16.01072	3.69330	0.00103	26.22180	92.04280
Proj. Dividend Growth Rate	-22.21128	17.56117	-1.26480	0.21716	-58.30877	13.88622
Proj. Book Value Growth Rate	-17.39438	17.06760	-1.01915	0.31752	-52.47733	17.68857

EXHIBIT RBH-R-10

Monthly Historical Market Risk Premium Regression Analysis

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.131530
R Square	0.017300
Adjusted R Square	0.015517
Standard Error	0.211587
Observations	1105

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.868540	0.434270	9.700262	0.000067
Residual	1102	49.335314	0.044769		
Total	1104	50.203854			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.135158	0.019421	6.959361	0.000000	0.097052	0.173265
Risk Free Rate (Rf)	-0.939711	0.253161	-3.711915	0.000216	-1.436443	-0.442980
Time	-0.000001	0.000001	-0.806342	0.420220	-0.000002	0.000001

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.129308
R Square	0.016720
Adjusted R Square	0.015829
Standard Error	0.211553
Observations	1105

Risk-free rate	4.00%	Source: Exhibit JRW-9
Implied MRP	8.32%	
Market Return	12.32%	
Beta Coefficient	0.650	Source: Exhibit JRW-9
Implied CAPM Result	9.41%	
Implied ECAPM Result	10.13%	

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.839432	0.839432	18.756285	0.000016
Residual	1103	49.364422	0.044755		
Total	1104	50.203854			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.123811	0.013383	9.251654	0.000000	0.097553	0.150070
Risk Free Rate (Rf)	-1.016252	0.234654	-4.330853	0.000016	-1.476670	-0.555833

Source: Duff & Phelps, 2019 SBBI Yearbook, Appendix A-1 and A-7.

Ibbotson Historical MRP and Risk-Free rate

Month	MRP	Risk Free	Time
Dec-26	0.0801	0.0360	9832
Jan-27	0.0585	0.0360	9863
Feb-27	0.1671	0.0324	9894
Mar-27	0.2489	0.0348	9922
Apr-27	0.2448	0.0324	9953
May-27	0.2973	0.0336	9983
Jun-27	0.2318	0.0324	10014
Jul-27	0.2549	0.0324	10044
Aug-27	0.2860	0.0348	10075
Sep-27	0.3139	0.0324	10106
Oct-27	0.2825	0.0336	10136
Nov-27	0.3313	0.0324	10167
Dec-27	0.3424	0.0324	10197
Jan-28	0.3638	0.0324	10228
Feb-28	0.2785	0.0300	10259
Mar-28	0.4077	0.0324	10288
Apr-28	0.4292	0.0312	10319
May-28	0.3715	0.0324	10349
Jun-28	0.3266	0.0324	10380
Jul-28	0.2592	0.0324	10410
Aug-28	0.2922	0.0348	10441
Sep-28	0.2703	0.0324	10472
Oct-28	0.3586	0.0360	10502
Nov-28	0.4365	0.0324	10533
Dec-28	0.4013	0.0348	10563
Jan-29	0.4911	0.0348	10594
Feb-29	0.5099	0.0324	10625
Mar-29	0.3540	0.0336	10653
Apr-29	0.3242	0.0408	10684
May-29	0.2541	0.0360	10714
Jun-29	0.4600	0.0348	10745
Jul-29	0.5050	0.0384	10775
Aug-29	0.5395	0.0360	10806
Sep-29	0.4243	0.0384	10837
Oct-29	0.1175	0.0372	10867
Nov-29	-0.1360	0.0312	10898
Dec-29	-0.1213	0.0372	10928
Jan-30	-0.1140	0.0348	10959
Feb-30	-0.0848	0.0312	10990
Mar-30	-0.0103	0.0348	11018
Apr-30	-0.0337	0.0324	11049
May-30	-0.0061	0.0324	11079
Jun-30	-0.2633	0.0348	11110
Jul-30	-0.2683	0.0336	11140
Aug-30	-0.3275	0.0312	11171
Sep-30	-0.3906	0.0348	11202
Oct-30	-0.2985	0.0324	11232
Nov-30	-0.2003	0.0312	11263
Dec-30	-0.2826	0.0336	11293
Jan-31	-0.2922	0.0336	11324
Feb-31	-0.2223	0.0312	11355
Mar-31	-0.3372	0.0348	11383

Month	MRP	Risk Free	Time
Apr-31	-0.3949	0.0324	11414
May-31	-0.4698	0.0312	11444
Jun-31	-0.2681	0.0336	11475
Jul-31	-0.3485	0.0324	11505
Aug-31	-0.3458	0.0324	11536
Sep-31	-0.4790	0.0324	11567
Oct-31	-0.3754	0.0348	11597
Nov-31	-0.4250	0.0372	11628
Dec-31	-0.4719	0.0384	11658
Jan-32	-0.5136	0.0384	11689
Feb-32	-0.5428	0.0384	11720
Mar-32	-0.5673	0.0372	11749
Apr-32	-0.6211	0.0360	11780
May-32	-0.6623	0.0336	11810
Jun-32	-0.7093	0.0336	11841
Jul-32	-0.5506	0.0336	11871
Aug-32	-0.3758	0.0336	11902
Sep-32	-0.1274	0.0312	11933
Oct-32	-0.3148	0.0324	11963
Nov-32	-0.2839	0.0312	11994
Dec-32	-0.1144	0.0324	12024
Jan-33	-0.0806	0.0324	12055
Feb-33	-0.2867	0.0276	12086
Mar-33	-0.1649	0.0324	12114
Apr-33	0.5153	0.0300	12145
May-33	1.2798	0.0336	12175
Jun-33	1.5988	0.0300	12206
Jul-33	0.7076	0.0312	12236
Aug-33	0.3737	0.0312	12267
Sep-33	0.2626	0.0300	12298
Oct-33	0.3352	0.0312	12328
Nov-33	0.5566	0.0300	12359
Dec-33	0.5061	0.0336	12389
Jan-34	0.6548	0.0348	12420
Feb-34	0.9585	0.0288	12451
Mar-34	0.8872	0.0324	12479
Apr-34	0.2827	0.0300	12510
May-34	0.0109	0.0300	12540
Jun-34	-0.0897	0.0288	12571
Jul-34	-0.1174	0.0288	12601
Aug-34	-0.1658	0.0288	12632
Sep-34	-0.0592	0.0276	12663
Oct-34	-0.0038	0.0324	12693
Nov-34	-0.0185	0.0300	12724
Dec-34	-0.0444	0.0300	12754
Jan-35	-0.1762	0.0300	12785
Feb-35	-0.1731	0.0252	12816
Mar-35	-0.1986	0.0264	12844
Apr-35	-0.0953	0.0276	12875
May-35	0.0199	0.0276	12905
Jun-35	0.0692	0.0264	12936
Jul-35	0.3117	0.0288	12966
Aug-35	0.2711	0.0276	12997
Sep-35	0.3087	0.0276	13028

Month	MRP	Risk Free	Time
Oct-35	0.4550	0.0276	13058
Nov-35	0.3904	0.0288	13089
Dec-35	0.4478	0.0288	13119
Jan-36	0.6142	0.0288	13150
Feb-36	0.7115	0.0276	13181
Mar-36	0.8095	0.0288	13210
Apr-36	0.5221	0.0264	13241
May-36	0.5423	0.0264	13271
Jun-36	0.4863	0.0288	13302
Jul-36	0.4667	0.0276	13332
Aug-36	0.4479	0.0276	13363
Sep-36	0.4179	0.0252	13394
Oct-36	0.4153	0.0276	13424
Nov-36	0.3696	0.0264	13455
Dec-36	0.3128	0.0264	13485
Jan-37	0.2789	0.0252	13516
Feb-37	0.2759	0.0240	13547
Mar-37	0.2298	0.0264	13575
Apr-37	0.2207	0.0276	13606
May-37	0.1546	0.0264	13636
Jun-37	0.0553	0.0300	13667
Jul-37	0.0914	0.0288	13697
Aug-37	0.0226	0.0276	13728
Sep-37	-0.1275	0.0276	13759
Oct-37	-0.2742	0.0276	13789
Nov-37	-0.3497	0.0288	13820
Dec-37	-0.3778	0.0276	13850
Jan-38	-0.3927	0.0276	13881
Feb-38	-0.3602	0.0252	13912
Mar-38	-0.5241	0.0276	13940
Apr-38	-0.3993	0.0264	13971
May-38	-0.4186	0.0264	14001
Jun-38	-0.2249	0.0252	14032
Jul-38	-0.2467	0.0252	14062
Aug-38	-0.2269	0.0264	14093
Sep-38	-0.0798	0.0252	14124
Oct-38	0.1032	0.0264	14154
Nov-38	0.1777	0.0252	14185
Dec-38	0.2850	0.0264	14215
Jan-39	0.1795	0.0252	14246
Feb-39	0.1498	0.0228	14277
Mar-39	0.3266	0.0252	14305
Apr-39	0.1549	0.0228	14336
May-39	0.2832	0.0240	14366
Jun-39	-0.0401	0.0216	14397
Jul-39	-0.0083	0.0228	14427
Aug-39	-0.0509	0.0216	14458
Sep-39	0.0918	0.0228	14489
Oct-39	-0.0060	0.0276	14519
Nov-39	-0.0155	0.0240	14550
Dec-39	-0.0270	0.0228	14580
Jan-40	0.0079	0.0240	14611
Feb-40	-0.0153	0.0216	14642
Mar-40	0.1535	0.0228	14671

Month	MRP	Risk Free	Time
Apr-40	0.1551	0.0216	14702
May-40	-0.1774	0.0228	14732
Jun-40	-0.0495	0.0228	14763
Jul-40	-0.1176	0.0240	14793
Aug-40	-0.0197	0.0228	14824
Sep-40	-0.1517	0.0216	14855
Oct-40	-0.1037	0.0216	14885
Nov-40	-0.0959	0.0216	14916
Dec-40	-0.1182	0.0204	14946
Jan-41	-0.1288	0.0192	14977
Feb-41	-0.1458	0.0192	15008
Mar-41	-0.1528	0.0216	15036
Apr-41	-0.2028	0.0204	15067
May-41	0.0593	0.0204	15097
Jun-41	0.0375	0.0192	15128
Jul-41	0.0618	0.0192	15158
Aug-41	0.0263	0.0192	15189
Sep-41	0.0065	0.0192	15220
Oct-41	-0.0997	0.0192	15250
Nov-41	-0.0942	0.0168	15281
Dec-41	-0.1350	0.0192	15311
Jan-42	-0.0831	0.0252	15342
Feb-42	-0.0901	0.0228	15373
Mar-42	-0.1595	0.0252	15401
Apr-42	-0.1386	0.0240	15432
May-42	-0.0841	0.0228	15462
Jun-42	-0.1182	0.0252	15493
Jul-42	-0.1389	0.0252	15523
Aug-42	-0.1253	0.0252	15554
Sep-42	-0.0917	0.0240	15585
Oct-42	0.0403	0.0252	15615
Nov-42	0.0704	0.0240	15646
Dec-42	0.1783	0.0252	15676
Jan-43	0.2477	0.0240	15707
Feb-43	0.3448	0.0228	15738
Mar-43	0.5175	0.0252	15766
Apr-43	0.5884	0.0240	15797
May-43	0.5532	0.0228	15827
Jun-43	0.5511	0.0252	15858
Jul-43	0.4195	0.0252	15888
Aug-43	0.4205	0.0252	15919
Sep-43	0.4179	0.0240	15950
Oct-43	0.3117	0.0240	15980
Nov-43	0.2258	0.0252	16011
Dec-43	0.2339	0.0252	16041
Jan-44	0.1675	0.0252	16072
Feb-44	0.1077	0.0240	16103
Mar-44	0.0690	0.0252	16132
Apr-44	0.0554	0.0240	16163
May-44	0.0482	0.0264	16193
Jun-44	0.0843	0.0240	16224
Jul-44	0.1220	0.0252	16254
Aug-44	0.1205	0.0252	16285
Sep-44	0.0914	0.0240	16316

Month	MRP	Risk Free	Time
Oct-44	0.1050	0.0252	16346
Nov-44	0.2013	0.0240	16377
Dec-44	0.1733	0.0240	16407
Jan-45	0.1706	0.0252	16438
Feb-45	0.2505	0.0216	16469
Mar-45	0.1687	0.0240	16497
Apr-45	0.2907	0.0228	16528
May-45	0.2519	0.0228	16558
Jun-45	0.1854	0.0228	16589
Jul-45	0.1882	0.0216	16619
Aug-45	0.2447	0.0228	16650
Sep-45	0.3024	0.0216	16681
Oct-45	0.3407	0.0228	16711
Nov-45	0.3773	0.0216	16742
Dec-45	0.3425	0.0216	16772
Jan-46	0.4184	0.0204	16803
Feb-46	0.2425	0.0180	16834
Mar-46	0.3627	0.0192	16862
Apr-46	0.2970	0.0204	16893
May-46	0.3078	0.0216	16923
Jun-46	0.2619	0.0192	16954
Jul-46	0.2506	0.0228	16984
Aug-46	0.0957	0.0204	17015
Sep-46	-0.0590	0.0216	17046
Oct-46	-0.0958	0.0228	17076
Nov-46	-0.1323	0.0216	17107
Dec-46	-0.1035	0.0228	17137
Jan-47	-0.1417	0.0216	17168
Feb-47	-0.0863	0.0192	17199
Mar-47	-0.1447	0.0216	17227
Apr-47	-0.2073	0.0204	17258
May-47	-0.2289	0.0204	17288
Jun-47	-0.1554	0.0228	17319
Jul-47	-0.0991	0.0216	17349
Aug-47	-0.0513	0.0204	17380
Sep-47	0.0429	0.0216	17411
Oct-47	0.0748	0.0216	17441
Nov-47	0.0597	0.0204	17472
Dec-47	0.0318	0.0252	17502
Jan-48	-0.0324	0.0240	17533
Feb-48	-0.0623	0.0228	17564
Mar-48	0.0260	0.0264	17593
Apr-48	0.0999	0.0240	17624
May-48	0.1994	0.0216	17654
Jun-48	0.1380	0.0252	17685
Jul-48	0.0407	0.0228	17715
Aug-48	0.0775	0.0252	17746
Sep-48	0.0603	0.0240	17777
Oct-48	0.1115	0.0228	17807
Nov-48	0.0184	0.0252	17838
Dec-48	0.0311	0.0240	17868
Jan-49	0.0769	0.0240	17899
Feb-49	0.0899	0.0216	17930
Mar-49	0.0408	0.0228	17958

Month	MRP	Risk Free	Time
Apr-49	-0.0067	0.0216	17989
May-49	-0.1151	0.0240	18019
Jun-49	-0.1176	0.0228	18050
Jul-49	-0.0047	0.0204	18080
Aug-49	-0.0010	0.0228	18111
Sep-49	0.0580	0.0204	18142
Oct-49	0.0196	0.0216	18172
Nov-49	0.1516	0.0204	18203
Dec-49	0.1675	0.0204	18233
Jan-50	0.1850	0.0216	18264
Feb-50	0.2489	0.0192	18295
Mar-50	0.2148	0.0216	18323
Apr-50	0.3009	0.0192	18354
May-50	0.4013	0.0228	18384
Jun-50	0.3238	0.0204	18415
Jul-50	0.2555	0.0216	18445
Aug-50	0.2835	0.0216	18476
Sep-50	0.3266	0.0204	18507
Oct-50	0.2920	0.0228	18537
Nov-50	0.2924	0.0216	18568
Dec-50	0.2958	0.0216	18598
Jan-51	0.3503	0.0240	18629
Feb-51	0.3482	0.0204	18660
Mar-51	0.3151	0.0228	18688
Apr-51	0.3168	0.0240	18719
May-51	0.2125	0.0252	18749
Jun-51	0.2556	0.0240	18780
Jul-51	0.3269	0.0276	18810
Aug-51	0.3338	0.0252	18841
Sep-51	0.2619	0.0228	18872
Oct-51	0.2322	0.0276	18902
Nov-51	0.2255	0.0252	18933
Dec-51	0.2138	0.0264	18963
Jan-52	0.1594	0.0276	18994
Feb-52	0.1105	0.0252	19025
Mar-52	0.1841	0.0276	19054
Apr-52	0.0803	0.0264	19085
May-52	0.1559	0.0240	19115
Jun-52	0.2402	0.0264	19146
Jul-52	0.1793	0.0264	19176
Aug-52	0.1173	0.0252	19207
Sep-52	0.0934	0.0276	19238
Oct-52	0.1073	0.0276	19268
Nov-52	0.1631	0.0252	19299
Dec-52	0.1547	0.0288	19329
Jan-53	0.1292	0.0276	19360
Feb-53	0.1525	0.0252	19391
Mar-53	0.0675	0.0300	19419
Apr-53	0.0876	0.0288	19450
May-53	0.0589	0.0288	19480
Jun-53	-0.0094	0.0324	19511
Jul-53	0.0007	0.0300	19541
Aug-53	-0.0439	0.0300	19572
Sep-53	-0.0228	0.0300	19603

Month	MRP	Risk Free	Time
Oct-53	0.0318	0.0276	19633
Nov-53	-0.0061	0.0288	19664
Dec-53	-0.0386	0.0288	19694
Jan-54	0.0208	0.0276	19725
Feb-54	0.0450	0.0264	19756
Mar-54	0.1001	0.0300	19784
Apr-54	0.1909	0.0264	19815
May-54	0.2345	0.0240	19845
Jun-54	0.2495	0.0300	19876
Jul-54	0.2925	0.0264	19906
Aug-54	0.3227	0.0276	19937
Sep-54	0.4338	0.0264	19968
Oct-54	0.3371	0.0252	19998
Nov-54	0.4288	0.0276	20029
Dec-54	0.4986	0.0276	20059
Jan-55	0.4507	0.0264	20090
Feb-55	0.4488	0.0264	20121
Mar-55	0.3957	0.0288	20149
Apr-55	0.3818	0.0264	20180
May-55	0.3292	0.0300	20210
Jun-55	0.4413	0.0276	20241
Jul-55	0.4459	0.0276	20271
Aug-55	0.4790	0.0324	20302
Sep-55	0.3822	0.0288	20333
Oct-55	0.3642	0.0300	20363
Nov-55	0.3549	0.0288	20394
Dec-55	0.2867	0.0288	20424
Jan-56	0.2153	0.0300	20455
Feb-56	0.2566	0.0276	20486
Mar-56	0.3519	0.0276	20515
Apr-56	0.2952	0.0312	20546
May-56	0.2097	0.0312	20576
Jun-56	0.1639	0.0276	20607
Jul-56	0.1500	0.0312	20637
Aug-56	0.1141	0.0312	20668
Sep-56	0.0508	0.0300	20699
Oct-56	0.0850	0.0348	20729
Nov-56	-0.0033	0.0324	20760
Dec-56	0.0320	0.0336	20790
Jan-57	0.0248	0.0348	20821
Feb-57	-0.0393	0.0300	20852
Mar-57	-0.0863	0.0312	20880
Apr-57	-0.0528	0.0348	20911
May-57	0.0547	0.0348	20941
Jun-57	0.0171	0.0300	20972
Jul-57	-0.0322	0.0396	21002
Aug-57	-0.0470	0.0360	21033
Sep-57	-0.0650	0.0372	21064
Oct-57	-0.1005	0.0372	21094
Nov-57	-0.0717	0.0348	21125
Dec-57	-0.1427	0.0348	21155
Jan-58	-0.0617	0.0324	21186
Feb-58	-0.0470	0.0300	21217
Mar-58	-0.0386	0.0324	21245

Month	MRP	Risk Free	Time
Apr-58	-0.0422	0.0312	21276
May-58	-0.0612	0.0288	21306
Jun-58	-0.0382	0.0324	21337
Jul-58	-0.0069	0.0324	21367
Aug-58	0.0666	0.0324	21398
Sep-58	0.1896	0.0384	21429
Oct-58	0.2620	0.0384	21459
Nov-58	0.2736	0.0336	21490
Dec-58	0.3941	0.0396	21520
Jan-59	0.3427	0.0372	21551
Feb-59	0.3693	0.0372	21582
Mar-59	0.3226	0.0420	21610
Apr-59	0.3335	0.0396	21641
May-59	0.3373	0.0396	21671
Jun-59	0.2934	0.0432	21702
Jul-59	0.2836	0.0420	21732
Aug-59	0.2474	0.0420	21763
Sep-59	0.1327	0.0408	21794
Oct-59	0.1152	0.0420	21824
Nov-59	0.1042	0.0420	21855
Dec-59	0.0766	0.0432	21885
Jan-60	-0.0061	0.0420	21916
Feb-60	0.0016	0.0444	21947
Mar-60	-0.0121	0.0432	21976
Apr-60	-0.0631	0.0384	22007
May-60	-0.0609	0.0444	22037
Jun-60	-0.0344	0.0408	22068
Jul-60	-0.0900	0.0384	22098
Aug-60	-0.0522	0.0408	22129
Sep-60	-0.0650	0.0384	22160
Oct-60	-0.0792	0.0396	22190
Nov-60	-0.0517	0.0384	22221
Dec-60	-0.0350	0.0396	22251
Jan-61	0.1103	0.0396	22282
Feb-61	0.1334	0.0360	22313
Mar-61	0.1788	0.0372	22341
Apr-61	0.2050	0.0372	22372
May-61	0.1909	0.0408	22402
Jun-61	0.1347	0.0384	22433
Jul-61	0.2027	0.0396	22463
Aug-61	0.1938	0.0396	22494
Sep-61	0.2482	0.0384	22525
Oct-61	0.2850	0.0408	22555
Nov-61	0.2852	0.0384	22586
Dec-61	0.2317	0.0372	22616
Jan-62	0.1040	0.0444	22647
Feb-62	0.0977	0.0384	22678
Mar-62	0.0616	0.0396	22706
Apr-62	-0.0105	0.0396	22737
May-62	-0.1149	0.0384	22767
Jun-62	-0.1626	0.0360	22798
Jul-62	-0.1412	0.0408	22828
Aug-62	-0.1443	0.0408	22859
Sep-62	-0.1652	0.0360	22890

Month	MRP	Risk Free	Time
Oct-62	-0.1910	0.0420	22920
Nov-62	-0.1341	0.0372	22951
Dec-62	-0.1257	0.0384	22981
Jan-63	-0.0431	0.0384	23012
Feb-63	-0.0831	0.0348	23043
Mar-63	-0.0458	0.0372	23071
Apr-63	0.0675	0.0408	23102
May-63	0.1898	0.0396	23132
Jun-63	0.2756	0.0360	23163
Jul-63	0.1854	0.0432	23193
Aug-63	0.2283	0.0396	23224
Sep-63	0.2761	0.0408	23255
Oct-63	0.3121	0.0408	23285
Nov-63	0.1763	0.0384	23316
Dec-63	0.1846	0.0432	23346
Jan-64	0.1597	0.0420	23377
Feb-64	0.2108	0.0384	23408
Mar-64	0.1801	0.0444	23437
Apr-64	0.1330	0.0420	23468
May-64	0.1330	0.0384	23498
Jun-64	0.1695	0.0456	23529
Jul-64	0.1995	0.0420	23559
Aug-64	0.1226	0.0420	23590
Sep-64	0.1706	0.0408	23621
Oct-64	0.1421	0.0408	23651
Nov-64	0.1469	0.0420	23682
Dec-64	0.1231	0.0420	23712
Jan-65	0.1325	0.0396	23743
Feb-65	0.1203	0.0384	23774
Mar-65	0.0791	0.0456	23802
Apr-65	0.1165	0.0396	23833
May-65	0.0947	0.0396	23863
Jun-65	0.0161	0.0456	23894
Jul-65	0.0159	0.0408	23924
Aug-65	0.0540	0.0444	23955
Sep-65	0.0599	0.0420	23986
Oct-65	0.0822	0.0408	24016
Nov-65	0.0746	0.0444	24047
Dec-65	0.0801	0.0444	24077
Jan-66	0.0482	0.0456	24108
Feb-66	0.0353	0.0408	24139
Mar-66	0.0202	0.0480	24167
Apr-66	0.0110	0.0432	24198
May-66	-0.0438	0.0492	24228
Jun-66	-0.0069	0.0468	24259
Jul-66	-0.0331	0.0456	24289
Aug-66	-0.1374	0.0516	24320
Sep-66	-0.1692	0.0492	24351
Oct-66	-0.1505	0.0480	24381
Nov-66	-0.1367	0.0456	24412
Dec-66	-0.1473	0.0468	24442
Jan-67	-0.0827	0.0480	24473
Feb-67	-0.0556	0.0408	24504
Mar-67	0.0001	0.0468	24532

Month	MRP	Risk Free	Time
Apr-67	0.0272	0.0420	24563
May-67	0.0192	0.0516	24593
Jun-67	0.0606	0.0468	24624
Jul-67	0.1217	0.0516	24654
Aug-67	0.2057	0.0504	24685
Sep-67	0.2580	0.0480	24716
Oct-67	0.1562	0.0540	24746
Nov-67	0.1526	0.0540	24777
Dec-67	0.1871	0.0528	24807
Jan-68	0.0394	0.0600	24838
Feb-68	0.0127	0.0504	24869
Mar-68	-0.0190	0.0516	24898
Apr-68	0.0130	0.0588	24929
May-68	0.0884	0.0552	24959
Jun-68	0.0837	0.0504	24990
Jul-68	0.0072	0.0576	25020
Aug-68	0.0395	0.0504	25051
Sep-68	0.0432	0.0528	25082
Oct-68	0.0829	0.0540	25112
Nov-68	0.1379	0.0516	25143
Dec-68	0.0520	0.0588	25173
Jan-69	0.0922	0.0600	25204
Feb-69	0.0775	0.0552	25235
Mar-69	0.1042	0.0564	25263
Apr-69	0.0298	0.0660	25294
May-69	0.0248	0.0564	25324
Jun-69	-0.0540	0.0660	25355
Jul-69	-0.0931	0.0624	25385
Aug-69	-0.0607	0.0576	25416
Sep-69	-0.1300	0.0660	25447
Oct-69	-0.0979	0.0684	25477
Nov-69	-0.1646	0.0588	25508
Dec-69	-0.1569	0.0720	25538
Jan-70	-0.2143	0.0672	25569
Feb-70	-0.1193	0.0624	25600
Mar-70	-0.1541	0.0672	25628
Apr-70	-0.2515	0.0648	25659
May-70	-0.2991	0.0660	25689
Jun-70	-0.3051	0.0768	25720
Jul-70	-0.1893	0.0708	25750
Aug-70	-0.1823	0.0684	25781
Sep-70	-0.1281	0.0672	25812
Oct-70	-0.1769	0.0660	25842
Nov-70	-0.1041	0.0696	25873
Dec-70	-0.0233	0.0636	25903
Jan-71	0.1096	0.0612	25934
Feb-71	0.0664	0.0552	25965
Mar-71	0.0938	0.0672	25993
Apr-71	0.2647	0.0576	26024
May-71	0.2911	0.0564	26054
Jun-71	0.3515	0.0672	26085
Jul-71	0.2044	0.0624	26115
Aug-71	0.1891	0.0660	26146
Sep-71	0.1474	0.0588	26177

Month	MRP	Risk Free	Time
Oct-71	0.1125	0.0564	26207
Nov-71	0.0512	0.0612	26238
Dec-71	0.0832	0.0600	26268
Jan-72	0.0585	0.0600	26299
Feb-72	0.0795	0.0564	26330
Mar-72	0.0432	0.0588	26359
Apr-72	0.0104	0.0576	26390
May-72	0.0670	0.0660	26420
Jun-72	0.0486	0.0588	26451
Jul-72	0.0964	0.0612	26481
Aug-72	0.0965	0.0588	26512
Sep-72	0.1012	0.0564	26543
Oct-72	0.1568	0.0624	26573
Nov-72	0.2198	0.0576	26604
Dec-72	0.1358	0.0540	26634
Jan-73	0.0838	0.0648	26665
Feb-73	0.0169	0.0612	26696
Mar-73	0.0030	0.0672	26724
Apr-73	-0.0463	0.0684	26755
May-73	-0.0833	0.0696	26785
Jun-73	-0.0642	0.0660	26816
Jul-73	-0.0357	0.0732	26846
Aug-73	-0.1077	0.0744	26877
Sep-73	-0.0555	0.0660	26908
Oct-73	-0.0755	0.0756	26938
Nov-73	-0.2182	0.0672	26969
Dec-73	-0.2187	0.0720	26999
Jan-74	-0.2134	0.0732	27030
Feb-74	-0.1749	0.0660	27061
Mar-74	-0.1977	0.0696	27089
Apr-74	-0.2077	0.0816	27120
May-74	-0.2195	0.0816	27150
Jun-74	-0.2178	0.0732	27181
Jul-74	-0.3259	0.0864	27211
Aug-74	-0.3575	0.0780	27242
Sep-74	-0.4744	0.0852	27273
Oct-74	-0.3722	0.0840	27303
Nov-74	-0.3120	0.0744	27334
Dec-74	-0.3449	0.0804	27364
Jan-75	-0.2470	0.0816	27395
Feb-75	-0.1828	0.0720	27426
Mar-75	-0.1488	0.0792	27454
Apr-75	-0.0663	0.0804	27485
May-75	0.0151	0.0804	27515
Jun-75	0.0770	0.0840	27546
Jul-75	0.0920	0.0816	27576
Aug-75	0.1831	0.0780	27607
Sep-75	0.2937	0.0876	27638
Oct-75	0.1741	0.0864	27668
Nov-75	0.2877	0.0732	27699
Dec-75	0.2833	0.0888	27729
Jan-76	0.2878	0.0780	27760
Feb-76	0.2001	0.0720	27791
Mar-76	0.1980	0.0852	27820

Month	MRP	Risk Free	Time
Apr-76	0.1340	0.0768	27851
May-76	0.0729	0.0708	27881
Jun-76	0.0523	0.0876	27912
Jul-76	0.1340	0.0780	27942
Aug-76	0.1487	0.0828	27973
Sep-76	0.2279	0.0768	28004
Oct-76	0.1281	0.0732	28034
Nov-76	0.0846	0.0792	28065
Dec-76	0.1629	0.0756	28095
Jan-77	-0.0190	0.0708	28126
Feb-77	-0.0264	0.0684	28157
Mar-77	-0.0809	0.0780	28185
Apr-77	-0.0647	0.0732	28216
May-77	-0.0798	0.0804	28246
Jun-77	-0.0692	0.0744	28277
Jul-77	-0.0740	0.0708	28307
Aug-77	-0.0982	0.0804	28338
Sep-77	-0.1147	0.0732	28369
Oct-77	-0.1375	0.0756	28399
Nov-77	-0.1019	0.0756	28430
Dec-77	-0.1462	0.0744	28460
Jan-78	-0.1650	0.0828	28491
Feb-78	-0.1552	0.0720	28522
Mar-78	-0.1293	0.0828	28550
Apr-78	-0.0406	0.0756	28581
May-78	-0.0250	0.0900	28611
Jun-78	-0.0815	0.0828	28642
Jul-78	-0.0140	0.0876	28672
Aug-78	0.0410	0.0840	28703
Sep-78	0.0416	0.0780	28734
Oct-78	-0.0236	0.0876	28764
Nov-78	-0.0325	0.0852	28795
Dec-78	-0.0159	0.0816	28825
Jan-79	0.0862	0.0948	28856
Feb-79	0.0882	0.0780	28887
Mar-79	0.1114	0.0888	28915
Apr-79	0.0169	0.0912	28946
May-79	-0.0176	0.0924	28976
Jun-79	0.0510	0.0852	29007
Jul-79	-0.0034	0.0912	29037
Aug-79	0.0287	0.0876	29068
Sep-79	0.0429	0.0816	29099
Oct-79	0.0551	0.0984	29129
Nov-79	0.0824	0.0996	29160
Dec-79	0.0848	0.0996	29190
Jan-80	0.1062	0.0996	29221
Feb-80	0.1441	0.1008	29252
Mar-80	-0.0578	0.1188	29281
Apr-80	-0.0174	0.1200	29312
May-80	0.0801	0.1044	29342
Jun-80	0.0683	0.1032	29373
Jul-80	0.1363	0.1008	29403
Aug-80	0.0839	0.0972	29434
Sep-80	0.0949	0.1164	29465

Month	MRP	Risk Free	Time
Oct-80	0.2042	0.1164	29495
Nov-80	0.2843	0.1092	29526
Dec-80	0.1946	0.1296	29556
Jan-81	0.0806	0.1128	29587
Feb-81	0.1089	0.1056	29618
Mar-81	0.2655	0.1332	29646
Apr-81	0.1914	0.1212	29677
May-81	0.1256	0.1248	29707
Jun-81	0.0740	0.1308	29738
Jul-81	-0.0015	0.1308	29768
Aug-81	-0.0791	0.1320	29799
Sep-81	-0.1641	0.1368	29830
Oct-81	-0.1351	0.1404	29860
Nov-81	-0.1896	0.1356	29891
Dec-81	-0.1691	0.1200	29921
Jan-82	-0.1513	0.1296	29952
Feb-82	-0.2143	0.1236	29983
Mar-82	-0.2781	0.1488	30011
Apr-82	-0.2079	0.1344	30042
May-82	-0.2269	0.1212	30072
Jun-82	-0.2582	0.1440	30103
Jul-82	-0.2707	0.1368	30133
Aug-82	-0.1013	0.1344	30164
Sep-82	-0.0203	0.1200	30195
Oct-82	0.0530	0.1092	30225
Nov-82	0.0490	0.1128	30256
Dec-82	0.1025	0.1116	30286
Jan-83	0.1728	0.1044	30317
Feb-83	0.2839	0.0972	30348
Mar-83	0.3333	0.1068	30376
Apr-83	0.3857	0.1020	30407
May-83	0.4147	0.1092	30437
Jun-83	0.5021	0.1080	30468
Jul-83	0.4884	0.1056	30498
Aug-83	0.3152	0.1236	30529
Sep-83	0.3273	0.1152	30560
Oct-83	0.1651	0.1140	30590
Nov-83	0.1412	0.1128	30621
Dec-83	0.1123	0.1128	30651
Jan-84	0.0526	0.1236	30682
Feb-84	-0.0016	0.1104	30713
Mar-84	-0.0295	0.1176	30742
Apr-84	-0.1064	0.1248	30773
May-84	-0.1546	0.1236	30803
Jun-84	-0.1732	0.1272	30834
Jul-84	-0.1684	0.1392	30864
Aug-84	-0.0653	0.1272	30895
Sep-84	-0.0649	0.1128	30926
Oct-84	-0.0647	0.1296	30956
Nov-84	-0.0791	0.1092	30987
Dec-84	-0.0549	0.1176	31017
Jan-85	0.0366	0.1152	31048
Feb-85	0.1087	0.0984	31079
Mar-85	0.0762	0.1128	31107

Month	MRP	Risk Free	Time
Apr-85	0.0547	0.1224	31138
May-85	0.2035	0.1164	31168
Jun-85	0.2159	0.0960	31199
Jul-85	0.2147	0.1128	31229
Aug-85	0.0840	0.1020	31260
Sep-85	0.0421	0.1056	31291
Oct-85	0.0891	0.1068	31321
Nov-85	0.1974	0.0972	31352
Dec-85	0.2184	0.1032	31382
Jan-86	0.1379	0.0948	31413
Feb-86	0.2210	0.0876	31444
Mar-86	0.2934	0.0852	31472
Apr-86	0.2903	0.0756	31503
May-86	0.2830	0.0744	31533
Jun-86	0.2743	0.0840	31564
Jul-86	0.2052	0.0792	31594
Aug-86	0.3133	0.0756	31625
Sep-86	0.2390	0.0780	31656
Oct-86	0.2480	0.0828	31686
Nov-86	0.2029	0.0708	31717
Dec-86	0.1007	0.0840	31747
Jan-87	0.2611	0.0768	31778
Feb-87	0.2239	0.0708	31809
Mar-87	0.1809	0.0792	31837
Apr-87	0.1867	0.0780	31868
May-87	0.1320	0.0792	31898
Jun-87	0.1609	0.0900	31929
Jul-87	0.3048	0.0876	31959
Aug-87	0.2554	0.0900	31990
Sep-87	0.3436	0.0900	32021
Oct-87	-0.0290	0.0948	32051
Nov-87	-0.1359	0.0900	32082
Dec-87	-0.0413	0.0936	32112
Jan-88	-0.1191	0.0864	32143
Feb-88	-0.1126	0.0852	32174
Mar-88	-0.1681	0.0864	32203
Apr-88	-0.1476	0.0840	32234
May-88	-0.1595	0.0936	32264
Jun-88	-0.1602	0.0912	32295
Jul-88	-0.2019	0.0852	32325
Aug-88	-0.2772	0.0996	32356
Sep-88	-0.2147	0.0912	32387
Oct-88	0.0562	0.0912	32417
Nov-88	0.1480	0.0840	32448
Dec-88	0.0781	0.0900	32478
Jan-89	0.1053	0.0960	32509
Feb-89	0.0360	0.0828	32540
Mar-89	0.0860	0.0948	32568
Apr-89	0.1445	0.0840	32599
May-89	0.1720	0.0960	32629
Jun-89	0.1212	0.0840	32660
Jul-89	0.2371	0.0816	32690
Aug-89	0.3110	0.0792	32721
Sep-89	0.2504	0.0780	32752

Month	MRP	Risk Free	Time
Oct-89	0.1766	0.0864	32782
Nov-89	0.2310	0.0768	32813
Dec-89	0.2381	0.0768	32843
Jan-90	0.0564	0.0876	32874
Feb-90	0.1091	0.0792	32905
Mar-90	0.1062	0.0852	32933
Apr-90	0.0150	0.0900	32964
May-90	0.0759	0.0900	32994
Jun-90	0.0824	0.0816	33025
Jul-90	-0.0241	0.0888	33055
Aug-90	-0.1350	0.0852	33086
Sep-90	-0.1758	0.0828	33117
Oct-90	-0.1720	0.0972	33147
Nov-90	-0.1205	0.0852	33178
Dec-90	-0.1181	0.0864	33208
Jan-91	-0.0014	0.0852	33239
Feb-91	0.0698	0.0768	33270
Mar-91	0.0670	0.0768	33298
Apr-91	0.0849	0.0912	33329
May-91	0.0358	0.0816	33359
Jun-91	-0.0017	0.0756	33390
Jul-91	0.0366	0.0912	33420
Aug-91	0.1872	0.0816	33451
Sep-91	0.2310	0.0816	33482
Oct-91	0.2571	0.0780	33512
Nov-91	0.1317	0.0720	33543
Dec-91	0.2239	0.0816	33573
Jan-92	0.1538	0.0732	33604
Feb-92	0.0889	0.0708	33635
Mar-92	0.0301	0.0804	33664
Apr-92	0.0616	0.0780	33695
May-92	0.0255	0.0732	33725
Jun-92	0.0543	0.0804	33756
Jul-92	0.0520	0.0756	33786
Aug-92	0.0075	0.0720	33817
Sep-92	0.0405	0.0696	33848
Oct-92	0.0310	0.0684	33878
Nov-92	0.1111	0.0732	33909
Dec-92	0.0011	0.0756	33939
Jan-93	0.0343	0.0708	33970
Feb-93	0.0399	0.0660	34001
Mar-93	0.0766	0.0756	34029
Apr-93	0.0238	0.0684	34060
May-93	0.0533	0.0624	34090
Jun-93	0.0614	0.0744	34121
Jul-93	0.0219	0.0648	34151
Aug-93	0.0842	0.0672	34182
Sep-93	0.0699	0.0600	34213
Oct-93	0.0899	0.0588	34243
Nov-93	0.0372	0.0636	34274
Dec-93	0.0339	0.0660	34304
Jan-94	0.0625	0.0660	34335
Feb-94	0.0246	0.0588	34366
Mar-94	-0.0551	0.0696	34394

Month	MRP	Risk Free	Time
Apr-94	-0.0149	0.0684	34425
May-94	-0.0331	0.0756	34455
Jun-94	-0.0598	0.0732	34486
Jul-94	-0.0201	0.0720	34516
Aug-94	-0.0247	0.0792	34547
Sep-94	-0.0364	0.0732	34578
Oct-94	-0.0398	0.0792	34608
Nov-94	-0.0660	0.0768	34639
Dec-94	-0.0661	0.0792	34669
Jan-95	-0.0783	0.0840	34700
Feb-95	0.0029	0.0708	34731
Mar-95	0.0790	0.0768	34759
Apr-95	0.1046	0.0696	34790
May-95	0.1230	0.0780	34820
Jun-95	0.1955	0.0648	34851
Jul-95	0.1934	0.0672	34881
Aug-95	0.1461	0.0684	34912
Sep-95	0.2343	0.0624	34943
Oct-95	0.1948	0.0684	34973
Nov-95	0.3078	0.0612	35004
Dec-95	0.3155	0.0588	35034
Jan-96	0.3207	0.0648	35065
Feb-96	0.2890	0.0576	35096
Mar-96	0.2580	0.0624	35125
Apr-96	0.2312	0.0708	35156
May-96	0.2152	0.0696	35186
Jun-96	0.1957	0.0648	35217
Jul-96	0.0912	0.0744	35247
Aug-96	0.1187	0.0684	35278
Sep-96	0.1313	0.0720	35309
Oct-96	0.1711	0.0696	35339
Nov-96	0.2162	0.0624	35370
Dec-96	0.1635	0.0672	35400
Jan-97	0.1965	0.0672	35431
Feb-97	0.2006	0.0612	35462
Mar-97	0.1270	0.0708	35490
Apr-97	0.1802	0.0708	35521
May-97	0.2248	0.0696	35551
Jun-97	0.2758	0.0708	35582
Jul-97	0.4516	0.0696	35612
Aug-97	0.3480	0.0588	35643
Sep-97	0.3353	0.0696	35674
Oct-97	0.2570	0.0648	35704
Nov-97	0.2290	0.0564	35735
Dec-97	0.2689	0.0648	35765
Jan-98	0.2120	0.0576	35796
Feb-98	0.2974	0.0528	35827
Mar-98	0.4186	0.0624	35855
Apr-98	0.3528	0.0588	35886
May-98	0.2495	0.0576	35916
Jun-98	0.2397	0.0624	35947
Jul-98	0.1347	0.0588	35977
Aug-98	0.0235	0.0576	36008
Sep-98	0.0378	0.0528	36039

Month	MRP	Risk Free	Time
Oct-98	0.1696	0.0504	36069
Nov-98	0.1827	0.0540	36100
Dec-98	0.2318	0.0540	36130
Jan-99	0.2744	0.0504	36161
Feb-99	0.1493	0.0480	36192
Mar-99	0.1209	0.0636	36220
Apr-99	0.1605	0.0576	36251
May-99	0.1562	0.0540	36281
Jun-99	0.1615	0.0660	36312
Jul-99	0.1407	0.0612	36342
Aug-99	0.3333	0.0648	36373
Sep-99	0.2155	0.0624	36404
Oct-99	0.1966	0.0600	36434
Nov-99	0.1416	0.0672	36465
Dec-99	0.1443	0.0660	36495
Jan-00	0.0350	0.0684	36526
Feb-00	0.0561	0.0612	36557
Mar-00	0.1146	0.0648	36586
Apr-00	0.0449	0.0564	36617
May-00	0.0376	0.0672	36647
Jun-00	0.0101	0.0624	36678
Jul-00	0.0273	0.0624	36708
Aug-00	0.1032	0.0600	36739
Sep-00	0.0776	0.0552	36770
Oct-00	-0.0027	0.0636	36800
Nov-00	-0.0997	0.0576	36831
Dec-00	-0.1450	0.0540	36861
Jan-01	-0.0677	0.0588	36892
Feb-01	-0.1324	0.0504	36923
Mar-01	-0.2708	0.0540	36951
Apr-01	-0.1861	0.0564	36982
May-01	-0.1656	0.0600	37012
Jun-01	-0.2046	0.0564	37043
Jul-01	-0.2056	0.0624	37073
Aug-01	-0.2990	0.0552	37104
Sep-01	-0.3154	0.0492	37135
Oct-01	-0.3066	0.0576	37165
Nov-01	-0.1714	0.0492	37196
Dec-01	-0.1740	0.0552	37226
Jan-02	-0.2191	0.0576	37257
Feb-02	-0.1467	0.0516	37288
Mar-02	-0.0491	0.0516	37316
Apr-02	-0.1910	0.0648	37347
May-02	-0.1972	0.0588	37377
Jun-02	-0.2326	0.0528	37408
Jul-02	-0.2975	0.0612	37438
Aug-02	-0.2328	0.0528	37469
Sep-02	-0.2552	0.0504	37500
Oct-02	-0.1991	0.0480	37530
Nov-02	-0.2131	0.0480	37561
Dec-02	-0.2751	0.0540	37591
Jan-03	-0.2794	0.0492	37622
Feb-03	-0.2725	0.0456	37653
Mar-03	-0.2956	0.0480	37681

Month	MRP	Risk Free	Time
Apr-03	-0.1811	0.0480	37712
May-03	-0.1274	0.0468	37742
Jun-03	-0.0407	0.0432	37773
Jul-03	0.0609	0.0456	37803
Aug-03	0.0702	0.0504	37834
Sep-03	0.1888	0.0552	37865
Oct-03	0.1589	0.0492	37895
Nov-03	0.1041	0.0468	37926
Dec-03	0.2305	0.0564	37956
Jan-04	0.2954	0.0504	37987
Feb-04	0.3397	0.0456	38018
Mar-04	0.2997	0.0516	38047
Apr-04	0.1820	0.0468	38078
May-04	0.1353	0.0480	38108
Jun-04	0.1334	0.0576	38139
Jul-04	0.0801	0.0516	38169
Aug-04	0.0605	0.0540	38200
Sep-04	0.0906	0.0480	38231
Oct-04	0.0485	0.0456	38261
Nov-04	0.0793	0.0492	38292
Dec-04	0.0571	0.0516	38322
Jan-05	0.0129	0.0492	38353
Feb-05	0.0276	0.0420	38384
Mar-05	0.0175	0.0492	38412
Apr-05	0.0164	0.0468	38443
May-05	0.0342	0.0480	38473
Jun-05	0.0198	0.0432	38504
Jul-05	0.0995	0.0408	38534
Aug-05	0.0775	0.0480	38565
Sep-05	0.0804	0.0420	38596
Oct-05	0.0403	0.0468	38626
Nov-05	0.0375	0.0468	38657
Dec-05	0.0021	0.0468	38687
Jan-06	0.0556	0.0480	38718
Feb-06	0.0407	0.0432	38749
Mar-06	0.0703	0.0468	38777
Apr-06	0.1072	0.0468	38808
May-06	0.0286	0.0576	38838
Jun-06	0.0334	0.0528	38869
Jul-06	-0.0003	0.0540	38899
Aug-06	0.0371	0.0516	38930
Sep-06	0.0610	0.0468	38961
Oct-06	0.1130	0.0504	38991
Nov-06	0.0955	0.0468	39022
Dec-06	0.1147	0.0432	39052
Jan-07	0.0935	0.0516	39083
Feb-07	0.0740	0.0456	39114
Mar-07	0.0715	0.0468	39142
Apr-07	0.1020	0.0504	39173
May-07	0.1788	0.0492	39203
Jun-07	0.1579	0.0480	39234
Jul-07	0.1061	0.0552	39264
Aug-07	0.1009	0.0504	39295
Sep-07	0.1201	0.0444	39326

Month	MRP	Risk Free	Time
Oct-07	0.0940	0.0516	39356
Nov-07	0.0305	0.0468	39387
Dec-07	0.0107	0.0444	39417
Jan-08	-0.0710	0.0480	39448
Feb-08	-0.0793	0.0408	39479
Mar-08	-0.0977	0.0444	39508
Apr-08	-0.0913	0.0420	39539
May-08	-0.1138	0.0444	39569
Jun-08	-0.1815	0.0480	39600
Jul-08	-0.1601	0.0468	39630
Aug-08	-0.1569	0.0432	39661
Sep-08	-0.2686	0.0468	39692
Oct-08	-0.4070	0.0444	39722
Nov-08	-0.4258	0.0432	39753
Dec-08	-0.4113	0.0396	39783
Jan-09	-0.4167	0.0288	39814
Feb-09	-0.4692	0.0360	39845
Mar-09	-0.4229	0.0420	39873
Apr-09	-0.3879	0.0348	39904
May-09	-0.3653	0.0396	39934
Jun-09	-0.3078	0.0456	39965
Jul-09	-0.2429	0.0432	39995
Aug-09	-0.2258	0.0432	40026
Sep-09	-0.1100	0.0408	40057
Oct-09	0.0582	0.0396	40087
Nov-09	0.2117	0.0420	40118
Dec-09	0.2237	0.0408	40148
Jan-10	0.2880	0.0432	40179
Feb-10	0.4964	0.0396	40210
Mar-10	0.4495	0.0480	40238
Apr-10	0.3427	0.0456	40269
May-10	0.1689	0.0408	40299
Jun-10	0.0998	0.0444	40330
Jul-10	0.1018	0.0372	40360
Aug-10	0.0113	0.0384	40391
Sep-10	0.0710	0.0312	40422
Oct-10	0.1334	0.0324	40452
Nov-10	0.0615	0.0384	40483
Dec-10	0.1128	0.0384	40513
Jan-11	0.1805	0.0420	40544
Feb-11	0.1880	0.0384	40575
Mar-11	0.1139	0.0432	40603
Apr-11	0.1320	0.0408	40634
May-11	0.2170	0.0432	40664
Jun-11	0.2692	0.0384	40695
Jul-11	0.1580	0.0384	40725
Aug-11	0.1453	0.0396	40756
Sep-11	-0.0186	0.0300	40787
Oct-11	0.0545	0.0264	40817
Nov-11	0.0508	0.0276	40848
Dec-11	-0.0052	0.0264	40878
Jan-12	0.0170	0.0252	40909
Feb-12	0.0284	0.0228	40940
Mar-12	0.0589	0.0264	40969

Month	MRP	Risk Free	Time
Apr-12	0.0175	0.0300	41000
May-12	-0.0306	0.0264	41030
Jun-12	0.0340	0.0204	41061
Jul-12	0.0672	0.0240	41091
Aug-12	0.1595	0.0204	41122
Sep-12	0.2826	0.0192	41153
Oct-12	0.1278	0.0240	41183
Nov-12	0.1383	0.0228	41214
Dec-12	0.1382	0.0216	41244
Jan-13	0.1412	0.0264	41275
Feb-13	0.1081	0.0264	41306
Mar-13	0.1143	0.0252	41334
Apr-13	0.1377	0.0312	41365
May-13	0.2463	0.0264	41395
Jun-13	0.1784	0.0276	41426
Jul-13	0.2140	0.0360	41456
Aug-13	0.1546	0.0324	41487
Sep-13	0.1587	0.0348	41518
Oct-13	0.2371	0.0348	41548
Nov-13	0.2720	0.0312	41579
Dec-13	0.2869	0.0372	41609
Jan-14	0.1781	0.0372	41640
Feb-14	0.2238	0.0300	41671
Mar-14	0.1838	0.0348	41699
Apr-14	0.1720	0.0324	41730
May-14	0.1709	0.0336	41760
Jun-14	0.2162	0.0300	41791
Jul-14	0.1382	0.0312	41821
Aug-14	0.2225	0.0300	41852
Sep-14	0.1698	0.0276	41883
Oct-14	0.1427	0.0300	41913
Nov-14	0.1410	0.0276	41944
Dec-14	0.1105	0.0264	41974
Jan-15	0.1183	0.0240	42005
Feb-15	0.1372	0.0180	42036
Mar-15	0.1023	0.0252	42064
Apr-15	0.1071	0.0228	42095
May-15	0.0942	0.0240	42125
Jun-15	0.0467	0.0276	42156
Jul-15	0.0834	0.0288	42186
Aug-15	-0.0214	0.0264	42217
Sep-15	-0.0312	0.0252	42248
Oct-15	0.0271	0.0252	42278
Nov-15	0.0014	0.0264	42309
Dec-15	-0.0123	0.0264	42339
Jan-16	-0.0316	0.0252	42370
Feb-16	-0.0857	0.0240	42401
Mar-16	-0.0036	0.0216	42430
Apr-16	-0.0081	0.0204	42461
May-16	-0.0066	0.0240	42491
Jun-16	0.0186	0.0216	42522
Jul-16	0.0396	0.0168	42552
Aug-16	0.1066	0.0192	42583
Sep-16	0.1365	0.0180	42614

Month	MRP	Risk Free	Time
Oct-16	0.0261	0.0192	42644
Nov-16	0.0591	0.0216	42675
Dec-16	0.0934	0.0264	42705
Jan-17	0.1718	0.0288	42736
Feb-17	0.2247	0.0252	42767
Mar-17	0.1444	0.0276	42795
Apr-17	0.1542	0.0252	42826
May-17	0.1461	0.0288	42856
Jun-17	0.1539	0.0252	42887
Jul-17	0.1342	0.0264	42917
Aug-17	0.1362	0.0264	42948
Sep-17	0.1635	0.0228	42979
Oct-17	0.2100	0.0264	43009
Nov-17	0.2037	0.0252	43040
Dec-17	0.1944	0.0240	43070
Jan-18	0.2354	0.0288	43101
Feb-18	0.1447	0.0264	43132
Mar-18	0.1112	0.0288	43160
Apr-18	0.1026	0.0300	43191
May-18	0.1138	0.0300	43221
Jun-18	0.1162	0.0276	43252
Jul-18	0.1324	0.0300	43282
Aug-18	0.1666	0.0300	43313
Sep-18	0.1527	0.0264	43344
Oct-18	0.0375	0.0360	43374
Nov-18	0.0291	0.0336	43405
Dec-18	-0.0762	0.0324	43435

EXHIBIT RBH-R-11

CAPM vs. ECAPM Security Market Line
Using Dr. Woolridge's Inputs

Beta	Risk-Free Rate	ECAPM alpha		
	MRP	4.00%	5.50%	
	CAPM	ECAPM	1.00%	2.00%
0.00	4.00%	5.38%	5.00%	6.00%
0.01	4.06%	5.42%	5.05%	6.04%
0.02	4.11%	5.46%	5.09%	6.07%
0.03	4.17%	5.50%	5.14%	6.11%
0.04	4.22%	5.54%	5.18%	6.14%
0.05	4.28%	5.58%	5.23%	6.18%
0.06	4.33%	5.62%	5.27%	6.21%
0.07	4.39%	5.66%	5.32%	6.25%
0.08	4.44%	5.71%	5.36%	6.28%
0.09	4.50%	5.75%	5.41%	6.32%
0.10	4.55%	5.79%	5.45%	6.35%
0.11	4.61%	5.83%	5.50%	6.39%
0.12	4.66%	5.87%	5.54%	6.42%
0.13	4.72%	5.91%	5.59%	6.46%
0.14	4.77%	5.95%	5.63%	6.49%
0.15	4.83%	5.99%	5.68%	6.53%
0.16	4.88%	6.04%	5.72%	6.56%
0.17	4.94%	6.08%	5.77%	6.60%
0.18	4.99%	6.12%	5.81%	6.63%
0.19	5.05%	6.16%	5.86%	6.67%
0.20	5.10%	6.20%	5.90%	6.70%
0.21	5.16%	6.24%	5.95%	6.74%
0.22	5.21%	6.28%	5.99%	6.77%
0.23	5.27%	6.32%	6.04%	6.81%
0.24	5.32%	6.37%	6.08%	6.84%
0.25	5.38%	6.41%	6.13%	6.88%
0.26	5.43%	6.45%	6.17%	6.91%
0.27	5.49%	6.49%	6.22%	6.95%
0.28	5.54%	6.53%	6.26%	6.98%
0.29	5.60%	6.57%	6.31%	7.02%
0.30	5.65%	6.61%	6.35%	7.05%
0.31	5.71%	6.65%	6.40%	7.09%
0.32	5.76%	6.70%	6.44%	7.12%
0.33	5.82%	6.74%	6.49%	7.16%
0.34	5.87%	6.78%	6.53%	7.19%
0.35	5.93%	6.82%	6.58%	7.23%
0.36	5.98%	6.86%	6.62%	7.26%
0.37	6.04%	6.90%	6.67%	7.30%
0.38	6.09%	6.94%	6.71%	7.33%
0.39	6.15%	6.98%	6.76%	7.37%
0.40	6.20%	7.03%	6.80%	7.40%
0.41	6.26%	7.07%	6.85%	7.44%

Beta	CAPM	ECAPM	1.00%	2.00%
0.42	6.31%	7.11%	6.89%	7.47%
0.43	6.37%	7.15%	6.94%	7.51%
0.44	6.42%	7.19%	6.98%	7.54%
0.45	6.48%	7.23%	7.03%	7.58%
0.46	6.53%	7.27%	7.07%	7.61%
0.47	6.59%	7.31%	7.12%	7.65%
0.48	6.64%	7.36%	7.16%	7.68%
0.49	6.70%	7.40%	7.21%	7.72%
0.50	6.75%	7.44%	7.25%	7.75%
0.51	6.81%	7.48%	7.30%	7.79%
0.52	6.86%	7.52%	7.34%	7.82%
0.53	6.92%	7.56%	7.39%	7.86%
0.54	6.97%	7.60%	7.43%	7.89%
0.55	7.03%	7.64%	7.48%	7.93%
0.56	7.08%	7.69%	7.52%	7.96%
0.57	7.14%	7.73%	7.57%	8.00%
0.58	7.19%	7.77%	7.61%	8.03%
0.59	7.25%	7.81%	7.66%	8.07%
0.60	7.30%	7.85%	7.70%	8.10%
0.61	7.36%	7.89%	7.75%	8.14%
0.62	7.41%	7.93%	7.79%	8.17%
0.63	7.47%	7.97%	7.84%	8.21%
0.64	7.52%	8.02%	7.88%	8.24%
0.65	7.58%	8.06%	7.93%	8.28%
0.66	7.63%	8.10%	7.97%	8.31%
0.67	7.69%	8.14%	8.02%	8.35%
0.68	7.74%	8.18%	8.06%	8.38%
0.69	7.80%	8.22%	8.11%	8.42%
0.70	7.85%	8.26%	8.15%	8.45%
0.71	7.91%	8.30%	8.20%	8.49%
0.72	7.96%	8.35%	8.24%	8.52%
0.73	8.02%	8.39%	8.29%	8.56%
0.74	8.07%	8.43%	8.33%	8.59%
0.75	8.13%	8.47%	8.38%	8.63%
0.76	8.18%	8.51%	8.42%	8.66%
0.77	8.24%	8.55%	8.47%	8.70%
0.78	8.29%	8.59%	8.51%	8.73%
0.79	8.35%	8.63%	8.56%	8.77%
0.80	8.40%	8.68%	8.60%	8.80%
0.81	8.46%	8.72%	8.65%	8.84%
0.82	8.51%	8.76%	8.69%	8.87%
0.83	8.57%	8.80%	8.74%	8.91%
0.84	8.62%	8.84%	8.78%	8.94%
0.85	8.68%	8.88%	8.83%	8.98%
0.86	8.73%	8.92%	8.87%	9.01%
0.87	8.79%	8.96%	8.92%	9.05%
0.88	8.84%	9.01%	8.96%	9.08%
0.89	8.90%	9.05%	9.01%	9.12%

Beta	CAPM	ECAPM	1.00%	2.00%
0.90	8.95%	9.09%	9.05%	9.15%
0.91	9.01%	9.13%	9.10%	9.19%
0.92	9.06%	9.17%	9.14%	9.22%
0.93	9.12%	9.21%	9.19%	9.26%
0.94	9.17%	9.25%	9.23%	9.29%
0.95	9.23%	9.29%	9.28%	9.33%
0.96	9.28%	9.34%	9.32%	9.36%
0.97	9.34%	9.38%	9.37%	9.40%
0.98	9.39%	9.42%	9.41%	9.43%
0.99	9.45%	9.46%	9.46%	9.47%
1.00	9.50%	9.50%	9.50%	9.50%
1.01	9.56%	9.54%	9.55%	9.54%
1.02	9.61%	9.58%	9.59%	9.57%
1.03	9.67%	9.62%	9.64%	9.61%
1.04	9.72%	9.67%	9.68%	9.64%
1.05	9.78%	9.71%	9.73%	9.68%
1.06	9.83%	9.75%	9.77%	9.71%
1.07	9.89%	9.79%	9.82%	9.75%
1.08	9.94%	9.83%	9.86%	9.78%
1.09	10.00%	9.87%	9.91%	9.82%
1.10	10.05%	9.91%	9.95%	9.85%
1.11	10.11%	9.95%	10.00%	9.89%
1.12	10.16%	10.00%	10.04%	9.92%
1.13	10.22%	10.04%	10.09%	9.96%
1.14	10.27%	10.08%	10.13%	9.99%
1.15	10.33%	10.12%	10.18%	10.03%
1.16	10.38%	10.16%	10.22%	10.06%
1.17	10.44%	10.20%	10.27%	10.10%
1.18	10.49%	10.24%	10.31%	10.13%
1.19	10.55%	10.28%	10.36%	10.17%
1.20	10.60%	10.33%	10.40%	10.20%
1.21	10.66%	10.37%	10.45%	10.24%
1.22	10.71%	10.41%	10.49%	10.27%
1.23	10.77%	10.45%	10.54%	10.31%
1.24	10.82%	10.49%	10.58%	10.34%
1.25	10.88%	10.53%	10.63%	10.38%
1.26	10.93%	10.57%	10.67%	10.41%
1.27	10.99%	10.61%	10.72%	10.45%
1.28	11.04%	10.66%	10.76%	10.48%
1.29	11.10%	10.70%	10.81%	10.52%
1.30	11.15%	10.74%	10.85%	10.55%
1.31	11.21%	10.78%	10.90%	10.59%
1.32	11.26%	10.82%	10.94%	10.62%
1.33	11.32%	10.86%	10.99%	10.66%
1.34	11.37%	10.90%	11.03%	10.69%
1.35	11.43%	10.94%	11.08%	10.73%
1.36	11.48%	10.99%	11.12%	10.76%
1.37	11.54%	11.03%	11.17%	10.80%

Beta	CAPM	ECAPM	1.00%	2.00%
1.38	11.59%	11.07%	11.21%	10.83%
1.39	11.65%	11.11%	11.26%	10.87%
1.40	11.70%	11.15%	11.30%	10.90%
1.41	11.76%	11.19%	11.35%	10.94%
1.42	11.81%	11.23%	11.39%	10.97%
1.43	11.87%	11.27%	11.44%	11.01%
1.44	11.92%	11.32%	11.48%	11.04%
1.45	11.98%	11.36%	11.53%	11.08%
1.46	12.03%	11.40%	11.57%	11.11%
1.47	12.09%	11.44%	11.62%	11.15%
1.48	12.14%	11.48%	11.66%	11.18%
1.49	12.20%	11.52%	11.71%	11.22%
1.50	12.25%	11.56%	11.75%	11.25%

Source:
Exhibit JRW-9, Page 1

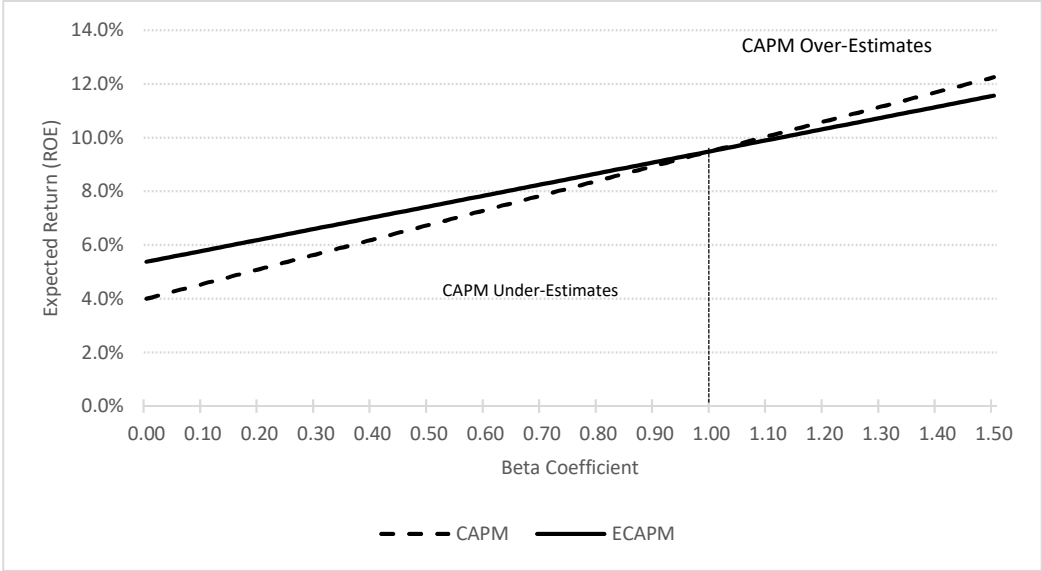


EXHIBIT RBH-R-12

Bond Yield Plus Risk Premium - Settled Cases

	[1]	[2]	[3] 30-Year Treasury Yield	[4] Risk Premium	[5] Return on Equity
	Constant	Slope			
Current	-2.29%	-0.026	2.63%	7.09%	9.72%
Near-Term Projected	-2.29%	-0.026	2.70%	7.03%	9.73%
Long-Term Projected	-2.29%	-0.026	3.70%	6.21%	9.91%

Notes:

[1] Constant of regression equation

[2] Slope of regression equation

[3] Source: Current = Bloomberg Professional

[3] Near Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 7, July 1, 2019, at 2.

[3] Long Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 6, June 1 2019, at 14.

[4] Equals [1] + ln([3]) x [2]

[5] Equals [3] + [4]

Bond Yield Plus Risk Premium - Fully Litigated Cases

	[1]	[2]	[3] 30-Year Treasury Yield	[4] Risk Premium	[5] Return on Equity
	Constant	Slope			
Current	-2.98%	-0.028	2.63%	7.36%	9.99%
Near Term Projected	-2.98%	-0.028	2.70%	7.29%	9.99%
Long-Term Projected	-2.98%	-0.028	3.70%	6.39%	10.09%

Notes:

[1] Constant of regression equation

[2] Slope of regression equation

[3] Source: Current = Bloomberg Professional

[3] Near Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 7, July 1, 2019, at 2.

[3] Long Term Projected = Blue Chip Financial Forecasts, Vol. 38, No. 6, June 1 2019, at 14.

[4] Equals [1] + ln([3]) x [2]

[5] Equals [3] + [4]

EXHIBIT RBH-R-13

Implied Return on Equity with M/B Ratio at Unity

Institution Name	Ticker	2018	Price/ Book (%)
		ROACE	Value
ALLETE, Inc.	ALE	8.26	182.1
Alliant Energy Corporation	LNT	11.68	217.5
Ameren Corporation	AEE	10.98	209.0
American Electric Power Company, Inc.	AEP	10.28	193.7
Atmos Energy Corporation	ATO	13.11	219.1
Avangrid, Inc.	AGR	3.93	102.5
Avista Corporation	AVA	7.77	157.4
Black Hills Corporation	BKH	13.98	172.7
CenterPoint Energy, Inc.	CNP	6.74	223.9
Chesapeake Utilities Corporation	CPK	11.18	255.3
CMS Energy Corporation	CMS	14.12	295.9
Consolidated Edison, Inc.	ED	8.74	146.7
Dominion Energy, Inc.	D	13.44	242.0
DTE Energy Company	DTE	11.25	196.0
Duke Energy Corporation	DUK	6.27	143.2
Edison International	EIX	-3.63	176.8
El Paso Electric Company	EE	7.29	175.2
Entergy Corporation	ETR	10.34	184.0
Eversource Energy	ES	9.15	179.4
Exelon Corporation	EXC	6.58	141.9
FirstEnergy Corp.	FE	14.59	285.1
Hawaiian Electric Industries, Inc.	HE	9.54	184.4
IDACORP, Inc.	IDA	9.83	197.8
MGE Energy, Inc.	MGEE	10.56	254.5
New Jersey Resources Corporation	NJR	16.70	286.8
NextEra Energy, Inc.	NEE	20.24	243.3
NiSource Inc.	NI	-1.31	164.1
Northwest Natural Holding Company	NWN	8.55	229.0
NorthWestern Corporation	NWE	10.50	154.0
OGE Energy Corp.	OGE	10.85	195.4
ONE Gas, Inc.	OGS	8.55	204.8
Otter Tail Corporation	OTTR	11.51	270.1
Pinnacle West Capital Corporation	PNW	9.96	182.9
PNM Resources, Inc.	PNM	4.99	193.9
Portland General Electric Company	POR	8.60	163.3
PPL Corporation	PPL	16.08	175.1
Public Service Enterprise Group Incorporated	PEG	10.14	182.5
Sempra Energy	SRE	6.49	199.1
South Jersey Industries, Inc.	SJI	1.40	187.6
Southern Company	SO	9.12	183.7
Southwest Gas Holdings, Inc.	SWX	9.36	180.1
Spire Inc.	SR	9.87	165.2
WEC Energy Group, Inc.	WEC	10.92	223.2
Xcel Energy Inc.	XEL	10.68	207.2

Source of Information: S&P Market Intelligence

Implied Return on Equity with M/B Ratio at Unity

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.533472682
R Square	0.284593103
Adjusted R Square	0.267559605
Standard Error	35.32285153
Observations	44

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	20846.44721	20846.44721	16.70784888	0.00019237
Residual	42	52403.5613	1247.703841		
Total	43	73250.00851			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	149.3350974	13.12185297	11.38064096	2.05708E-14	122.854126	175.8160688
X Variable 1	5.145452231	1.258818977	4.087523563	0.00019237	2.605052686	7.685851776

ROE (%)	PRICE/BOOK
-28.83	1.00
-28.81	1.10

EXHIBIT RBH-R-14

Constant Growth Discounted Cash Flow Model and Credit Ratings
30 Day Dividend Yield

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
		Dividend Yield	Expected Dividend Yield	Yahoo Earnings Growth	Reuters Earnings Growth	Zacks Earnings Growth	Average Earnings Growth	Mean ROE	S&P Issuer Credit Rating
Atmos Energy Company	ATO	2.00%	2.07%	6.50%	6.50%	6.50%	6.50%	8.57%	A
Chesapeake Utilities	CPK	1.70%	1.76%	6.00%	7.20%	7.00%	6.73%	8.49%	NR
New Jersey Resources Corp	NJR	2.40%	2.48%	6.00%	6.00%	7.00%	6.33%	8.81%	A
Northwest Natural Gas Co.	NWN	2.80%	2.86%	4.00%	4.00%	4.50%	4.17%	7.03%	BBB+
One Gas, Inc.	OGS	2.20%	2.26%	5.00%	5.00%	5.90%	5.30%	7.56%	A
South Jersey Industries, Inc.	SJI	3.50%	3.61%	5.90%	5.90%	7.20%	6.33%	9.94%	BBB
Southwest Gas Corporation	SWX	2.50%	2.58%	6.10%	6.10%	6.20%	6.13%	8.71%	BBB+
Spire Inc.	SR	2.80%	2.85%	2.80%	2.80%	4.90%	3.50%	6.35%	A-
PROXY GROUP MEAN		2.49%	2.56%	5.29%	5.44%	6.15%	5.63%	8.18%	A-
PROXY GROUP MEDIAN		2.45%	2.53%	5.95%	5.95%	6.35%	6.23%	8.53%	A-

Notes:

[1] Source: Exhibit JRW-8

[2] Equals [1] x (1 + 0.5 x [6])

[3] Source: Exhibit JRW-8

[4] Source: Exhibit JRW-8

[5] Source: Exhibit JRW-8

[6] Equals Average([3], [4], [5])

[7] Equals [2] + [6]

[8] Source: Exhibit JRW-2

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Constant Growth Discounted Cash Flow Model and Credit Ratings
90 Day Dividend Yield

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
		Dividend Yield	Expected Dividend Yield	Yahoo Earnings Growth	Reuters Earnings Growth	Zacks Earnings Growth	Average Earnings Growth	Mean ROE	S&P Issuer Credit Rating
Atmos Energy Company	ATO	2.10%	2.17%	6.50%	6.50%	6.50%	6.50%	8.67%	A
Chesapeake Utilities	CPK	1.80%	1.86%	6.00%	7.20%	7.00%	6.73%	8.59%	NR
New Jersey Resources Corp	NJR	2.40%	2.48%	6.00%	6.00%	7.00%	6.33%	8.81%	A
Northwest Natural Gas Co.	NWN	2.80%	2.86%	4.00%	4.00%	4.50%	4.17%	7.03%	BBB+
One Gas, Inc.	OGS	2.30%	2.36%	5.00%	5.00%	5.90%	5.30%	7.66%	A
South Jersey Industries, Inc.	SJI	3.60%	3.71%	5.90%	5.90%	7.20%	6.33%	10.05%	BBB
Southwest Gas Corporation	SWX	2.60%	2.68%	6.10%	6.10%	6.20%	6.13%	8.81%	BBB+
Spire Inc.	SR	2.90%	2.95%	2.80%	2.80%	4.90%	3.50%	6.45%	A-
PROXY GROUP MEAN		2.56%	2.63%	5.29%	5.44%	6.15%	5.63%	8.26%	A-
PROXY GROUP MEDIAN		2.50%	2.58%	5.95%	5.95%	6.35%	6.23%	8.63%	A-

Notes:

- [1] Source: Exhibit JRW-8
[2] Equals $[1] \times (1 + 0.5 \times [6])$
[3] Source: Exhibit JRW-8
[4] Source: Exhibit JRW-8
[5] Source: Exhibit JRW-8
[6] Equals $\text{Average}([3], [4], [5])$
[7] Equals $[2] + [6]$
[8] Source: Exhibit JRW-2

Constant Growth Discounted Cash Flow Model and Credit Ratings
180 Day Dividend Yield

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
		Dividend Yield	Expected Dividend Yield	Yahoo Earnings Growth	Reuters Earnings Growth	Zacks Earnings Growth	Average Earnings Growth	Mean ROE	S&P Issuer Credit Rating
Atmos Energy Company	ATO	2.10%	2.17%	6.50%	6.50%	6.50%	6.50%	8.67%	A
Chesapeake Utilities	CPK	1.80%	1.86%	6.00%	7.20%	7.00%	6.73%	8.59%	NR
New Jersey Resources Corp	NJR	2.40%	2.48%	6.00%	6.00%	7.00%	6.33%	8.81%	A
Northwest Natural Gas Co.	NWN	2.90%	2.96%	4.00%	4.00%	4.50%	4.17%	7.13%	BBB+
One Gas, Inc.	OGS	2.40%	2.46%	5.00%	5.00%	5.90%	5.30%	7.76%	A
South Jersey Industries, Inc.	SJI	3.70%	3.82%	5.90%	5.90%	7.20%	6.33%	10.15%	BBB
Southwest Gas Corporation	SWX	2.70%	2.78%	6.10%	6.10%	6.20%	6.13%	8.92%	BBB+
Spire Inc.	SR	3.00%	3.05%	2.80%	2.80%	4.90%	3.50%	6.55%	A-
PROXY GROUP MEAN		2.63%	2.70%	5.29%	5.44%	6.15%	5.63%	8.32%	A-
PROXY GROUP MEDIAN		2.55%	2.63%	5.95%	5.95%	6.35%	6.23%	8.63%	A-

Notes:

[1] Source: Exhibit JRW-8

[2] Equals [1] x (1 + 0.5 x [6])

[3] Source: Exhibit JRW-8

[4] Source: Exhibit JRW-8

[5] Source: Exhibit JRW-8

[6] Equals Average([3], [4], [5])

[7] Equals [2] + [6]

[8] Source: Exhibit JRW-2

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EXHIBIT RBH-R-15

Dr. Woolridge Exhibit JRW-13 Corrected Operating Income

COMPANY POSITION

	% Total	Cost Rate	Wgtd Cost Rate	
[1] Long-Term Debt	47.18%	4.55%	2.15%	
[2] Short-Term Debt	0.82%	2.82%	0.02%	
[3] Common Equity	52.00%	10.60%	5.51%	
[4]			7.68%	
[5] Rate Base		\$	3,299,177,177	
[6] Operating Income		\$	253,436,654	Equals [4] x [5]

[7]

[8]

[9] EXHIBIT JRW-13 AS FILED

	% Total	Cost Rate	Wgtd Cost Rate	
[10] Long-Term Debt	0.85%	4.55%	0.04%	
[11] Short-Term Debt	49.15%	2.82%	1.39%	
[12] Common Equity	50.00%	9.00%	4.50%	
[13]			5.92%	
[14] Rate Base		\$	3,299,177,177	
[15] Operating Income		\$	195,466,515	Equals [14] x [15]

[16]

[17]

[18]

[19] DIFFERENCE NET INCOME \$ (57,970,139) Equals [16] - [6]

[20]

[21]

[22] EXHIBIT JRW-13 CORRECTED

	% Total	Cost Rate	Wgtd Cost Rate	
[23] Long-Term Debt	49.15%	4.55%	2.24%	
[24] Short-Term Debt	0.85%	2.82%	0.02%	
[25] Common Equity	50.00%	9.00%	4.50%	
[26]			6.76%	
[27] Rate Base		\$	3,299,177,177	
[28] Operating Income		\$	223,034,110	Equals [27] x [28]

[29]

[30] CORRECTED DIFFERENCE \$ (30,402,545) Equals [29] - [6]

[31]

[32] Revenue Requirement \$ 1,003,429,366 Exhibit_(PKP-7), Page 1 of 5

[33] Difference as a % of Revenue Requirement -3.03% Equals [31] / [32]

[34] Difference as a % of Operating Income -12.00% Equals [31] / [6]

[35]

Dr. Woolridge Exhibit JRW-13 Corrected Net Income

COMPANY POSITION

	% Total	Cost Rate	Wgtd Cost Rate
[1] Long-Term Debt	47.18%	4.55%	2.15%
[2] Short-Term Debt	0.82%	2.82%	0.02%
[3] Common Equity	52.00%	10.60%	5.51%
[4]			7.68%
[5] Rate Base		\$	3,299,177,177
[6] Net Income		\$	181,850,646

Equals [3] x [5]

[7]

[8]

[9] EXHIBIT JRW-13 AS FILED

	% Total	Cost Rate	Wgtd Cost Rate
[10]			
[11] Long-Term Debt	0.85%	4.55%	0.04%
[12] Short-Term Debt	49.15%	2.82%	1.39%
[13] Common Equity	50.00%	9.00%	4.50%
[14]			5.92%
[15] Rate Base		\$	3,299,177,177
[16] Net Income		\$	148,462,973

Equals [13] x [15]

[17]

[18]

[19] DIFFERENCE NET INCOME \$ (33,387,673) Equals [16] - [6]

[20]

[21]

[22] EXHIBIT JRW-13 CORRECTED

	% Total	Cost Rate	Wgtd Cost Rate
[23]			
[24] Long-Term Debt	49.15%	4.55%	2.24%
[25] Short-Term Debt	0.85%	2.82%	0.02%
[26] Common Equity	50.00%	9.00%	4.50%
[27]			6.76%
[28] Rate Base		\$	3,299,177,177
[29] Net Income		\$	148,462,973

Equals [26] x [28]

[30]

[31] CORRECTED DIFFERENCE \$ (33,387,673) Equals [29] - [6]

[32]

[33] Revenue Requirement \$ 1,003,429,366 Exhibit_(PKP-7), Page 1 of 5

[34] Difference as a % of Revenue Requirement -3.33% Equals [31] / [33]

[35] Difference as a % of Net Income -18.36% Equals [31] / [6]