



Control Number: 46245



Item Number: 614

Addendum StartPage: 0

SOAH DOCKET NO. 473-17-0019.WS
PUC DOCKET NO. 46245

RECEIVED
2017 OCT 16 PM 1:50
PUBLIC UTILITY COMMISSION
FILING CLERK

APPLICATION OF DOUBLE § BEFORE THE STATE OFFICE
DIAMOND UTILITY COMPANY, INC. §
FOR WATER AND SEWER § OF
RATE/TARIFF CHANGE §
§ ADMINISTRATIVE HEARINGS

REBUTTAL TESTIMONY AND EXHIBITS
OF
GREGORY E. SCHEIG, CPA/ABV/CFF/CGMA, CFA
ON BEHALF OF
DOUBLE DIAMOND UTILITY COMPANY, INC.

October 16, 2017

614

TESTIMONY INDEX

<u>SUBJECT</u>	<u>PAGE</u>
I. INTRODUCTION AND QUALIFICATIONS	1
II. PURPOSE AND SUMMARY OF TESTIMONY	2
III. REVIEW OF SEARS TESTIMONY	3
IV. ESTIMATING THE COST OF EQUITY	14
V. COST OF EQUITY ANALYSES FOR DDU.....	19
VI. COMPARISON OF ROE CONCLUSIONS	30

EXHIBITS

Exhibit DDU-10A	Gregory E. Scheig, CPA/ABV/CFF/CGMA, CFA Resume
Exhibit DDU-10B	Schedules

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Gregory E. Scheig. I am a Principal of ValueScope, Inc., 950 E. State Highway
4 114, Suite 120, Southlake, TX 76092.

5 **Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND DESCRIBE**
6 **YOUR PROFESSIONAL TRAINING AND EXPERIENCE.**

7 A. I have a Bachelor of Science degree in petroleum engineering and a Master of Business
8 Administration in finance from The University of Texas in Austin, Texas. I began my
9 career with FINANCO, Inc., where I spent approximately ten years supporting Dr. Samuel
10 C. Hadaway in preparation of cost of capital testimony. I also performed financial
11 modeling and developed valuation analyses for utility and non-utility companies and
12 assets.

13 After my time with FINANCO, Inc., I worked with Deloitte Consulting as a Senior
14 Manager in their utility strategy practice. At Deloitte, I performed substantive work on
15 numerous regulatory projects in the area of utility M&A and deregulation (“unbundling”).

16 Following Deloitte, I worked with CBIZ Valuation Group as a Managing Director
17 and with Kroll as a Senior Director. In these roles, I focused on business valuation projects
18 for financial reporting, tax reporting, other management requirements and provided expert
19 testimony. I have been a Principal with ValueScope since 2008.

20 I earned the designation of Chartered Financial Analyst (CFA) in 1991 and the
21 designation of Certified Public Accountant (CPA) in 1997. As a member of the AICPA, I
22 am Accredited in Business Valuation (ABV), Certified in Financial Forensics (CFF) and a
23 Chartered Global Management Accountant (CGMA). I have done rate of return and

1 business valuation analyses for over 25 years; each of my projects required the
2 consideration of appropriate market capital structures and rates of return. A list of my
3 publications, speaking engagements, and testimony I have given before various courts and
4 regulatory agencies is contained in my resume, which is included as Exhibit DDU-10A.

5 **II. PURPOSE AND SUMMARY OF TESTIMONY**

6 **Q. WHO RETAINED YOU TO PROVIDE TESTIMONY IN THIS PROCEEDING?**

7 A. I have been retained by Double Diamond Utility Company, Inc. (“DDU”).

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

9 A. The purpose of my rebuttal testimony is to address the recommendations of Emily Sears
10 on behalf of the Public Utility Commission of Texas (“PUCT”). I have also been asked to
11 determine an independent assessment of a fair rate of return for DDU’s cost of equity
12 capital (also referred to as the “return on equity” or “ROE”). I also calculated an overall
13 rate of return (“ROR”) for the company reflecting its capital structure and cost of debt.

14 **Q. ARE YOU PROVIDING ANY EXHIBITS WITH YOUR TESTIMONY?**

15 A. Yes, Exhibit DDU-10A is a copy of my qualifications, and Exhibit DDU-10B includes all
16 of the schedules detailing my analyses.

17 **Q. ON WHAT DO YOU BASE THE OPINIONS IN YOUR TESTIMONY?**

18 A. I base the opinions expressed in this testimony on my review of Ms. Sears’s testimony, my
19 research of current market conditions, my analyses included in Exhibit DDU-10B and my
20 extensive financial experience and training.

21 **Q. PLEASE OUTLINE AND DESCRIBE THE TESTIMONY YOU WILL PRESENT.**

1 A. My testimony is divided into seven sections, including this section and the previous one
 2 (Sections I and II). In Section III, I discuss Ms. Sears' testimony and its limitations and
 3 deficiencies. In Section IV, I review various methods for estimating the cost of equity. In
 4 this section, I specifically discuss:

- 5 • The capital asset pricing model ("CAPM"),
- 6 • the discounted cash flow ("DCF") method,
- 7 • the Risk Premium method, and
- 8 • the Expected Earnings method.

9 In Section V, I discuss the indicated results and conclusion of my cost of equity
 10 studies. In Section VI, I compare the ROE conclusions of my analysis, Ms. Sears'
 11 testimony, and various guideline models developed by state commissions and their staff.

12 **III. REVIEW OF SEARS TESTIMONY**

13 **Q. WHAT RATES OF RETURN DOES MS. SEARS RECOMMEND FOR DDU?**

14 A. Ms. Sears's recommendations for DDU's ROE and rate of return are summarized in the
 15 following table in her testimony:

Attachment ES - 6
Page 1 of 2

Summary of Cost of Capital			
Type of Capital	Ratio	Cost Rate	Weighted Cost
Long term Debt	47.27%	4.91%	2.32%
Common Equity	52.73%	8.79%	4.64%
Total	100.00%		6.96%

16

1 **Q. DO YOU AGREE WITH HER CONCLUSIONS?**

2 A. No. As discussed in this testimony, Ms. Sears' analyses have mathematical errors and do
3 not adequately account for the risk of an illiquid common stock equity investment in a
4 small private company such as DDU.

5 **Q. PLEASE SUMMARIZE YOUR CONCERNS WITH HER CONCLUSIONS.**

6 A. A fair and reasonable ROE must adequately compensate investors for the risk of an
7 equity investment in a company, as guided by principles established in the U.S. Supreme
8 Court cases, *Bluefield Waterworks* and *Hope Natural Gas*. The *Bluefield* decision noted:

9 *A public utility is entitled to such rates as will permit it to earn a return on*
10 *the value of the property which it employs for the convenience of the public*
11 *equal to that generally being made at the same time and in the same general*
12 *part of the country on investments in other business undertakings which are*
13 *attended by corresponding risks and uncertainties; but it has no*
14 *constitutional right to profits such as are realized or anticipated in highly*
15 *profitable enterprises or speculative ventures.*¹

16 By these standards, the return to the equity owner should be commensurate with returns on
17 investments in other enterprises having corresponding risks and should be sufficient to
18 assure confidence in the financial integrity of the enterprise, so as to maintain its credit and
19 to attract capital.²

20 Unlike the interest costs for a regulated utility's debt capital, equity investors'
21 required returns must be estimated. Financial theory and industry practice support the use
22 of a variety of models and observable market-based inputs to estimate the required returns
23 for investors in different companies and assets. However, each financial model has

¹ *Bluefield Waterworks & Improvement Company v. Public Service Commission of West Virginia*, 262 U.S. 679, 692
693 (1923).

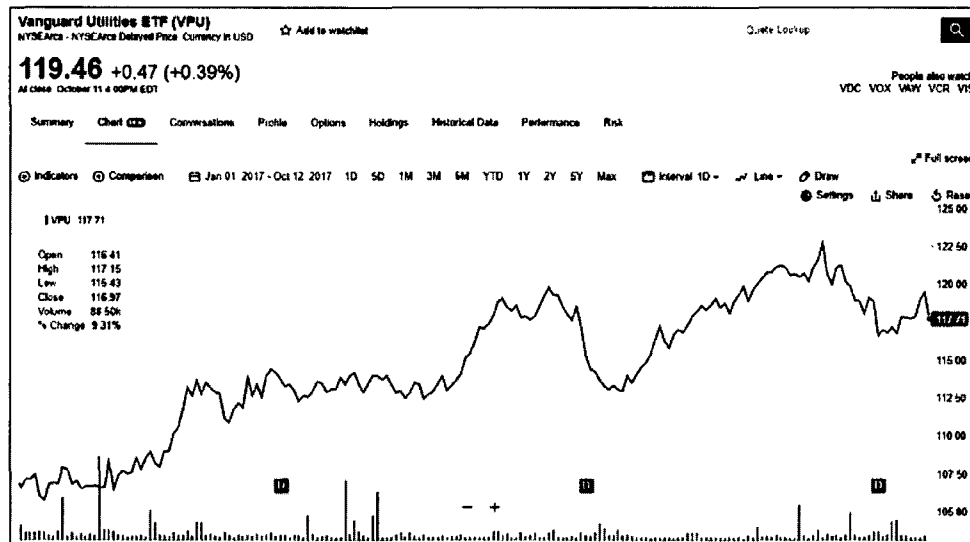
² *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

1 strengths and weaknesses, and therefore an ROE conclusion based upon multiple models
2 is more supportable than that of a single model.

3 Ms. Sears' testimony indicated she relied upon a constant growth DCF model, with
4 a "check of reasonableness" based on her application of the Capital Asset Pricing Model
5 ("CAPM"). As discussed later in this testimony, each of these models has mathematical
6 errors and flawed inputs. Ms. Sears' reliance on these limited analyses, excluding other
7 recognized financial models, results in an ROE that does not adequately compensate
8 DDU's equity investors for the risk of an illiquid common stock equity investment in a
9 small private company such as DDU.

10 **Q. WHAT PROBLEMS DID YOU NOTE IN MS. SEARS' RELIANCE ON THE**
11 **CONSTANT GROWTH DCF MODEL?**

12 **A.** Although the Constant Growth DCF model is a recognized model used to estimate required
13 returns on equity, it is based upon very simplistic assumptions which limit its reliability.
14 First and foremost, it assumes a single, constant growth rate into perpetuity, implying a
15 constant upward trend for a stock's price. As shown in the graphic below, the year to date
16 price history for Vanguard's Utilities ETF reflects constantly changing investor
17 expectation and risk considerations:



1
2 One positive aspect of the Constant Growth DCF is that it requires relatively few inputs,
3 but at the end of the day, the growth rate assumed drives the model's conclusion. The only
4 observable, measurable input to the Constant Growth DCF model is a company's historical
5 dividend yield, "D(0)/P", calculated as the dividends received over the last year divided by
6 that stock's current price. This historical dividend yield must then be increased by an
7 assumed growth rate to calculate D(1)/P, which is then added to an assumed growth rate
8 to determine the estimated ROE.

9 **Q. WHAT ARE OTHER LIMITATIONS OF THE CONSTANT GROWTH DCF**
10 **MODEL?**

11 **A.** In addition to the simplified assumption of a single constant growth rate for dividends into
12 perpetuity, this model also assumes that investors depend on dividends as their sole source
13 of cash flows. Many "growth companies" never pay dividends, reflecting the expectation
14 that equity capital will earn a higher rate of return for investors by reinvesting it in the
15 business, rather than by paying a dividend. Also, given the increased real-time information
16 available to investors, resulting in more liquid stock trades (with narrow bid-asked spreads)

1 and lower commissions offered by brokerages, many investors trade based on much
 2 shorter-term expectations and market movements. The increased use of trading algorithms
 3 and “robotraders” also shorten expected holding periods. This investor behavior
 4 contradicts the simplistic assumption that equity investors expect a return based only on a
 5 long-term stream of dividends, growing at an assumed constant rate.

6 **Q. HOW DID MS. SEARS APPLY THE CONSTANT GROWTH DCF MODEL FOR**
 7 **DDU?**

8 A. Ms. Sears developed a single application of the model combining a dividend yield of 2.21
 9 percent with an assumed growth rate of 6.58% based on the following table:

Attachment ES - 9

Five Year Growth Estimate Forecast for Eight Company Barometer Group

Company	Symbol	Yahoo! Finance	Zacks	Morning star	Value Line	Average
		Source				
American States Water Co	AWR	4.45%	5.00%	n/a	6.50%	5.32%
American Water Works	AWK	7.03%	7.40%	6.70%	8.50%	7.41%
Aqua America	WTR	5.50%	6.30%	n/a	7.00%	6.27%
California Water Service Group	CWT	9.70%	5.50%	n/a	9.00%	8.07%
Connecticut Water Service	CTWS	6.00%	6.00%	N/A	4.50%	5.50%
Middlesex Water	MSEX	2.70%	N/A	N/A	8.50%	5.60%
SJW Corp.	SJW	14.00%	N/A	n/a	3.00%	8.50%
York Water	YORW	4.90%	N/A	N/A	7.00%	5.95%
						<u>6.58%</u>

Source:
 Internet

April 10, 2017

10

1 Although Ms. Sears' analysis reference four different sources of growth rates, in fact,
2 Morningstar only covered one of the utilities. Her Zacks group only covered five of the
3 utilities.

4 **Q. DO YOU CONSIDER THE GROWTH RATES IN HER DCF ANALYSIS TO**
5 **REPRESENT A CONSENSUS VIEW OF THE MARKET'S EXPECTATIONS FOR**
6 **EACH COMPANY?**

7 A. No. Each of the growth rates is based on analyst estimates from brokers. To extrapolate
8 the market's expectation from analyst forecasts requires the use of informed judgment. Ms.
9 Sear's mechanically averaged disparate growth rates. This resulted in an unsupportable
10 conclusion, without additional research or analysis. For San Jose Water ("SJW"), Ms.
11 Sears' table shows two estimates of 14.0% and 3.0% for the same company into perpetuity,
12 which she averages to a single estimate of 8.50%. An analysis of Ms. Sears' concluded
13 ROE for DDU of 8.79% with SJW's dividend yield of 1.79% (Attachment ES-8), results
14 in the following expected prices for SJW:

SJW Constant Growth DCF / Stock Price Analysis											
Based on Attachments ES-6, ES-8 and ES-9											
Five Year Growth Estimate Forecast for Eight Company Barometer Group											
Company	Symbol	Yahoo! Finance	Value Line	Average	2018 Dividend	Sears' ROE Conclusion (ES-6)	Price Using Yahoo! Finance	Price Using Value Line	Price Using Average	Current Price (ES-8)	
SJW Corp	SJW	14.00%	3.00%	8.50%	\$0.93	8.79%	-\$17.85	\$16.06	\$320.69	\$55.17	

Sears' Constant Growth DCF Price Comparison

SJW Implied Stock Prices

Price Using Yahoo! Finance	Price Using Value Line	Price Using Average	Current Price (ES-8)
-\$18	\$16	\$321	\$55

1

2 The range of prices indicated by Ms. Sears' growth rates for SJW range from a negative
 3 \$18 share price (impossible in financial markets) to over \$320 per share, for a stock
 4 currently trading at approximately \$55 per share. This example illustrates that primary
 5 reliance on the Constant Growth DCF is problematic. It also shows that simply averaging
 6 two growth rates, without any additional analyses, does not automatically result in a more
 7 accurate conclusion.

8 **Q. WHAT PROBLEMS DID YOU NOTE WITH MS. SEARS' CAPM ANALYSES?**

9 A. Ms. Sears' CAPM analyses should not be considered reliable based on her assumptions of
 10 risk-free rate inputs, equity risk premia and failure to consider a small stock risk premium.

11

1 Q. WHAT ARE YOUR CONCERNS WITH MS. SEARS' RISK-FREE RATE
2 INPUTS?

3 A. The first point of concern is her use of a 10-year US Treasury bond yield, as opposed to a
4 30-year bond yield. The 30-year bond yield is consistent with the longer-term asset lives
5 for utilities. Given the term-structure of interest rates, Ms. Sears' models rely on a 10-year
6 Treasury bond yield which has a lower yield to maturity, not adequately compensating
7 DDU investors for the risk of an equity investment. Also, Ms. Sears' "Future Risk-Free
8 Rates" include second and third quarter historical rates from 2017, which are the lowest
9 ones shown in her review.

10 Ms. Sears also elected to weight her forecast 10-year bond yield for 2018-2022, 20-
11 quarters of time, with the same weight as a single quarter's forecast rate in her calculations.
12 Had Ms. Sears' used 2018-2022 Blue Chip forecast rate of 3.80% from her testimony, this
13 would have increased her concluded ROE by approximately 100 basis points to 9.68%,
14 resulting in a much more reasonable ROE estimate for a large public utility as reflected in
15 her "proxy" or "barometer" group.

16 Q. WHAT ARE YOUR CONCERNS WITH THE ERP INPUTS USED IN MS. SEARS'
17 CAPM ANALYSES?

18 A. Ms. Sears calculates an expected return for the market of 11.06% in her Attachment ES-
19 13, which she then used in Attachment E-14 to calculate an equity risk premium ("ERP")
20 for her ROE estimate. Although not shown explicitly, she calculates and uses a forward-
21 looking ERP of 8.25% in the CAPM analysis. Based on my analyses discussed later in this
22 testimony, this ERP is a more reasonable input for the CAPM analysis as compared to her
23 historical ERP of 5.82% that she calculated and used on Attachment ES-14. The CAPM

1 is a forward-looking model, and Ms. Sears' forward or future ERP is much more relevant
2 than the historic one she developed over a seemingly random set of time periods.

3 **Q. WHY DO YOU BELIEVE MS. SEARS' CAPM ANALYSIS REQUIRES AN**
4 **ADDITIONAL RISK PREMIUM FOR DDU'S SMALL SIZE AND ILLIQUIDITY?**

5 A. As discussed later in my testimony, Ms. Sears' application of the CAPM is more
6 appropriate for larger public utilities, but for a small private company like DDU, an
7 adjustment for small stock risk and lack of liquidity is required for the CAPM to conclude
8 reasonable results.

9 **Q. HOW DO THE POINTS NOTED ABOVE AFFECT THE RELIABILITY OF MS.**
10 **SEARS' CAPM ANALYSES?**

11 A. All of the points noted above lower the ROE calculated in the CAPM and reduce its
12 reliability. When compared to other benchmarks and checks of reasonableness, Ms. Sears'
13 ROE conclusions are too low and do not adequately compensate DDU's equity holders for
14 their equity investment risk.

15 **Q. AS SHOWN IN YOUR INDEPENDENT ANALYSES, WHAT RATES OF RETURN**
16 **ARE REQUIRED FOR DDU?**

17 A. My ROE and rate of return recommendations are based on the analyses that I developed
18 using a combination of CAPM models, DCF models, Risk Premium analyses, and an
19 Expected Earnings analysis. I developed the CAPM, DCF, and Expected Earnings models
20 using a comparable group of water utilities followed by *Value Line* and for which complete
21 and reliable data are available. My Risk Premium analysis is based on *Moody's* utility
22 industry interest rates, US Treasury Bond yields, and authorized rates of return approved
23 by various commissions for regulated electric and gas utilities. Similar information for
24 regulated water utilities was not available but given their similar market structures, and

1 observed market betas, an analysis of regulated gas and electric returns is appropriate. I
2 also considered adjustments to DDU's ROE for its very small capital size, lack of liquidity,
3 and private ownership. All of these traits of DDU vary from the public utility group. In
4 summary, a fair and reasonable ROE for DDU is 11.50%. Considering both DDU's and
5 Ms. Sears's requested capital structures and corresponding costs of debt, a fair and
6 reasonable ROR is 8.40%.

7 The following table contains the summary results of my calculations for DDU's ROE and
8 ROR:

Method		Equity Risk Premium	CAPM - Current Rf Rate, 2.86%	CAPM - Forecast Rf Rate, 3.06%	Indicated Cost of Equity	Weight
CAPM						
B.5, B.9	D&P Long-Term Average Returns	9.14%	9.37%	9.57%		
B.6, B.10	S&P500 Stocks (Div Yld+Growth)	10.66%	10.45%	10.65%		
B.7, B.11	S&P500 Stocks (Dividend Paying Only)	9.77%	9.82%	10.02%		
B.8, B.12	S&P500 Stocks (Dividends, 5.0%-20%)	8.96%	9.24%	9.44%	9.82%	30%
	Avg	9.63%				
DCF Analyses: Constant Growth						
C.1	Value Line Estimated Growth			Average 9.93%		
C.2	Yahoo Estimated Growth			9.27%	9.60%	20%
DCF Analyses: Non-Constant Growth						
C.4	3 Year Exit			Average 10.54%		
C.5	4 Year Exit			9.39%		
C.6	5 Year Exit			8.46%	9.46%	10%
Risk Premium- Authorized Gas Utility Returns						
D.1	Utility Bond Yields, Current			9.45%		
D.2	Utility Bond Yields, Forecast			9.72%		
D.3	Long Term Treasuries, Current Rf			9.54%		
D.4	Long Term Treasuries, Forecasted Rf			9.63%	9.59%	15%
Risk Premium- Authorized Electric Utility Returns						
D.6	Utility Bond Yields, Current			9.75%		
D.7	Utility Bond Yields, Forecast			9.97%		
D.8	Long Term Treasuries, Current Rf			9.88%		
D.9	Long Term Treasuries, Forecasted Rf			9.95%	9.89%	15%
Expected Earnings						
E.1	2017 and 2018 Estimates			Average 10.89%		
E.2	2021 Estimates			11.15%	11.02%	10%
Large Company ROE (rounded)					9.84%	100%
Small Stock Risk Premium Benchmarks (Schedule H.2)						
G.1	D&P Table - 10th Decile				5.59%	
	D&P Table - MicroCap Group				3.57%	
G.2	Comparable Utility Group				1.67%	
G.2	Differential: D&P for DDU less Comparable's Mean SSRP				3.92%	
G.2	Private Equity Liquidity Effects				3.00%	
G.2	Chicago Booth Study			4.00%	5.00%	
Minimum Required SSRP					1.67%	
DDU Concluded ROE					11.50%	
Rates of Return (Schedule I.1)						
Sears' Capital Structure, Cost of Debt					8.38%	
DDU Requested Capital Structure, Cost of Debt					8.43%	
DDU Concluded ROR					8.40%	

1

2

3

1

2

IV. ESTIMATING THE COST OF EQUITY

3

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

4

A. This section presents a definition of the cost of equity and discusses the methods for estimating the cost of equity.

5

6

Q. PLEASE DEFINE THE TERM "COST OF CAPITAL" AND HOW IT RELATES TO EQUITY SPECIFICALLY.

7

8

A. The cost of capital is the rate of return that investors require on their investment. The cost of equity capital is the rate of return that common stockholders require on their investment.

9

10

Common equity investors expect a return on their capital commensurate with the risks they

11

assume and the expected returns from other similar investments. Differences in risk

12

between investment types are accounted for in the market through price changes (volatility)

13

and the ultimate rates of return implied by that pricing.

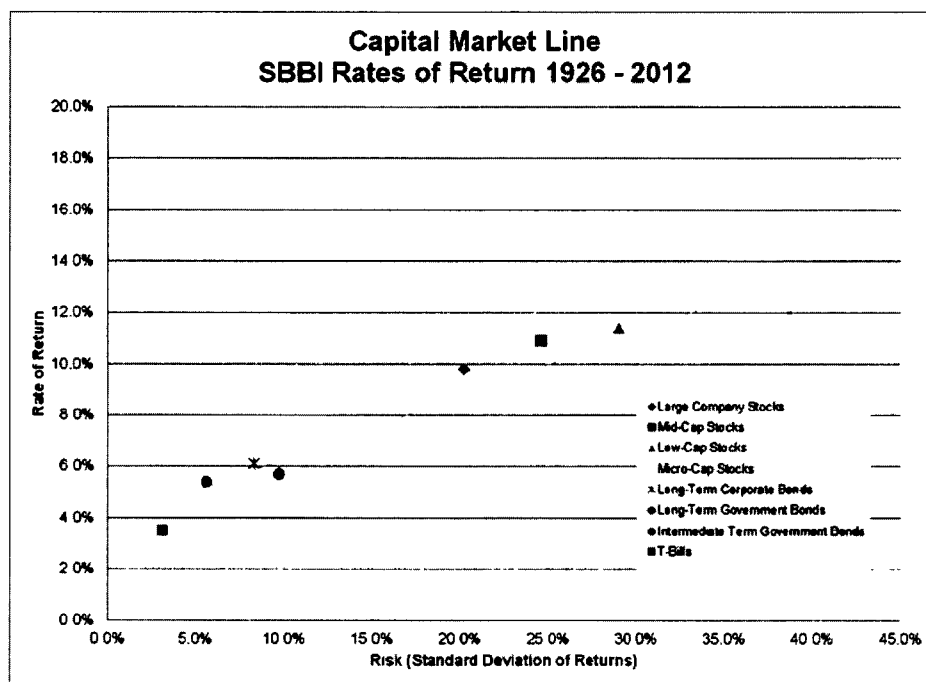
14

The following graph shows long-term historical rates of return calculated by

15

Morningstar.³

³ Stocks, Bonds, Bills and Inflation Valuation Yearbook, Ibbotson Associates, 2013, Table 2.1: "Total Returns, Income Returns, and Capital Appreciation of the Basic Asset Classes: Summary Statistics of Annual Returns", pg. 23.



1

2

This graph plots the realized rates of return from different investments versus their risk, as measured by the standard deviation of their returns. The line is referred to as the Capital Market Line and it demonstrates the relationship between risk and rates of return.

4

5 Q.

HOW IS THE FAIR RATE OF RETURN IN THE REGULATORY PROCESS RELATED TO THE ESTIMATED COST OF EQUITY?

6

7 A.

In my analysis for the cost of equity and rate of return, I applied observations taken from the debt and equity capital markets, which are reflective of investors' current return expectations and risk preferences.

9

10 Q.

WHAT FINANCIAL MODELS AND MARKET DATA DID YOU USE TO DETERMINE THE COST OF EQUITY?

11

12 A.

Four different financial models were considered and used in my study:

13

1. the CAPM;

14

2. the DCF model;

- 1 3. a Risk Premium analysis; and
- 2 4. an Expected Earnings analysis.

3 **Q. PLEASE EXPLAIN THE CAPM.**

4 A. The capital asset pricing model was originally developed in an article by Nobel-prize
5 winning economist William F. Sharpe, “Capital Asset Prices: A Theory of Market
6 Equilibrium under Conditions of Risk.”⁴ Subsequent academic works further developed
7 the concept.

8 The components of the CAPM used to determine the cost of equity (K_e) are as follows:

- 9 • The risk-free rate of return (R_f),
- 10 • An equity market risk premium (designated as MRP in the CAPM
11 equation), and
- 12 • A beta coefficient (β), used as an index of the security’s systematic risk.

13 The CAPM is based on the theory of market equilibrium that measures risk using
14 the beta coefficient. For investors that are theoretically fully-diversified, the relative risk
15 of an individual asset (*e.g.*, common stock in DDU) is its return volatility relative to the
16 return volatility of the market as a whole. Beta reflects the tendency of a stock’s price to
17 change relative to overall market changes. In the CAPM, the market Beta is defined as 1.0.
18 A stock that tends to respond less to market movements has a Beta of less than 1.00, while
19 stocks that tend to move more than the market have Betas greater than 1.00.

⁴ Journal of Finance, 1964.

1 The equity market risk premium (designated as MRP in the CAPM equation)
 2 reflects the expected return on the market as a whole compared to the returns priced into
 3 risk-free assets, typically long-term US Treasury Bonds.

4 Combining these factors results in the required rate of return on equity shown in
 5 the formula below:

$$K_e = R_f + \beta (\text{MRP})$$

7 where:

- 8 • R_f is the risk-free rate of return,
- 9 • β is the beta coefficient, used as an index of the security's systematic risk,
 10 and
- 11 • MRP is the equity market risk premium.

12 **Q. PLEASE EXPLAIN THE DCF MODEL.**

13 A. There are two general forms of the DCF model – the constant growth version and the non-
 14 constant growth version.⁵ Both versions are based on the concept that a stock's price
 15 represents the present value of expected future cash flows to the equity investor. In its
 16 most general form, the DCF model is expressed by the following formula:

$$P_0 = D_1/(1+k)^1 + D_2/(1+k)^2 + \dots + D_\infty/(1+k)^\infty$$

18 where:

- 19 • P_0 is today's stock price,
- 20 • $D_1, D_2, \dots, D_\infty$ are all expected future dividends, and

5 Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management* (11th Edition, South-Western, OH, 2007), p. 299.

- 1 • k is the discount rate or the risk-adjusted required rate of return on equity.

2 This version of the model is considered in my non-constant growth DCF. Under the
3 assumption that dividends are expected to grow at a constant rate g , the equation above can
4 be solved for k and rearranged into the Constant Growth DCF formula:

$$5 \qquad k = D_1/P_0 + g$$

6 In this equation, D_1/P_0 is the expected dividend yield and g is the long-term expected
7 growth rate (assumed to be constant in this form of the model). In my constant-growth
8 DCF analysis, I applied multiple estimates of growth published by analysts.

9 **Q. PLEASE EXPLAIN THE RISK PREMIUM METHODOLOGY.**

10 A. As shown in the Capital Market Line graph above, Risk Premium Methods are based on
11 the realization that equity securities are riskier than debt and, therefore, equity investors
12 require a higher rate of return. In other words, equity investors must be compensated for
13 bearing additional risk. Risk Premium Methods estimate the cost of equity as the sum of
14 an equity risk premium and the observed yield on debt returns from long-term bonds.

15 My Risk Premium Methods consider the current and forecast costs of a utility debt
16 index (Moody's Baa index) and long-term US government bond yields.

17 **Q. PLEASE EXPLAIN THE EXPECTED EARNINGS METHODOLOGY.**

18 A. The Expected Earnings method considers analysts' forecast for equity earnings and future
19 book values for common equity. This methodology is consistent with the fair rate of return
20 concepts set forth in the *Bluefield* and *Hope* Supreme Court decisions. The Expected

1 Earnings methodology also avoids the complexities of other methods and relies upon
2 information available to investors.

3 In this method, I relied on the *Value Line* estimates for both of these future forecast
4 items. The resulting return on equity (net income to common equity/book value of
5 common equity) is an indicator of investor expectations for current and future equity
6 returns.

7 **Q. PLEASE SUMMARIZE YOUR DISCUSSION OF THE COST OF EQUITY**
8 **ESTIMATION TECHNIQUES.**

9 A. CAPM is one of the most widely used tools for estimating the cost of equity. Other models
10 such as the DCF and Risk Premium models also provide indications of a market-based cost
11 of equity. The Expected Earnings method relies upon the expected future profitability of
12 utilities, which ultimately drives their returns on equity.

13 As I will discuss later, a Small Stock Risk Premium (“SSRP”) must also be
14 considered in concluding a fair rate of return for DDU. A combination of the models and
15 analyses provides a range of indicated costs of equity and also serves as a check of
16 reasonableness.

17 **V. COST OF EQUITY ANALYSES FOR DDU**

18 **Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

19 A. This section presents the results and details of my analysis of the cost of equity for DDU.
20 In the first part of my cost of equity analysis, I developed the CAPM analyses for a group
21 of guideline water utility companies covered by *Value Line*, considering different sources
22 for the beta coefficient, risk premia, and the risk-free rate. In the second part, I applied
23 DCF models to the same group of water utility companies. Next, I discuss and develop a

1 cost of equity estimate based on a Risk Premium method. Lastly, I applied an Estimated
2 Earnings analysis to the guideline water utility companies. These analyses support my
3 determination of the required ROE for a large public water utility.

4 I then considered DDU's small size and illiquidity effects on its required ROE to
5 determine the appropriate cost of equity for DDU.

6 **Q. WHAT SCHEDULES SUPPORT YOUR ANALYSIS OF THE COST OF EQUITY**
7 **FOR DDU?**

8 A. Included in Exhibit DDU-10B are the following schedules:

- 9 • **Schedule A** presents a summary of the results of each methodology, along
10 with my conclusion for the required rate of return;
- 11 • **Schedule B** contains my CAPM analyses;
- 12 • **Schedule C** contains my DCF analyses;
- 13 • **Schedule D** contains my Risk Premium analysis;
- 14 • **Schedule E** contains my Expected Earnings analysis; and
- 15 • **Schedule G** contains my Small Stock Risk Premium analysis.
- 16 • **Schedule H** provides a comparison of the ROEs considered.

17 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR CAPM ANALYSES.**

18 A. The results of my CAPM analyses, as shown in Schedules B.5 - B.12, indicate required
19 rates of return on equity in the range of 9.24% to 10.65%, with an average of 9.82%. The
20 CAPM is a forward-looking model designed to estimate the market's expected (*i.e.*, future)
21 rate of return on an equity investment.

22 A key input to the CAPM is the market's expected equity risk premium ("ERP").

23 In my analyses, I considered four different risk premia ("RP"):

- 1 • Duff and Phelps's arithmetic average RP of 9.14%,
- 2 • Forward-looking RP for the S&P 500 of 10.66%,
- 3 • Forward-looking RP for the S&P 500 dividend-paying stocks of 9.77%, and
- 4 • Forward-looking RP for the S&P 500 dividend-paying stocks excluding
- 5 outliers of 8.96%.

6
7 **Q. WHAT IS THE RATIONALE BEHIND USING THE ARITHMETIC AVERAGE**
8 **RETURN FOR THE DUFF AND PHELPS'S HISTORICAL RETURNS?**

9 A. Per the Duff and Phelps's 2017 yearbook, the average rate of return for the market is 12.0%,
10 and the average rate of return for long-term government bonds is 6.0%, indicating an
11 average risk premium of 6.0%. However, the current risk-free rate is only 2.86% and the
12 S&P 500 is returning over 12.0%. Therefore, the risk premium implied by a market return
13 of 12.0% less the current long-term bond yield of 2.86% implies a risk premium of 9.14%.

14 **Q. WHY DID YOU CALCULATE A FORWARD-LOOKING RISK PREMIUM AS**
15 **IMPLIED BY THE S&P 500 STOCK INDEX?**

16 A. Given that the risk premium required in the CAPM is a forward-looking estimate of
17 investor expectations, I calculated the expected return for each of the companies in the S&P
18 500 based on the Constant Growth DCF model. To do so, I relied on data from Bloomberg
19 to obtain the following inputs:

- 20 • Current stock prices,
- 21 • Historical dividends paid (if any), and
- 22 • Expected growth rates.

23 This calculation is not dependent on a historical data series but rather reflects current return
24 expectations priced into the equities in the index.

25 **Q. HOW DID YOU CALCULATE A FORWARD-LOOKING RISK PREMIUM AS**
26 **FOR THE S&P 500 STOCKS?**

27 A. As shown in Schedule B.2, the constant growth DCF model was calculated for each

1 company to determine its ROE. I then determined the weighted average ROE based on
2 relative market capitalization. This indicated an expected return of 13.52% for the S&P
3 500 and a market risk premium of 10.66% (13.52% - 2.86%).

4 **Q. DID YOU DEVELOP ANY OTHER ESTIMATES OF FORWARD-LOOKING**
5 **EQUITY RISK PREMIA?**

6 A. Yes. I added two refinements to the S&P 500 data set above. As shown in Schedule B.3,
7 I considered only the stocks in the S&P 500 that paid dividends. This resulted in a forward-
8 looking risk premium of 9.77%. Mature companies paying dividends may be a better
9 comparable for a utility company, but regulated utilities still need to compete with the
10 entire equity market to attract capital.

11 In Schedule B.4, I removed “outlier” returns from the dividend-paying stocks
12 shown in Schedule B.3 by removing all equity returns above 20.0% and below 5.0%. This
13 modification resulted in a more conservative risk premium of 8.96%.

14 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR CAPM ANALYSES.**

15 A. Utilizing an equity risk premium of 9.14%, based on the average historical returns of large-
16 cap stocks over the current risk-free rate as calculated in Schedule B.1, indicates a required
17 rate of return of 9.37% for DDU. This calculation is shown in Schedule B.5. When
18 applying this ERP to the CAPM calculated using the forecasted risk-free rate,⁶ the indicated
19 ROE is 9.57%, as shown in Schedule B.9.

20 Utilizing an equity risk premium of 10.66%, based on the cost of equity of all stocks

⁶ I relied on the average of Bloomberg’s forecasts for the 2018 and 2022 30-Year Treasury yields of 3.06%. This forecasted rate is significantly less than Blue Chips’s forecast of 3.80%, supporting the conservatism in my analysis.

1 in the S&P 500 (calculated in Schedule B.2) indicates a required rate of return of 10.45%
2 under the CAPM. This ROE conclusion is shown in Schedule B.6. When applying this
3 ERP to the CAPM calculated using the forecasted risk-free rate, the indicated ROE is
4 10.65%, as shown in Schedule B.10.

5 Utilizing an equity risk premium of 9.77%, based on the implied cost of equity of
6 only the dividend-paying stocks in the S&P 500 as calculated in Schedule B.3, indicates a
7 required rate of return of 9.82% under the CAPM. This ROE conclusion is shown in
8 Schedule B.7. When applying this ERP to the CAPM calculated using the forecasted risk-
9 free rate, the indicated ROE is 10.02%, as shown in Schedule B.11.

10 Utilizing an equity risk premium of 8.96%, based on the implied cost of equity of
11 dividend-paying S&P 500 stocks with equity returns between 5% and 20% (as calculated
12 in Schedule B.4), indicates a required rate of return of 9.24% under the CAPM. This ROE
13 conclusion is shown in Schedule B.8. When applying this ERP to the CAPM calculated
14 using the forecasted risk-free rate, the indicated ROE is 9.44%, as shown in Schedule B.12.

15 The average ROE based on all of my CAPM analyses is 9.82%.

16 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR DCF ANALYSES.**

17 A. The results of my guideline DCF analyses are presented in Schedules C.1 – C.5. The
18 constant growth DCF models in Schedules C.1 - C.2 indicate an ROE range of 9.27% to
19 9.93%, with an average of 9.60%. These studies include a combination of growth rates
20 from *Value Line* and *Yahoo* to estimate investors' expectations of return on equity. The
21 non-constant growth DCF models in Schedules C.3 – C.5 utilize a forecast price target for
22 each guideline company derived from their P/E ratios and forecast earnings, estimated by

1 *Value Line.* To account for the potential variances in the time required to achieve the
2 various future price targets, I utilized three scenarios in which the price targets are realized
3 at the end of three, four, and five years. The indicated ROEs from the non-constant DCF
4 analysis range from 8.46% to 10.54%, with an average of 9.46%.

5 **Q. PLEASE DESCRIBE YOUR RISK PREMIUM STUDIES.**

6 A. All regulated utilities must compete for capital and are subject to similar risk factors. My
7 studies compare average risk premiums for gas and electric utilities indicated by the
8 authorized ROEs approved each year by the various state regulatory commissions to
9 average utility debt costs as reflected in Moody's Average Utility Bond Yields and average
10 long-term treasury yields. The differences between average authorized ROEs and debt
11 costs are used to measure each year's equity risk premium. As part of the studies, I
12 implemented a one-year regulatory lag.

13 My first analysis considered the time period from 2001 through 2016, as shown in
14 the *Regulatory Focus, April 15, 2016*, published by Regulatory Research Associates. I
15 performed a regression analysis of the allowed annual equity risk premiums for gas and
16 electric utilities relative to Moody's Average Utility Index interest rate levels, as shown in
17 Schedules D.1 and D.6. This regression analysis was then used with the current cost of
18 Moody's Baa Utility debt of 4.28% to arrive at an indicated cost of equity of 9.45%
19 utilizing gas utility premiums and an indicated cost of equity of 9.75% utilizing electric
20 utility premiums.

21 In Schedules D.2 and D.7, I performed similar regressions to those in Schedules
22 D.1 and D.6 as discussed above, however, a forecast utility bond yield of 4.97% was

1 utilized opposed to the current utility bond yield. The forecast utility bond yield of 4.97%
2 was derived using the forecast risk-free rate as discussed previously and a regression of
3 historical utility bond yields and Treasury yields, as shown in Schedule D.5. These
4 regression analyses were then used to arrive at an indicated cost of equity of 9.72% utilizing
5 gas utility premiums (as shown in Schedule D.2) and an indicated cost of equity of 9.97%
6 utilizing electric utility premiums (as shown in Schedule D.7).

7 Schedules D.3, D.4, D.8, and D.9 contain similar regression analyses to those
8 discussed previously, although the authorized utility premiums were compared to long-
9 term government bond yields opposed to utility bond yields. The current long-term
10 government bond yield of 2.86% was utilized as a base rate in Schedules D.3 and D.8 while
11 the forecast long-term government bond yield of 3.06% was utilized as a base rate in
12 Schedules D.4 and D.9.

13 Using the current long-term government bond yield, the regression analyses
14 indicated a cost of equity of 9.54% utilizing gas utility premiums (as shown in Schedule
15 D.3) and a cost of equity of 9.88% utilizing electric utility premiums (as shown in Schedule
16 D.8). Using the forecast long-term government bond yield, the regression analyses
17 indicated a cost of equity of 9.63% utilizing gas utility premiums (as shown in Schedule
18 D.4) and a cost of equity of 9.95% utilizing electric utility premiums (as shown in Schedule
19 D.9).

20 **Q. WHAT ARE THE RESULTS OF YOUR RISK PREMIUM ANALYSES?**

21 A. Using the historical authorized returns of gas utility companies, my Risk Premium studies
22 indicate a required ROE range of 9.45% to 9.72% and an average required ROE of 9.59%.

1 Using the historical authorized returns of electric utility companies, my Risk Premium
2 studies indicate a required ROE range of 9.75% to 9.97% and an average required ROE of
3 9.89%.

4 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR EXPECTED EARNINGS**
5 **ANALYSES.**

6 A. The results of my Expected Earnings study are shown in Schedules E.1 - E.2. My analyses
7 calculate an implied ROE for each of the guideline companies based on the standard
8 formula of net income per share divided by book value per share. I utilized the expected
9 earnings per share and book values per share figures for the years 2018 and 2021 as
10 provided in *Value Line*. The Expected Earnings study indicates a required ROE range of
11 10.89% to 11.15% and an average required ROE of 11.02%.

12 **Q. WHAT WAS YOUR CONCLUDED RETURN ON EQUITY FOR THE LARGE**
13 **WATER UTILITY COMPANIES IN YOUR ANALYSES?**

14 A. The return on equity indicated for the comparable large public water utility group is 9.84%.

15 **Q. DID YOU THEN ADJUST THE LARGE WATER UTILITY ROE ABOVE TO**
16 **ACCOUNT FOR DDU'S SMALL SIZE?**

17 A. Yes, DDU is significantly smaller than the comparable utility companies that I relied upon.
18 Its equity is also illiquid given that the company is not public.

19 **Q. COULD YOU SUMMARIZE THE DUFF AND PHELPS SIZE PREMIA STUDIES?**

20 A. The *Size Premia Study* by Duff & Phelps⁷ examines the Stock Size Premiums of the entire
21 universe of NYSE-, AMEX-, and NASDAQ-listed securities from 1926 to the present. The
22 survey is well regarded and is the commonly cited study in utility rate case studies.

⁷ Valuation Handbook, Duff & Phelps, 2017

1 Specifically, the risk premium required due to each firm's size is estimated by dividing the
 2 universe of securities into portfolios⁸ by capitalization and measuring the premium
 3 required beyond the risk-free rate and the security's equity risk premium estimate (beta).
 4 The study concludes that the required SSRP increases inversely to firm size and is in
 5 addition to the required systematic (*i.e.*, market) risk. The summary results are in the
 6 following table:

Portfolio Capitalization Decile	Market Cap Range (Millions)			Size Premium
	Low	High		
1-Largest	\$24,362	\$609,163	-	-0.35%
2	\$10,784	\$24,234	-	0.61%
3	\$5,684	\$10,711	-	0.89%
4	\$3,521	\$5,677	-	0.98%
5	\$2,393	\$3,513	-	1.51%
6	\$1,571	\$2,391	-	1.66%
7	\$1,033	\$1,570	-	1.72%
8	\$569	\$1,030	-	2.08%
9	\$264	\$568	-	2.68%
10-Smallest	\$3	\$263	-	5.59%

7

8 **Q. WHAT SSRP DID YOU CONCLUDE FROM YOUR REVIEW OF THE DUFF AND**
 9 **PHELPS' STUDIES?**

10 A. Based on the Duff & Phelps data for small stock risk premia, DDU would fall into the 10th
 11 decile, which equates to an SSRP of 5.59%. This amount would be added to the result of
 12 the cost of equity analyses based on large public companies. However, some of the risk
 13 factors reflected in Duff and Phelps' study above are offset by the regulated nature of
 14 DDU's business. In other words, regulated returns would be expected to reduce the

⁸ Portfolio data provided by the Center for Research in Security Prices (CRSP).

1 volatility of DDU's earnings, and therefore the associated risk is reduced versus an
2 unregulated company.

3 **Q. PLEASE DESCRIBE THE OTHER APPROACHES YOU CONSIDERED TO**
4 **DETERMINE AN APPROPRIATE SSRP FOR DDU.**

5 A. Another way to quantify a required SSRP for DDU is based on academic studies of private
6 equity rates of return. The first source that I considered was titled "What Do Private Equity
7 Firms (Say They) Do?"⁹ This paper surveyed 79 private equity (buyout) investors, with a
8 total of over \$750 billion of assets under management, about their practices in firm
9 valuation, capital structure, governance, and value creation. This paper points out that
10 investors rely on internal rates of return and multiples of invested capital for investment
11 decisions. Private equity investors typically target a 22% internal rate of return on their
12 investments on average, with most firms clustered tightly between 20% and 25% (a rate of
13 return well above that indicated by the CAPM).

14 This paper cites research which indicates that private equity funds on average
15 outperform the S&P 500 index returns by about 8% before their fees and about 4% after
16 their fees. Therefore, this is one indication of the additional rate of return, or SSRP,
17 required by investors in smaller, riskier, and less liquid private equity investments in
18 private companies.

19 A second study considered is entitled "Private Equity Performance and Liquidity
20 Risk."¹⁰ This paper discusses the liquidity risk of an investment in private equity firms, as

⁹ Paul A. Gompers (Harvard Business School and NBER), Steven N. Kaplan (University of Chicago Booth School of Business and NBER) and Vladimir Mukharlyamov (Harvard University), This Draft: February 2014.

¹⁰ Ludovic Phalippou (University of Oxford, Said Business School), co-authors: Francesco Franzoni and Eric

1 well as the additional compensation required for taking on that risk. This study concluded
2 that the total risk premium for private equity was around 18% per annum, of which there
3 was a “significant” liquidity risk premium for private equity of 3% per annum. This
4 liquidity risk premium is another indication of the SSRP required for smaller companies
5 like DDU.

6 A third study considered was “Private Equity Performance: What Do We Know?”¹¹
7 This study considered the excess returns indicated by various other academic studies, as
8 well as the authors’ own research. Their conclusions regarding the excess returns earned
9 by and expected from private equity investments in smaller, private companies are
10 summarized below:

- 11 • The average private equity fund had a return 6.6% greater than the S&P
12 500, with a median excess return of 3.4%.
- 13 • Private equity funds earned a capital-weighted average excess return of
14 3.7%, with a median of 3.0%.
- 15 • The average private equity fund’s IRR exceeds that of the S&P 500 by 4%
16 to 5%.

17 I also calculated the required SSRP for each of the companies in the comparable
18 water utility company group. Although these companies are public, they are all small
19 enough to warrant a premium to their equity costs based on Duff and Phelp’s research.
20 Considering these factors resulted in an average SSRP for the group of 1.67%.

Nowak, both at Swiss Finance Institute – University of Lugano

¹¹ Robert Harris, Tim Jenkinson and Steve Kaplan, The University of Chicago Booth School of Business,

1 **Q. WHAT IS YOUR CONCLUDED SMALL STOCK RISK PREMIUM FOR DDU?**

2 A. Based on the approaches considered above, a minimum SSRP required for DDU is 1.67%,
3 which is reflected in my concluded cost of equity. A summary of this analysis is presented
4 in Schedule G.2.

5 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR COST OF EQUITY**
6 **ANALYSIS.**

7 A. As summarized in Schedule A.1 in my report, I developed multiple analyses for estimating
8 the cost of equity for DDU. I then reviewed the results and selected the points considered
9 most relevant to determining a fair rate of equity return.

10 My concluded ROE indication for each of the methods reflects the average of the
11 individual calculations under each method. I considered the relative strengths and
12 weaknesses of each method and weighted them in my conclusion of a 9.84% cost of equity
13 for a large public water utility company. All of the methods above lack any adjustments
14 for size, liquidity, capital structures, or other DDU-specific factors. To account for these
15 factors as they pertain to DDU, I incorporated an SSRP of 167 basis points (+1.67%). As
16 a result, my concluded cost of equity is 11.50% (rounded).

17 **Q. HOW SHOULD THESE RESULTS BE INTERPRETED TO DETERMINE THE**
18 **FAIR COST OF EQUITY FOR DDU?**

19 A. Based on my review of the CAPM, DCF models, Risk Premium analyses, Expected
20 Earnings analyses, DDU-specific risk factors, and my review of current market and utility
21 industry conditions, it is my opinion that the requested cost of equity of 11.50% is a
22 reasonable estimate of DDU's fair cost of equity.

23 **VI. COMPARISON OF ROE CONCLUSIONS**

24 **Q. HOW DOES MS. SEARS' CONCLUDED ROE OF 8.79% FOR DDU COMPARE**

1 **TO ROE WORKSHEETS AND GUIDELINE MODELS DEVELOPED BY STATE**
2 **PUBLIC UTILITY COMMISSIONS?**

3 A. Ms. Sears's conclusion is below any of the results from models and approaches that I
4 reviewed from the commissions in Texas, Florida, and Maryland shown in Schedule H.

5 **Q. WHAT BENCHMARKS DID YOU CONSIDER FROM THE TEXAS**
6 **COMMISSION?**

7 A. Texas' Class B water application has a section which specifies a formula and inputs for
8 return on equity for small water utilities, which states:

9 *"If the company does not currently have an authorized ROE, enter in*
10 *column (c) the ROE Moody's BAA Bond rating plus 6 percentage points.*
11 *Utilities may obtain the current Moody's BAA Bond rating by emailing the*
12 *PUC at water@puc.state.tx.us"*
13

14 This formula was the basis for DDU's requested ROE of 11.49% using bond yields at that
15 time. With today's BAA yield, this formula indicates a required rate of return on equity of
16 10.28%. Considering a forecast BAA yield, based on expected increased Treasury yields,
17 an ROE estimate of 10.97% is supported.

18 **Q. DOES THE TEXAS WORKSHEET INCLUDE A SMALL STOCK/LIQUIDITY**
19 **RISK PREMIUM?**

20 A. Although not specifically broken out, I do believe there is an additional ROE consideration
21 embedded in this formula. As shown in Schedules D.1 of my analyses, given current BAA
22 utility yields, this implies a 5.17% risk premium is appropriate. Given that the worksheet
23 requires a 6.0% risk premium, it appears that there was some consideration for the small
24 company risk of these water utilities.

25 **Q. WHAT BENCHMARKS DID YOU CONSIDER FROM THE FLORIDA PUBLIC**
26 **SERVICE COMMISSION?**

27 A. Florida's commission has developed a "worksheet" for small water utilities, similar to that

1 used in Texas. However, the Florida worksheet is published at least annually, and its inputs
2 are adjusted to reflect estimated market rates of return. The only required input for the
3 Florida worksheet's ROE calculation is the leverage reflected in a utility's capital structure.
4 This input reflects that increased leverage for a company increases the risk to equity
5 investors. I calculated the ROE using this worksheet for DDU by considering two capital
6 structures, DDU's requested and Ms. Sears' recommended. This analysis resulted in an
7 ROE range of 10.21% to 10.78%.

8 **Q. DID THE FLORIDA PSC WORKSHEET CONSIDER SMALL STOCK AND**
9 **LIQUIDITY EFFECTS FOR THE WATER UTILITIES?**

10 A. Yes, the Florida worksheet included a 1.0% addition to ROE for small company and
11 illiquidity effects.

12 **Q. WHY DID YOU CONSIDER THE BUILDUP METHOD AS EMPLOYED BY THE**
13 **MARYLAND PSC'S REGULATORY ECONOMIST, T. JEFFREY PONGSIRI?**

14 A. Mr. Pongsiri recently provided rate of return testimony for a small water utility in Maryland
15 on behalf of the PSC Staff. One of the methodologies he considered was the Buildup
16 Model as outlined in the Duff and Phelps' Cost of Capital book. This method calculates
17 an ROE based upon:

- 18 ▪ a risk-free cost of debt,
- 19 ▪ an industry-specific risk premium, and
- 20 ▪ a small stock risk premium.

21 In the Buildup Model, the industry risk premium is not based on beta as in the CAPM but
22 is developed using other regression analyses of company returns.

23 **Q. WHAT SMALL STOCK OR SIZE ADJUSTMENT DID MR. PONGSIRI USE IN**
24 **HIS ROE ANALYSIS?**

1 A. He used the D&P's MicroCap size adjustment, equal to 3.67% in 2017. In doing so, Mr.
2 Pongsiri recognized that a small water utility must earn a significantly higher rate of return
3 than a large water utility in order to attract capital investors.¹²

4 **Q. WHAT WERE THE INDICATED ROE'S THAT YOU CALCULATED**
5 **CONSIDERING THE BUILDUP METHOD?**

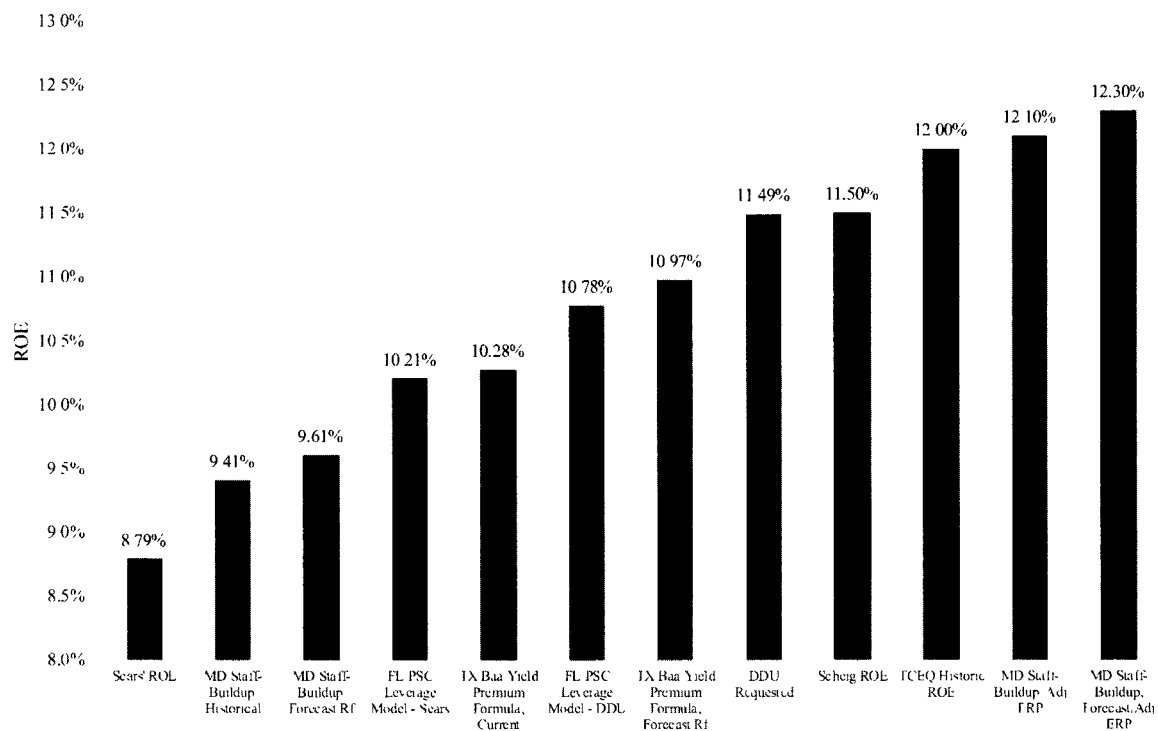
6 A. As shown in Schedule F.3, using historical inputs the buildup model (including a size
7 premium) results in an indicated ROE of 9.41%. Similar to the CAPM, under today's
8 market conditions, considering a forecast risk-free rate reflecting expected future increases
9 and a forward-looking market risk premium are also appropriate. Incorporating these
10 modifications results in a range of 9.61% to 12.30%, using this approach.

11 **Q. HOW DOES MS. SEARS' RECOMMENDED ROE COMPARE TO YOUR**
12 **RECOMMENDATION AND THE VARIOUS BENCHMARKS NOTED ABOVE?**

13 A. As shown in the chart below, Ms. Sears' recommended 8.79% ROE is significantly less
14 than any of the other ROE indications reviewed:

¹² In addition to my review of Mr. Pongsiri's testimony, I confirmed his use of a small stock risk premium in a telephone interview on October 12, 2017.

State Utility Commission Benchmark Rate of Return Comparisons



1

2 **Q. DO YOU BELIEVE AN INFORMED INVESTOR WOULD MAKE AN**
 3 **INVESTMENT IN A SMALL PRIVATE COMPANY LIKE DDU, GIVEN MS.**
 4 **SEARS' RECOMMENDED 8.79% ROE?**

5 **A. No, I do not. As Ms. Sears noted in her testimony, two of the key factors to consider when**
 6 **assessing a fair rate of return are:**

7 1) A utility is entitled to a return similar to that being earned by **other enterprises**

8 **with corresponding risks and uncertainties, and**

9 2) A utility is entitled to a return sufficient to maintain and support its credit **and raise**
 10 **necessary capital** (*emphasis added*).

11 DDU is a small business competing in the marketplace with other "enterprises" for capital.

12 For DDU to raise capital from new investors, most likely a private equity group, they would

1 have to offer equity at a price allowing that investor to earn a rate of return commensurate
 2 with the risks associated with an investment in DDU. A hypothetical investor would expect
 3 to earn a rate of return on equity higher than 8.79%, in my opinion at least 11.50%, to
 4 support investment in DDU's equity, as opposed to the larger, more diversified, more
 5 liquid, higher credit rating public utilities in Ms. Sears' proxy group. Put differently, if an
 6 investor required only an 8.79% return on an equity investment in a water utility, they
 7 would certainly go to a publicly traded utility company or mutual fund/ETF, before
 8 investing in a small, illiquid, private company such as DDU.

9 **Q. WHAT PROFESSIONAL FEES HAVE YOU CHARGED TO DEVELOP THIS**
 10 **REBUTTAL TESTIMONY FOR DDU?**

11 A. I have charged my time and that of my staff to this project at our normal hourly billing
 12 rates. My agreement with DDU was that my professional fees would not exceed \$15,000.
 13 To date, ValueScope's hourly billings for this project are more than the \$15,000 fee cap
 14 and therefore will be limited to that amount when invoiced. Expenses incurred will also
 15 be included in our invoice.

16 **Q. IF THIS MATTER DOES NOT SETTLE, WHAT ADDITIONAL FEES AND**
 17 **EXPENSES DO YOU EXPECT TO INCUR RELATED TO YOUR TESTIMONY**
 18 **BEFORE THE COMMISSION?**

19 A. Based on my current understanding, if I am requested to testify in Austin I would anticipate
 20 these additional hours:

- | | | |
|----|-----------------------------|-----------|
| 21 | • Preparation for Testimony | 8.0 hours |
| 22 | • Testimony at Commission | 8.0 hours |

23 At my professional billing rate of \$395 per hour, this time would equal \$6,320. Travel
 24 expenses are estimated to be \$750, for estimated total additional fees and expenses of

1 \$7,070.

2

3 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

4 **A. Yes, it does.**

EXHIBIT DDU-10A



Gregory E. Scheig, CPA/ABV/CFF/CGMA, CFA
Principal, Utilities Practice Leader
817-481-4997
gscheig@valuescopeinc.com

EMPLOYMENT HISTORY

September 2008 – Present **ValueScope, Inc.**
Principal
Joined the company as a principal to provide valuation, expert testimony and financial advisory services.

July 2008 – September 2008 **Present Value Advisors, LLC**
Principal
Formed Present Value Advisors to provide valuation, litigation support, and financial advisory services. Projects included being a consulting expert in a bankruptcy matter and a contract arrangement with *Vitale, Caturano & Company, LTD* (a Boston-based accounting firm) to provide valuation-related financial review (SAS73 & SAS101) services primarily for biotech, high-tech and other development-stage businesses.

July 2005 – June 2008 **Kroll Associates, Inc., Dallas, Texas**
Senior Director
Performed valuation analyses for transactions, financial reporting, tax and other management requirements, and provided expert testimony for litigation support. Key focus was in the Energy sector with larger clients.

2002 – July 2005 **CBIZ Valuation Group, LLC, Dallas, Texas**
Managing Director – Southwest Region
Ran the southwest region's valuation practice for approximately three and a half years. In that role, valued many types of businesses, business interests, and professional practices.

1997 – 2002 **Deloitte Consulting, Austin, Texas**
Senior Manager: Strategy Competency
Led projects dealing with valuations, mergers and acquisition synergy analyses, real option analyses, strategic assessments, and complex regulatory issues. Served a wide variety of domestic and international clients, including companies in Canada, England, Republic of South Africa, Italy, Scotland, and Singapore.

1988 – 1997 **FINANCO, Inc., Austin, Texas**
Managing Associate
Specialized in the financial modeling of electric, telecommunication, and gas utility systems. Additionally, developed utility merger and acquisition analyses, bankruptcy filings, regulatory testimony, and litigation support.

1987 - 1988 **Lamar Real Estate Services, Austin, Texas**
Real Estate Analyst
Concurrent with MBA program, worked for Lamar Savings and Loan developing cash flow analyses for their real estate owned (REO) portfolio.

Summer 1985

Louisiana

Summer Engineer

Developed production cash flow analyses.

Conoco, Lafayette,

Summer 1984

Louisiana

Offshore Production Roustabout

Getty Oil, Cameron

Summer 1983

Texas

Production Roustabout

Getty Oil, Bay City,

Summer 1982

Texas

Roustabout

Curtis Well Servicing, Pampa,

FORMAL EDUCATION

Master of Business Administration, Finance and Accounting

The University of Texas Graduate School of Business, Austin, Texas

- Sord Scholar
- Dean's Award for Academic Excellence

Bachelor of Science, Petroleum Engineering

The University of Texas, Austin, Texas

- Pi Epsilon Tau (College of Engineering Honor Society)

ACCREDITATIONS AND DESIGNATIONS

CFA – Chartered Financial Analyst (CFA Institute)

CPA – Certified Public Accountant (State Board of Public Accountancy, Texas)

ABV – Accredited in Business Valuation (AICPA)

CFF – Certified in Financial Forensics (AICPA)

CGMA – Chartered Global Management Accountant (AICPA)

ORGANIZATIONS AND PROFESSIONAL ASSOCIATIONS

American Institute of Certified Public Accountants (AICPA)

Texas Society of Certified Public Accountants - Energy Conference Committee

CFA Institute

CFA Society of Dallas/Fort Worth

Appraisal Issues Task Force Member (AITF)

American Society of Appraisers

Society of Petroleum Engineers (SPE)

LITIGATION SUPPORT / EXPERT WITNESS TESTIMONY

Utility Matters

Double Diamond Utility Company, Inc. rate case before the Public Utility Commission of Texas. Retain to develop a rebuttal report to PUCT staff witness' rate of return testimony. Underway.

Energy West Montana, Inc. rate case before the Montana Public Service Commission. Developing rate of return analyses and testimony in support of the utility's rate filing. Testimony filed.

Cut Bank Gas Company rate case before the Montana Public Service Commission. Developing rate of return analyses and testimony in support of the utility's rate filing. Testimony filed.

Sharyland Utilities, L.P. rate case before the Texas Public Utilities Commission, PUC Docket No 45414. Developed rate of return analyses and testimony for an intervenor, St. Lawrence Cotton Growers Association. Scheduled to testify at the upcoming SOAH proceeding.

Rio Concho Aviation, Inc. rate case before the Texas Public Utilities Commission, PUC Docket No 45720. Developed rebuttal analyses and testimony in support of the electric utility's requested rate of return analysis. Testified at the SOAH proceeding.

Rio Concho Aviation, Inc. rate case before the Texas Public Utilities Commission, PUC Docket No 45720. Developed rebuttal analyses and testimony in support of the electric utility's requested rate of return analysis. Testified at the SOAH proceeding.

Quadvest, LP rate case before the Texas Public Utilities Commission. Provided rate of return analysis and an expert report for the water utility's cost of equity capital.

SWWC Utilities, Inc. rate case before the Texas Commission on Environmental Quality. Provided rate of return analysis and testimony for this division of Southwest Water Company, a regulated water company.

Hughes Natural Gas, Inc. rate case before the Texas Railroad Commission in Gas Utilities Docket No. 10083/10093. Provided rate of return analysis and direct testimony for Hughes Natural Gas, Inc., a regulated gas company. Testified at the Texas Railroad Commission hearing.

Monarch Utilities I, L.P. rate case before the Texas Commission on Environmental Quality. Provided rate of return analysis and testimony for Monarch Utilities I, L.P., a regulated water company. Rate case settled.

Canyon Lake Water Service Company, SOAH Docket No. 582-11-1468, TCEQ No. 2010-1841-UCR. Prepared rate of return testimony for Canyon Lake Water Service Company's rate case before the Texas Commission on Environmental Quality. Testified for the company, a regulated water company, in a SOAH proceeding.

Global Water Resources, Inc. vs. Sierra Negra Ranch, LLC, AAA Case No. 76 198 Y 00104 11. Retained to develop a solvency analysis and scenario analyses to assess Global Water Resources, Inc.'s future financial performance versus their need for capital and scheduled debt retirements. Expert and rebuttal reports submitted.

City of Blue Mound vs. Monarch Utilities I, LP. Retained to consult Monarch's legal counsel on rebuttal arguments to the City's appraisal of the water system. The City's appraisal was to be considered by a panel in formulating an FMV offer to the utility for the water assets. Provided expert testimony at the proceeding and the panel subsequently recommended a value approximately twice the value suggested by the City's appraiser.

Oil and Gas Matters

Gregory Imbruce and Glenrose Holdings, LLC v Cheryl Johnson and Levett Rockwood, P.C., Superior Court, Judicial District of Stamford Ct. Retained to support the value of the common shares of Starboard Resources in a legal malpractice matter related to a previous case (retained by the former opposing counsel's firm). Expert report prepared and deposition testimony provided.

Ergon Asphalt & Emulsions, Inc. v Nustar Pipeline Operating Partnership, LP, Et Al. Retained to develop an analysis of the economic damages to Ergon based on Nustar's alleged non-performance of an asphalt terminal lease agreement. Deposition testimony provided.

Michael O. Pickens v T. Boone Pickens, Jr., Dallas County District Court Cause No. DC-14-13103. Retained to calculate the value of shares of Primexx Energy Partners and NeoFirma Software in support of mediation. Subsequently requested to develop an expert and supplemental reports. Deposition testimony provided.

Gregory Imbruce, Giddings Investments LLC, Giddings GENPAR LLC, Hunton Oil, Asym Capital III LLC, Glenrose Holdings LLC and Asym Energy Investments LLC v. Charles Henry III, et.al., American Arbitration Association Case No: 12 198 0058 13, Commercial Division. In this matter, I valued the common shares of Starboard Resources as of 2011, 2012, and 2014. The analysis also included determining the fair market value of Starboard's oil and gas reserves in a Stamford, CT trial. Three expert reports and a rebuttal report submitted, trial testimony provided.

Crimson Exploration, Inc. and Crimson Exploration Operating, Inc. v. Allen Drilling Acquisition Company and ADAC II, Inc. Reviewed and rebutted an accounting firm's adjustments made to Operator's invoices in a joint interest billing dispute in a Texas District Court matter. Rebuttal report submitted.

Diamond Offshore Company v. Survival Systems International, Inc. Retained to develop an analysis of the economic damages to Diamond Offshore Company resulting from the installation of defective lifeboat hooks by Survival Systems, Inc. on certain offshore drilling rigs. Damage categories considered included original insurance settlement payments and prejudgment interest. Expert and rebuttal reports submitted, deposition testimony provided.

Noble Drilling Services, Inc. vs. Certex USA, Inc., Bridon-American Corp., and Bridon International, Ltd., Civil Case No. 4:09-cv-022825. Retained to calculate the economic damages related to anchor ropes that failed during a hurricane. Expert and rebuttal reports submitted, deposition testimony provided. Case settled.

Anadarko Petroleum Corporation vs. Noble Drilling (U.S.) LLC, Civil Case No. 4:10-cv-02185. Retained to develop an expert report on the economic damages related to an offshore drilling rig contract termination for a claimed *force majeure* event after a moratorium on drilling was declared in the Gulf of Mexico. Expert and rebuttal reports submitted, deposition testimony provided. Case settled.

613 Agro Holdings, L.L.C. v. Renick et al. Retained to develop an expert report and rebuttal report on the value of oil and gas royalties in a Kansas District Court matter. Expert and rebuttal reports submitted and the case settled.

Ringo Drilling I, L.P. v. Victory Drilling, Inc. and Ira Glasser. Cause No. 11-1489. Retained to develop an expert report on rebuttal arguments to Ringo Drilling's claimed damages in a lease transaction. Expert report submitted and the case settled.

Joint Resources Company v. Banc of America Investment Services. FINRA Dispute Resolution. Retained to develop an analysis of the lost profits incurred by Joint Resources Company when they invested in auction rate securities in 2008, preventing access to investment capital. The analysis included documentation of Joint Resources Company's investment model and the calculation of the lost profits from the missed opportunity. Expert report submitted and the case settled.

Patriot Exploration LLC and Patriot Land LLC d/b/a JF Patriot Land, LLC v. Thompson & Knight LLP. Retained to calculate the economic damages to Patriot resulting from not being able complete the sale of certain mineral interests due to alleged legal malpractice and defective title. Expert report submitted, deposition and courtroom testimony provided.

HighMount Exploration and Production, LLC vs. Helmerich and Payne, Inc. Retained to quantify the damages from a drilling rig contract dispute regarding lower "well cycle times" and cost savings not achieved. Expert and rebuttal reports submitted, deposition testimony provided. Case settled.

Robert L. Kovar, Plaintiff vs. Platinum Energy Resources, Inc., Defendant. Retained to quantify the damages related to a transaction dispute which required a valuation of Platinum Energy's stock and cash flow notes. Deposition and trial testimony provided.

In Re Camp Cooley, Ltd., Case No. 0961311, Chapter 11. The United States Bankruptcy Court for the Western District of Texas, Waco Division. Prepared a natural gas reserve valuation report for the debtor and developed a rebuttal report against the bank's expert. Deposition and courtroom testimony provided.

Matthew Van Steenwyk, The Matthew Van Steenwyk GST Trust, and the Matthew Van Steenwyk Issue Trust v. Scientific Drilling International, Inc., Donald Van Steenwyk Gene Durocher, Gordon Thomson, Barbara Helbach, Denis Bandera, and Van Steenwyk Holdings, LLC. Retained to develop a valuation of an interest in Scientific Drilling International stock, a company that developed MWD (measurement while drilling) technologies. Expert report prepared for mediation. Case settled.

Macquarie Bank Limited, Plaintiff vs. Bradley D. Knickel, LexMac Energy, L.P. Retained to provide an affidavit to the court on SEC PV-10 Reserve Reporting and the risks associated with different classifications of hydrocarbon reserves.

Questar Gas Management Company vs. Waukesha Engine Division of Dresser, Inc.; Stewart & Stevenson Power Products, LLC; Stewart & Stevenson Power, File No. 71 198 Y 00749 07, before the American Arbitration Association, Dallas Texas. Retained to develop lost profits and economic damages analyses in a matter related to natural gas compression in the midstream sector. Analyses developed, deposition testimony provided. Case settled.

The Arbitration of Anthony Abernethy vs. J. Bryan Sutherlin, Brad Sutherlin, Kevin Sutherlin, Culebra Oil & Gas Co., Culebra Oil & Gas, L.L.C. Retained to value economic damages related to a minority ownership interest in an E&P company. Deposition and arbitration testimony provided.

Real Estate Matters

Weldon Glen McBride v Brian Ingram, Leighann Moseley and Keitha Lynn McBride Pharmacy. Retained to determine the value of an ownership interest in real estate development project. Underway.

FD Destiny, LLC vs. AVP Destiny, LLC, AVP Destiny, LLC vs Frederick A. Deluca. Retained to develop an analysis of the economic damages to Land Company of Osceola County due to the claimed actions of Fred Deluca, a controlling partner. Expert report submitted and deposition testimony provided.

Clay Partners FG Deerwood Glen, LP vs. the Flexitallic Group S.A.S. and Flexitallic, LP. Retained to develop an analysis of the economic damages to Clay Partners following Flexitallic's repudiation of a lease agreement for three buildings in Deer Park, Texas. Expert report submitted. Deposition and trial testimony provided.

Sharpstown Mall Texas, LLC vs. CCW, LLC. Retained to develop an analysis of the economic damages to Sharpstown Mall given CCW's nonpayment of shared common area maintenance expenses. Expert report submitted.

Avalon Construction - Ruidoso, LLC vs. Mueller Company, Inc. and HD Supply Waterworks, Ltd. Retained to develop an analysis of the economic damages to Avalon Construction related to foundation damage for a retail center caused by plumbing defects. Expert report submitted.

John W. Clanton, Fibertown DC, LLC and Managed Network Solutions, Inc. vs. Vance Swaggerty. Retained to develop a valuation of three data centers located in Bryan-College Station Texas and Houston Texas. Appraisal report submitted, deposition and trial testimony provided.

Charles E. Simmons and H. Kenneth Barrett, et. al. vs. Dan M. Moody, Jr. and John S. Moody, Jr., et. al. Retained to develop an analysis of the economic damages to Dan Moody and the Moody Simmons Fund I, Ltd. in relation to a real estate development in Katy Texas. Expert report submitted and deposition testimony provided.

Contract/Partnership Disputes

Pharmacy Concepts, Ltd v Prestonwood Rehabilitation & Nursing Center, Inc. and Denton Rehabilitation & Nursing Center, Inc. Retained to develop the range of economic damages, if any, incurred by Pharmacy Concepts in a contract dispute. Underway.

N8 Medical, Inc. and N8 Medical, LLC and Brigham Young University and N8 Pharmaceuticals, Inc. v. Colgate-Palmolive Co. Retained to develop risk-adjusted analyses in support of settlement negotiations following a previous expert's Daubert exclusion. Case settled.

Highland Capital Management, L.P. and Cornerstone Healthcare Group Holding, Inc. v. Patrick Daugherty, Defendant and Counter-Plaintiff. Retained to develop an analysis of the economic damages to Patrick Daugherty in relation to his equity compensation at the time of his resignation from Highland Capital. Expert and rebuttal reports submitted. Deposition and trial testimony provided.

In the Matter of the Application of John C. Wright for the Dissolution of Hudson Valley Clean Energy, Inc., Supreme Court of the State of New York, County of Dutchess. Retained to determine the fair value of a minority interest in Hudson Valley Clean Energy for a shareholder oppression matter. Prepared an expert report and provided courtroom testimony in the Supreme Court of the State of New York.

Circle Zebra Fabricators, Ltd., David Croft, and Monte Guiles vs. Hydro-X, LLC and Stonehenge Capital Company, LLC. Retained to develop an analysis of the economic damages to Circle Zebra resulting from the termination of a merger agreement. Expert report submitted, deposition testimony provided. The case settled in mediation.

Precision Dialing Services, Inc. vs. Clear Channel Communications, Inc., Cause No. 02-01782, Critical Mass Media, Inc., Clear Channel Broadcasting, Inc., and Clear Channel Radio, Inc. The District Court of Dallas County, Texas, 68th Judicial District. Retained to calculate economic damages related to the dissolution of a joint venture. Report submitted, deposition testimony provided. Case settled.

Bankruptcy Matters

Memorial Production Partners LP, et al., Debtors Chapter 11, Case No. 17-30262. The United States Bankruptcy Court, Southern District of Texas, Houston Division. Retained by large shareholder to develop an enterprise value of MEMP. Case settled.

Technology Container Corp Bankruptcy Case #4:15-bk-40339 The United States Bankruptcy Court for the District of Massachusetts. Retained as a consulting expert by the Creditor Committee's Counsel to review and assess financial plans and forecasts submitted by the debtor.

College Media Corporation v. Digital River, Inc., Digital River Education Services, Inc. and Journey Education Marketing, Inc. The United States Bankruptcy Court for the Eastern District of Texas. Developed an analysis of the economic damages to College Media Corporation related to their allegations against Digital River and Journey Education Marketing. Expert report submitted.

Bankruptcy Valuation for Senior Lenders: Synventive Molding Solutions. Retained to determine the enterprise values of the global operations and the European operations of Synventive, a company focused on automobile molding equipment. Analyses and draft reports prepared for counsel.

The IT Group, Inc., et al vs. Acres of Diamonds, Case No. 02-10118, Adv. Proc. No. 04-51311-PBL, et al. The United States Bankruptcy Court for the District of Delaware. Retained to value a minority interest deemed a fraudulent transfer of a bankruptcy proceeding. Expert report submitted, deposition testimony provided. Case settled.

Lodestar Energy, Inc., Lodestar Holdings, Inc. Debtors Chapter 11 Proceeding Case Nos. 01-50969 and 01-50972, Jointly Administered Under Case No. 01-50969. The United States Bankruptcy Court, Eastern District of Kentucky, Lexington Division. Developed a solvency opinion of a coal mining company considering the balance sheet, capital adequacy and cash flow tests.

Einstein/Noah Bagel Corp. and Einstein/Noah Bagel Partners, Case No. 00-04447-ECF-CGC and 00-04448-ECF-CGC. The United States Bankruptcy Court for the District of Arizona. Deposition and trial testimony on a valuation analysis of the respective interests of Einstein/Noah Bagel Corp. and Einstein/Noah Bagel Partners based on their relative market values.

Leesburg Asphalt Company, L.L.C., Case No. 01-39902-SAF-1. The United States Bankruptcy Court for the Northern District of Texas, Dallas Division. Developed analyses of the debtor's workout plan and reasonableness of an alternative source of financing.

SEC Receivership Matter

Defendants Civil Action No. 5:09CV0087-C; Securities and Exchange Commission vs. Benny L. Judah and Excel Lease Fund, Inc. The United States District Court for the Northern District of Texas, Lubbock Division. Retained to work with a SEC receiver to provide valuations to the court in support of asset sales at fair values. Assets appraised included casual and fine dining restaurants, bars, notes receivable, stock in community banks, hotels and a health club facility.

US Tax Court Matters

Duane Pankratz, et al., Petitioner(s), vs. Commissioner of Internal Revenue, Tax Court Docket No. 21255-13, 27239-13, U.S. Tax Court, Washington, DC. Developed a valuation of the charitable contributions of Dr. Pankratz involving oil and gas partnership interests and real estate assets. Developed analyses and an expert. Testified in US Tax Court, St. Paul, Minn.

TranSupport, Inc. vs. Commissioner of Internal Revenue, Tax Court Docket No. 12152-13, U.S. Tax Court, Boston, Mass. Developed a reasonable compensation analysis, expert and rebuttal reports for company personnel in the aircraft industry. Testified in US Tax Court, Washington, DC.

Salty Brine I, Ltd. by and through, Salty Brine, Inc., Tax Matters Partner, vs. United States of America, United States District Court, Northern District of Texas, Abilene Division, Case No.: 5:10-CV-00108-C. Developed an expert report on an off-shore royalty transfer and the use of business protection insurance policies for tax avoidance. Provided deposition and trial testimony.

Mason & Mason Technology Insurance Services, Inc. vs. Commissioner, Tax Court Docket No. 12045-09. Developed an analysis of reasonable compensation for the owner of an insurance brokerage.

Garwood Irrigation Company vs. Commissioner, Tax Court Docket No. 001459-03. U.S. Tax Court, Houston, Texas. Developed a valuation and rebuttal report and provided testimony on the valuation of an irrigation company and its water rights.

Family Law, Employment Law and Other

Jerry Blackburn, Gustavo Frafa, and William South v. Small Business Insurance Advisors, f/k/a USCare Marketing, Inc. Retained by the SBIA in a matter involving three agents suing SBIA over its insurance product offerings to agents that were independent, as opposed to being captive.

In the Matter of the Marriage of Rebecca L. Ginn and Lonnie James Ginn, Cause No. 325-520240-12. The District Court of Tarrant County, Texas, 325th Judicial District. Retained to develop a valuation of interests in Aspen Scientific I, LP, Aspen Scientific, Inc., Physician Assistant Services of Texas, LLP, and Texas Physician Assistant Surgical Service, PC. Expert report submitted.

Progressive Child Care Systems, Inc. vs. Legacy Village Limited Partnership; Legacy Village One, L.C; Spy, Inc.; Legacy Village Associates, Ltd., Texas Family Fitness 2, LLC, SC Legacy Independence, Ltd., SC Legacy Independence One, LLC, and L&B Realty Acquisitions, LLC., Cause No. 401-01220-2012. Retained to develop a valuation of Texas Family Fitness center in Plano, TX. Expert report submitted, case settled.

In the Matter of the Marriage of Patricia A. Bliss and David P. Bliss, Jr., Cause No. 324-444231-08. The District Court of Tarrant County, Texas, 324th Judicial District. Retained to develop a valuation of an interest in Pediatric Surgical Associates of Fort Worth, P.A. Expert report submitted, direct testimony provided.

Deirdre Worley, Individually and as Representative of the Estate of Richard Dale Worley, Dr. and Richard Dale Worley, II, Individually vs. Contract Transportation Systems Co., The Sherwin-Williams Company, and Francisco Sanchez, Jr., Individually. Retained to develop an analysis and expert report on the loss of inheritance for Mr. Worley's estate. Deposition and jury trial testimony provided.

Charles Pankey vs. Texas Department of Health, Civil Action No. A 02 CA 284 H. The United States District Court, Western District of Texas, Austin Division. Case dealt with issue of wrongful termination. Prepared a rebuttal analysis of opposing expert's damage report. The case was settled.

Jack Holmes vs. Frank Mayborn Enterprises, Inc. d/b/a Killeen Daily Herald, Case No. 188041-C. The District Court of Bell County, Texas, 169th Judicial District. Developed an economic damage analysis and report for an attorney that the newspaper incorrectly reported as being a pedophile. Deposition testimony provided. Case settled.

LECTURES AND APPEARANCES

"Private Equity Investment in E&P Companies" Presentation to the Tarrant County Bar Association's Energy Section, February 2017

"Oil and Gas Reserves: Distressed Market Values" Presentation to the Tarrant County Bar Association's Energy Section, April 2016

"Oil and Gas Reserves: Distressed Market Values" Presentation to the Houston Bar Association's Bankruptcy Section, March 2016

"Oil and Gas Reserves: What are they worth?" Presentation to the Dallas Bar Association's Energy Section, December 2015.

"Reasonable Compensation Analyses: Insights and Guidance from the Reasonable Compensation Job Aid for IRS Valuation Professionals dated October 29, 2014." Presentation to the Texas Society of CPA's, Fort Worth Chapter, June 2015

"Tools of the Trade," Northeast Tarrant County Bar Association, September 2014

"What's It Worth?" "Financial Executives International (FEI Fort Worth Chapter), with Mark Rambin, CPA, CFF of Travis Wolff, January 2012

"Rate of Return Analysis: Why Smart People Can Get Different Answers" "Texas Society of CPA's 2011 Energy Conference, May 2011

"Reserve Valuations" – Texas Wesleyan School of Law Energy Symposium, Fort Worth, Texas – March 2011.

"Got Gas? A panel discussion about the Barnett Shale" – Southlake Executive Forum, Southlake, Texas – November 2010.

"Current Trends in Business Valuation" – Flower Mound Bar Association CLE Presentation, Dallas, Texas – November 2010.

“Reserve Valuations (in and out of litigation): Where Engineering and Appraisals Meet” – Dallas Bar Association Energy Section CLE Presentation, Dallas, Texas – September 2010.

“Fair Value Updates / Implications for Energy Companies” – TSCPA Energy Conference, Austin, Texas – May 2009.

“SFAS141R – New Fair Value Standards” – Financial Executives International (FEI), Dallas, Texas – January 2009.

“Energy Valuation Update – Metrics, Multiples and Monte Carlo” – TSCPA Energy Conference, Austin, Texas – May 2008.

“Disastrous Circumstances, a Valuation Point of View” – Risk and Insurance Management Society (RIMS), Dallas, Texas – May 2006.

“FIN47 Valuation Considerations” – Reporting Environmental Liabilities *after* FIN47 Seminar, Advanced Environmental Dimensions, Dallas, Texas – November 2005.

“Valuing Employee Stock Options” – TSCPA Natural Gas, Telecommunications and Electric Industries Conference, Austin, Texas – May 2005.

“Valuing Securities Issued by Financially Distressed Companies” – Winstead’s Business Restructuring Practice Group, Dallas, Texas – May 2005.

“Cost of Capital, “Capital Structure and Leverage” and “International Investment Risk” – Lighthouse Seminar Group’s Accounting and Finance Primer for Attorneys, Dallas and Houston, Texas – February 2005.

“Valuing Employee Stock Options” for SFAS123R – Association for Corporate Growth, Austin Chapter – November 2004.

“Valuation Update: Making Sense of the Numbers” – TSCPA Natural Gas, Telecommunications and Electric Industries Conference, Austin, Texas – April 2004.

“Valuation Aspects of Commercial Litigation, Intellectual Property and Bankruptcy Cases” – Texas State Attorney General’s Office, Austin, Texas – April 2004.

“Economic Damage & Valuation Analysis: The Expert’s View” – Hiersche, Hayward, Drakeley & Urback CLE, Dallas, Texas – March 2004.

“SFAS143 Impact on Electric Asset Values” – CBI 6th Annual Electric Asset Valuation Conference, Houston, Texas – February 2004.

“Lessons Learned from SFAS 141/142” – Council of Petroleum Accounting Societies (COPAS), Dallas, Texas - February 2004.

“Valuing Employee Stock Options” – Horn, Murdock & Cole Continuing Professional Education, Dallas, Texas – October 2003.

“Energy Valuation Update” – CBI 5th Annual Electric Asset Valuation Conference, Houston, Texas - February 2003.

“Valuation, Economic Loss and the Expert” – Texas State Attorney General’s Office, Austin, Texas – November 2002.

PUBLICATIONS

“First-Quarter Results Show Positive Effects of Low-Interest Rates’ “*Natural Gas & Electricity*, written with Christopher C. Lucas, CFA, July 2013, Wiley Periodicals, Inc., a Wiley company.

"Utility Stocks Poised to Fall Off the Dividend Cliff?" *Natural Gas & Electricity*, December 2012, Wiley Periodicals, Inc., a Wiley company.

"LNG Development: Timing is Everything" *Natural Gas and Electricity*, June 2009, Wiley Periodicals, Inc.

"Monte Carlo Simulation Improves Decision Making" *Natural Gas and Electricity*, May 2007, Wiley Periodicals, Inc.

"MLPs' Growth in Energy Fueled by Taxes and Regulators," *Natural Gas and Electricity*, January 2007, Wiley Periodicals, Inc.

"Aging Workforce Has Valuation and Intellectual Property Considerations" *Natural Gas and Electricity*, August 2006, Wiley Periodicals, Inc.

"FIN47 Yields Environmental Costs and Opportunities" *Natural Gas and Electricity*, June 2006, Wiley Periodicals, Inc.

"Fair Value Measurement of Environmental Liabilities" *Natural Gas and Electricity*, January 2006, Wiley Periodicals, Inc. (Written with Gregory C. Rogers)

"Role of Fair Value Increasingly Affects Business Combinations" *Natural Gas and Electricity*, November 2005, Wiley Periodicals, Inc.

"New Financial Rules Increase International Comparability" *Natural Gas and Electricity*, June 2005, Wiley Periodicals, Inc.

"Risk/Return Reconciled" *Natural Gas and Electricity*, February 2005, Wiley Periodicals, Inc.

"SFAS 133 Affects Energy Values" *Natural Gas and Electricity*, December 2004, Wiley Periodicals, Inc.

"Bringing Intangible Assets into Focus: Customer Relationships" *Natural Gas and Electricity*, July 2004, Wiley Periodicals, Inc. (Written with Dennis Perrone)

"Nuclear Power Becoming Viable?" *Natural Gas and Electricity*, June 2004, Wiley Periodicals, Inc. (Written with Michael Conroy)

"With FERC Support, Venture Capital Flowing into Merchant Power Opportunities" *Natural Gas and Electricity*, May 2004, Wiley Periodicals, Inc.

"Show Me the Money" "chapter 12 in *Measure What Matters*, Laura Patterson, VisionEdge Marketing, Inc., 2004.

"FASB Interpretation No. 45 Making an Impact on Utility Balance Sheets" *Natural Gas and Electricity*, February 2004, Wiley Periodicals, Inc.

"SFAS 143 Asset Retirement Obligations Strongly Affecting Electric & Gas Companies" Chapter 8 in *Electric & Natural Gas Business: Using New Strategies, Understanding the Issues!*, edited by Robert E. Willett, Financial Communications Company, 2004.

"Gas Still the Brightest Sector in Wall Street's View" *Natural Gas and Electricity*, December 2003, Wiley Periodicals, Inc. (Written with Todd C. Fries)

"Utilities Seeing Gains from SFAS 143 Implementation" *Natural Gas and Electricity*, November 2003, Wiley Periodicals, Inc. (Written with Domenic Falcone)

"Today's Financial Market Conditions Encourage New Transmission Investment" *Natural Gas and Electricity*, October 2003, Wiley Periodicals, Inc.

“Companies Planning New Strategies Around Bankruptcy Environment” “*Natural Gas* September 2003, Wiley Periodicals, Inc.

“Dividends Revisited: Should the Check Be In The Mail?” *Natural Gas Magazine*, Wiley Periodicals, Inc., April 2003.

“Bad Times for Goodwill? SFAS 142 Will Impact Energy Industry” “*Natural Gas Magazine*, Wiley Periodicals, Inc., January 2003.

“Recent FASB Rulings Affecting Valuations” Chapter 8 in *Electric & Natural Gas Business: Understanding It!*, edited by Robert E. Willett, Financial Communications Company, November 2002.

“Valuing Generation Assets Under Competition” *Utility Management Solutions*, July/August 2000.

EXHIBIT DDU-10B

Method		Equity Risk Premium	CAPM - Current Rf Rate, 2.86%	CAPM - Forecast Rf Rate, 3.06%	Indicated Cost of Equity	Weight
CAPM						
B.5, B.9	D&P Long-Term Average Returns	9.14%	9.37%	9.57%		
B.6, B.10	S&P500 Stocks (Div Yld+Growth)	10.66%	10.45%	10.65%		
B.7, B.11	S&P500 Stocks (Dividend Paying Only)	9.77%	9.82%	10.02%		
B.8, B.12	S&P500 Stocks (Dividends, 5.0%-20%)	8.96%	9.24%	9.44%	9.82%	30%
	Avg	9.63%				
DCF Analyses: Constant Growth						
C.1	Value Line Estimated Growth			Average 9.93%		
C.2	Yahoo Estimated Growth			9.27%	9.60%	20%
DCF Analyses: Non-Constant Growth						
C.4	3 Year Exit			Average 10.54%		
C.5	4 Year Exit			9.39%		
C.6	5 Year Exit			8.46%	9.46%	10%
Risk Premium- Authorized Gas Utility Returns						
D.1	Utility Bond Yields, Current			9.45%		
D.2	Utility Bond Yields, Forecast			9.72%		
D.3	Long Term Treasuries, Current Rf			9.54%		
D.4	Long Term Treasuries, Forecasted Rf			9.63%	9.59%	15%
Risk Premium- Authorized Electric Utility Returns						
D.6	Utility Bond Yields, Current			9.75%		
D.7	Utility Bond Yields, Forecast			9.97%		
D.8	Long Term Treasuries, Current Rf			9.88%		
D.9	Long Term Treasuries, Forecasted Rf			9.95%	9.89%	15%
Expected Earnings						
E.1	2017 and 2018 Estimates			Average 10.89%		
E.2	2021 Estimates			11.15%	11.02%	10%
Large Company ROE (rounded)					9.84%	100%
Small Stock Risk Premium Benchmarks (Schedule H.2)						
G.1	D&P Table - 10th Decile				5.59%	
G.2	D&P Table - MicroCap Group				3.67%	
G.2	Comparable Utility Group				1.67%	
G.2	Differential: D&P for DDU less Comparable's Mean SSRP				3.92%	
G.2	Private Equity Liquidity Effects				3.00%	
G.2	Chicago Booth Study			4.00%	5.00%	
Minimum Required SSRP					1.67%	
DDU Concluded ROE					11.50%	
Rates of Return (Schedule I.1)						
Sears' Capital Structure, Cost of Debt					8.38%	
DDU Requested Capital Structure, Cost of Debt					8.43%	
DDU Concluded ROR					8.40%	

Company	Ticker	Value Line Safety Rank	Value Line Financial Strength	Market Cap (Millions)
American States Water	AWR	2	A	\$1,840
American Water Works	AWK	3	B+	\$14,572
Aqua America	WTR	2	A	\$5,990
California Water	CWT	3	B++	\$1,813
Connecticut Water	CTWS	3	B+	\$655
Middlesex Water	MSEX	2	B++	\$637
SJW Group	SJW	3	B+	\$1,156
York Water	YORW	3	B+	\$430

(1) Source: Value Line, Bloomberg

	Risk Premium, Current		Risk Premium, Historical	
Market Return (1)	12.00%	(1)	12.00%	(1)
Risk-free Rate (2)	6.00%	(2)	2.86%	(3)
Risk Premium	6.00%		9.14%	

Notes:

- (1) Historical arithmetic mean return of large company stocks, Source: Duff & Phelps 2017 Valuation Handbook
- (2) Historical arithmetic mean return of long term government bonds, Source: Duff & Phelps 2017 Valuation Handbook
- (3) 30-Year United States Treasury rate as of October 1, 2017

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
AGILENT TECHNOLOGIES INC	A	\$20,661	0.09%	0.82%	9.53%	10.35%	0.0093%
AMERICAN AIRLINES GROUP INC	AAL	\$23,128	0.10%	0.86%	-3.18%	-2.32%	-0.0023%
ADVANCE AUTO PARTS INC	AAP	\$7,327	0.03%	0.26%	8.96%	9.22%	0.0030%
APPLE INC	AAPL	\$796,065	3.48%	1.57%	10.98%	12.54%	0.4362%
ABBVIE INC	ABBV	\$141,651	0.62%	2.96%	8.60%	11.56%	0.0716%
AMERISOURCEBERGEN CORP	ABC	\$18,131	0.08%	1.82%	6.76%	8.58%	0.0068%
ABBOTT LABORATORIES	ABT	\$92,710	0.41%	2.15%	11.77%	13.91%	0.0563%
ACCENTURE PLC-CL A	ACN	\$87,222	0.38%	1.88%	10.63%	12.52%	0.0477%
ADOBE SYSTEMS INC	ADBE	\$73,537	0.32%	0.00%	19.82%	19.82%	0.0637%
ANALOG DEVICES INC	ADI	\$31,682	0.14%	2.20%	11.55%	13.75%	0.0190%
ARCHER-DANIELS-MIDLAND CO	ADM	\$23,913	0.10%	3.02%	9.80%	12.82%	0.0134%
AUTOMATIC DATA PROCESSING	ADP	\$48,586	0.21%	2.20%	11.48%	13.67%	0.0290%
ALLIANCE DATA SYSTEMS CORP	ADS	\$12,292	0.05%	0.51%	14.00%	14.51%	0.0078%
AUTODESK INC	ADSK	\$24,607	0.11%	0.00%	26.00%	26.00%	0.0279%
AMEREN CORPORATION	AEE	\$14,034	0.06%	3.03%	6.00%	9.03%	0.0055%
AMERICAN ELECTRIC POWER	AEP	\$34,547	0.15%	3.30%	5.00%	8.30%	0.0125%
AES CORP	AES	\$7,276	0.03%	5.39%	8.00%	13.39%	0.0043%
AETNA INC	AET	\$52,807	0.23%	1.00%	11.46%	12.46%	0.0288%
AFLAC INC	AFL	\$32,168	0.14%	2.09%	2.85%	4.94%	0.0069%
ALLERGAN PLC	AGN	\$68,516	0.30%	0.00%	12.33%	12.33%	0.0369%
AMERICAN INTERNATIONAL GROUP	AIG	\$55,460	0.24%	2.24%	11.00%	13.24%	0.0321%
APARTMENT INVT & MGMT CO -A	AIV	\$6,887	0.03%	3.35%	19.07%	22.42%	0.0067%
ASSURANT INC	AIZ	\$5,147	0.02%	2.46%	19.35%	21.81%	0.0049%
ARTHUR J GALLAGHER & CO	AJG	\$11,089	0.05%	2.70%	10.83%	13.53%	0.0066%
AKAMAI TECHNOLOGIES INC	AKAM	\$8,352	0.04%	0.00%	13.40%	13.40%	0.0049%
ALBERMARLE	ALB	\$15,059	0.07%	1.05%	12.95%	14.00%	0.0092%
ALIGN TECHNOLOGY INC	ALGN	\$14,930	0.07%	0.00%	30.00%	30.00%	0.0196%
ALASKA AIR GROUP INC	ALK	\$9,411	0.04%	1.59%	6.33%	7.92%	0.0033%
ALLSTATE CORP	ALL	\$33,213	0.15%	1.68%	16.27%	17.94%	0.0260%
ALLEGION PLC	ALLE	\$8,213	0.04%	0.72%	13.09%	13.81%	0.0050%
ALEXION PHARMACEUTICALS INC	ALXN	\$31,311	0.14%	0.00%	20.50%	20.50%	0.0280%
APPLIED MATERIALS INC	AMAT	\$55,553	0.24%	0.92%	16.71%	17.63%	0.0428%
ADVANCED MICRO DEVICES INC	AMD	\$12,071	0.05%	0.00%	5.00%	5.00%	0.0026%
AMETEK INC	AME	\$15,242	0.07%	0.59%	11.62%	12.21%	0.0081%
AFFILIATED MANAGERS GROUP	AMG	\$10,623	0.05%	0.00%	15.79%	15.79%	0.0073%
AMGEN INC	AMGN	\$136,048	0.59%	2.38%	4.67%	7.04%	0.0419%
AMERIPRISE FINANCIAL INC	AMP	\$22,268	0.10%	2.31%	10.40%	12.71%	0.0124%
AMERICAN TOWER CORP	AMT	\$58,660	0.26%	1.80%	20.68%	22.48%	0.0576%
AMAZON.COM INC	AMZN	\$461,813	2.02%	0.00%	27.82%	27.82%	0.5612%
ANDEAVOR CORP (TESORO)	ANDV	\$16,184	0.07%	2.35%	18.94%	21.28%	0.0150%
ANSYS INC	ANSS	\$10,403	0.05%	0.00%	12.40%	12.40%	0.0056%
ANTHEM INC	ANTM	\$49,860	0.22%	1.45%	9.78%	11.22%	0.0244%
AON PLC	AON	\$37,159	0.16%	1.00%	11.86%	12.86%	0.0209%
A.O. SMITH CORP	AOS	\$10,254	0.04%	0.96%	15.00%	15.96%	0.0072%
APACHE CORP	APA	\$17,447	0.08%	2.11%	-20.64%	-18.53%	-0.0141%
ANADARKO PETROLEUM CORP	APC	\$27,373	0.12%	0.42%	-10.30%	-9.88%	-0.0118%
AIR PRODUCTS & CHEMICALS INC	APD	\$32,960	0.14%	2.54%	9.29%	11.83%	0.0170%
AMPHENOL CORP-CL A	APH	\$25,853	0.11%	0.80%	11.23%	12.03%	0.0136%
ALEXANDRIA REAL ESTATE EQUITIES	ARE	\$11,139	0.05%	2.87%	6.80%	9.67%	0.0047%
ARCONIC INC	ARNC	\$10,973	0.05%	1.28%	16.90%	18.18%	0.0087%
ACTIVISION BLIZZARD INC	ATVI	\$48,700	0.21%	0.99%	13.63%	14.62%	0.0311%
AVALONBAY COMMUNITIES INC	AVB	\$24,637	0.11%	3.13%	6.42%	9.55%	0.0103%
BROADCOM LTD	AVGO	\$98,951	0.43%	1.57%	15.32%	16.89%	0.0730%

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1/P0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
AVERY DENNISON CORP	AVY	\$8,692	0.04%	1.80%	7.65%	9.45%	0.0036%
AMERICAN WATER WORKS CO INC	AWK	\$14,425	0.06%	2.43%	7.95%	10.38%	0.0065%
AMERICAN EXPRESS CO	AXP	\$79,965	0.35%	1.54%	9.70%	11.24%	0.0393%
ACUITY BRANDS INC	AYI	\$7,210	0.03%	0.33%	17.67%	18.00%	0.0057%
AUTOZONE INC	AZO	\$16,681	0.07%	0.00%	13.31%	13.31%	0.0097%
BOEING CO/THE	BA	\$150,259	0.66%	2.18%	15.20%	17.38%	0.1141%
BANK OF AMERICA CORP	BAC	\$267,352	1.17%	1.30%	10.47%	11.76%	0.1374%
BAXTER INTERNATIONAL INC	BAX	\$34,191	0.15%	0.93%	13.56%	14.49%	0.0216%
BB&T CORP	BBT	\$37,932	0.17%	2.79%	9.75%	12.54%	0.0208%
BEST BUY CO INC	BBY	\$17,042	0.07%	2.37%	12.68%	15.05%	0.0112%
CR BARD INC	BCR	\$23,291	0.10%	0.34%	11.00%	11.34%	0.0115%
BECTON DICKINSON AND CO	BDX	\$44,591	0.19%	1.54%	12.53%	14.06%	0.0274%
FRANKLIN RESOURCES INC	BEN	\$24,823	0.11%	1.92%	10.00%	11.92%	0.0129%
BROWN-FORMAN CORP-CLASS B	BF/B	\$21,101	0.09%	1.39%	9.72%	11.11%	0.0102%
BRIGHTHOUSE FINANCIAL INC	BHF	\$7,282	0.03%	0.00%	8.00%	8.00%	0.0025%
BAKER HUGES	BHGE	\$41,935	0.18%	0.48%	6.50%	6.98%	0.0128%
BIOGEN INC	BIIB	\$66,204	0.29%	0.00%	6.48%	6.48%	0.0188%
BANK OF NEW YORK MELLON CORP	BK	\$54,778	0.24%	1.56%	13.24%	14.80%	0.0354%
BLACKROCK INC	BLK	\$72,681	0.32%	2.39%	13.60%	15.99%	0.0508%
BALL CORP	BLL	\$14,529	0.06%	0.75%	7.23%	7.98%	0.0051%
BRISTOL-MYERS SQUIBB CO	BMY	\$104,529	0.46%	2.58%	8.00%	10.58%	0.0483%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	\$452,056	1.97%	0.00%	2.00%	2.00%	0.0395%
BOSTON SCIENTIFIC CORP	BSX	\$40,025	0.17%	0.00%	10.33%	10.33%	0.0181%
BORGWARNER INC	BWA	\$10,813	0.05%	0.87%	5.09%	5.95%	0.0028%
BOSTON PROPERTIES INC	BXP	\$18,963	0.08%	1.81%	4.46%	6.27%	0.0052%
CITIGROUP INC	C	\$198,184	0.87%	0.98%	12.97%	13.95%	0.1207%
CA INC	CA	\$14,062	0.06%	3.13%	2.97%	6.10%	0.0037%
CONAGRA BRANDS INC	CAG	\$14,024	0.06%	2.74%	7.00%	9.74%	0.0060%
CARDINAL HEALTH INC	CAH	\$21,094	0.09%	2.83%	12.37%	15.20%	0.0140%
CATERPILLAR INC	CAT	\$73,700	0.32%	2.65%	10.00%	12.65%	0.0407%
CHUBB LTD	CB	\$66,345	0.29%	2.06%	10.60%	12.66%	0.0367%
CBRE GROUP INC - A	CBG	\$12,801	0.06%	0.00%	9.35%	9.35%	0.0052%
CBOE HOLDINGS INC	CBOE	\$12,138	0.05%	1.06%	22.39%	23.44%	0.0124%
CBS CORP-CLASS B NON VOTING	CBS	\$23,312	0.10%	1.29%	13.37%	14.66%	0.0149%
CROWN CASTLE INTL CORP	CCI	\$40,619	0.18%	3.99%	21.60%	25.59%	0.0454%
CARNIVAL CORP	CCL	\$46,369	0.20%	2.35%	13.28%	15.63%	0.0317%
CADENCE DESIGN SYSTEMS INC	CDNS	\$11,060	0.05%	0.00%	11.45%	11.45%	0.0055%
CELGENE CORP	CELG	\$114,082	0.50%	0.00%	19.46%	19.46%	0.0970%
CERNER CORP	CERN	\$23,648	0.10%	0.00%	12.00%	12.00%	0.0124%
CF INDUSTRIES HOLDINGS INC	CF	\$8,201	0.04%	3.70%	6.00%	9.70%	0.0035%
CITIZENS FINANCIAL GROUP	CFG	\$18,960	0.08%	1.64%	21.44%	23.08%	0.0191%
CHURCH & DWIGHT CO INC	CHD	\$12,089	0.05%	1.56%	9.14%	10.70%	0.0057%
CHESAPEAKE ENERGY CORP	CHK	\$3,906	0.02%	0.00%	-13.02%	-13.02%	-0.0022%
C.H. ROBINSON WORLDWIDE INC	CHRW	\$10,683	0.05%	3.16%	9.20%	12.36%	0.0058%
CHARTER COMMUNICATIONS INC-A	CHTR	\$104,821	0.46%	0.00%	23.96%	23.96%	0.1097%
CIGNA CORP	CI	\$47,067	0.21%	0.05%	12.91%	12.96%	0.0266%
COLGATE-PALMOLIVE CO	CL	\$64,169	0.28%	2.86%	9.47%	12.33%	0.0346%
CLOROX COMPANY	CLX	\$17,004	0.07%	2.50%	6.72%	9.21%	0.0068%
COMERICA INC	CMA	\$13,415	0.06%	1.40%	8.00%	9.40%	0.0055%
COMCAST CORP-CLASS A	CMCSA	\$181,371	0.79%	1.61%	9.13%	10.74%	0.0851%
CME GROUP INC	CME	\$46,119	0.20%	4.63%	10.47%	15.09%	0.0304%
CHIPOTLE MEXICAN GRILL INC	CMG	\$8,777	0.04%	0.00%	50.05%	50.05%	0.0192%
CUMMINS INC	CMI	\$28,165	0.12%	2.61%	10.23%	12.83%	0.0158%

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
CMS ENERGY CORP	CMS	\$13,063	0.06%	2.81%	5.00%	7.81%	0.0045%
CENTENE CORP	CNC	\$16,690	0.07%	0.00%	12.48%	12.48%	0.0091%
CENTERPOINT ENERGY INC	CNP	\$12,590	0.06%	3.64%	6.00%	9.64%	0.0053%
CAPITAL ONE FINANCIAL CORP	COF	\$40,949	0.18%	2.04%	5.97%	8.01%	0.0143%
CABOT OIL & GAS CORP	COG	\$12,372	0.05%	0.48%	31.95%	32.42%	0.0175%
COACH INC	COH	\$11,445	0.05%	3.52%	11.57%	15.09%	0.0075%
ROCKWELL COLLINS INC	COL	\$21,237	0.09%	1.06%	10.73%	11.79%	0.0109%
COOPER COS INC/THE	COO	\$11,606	0.05%	0.03%	9.75%	9.78%	0.0050%
CONOCOPHILLIPS	COP	\$60,908	0.27%	2.28%	7.00%	9.28%	0.0247%
COSTCO WHOLESALE CORP	COST	\$72,056	0.31%	5.77%	10.18%	15.95%	0.0502%
COTY INC-CL A	COTY	\$12,381	0.05%	4.26%	17.00%	21.26%	0.0115%
CAMPBELL SOUP CO	CPB	\$14,071	0.06%	3.04%	4.46%	7.50%	0.0046%
SALESFORCE.COM INC	CRM	\$67,141	0.29%	0.00%	28.05%	28.05%	0.0823%
CISCO SYSTEMS INC	CSCO	\$166,534	0.73%	3.48%	6.43%	9.91%	0.0721%
CSRA INC	CSRA	\$5,275	0.02%	1.29%	7.55%	8.84%	0.0020%
CSX CORP	CSX	\$49,556	0.22%	1.50%	11.33%	12.82%	0.0278%
CINTAS CORP	CTAS	\$15,588	0.07%	1.03%	11.58%	12.61%	0.0086%
CENTURYLINK INC	CTL	\$10,388	0.05%	11.26%	-2.86%	8.40%	0.0038%
COGNIZANT TECH SOLUTIONS-A	CTSH	\$42,844	0.19%	0.22%	14.35%	14.57%	0.0273%
CITRIX SYSTEMS INC	CTXS	\$11,639	0.05%	0.00%	13.10%	13.10%	0.0067%
CVS HEALTH CORP	CVS	\$82,667	0.36%	2.43%	13.33%	15.76%	0.0569%
CHEVRON CORP	CVX	\$222,663	0.97%	4.56%	42.57%	47.13%	0.4585%
CONCHO RESOURCES INC	CXO	\$19,588	0.09%	0.00%	20.00%	20.00%	0.0171%
DOMINION RESOURCES INC/VA	D	\$49,434	0.22%	3.83%	5.60%	9.43%	0.0204%
DELTA AIR LINES INC	DAL	\$34,913	0.15%	1.72%	5.57%	7.29%	0.0111%
DEERE & CO	DE	\$40,352	0.18%	2.04%	4.50%	6.54%	0.0115%
DISCOVER FINANCIAL SERVICES	DFS	\$24,009	0.10%	2.03%	3.98%	6.01%	0.0063%
DOLLAR GENERAL CORP	DG	\$22,148	0.10%	1.38%	8.55%	9.93%	0.0096%
QUEST DIAGNOSTICS INC	DGX	\$12,773	0.06%	1.72%	6.95%	8.67%	0.0048%
DR HORTON INC	DHI	\$14,945	0.07%	1.09%	12.66%	13.74%	0.0090%
DANAHER CORP	DHR	\$59,590	0.26%	0.64%	7.57%	8.21%	0.0214%
WALT DISNEY CO/THE	DIS	\$152,141	0.66%	1.64%	7.19%	8.83%	0.0587%
DISCOVERY COMMUNICATIONS-A	DISCA	\$12,045	0.05%	0.00%	9.70%	9.70%	0.0051%
DISH NETWORK CORP	DISH	\$25,277	0.11%	0.00%	-7.33%	-7.33%	-0.0081%
DELPHI AUTOMOTIVE PLC	DLPH	\$26,257	0.11%	1.24%	12.18%	13.42%	0.0154%
DIGITAL REALTY TRUST INC	DLR	\$24,552	0.11%	3.14%	5.58%	8.72%	0.0094%
DOLLAR TREE INC	DLTR	\$20,563	0.09%	0.00%	12.88%	12.88%	0.0116%
DOVER CORP	DOV	\$14,233	0.06%	2.12%	15.47%	17.58%	0.0109%
DR PEPPER SNAPPLE GROUP INC	DPS	\$16,077	0.07%	2.55%	8.58%	11.14%	0.0078%
DUKE REALTY CORP	DRE	\$10,252	0.04%	3.27%	4.52%	7.80%	0.0035%
DARDEN RESTAURANTS INC	DRI	\$9,875	0.04%	2.89%	9.57%	12.46%	0.0054%
DTE ENERGY COMPANY	DTE	\$19,259	0.08%	3.02%	5.35%	8.37%	0.0070%
DUKE ENERGY CORP	DUK	\$58,734	0.26%	4.01%	2.00%	6.01%	0.0154%
DAVITA INC	DVA	\$11,355	0.05%	0.00%	3.75%	3.75%	0.0019%
DEVON ENERGY CORP	DVN	\$19,292	0.08%	0.77%	18.42%	19.18%	0.0162%
DOWDUPONT INC	DWDP	\$161,719	0.71%	0.00%	7.83%	7.83%	0.0553%
DXC TECHNOLOGY CO	DXC	\$24,449	0.11%	0.76%	15.25%	16.01%	0.0171%
ELECTRONIC ARTS INC	EA	\$36,448	0.16%	0.00%	14.17%	14.17%	0.0226%
EBAY INC	EBAY	\$41,164	0.18%	0.00%	8.54%	8.54%	0.0153%
ECOLAB INC	ECL	\$37,217	0.16%	1.19%	12.86%	14.05%	0.0228%
CONSOLIDATED EDISON INC	ED	\$24,996	0.11%	3.35%	5.00%	8.35%	0.0091%
EQUIFAX INC	EFX	\$12,758	0.06%	1.37%	11.03%	12.40%	0.0069%
EDISON INTERNATIONAL	EIX	\$25,143	0.11%	2.73%	6.23%	8.95%	0.0098%

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
ESTEE LAUDER COMPANIES-CL A	EL	\$39,743	0.17%	1.28%	11.49%	12.78%	0.0222%
EASTMAN CHEMICAL CO	EMN	\$13,110	0.06%	2.39%	7.53%	9.92%	0.0057%
EMERSON ELECTRIC CO	EMR	\$40,219	0.18%	3.21%	7.45%	10.66%	0.0187%
EOG RESOURCES INC	EOG	\$55,862	0.24%	0.66%	-18.26%	-17.60%	-0.0429%
EQUINIX INC	EQIX	\$34,787	0.15%	1.96%	29.25%	31.21%	0.0474%
EQUITY RESIDENTIAL	EQR	\$24,217	0.11%	7.71%	5.87%	13.58%	0.0144%
EQT CORP	EQT	\$11,308	0.05%	0.20%	15.00%	15.20%	0.0075%
EVERSOURCE ENERGY	ES	\$19,153	0.08%	3.06%	6.10%	9.16%	0.0077%
EXPRESS SCRIPTS HOLDING CO	ESRX	\$36,570	0.16%	0.00%	13.28%	13.28%	0.0212%
ESSEX PROPERTY TRUST INC	ESS	\$16,763	0.07%	2.65%	5.99%	8.64%	0.0063%
E*TRADE FINANCIAL CORP	ETFC	\$11,980	0.05%	0.00%	15.37%	15.37%	0.0080%
EATON CORP PLC	ETN	\$34,156	0.15%	3.27%	10.22%	13.49%	0.0201%
ENTERGY CORP	ETR	\$13,708	0.06%	4.34%	-3.83%	0.51%	0.0003%
ENVISION HEALTHCARE CORP	EVHC	\$5,431	0.02%	0.00%	8.03%	8.03%	0.0019%
EDWARDS LIFSCIENCES CORP	EW	\$23,082	0.10%	0.00%	16.60%	16.60%	0.0167%
EXELON CORP	EXC	\$36,167	0.16%	3.52%	3.57%	7.08%	0.0112%
EXPEDITORS INTL WASH INC	EXPD	\$10,819	0.05%	1.48%	8.40%	9.88%	0.0047%
EXPEDIA INC	EXPE	\$21,827	0.10%	0.82%	17.98%	18.80%	0.0179%
EXTRA SPACE STORAGE INC	EXR	\$10,070	0.04%	4.07%	6.57%	10.64%	0.0047%
FORD MOTOR CO	F	\$47,542	0.21%	5.52%	-2.07%	3.45%	0.0072%
FASTENAL CO	FAST	\$13,126	0.06%	3.04%	15.40%	18.44%	0.0106%
FACEBOOK INC-A	FB	\$496,200	2.17%	0.00%	26.79%	26.79%	0.5806%
FORTUNE BRANDS HOME & SECURI	FBHS	\$10,354	0.05%	1.11%	12.12%	13.23%	0.0060%
FREEMPORT-MCMORAN INC	FCX	\$20,320	0.09%	0.00%	24.46%	24.46%	0.0217%
FEDEX CORP	FDX	\$60,489	0.26%	0.98%	12.50%	13.48%	0.0356%
FIRSTENERGY CORP	FE	\$13,698	0.06%	3.35%	-5.00%	-1.65%	-0.0010%
F5 NETWORKS INC	FFIV	\$7,661	0.03%	0.00%	11.85%	11.85%	0.0040%
FIDELITY NATIONAL INFO SERV	FIS	\$31,044	0.14%	1.23%	8.23%	9.47%	0.0128%
FISERV INC	FISV	\$27,142	0.12%	0.00%	10.80%	10.80%	0.0128%
FIFTH THIRD BANCORP	FITB	\$20,614	0.09%	2.11%	4.20%	6.31%	0.0057%
FOOT LOCKER INC	FL	\$4,367	0.02%	3.35%	3.40%	6.75%	0.0013%
FLIR SYSTEMS INC	FLIR	\$5,338	0.02%	1.57%	15.00%	16.57%	0.0039%
FLUOR CORP	FLR	\$5,890	0.03%	2.20%	11.89%	14.09%	0.0036%
FLOWSERVE CORP	FLS	\$5,564	0.02%	1.95%	12.68%	14.63%	0.0036%
FMC CORP	FMC	\$11,979	0.05%	0.79%	12.60%	13.39%	0.0070%
TWENTY-FIRST CENTURY FOX INC	FOX	\$48,360	0.21%	2.16%	9.23%	11.39%	0.0241%
FEDERAL REALTY INVS TRUST	FRT	\$9,011	0.04%	3.16%	4.67%	7.83%	0.0031%
FMC TECHNOLOGIES INC	FTI	\$13,045	0.06%	0.00%	8.59%	8.59%	0.0049%
FORTIVE CORP	FTV	\$24,571	0.11%	0.32%	9.37%	9.69%	0.0104%
GENERAL DYNAMICS CORP	GD	\$61,563	0.27%	2.83%	8.51%	11.35%	0.0305%
GENERAL ELECTRIC CO	GE	\$209,349	0.91%	4.11%	11.23%	15.35%	0.1403%
GENERAL GROWTH PROPERTIES	GGP	\$18,319	0.08%	4.36%	4.65%	9.01%	0.0072%
GILEAD SCIENCES INC	GILD	\$105,806	0.46%	2.29%	-7.44%	-5.15%	-0.0238%
GENERAL MILLS INC	GIS	\$29,417	0.13%	3.74%	9.57%	13.30%	0.0171%
CORNING INC	GLW	\$27,023	0.12%	2.06%	8.58%	10.63%	0.0125%
GENERAL MOTORS CO	GM	\$58,842	0.26%	4.10%	9.04%	13.14%	0.0338%
ALPHABET INC-CL C	GOOG	\$669,246	2.92%	0.00%	16.64%	16.64%	0.4864%
GENUINE PARTS CO	GPC	\$14,044	0.06%	3.16%	8.92%	12.07%	0.0074%
GLOBAL PAYMENTS INC	GPN	\$14,491	0.06%	0.06%	14.50%	14.56%	0.0092%
GAP INC/THE	GPS	\$11,580	0.05%	3.44%	5.60%	9.04%	0.0046%
GARMIN LTD	GRMN	\$10,130	0.04%	3.99%	5.68%	9.67%	0.0043%
GOLDMAN SACHS GROUP INC	GS	\$95,564	0.42%	1.26%	11.19%	12.45%	0.0520%
WW GRAINGER INC	GWW	\$10,370	0.05%	3.02%	9.55%	12.57%	0.0057%

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(Y/P)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
HALLIBURTON CO	HAL	\$40,120	0.18%	2.31%	74.00%	76.31%	0.1337%
HASBRO INC	HAS	\$12,217	0.05%	2.37%	9.70%	12.07%	0.0064%
HUNTINGTON BANCSHARES INC	HBAN	\$15,217	0.07%	2.50%	10.71%	13.21%	0.0088%
HANESBRANDS INC	HBI	\$8,981	0.04%	2.20%	10.45%	12.65%	0.0050%
HCA HOLDINGS INC	HCA	\$28,752	0.13%	0.00%	12.07%	12.07%	0.0152%
WELLTOWER INC	HCN	\$25,925	0.11%	4.80%	2.61%	7.41%	0.0084%
HCP INC	HCP	\$13,051	0.06%	5.87%	3.11%	8.98%	0.0051%
HOME DEPOT INC	HD	\$192,807	0.84%	2.13%	13.69%	15.82%	0.1332%
HESS CORP	HES	\$14,904	0.07%	2.15%	-14.74%	-12.58%	-0.0082%
HARTFORD FINANCIAL SVCS GRP	HIG	\$20,193	0.09%	1.75%	9.50%	11.25%	0.0099%
HILTON HOTELS CORP	HLT	\$22,223	0.10%	1.16%	15.74%	16.90%	0.0164%
HARLEY-DAVIDSON INC	HOG	\$8,224	0.04%	3.09%	7.85%	10.94%	0.0039%
HOLOGIC INC	HOLX	\$10,291	0.04%	0.00%	9.18%	9.18%	0.0041%
HONEYWELL INTERNATIONAL INC	HON	\$107,803	0.47%	1.96%	9.95%	11.91%	0.0561%
HP INC	HP	\$5,658	0.02%	6.03%	12.00%	18.03%	0.0045%
HEWLETT PACKARD ENTERPRIS	HPE	\$23,822	0.10%	1.84%	-3.56%	-1.72%	-0.0018%
HP INC	HPQ	\$33,338	0.15%	4.10%	4.09%	8.19%	0.0119%
H&R BLOCK INC	HRB	\$5,536	0.02%	3.61%	11.00%	14.61%	0.0035%
HORMEL FOODS CORP	HRL	\$16,964	0.07%	2.15%	6.15%	8.30%	0.0062%
HENRY SCHEIN INC	HSIC	\$12,964	0.06%	0.00%	10.25%	10.25%	0.0058%
HOST HOTELS & RESORTS INC	HST	\$13,684	0.06%	4.75%	4.10%	8.85%	0.0053%
HERSHEY CO/THE	HSY	\$23,193	0.10%	2.94%	9.53%	12.48%	0.0126%
HUMANA INC	HUM	\$35,209	0.15%	0.59%	12.93%	13.52%	0.0208%
INTL BUSINESS MACHINES CORP	IBM	\$135,206	0.59%	3.98%	2.38%	6.36%	0.0375%
INTERCONTINENTAL EXCHANGE IN	ICE	\$40,429	0.18%	1.18%	10.98%	12.15%	0.0215%
IDEXX LABORATORIES INC	IDXX	\$13,571	0.06%	0.00%	10.81%	10.81%	0.0064%
INTL FLAVORS & FRAGRANCES	IFF	\$11,286	0.05%	1.83%	4.00%	5.83%	0.0029%
ILLUMINA INC	ILMN	\$29,083	0.13%	0.00%	15.48%	15.48%	0.0197%
INCYTE CORP	INCY	\$24,591	0.11%	0.00%	44.05%	44.05%	0.0473%
IHS MARKIT LTD	INFO	\$17,583	0.08%	0.00%	13.51%	13.51%	0.0104%
INTEL CORP	INTC	\$178,938	0.78%	3.73%	8.14%	11.87%	0.0928%
INTUIT INC	INTU	\$36,242	0.16%	1.02%	14.88%	15.90%	0.0252%
INTERNATIONAL PAPER CO	IP	\$23,462	0.10%	3.37%	7.23%	10.60%	0.0109%
INTERPUBLIC GROUP OF COS INC	IPG	\$8,176	0.04%	3.36%	8.64%	12.00%	0.0043%
INGERSOLL-RAND PLC	IR	\$22,620	0.10%	1.81%	10.71%	12.52%	0.0124%
IRON MOUNTAIN INC	IRM	\$10,285	0.04%	5.79%	14.60%	20.39%	0.0092%
INTUITIVE SURGICAL INC	ISRG	\$38,994	0.17%	0.00%	10.05%	10.05%	0.0171%
GARTNER INC	IT	\$11,271	0.05%	0.00%	17.50%	17.50%	0.0086%
ILLINOIS TOOL WORKS	ITW	\$50,920	0.22%	1.81%	9.20%	11.01%	0.0245%
INVESCO LTD	IVZ	\$14,257	0.06%	3.61%	12.29%	15.90%	0.0099%
HUNT (JB) TRANSPRT SVCS INC	JBHT	\$12,156	0.05%	0.93%	13.35%	14.28%	0.0076%
JOHNSON CONTROLS INTERNATION	JCI	\$37,566	0.16%	2.72%	8.47%	11.19%	0.0184%
JACOBS ENGINEERING GROUP INC	JEC	\$7,011	0.03%	0.00%	8.73%	8.73%	0.0027%
JOHNSON & JOHNSON	JNJ	\$348,947	1.52%	2.53%	6.03%	8.56%	0.1305%
JUNIPER NETWORKS INC	JNPR	\$10,584	0.05%	1.51%	8.62%	10.13%	0.0047%
JPMORGAN CHASE & CO	JPM	\$336,096	1.47%	2.15%	3.00%	5.15%	0.0757%
NORDSTROM INC	JWN	\$7,838	0.03%	3.27%	6.00%	9.27%	0.0032%
KELLOGG CO	K	\$21,526	0.09%	3.25%	6.23%	9.48%	0.0089%
KEYCORP	KEY	\$20,468	0.09%	2.07%	10.90%	12.97%	0.0116%
KRAFT HEINZ CO/THE	KHC	\$94,475	0.41%	3.12%	8.39%	11.51%	0.0475%
KIMCO REALTY CORP	KIM	\$8,321	0.04%	5.89%	19.96%	25.86%	0.0094%
KLA-TENCOR CORP	KLAC	\$16,631	0.07%	2.25%	7.90%	10.15%	0.0074%
KIMBERLY-CLARK CORP	KMB	\$41,577	0.18%	3.26%	6.22%	9.48%	0.0172%

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1Y/P(0))	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
KINDER MORGAN INC	KMI	\$42,833	0.19%	2.84%	20.00%	22.84%	0.0427%
CARMAX INC	KMX	\$13,790	0.06%	0.00%	13.79%	13.79%	0.0083%
COCA-COLA CO/THE	KO	\$191,981	0.84%	3.23%	5.61%	8.84%	0.0741%
MICHAEL KORS HOLDINGS LTD	KORS	\$7,255	0.03%	0.00%	7.00%	7.00%	0.0022%
KROGER CO	KR	\$17,844	0.08%	2.33%	5.57%	7.90%	0.0062%
KOHL'S CORP	KSS	\$7,696	0.03%	4.88%	5.45%	10.33%	0.0035%
KANSAS CITY SOUTHERN	KSU	\$11,457	0.05%	1.33%	14.00%	15.33%	0.0077%
L BRANDS INC	LB	\$11,811	0.05%	6.32%	7.54%	13.86%	0.0072%
LEGGETT & PLATT INC	LEG	\$6,314	0.03%	3.28%	19.00%	22.28%	0.0061%
LENNAR CORP-A	LEN	\$12,140	0.05%	0.33%	11.29%	11.62%	0.0062%
LABORATORY CRP OF AMER HLDGS	LH	\$15,369	0.07%	0.00%	11.35%	11.35%	0.0076%
LKQ CORP	LKQ	\$11,116	0.05%	0.00%	12.50%	12.50%	0.0061%
L-3 COMMUNICATIONS HOLDINGS	LLL	\$14,739	0.06%	1.61%	6.90%	8.51%	0.0055%
ELI LILLY & CO	LLY	\$94,179	0.41%	2.59%	8.50%	11.09%	0.0456%
LOCKHEED MARTIN CORP	LMT	\$89,361	0.39%	2.44%	9.42%	11.86%	0.0463%
LINCOLN NATIONAL CORP	LNC	\$16,278	0.07%	1.67%	9.25%	10.92%	0.0078%
ALLIANT ENERGY CORP	LNT	\$9,605	0.04%	2.95%	5.50%	8.45%	0.0035%
LOWE'S COS INC	LOW	\$66,575	0.29%	2.00%	14.38%	16.38%	0.0476%
LAM RESEARCH CORP	LRCX	\$30,068	0.13%	0.99%	7.70%	8.69%	0.0114%
LEUCADIA NATIONAL CORP	LUK	\$9,056	0.04%	1.15%	18.00%	19.15%	0.0076%
SOUTHWEST AIRLINES CO	LUV	\$33,508	0.15%	1.34%	6.43%	7.77%	0.0114%
LEVEL 3 COMMUNICATIONS INC	LVL	\$19,328	0.08%	0.00%	5.00%	5.00%	0.0042%
LYONDELLBASELL INDU-CL A	LYB	\$39,204	0.17%	3.74%	6.50%	10.24%	0.0175%
MACY'S INC	M	\$6,645	0.03%	6.91%	-0.48%	6.43%	0.0019%
MASTERCARD INC - A	MA	\$150,363	0.66%	0.64%	16.63%	17.26%	0.1134%
MACERICH CO/THE	MAC	\$7,774	0.03%	5.37%	7.66%	13.03%	0.0044%
MARRIOTT INTERNATIONAL -CL A	MAR	\$41,063	0.18%	1.25%	15.12%	16.36%	0.0294%
MASCO CORP	MAS	\$12,428	0.05%	1.14%	14.33%	15.46%	0.0084%
MATTEL INC	MAT	\$5,305	0.02%	10.43%	11.30%	21.73%	0.0050%
MCDONALD'S CORP	MCD	\$126,910	0.55%	2.47%	10.09%	12.56%	0.0696%
MICROCHIP TECHNOLOGY INC	MCHP	\$20,894	0.09%	1.77%	17.06%	18.82%	0.0172%
MCKESSON CORP	MCK	\$32,298	0.14%	0.75%	5.30%	6.05%	0.0085%
MOODY'S CORP	MCO	\$26,589	0.12%	1.43%	8.00%	9.43%	0.0110%
MONDELEZ INTERNATIONAL INC-A	MDLZ	\$61,301	0.27%	1.98%	11.64%	13.62%	0.0365%
MEDTRONIC PLC	MDT	\$105,347	0.46%	2.25%	6.43%	8.68%	0.0400%
METLIFE INC	MET	\$55,122	0.24%	3.83%	35.90%	39.73%	0.0957%
MGM RESORTS INTERNATIONAL	MGM	\$18,746	0.08%	0.73%	17.46%	18.19%	0.0149%
MOHAWK INDUSTRIES INC	MHK	\$18,399	0.08%	0.00%	8.48%	8.48%	0.0068%
MCCORMICK & CO-NON VTG SHRS	MKC	\$13,441	0.06%	1.93%	9.60%	11.53%	0.0068%
MARTIN MARIETTA MATERIALS	MLM	\$12,959	0.06%	0.91%	21.24%	22.15%	0.0125%
MARSH & MCLENNAN COS	MMC	\$42,955	0.19%	1.77%	12.86%	14.63%	0.0275%
3M CO	MMM	\$125,261	0.55%	2.28%	8.80%	11.08%	0.0606%
MONSTER BEVERAGE CORP	MNST	\$31,391	0.14%	0.00%	20.30%	20.30%	0.0278%
ALTRIA GROUP INC	MO	\$121,676	0.53%	3.89%	0.61%	4.51%	0.0240%
MONSANTO CO	MON	\$52,640	0.23%	1.89%	7.47%	9.36%	0.0215%
MOSAIC CO/THE	MOS	\$7,579	0.03%	4.99%	11.70%	16.69%	0.0055%
MARATHON PETROLEUM CORP	MPC	\$28,391	0.12%	2.84%	12.68%	15.52%	0.0192%
MERCK & CO. INC.	MRK	\$174,632	0.76%	2.96%	6.07%	9.03%	0.0689%
MARATHON OIL CORP	MRO	\$11,524	0.05%	1.67%	5.00%	6.67%	0.0034%
MORGAN STANLEY	MS	\$88,468	0.39%	1.86%	16.72%	18.58%	0.0718%
MICROSOFT CORP	MSFT	\$573,740	2.51%	2.21%	10.54%	12.75%	0.3196%
MOTOROLA SOLUTIONS INC	MSI	\$13,804	0.06%	2.17%	4.10%	6.27%	0.0038%
M & T BANK CORP	MTB	\$24,467	0.11%	2.01%	10.19%	12.20%	0.0130%

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
METTLER-TOLEDO INTERNATIONAL	MTD	\$16,072	0.07%	0.00%	12.08%	12.08%	0.0085%
MICRON TECHNOLOGY INC	MU	\$43,816	0.19%	0.00%	0.83%	0.83%	0.0016%
MYLAN NV	MYL	\$16,823	0.07%	0.00%	3.20%	3.20%	0.0024%
NAVIENT CORP	NAVI	\$4,117	0.02%	4.67%	8.00%	12.67%	0.0023%
NOBLE ENERGY INC	NBL	\$13,798	0.06%	1.94%	3.72%	5.65%	0.0034%
NASDAQ INC	NDAQ	\$12,938	0.06%	1.85%	9.08%	10.93%	0.0062%
NEXTERA ENERGY INC	NEE	\$68,766	0.30%	2.58%	6.67%	9.25%	0.0278%
NEWMONT MINING CORP	NEM	\$20,003	0.09%	0.43%	-11.65%	-11.22%	-0.0098%
NETFLIX INC	NFLX	\$78,298	0.34%	0.00%	40.60%	40.60%	0.1389%
NEWFIELD EXPLORATION CO	NFX	\$5,914	0.03%	0.00%	12.19%	12.19%	0.0031%
NISOURCE INC	NI	\$8,339	0.04%	3.37%	6.10%	9.47%	0.0035%
NIKE INC -CL B	NKE	\$85,106	0.37%	1.37%	8.50%	9.87%	0.0367%
NIELSEN HOLDINGS PLC	NLSN	\$14,780	0.06%	3.34%	10.00%	13.34%	0.0086%
NORTHROP GRUMMAN CORP	NOC	\$50,090	0.22%	1.40%	7.67%	9.07%	0.0198%
NATIONAL OILWELL VARCO INC	NOV	\$13,579	0.06%	0.56%	-10.46%	-9.90%	-0.0059%
NRG ENERGY INC	NRG	\$8,098	0.04%	0.46%	-15.70%	-15.24%	-0.0054%
NORFOLK SOUTHERN CORP	NSC	\$38,109	0.17%	2.01%	13.57%	15.57%	0.0259%
NETAPP INC	NTAP	\$11,805	0.05%	1.97%	9.90%	11.87%	0.0061%
NORTHERN TRUST CORP	NTRS	\$21,005	0.09%	1.81%	12.14%	13.95%	0.0128%
NUCOR CORP	NUE	\$17,901	0.08%	2.92%	12.00%	14.92%	0.0117%
NVIDIA CORP	NVDA	\$107,262	0.47%	0.33%	12.52%	12.85%	0.0602%
NEWELL BRANDS INC	NWL	\$20,913	0.09%	1.94%	11.32%	13.26%	0.0121%
NEWS CORP - CLASS B	NWS	\$7,794	0.03%	0.00%	12.59%	12.59%	0.0043%
REALTY INCOME CORP	O	\$15,674	0.07%	4.31%	4.42%	8.73%	0.0060%
ONEOK INC	OKE	\$21,056	0.09%	4.70%	13.25%	17.95%	0.0165%
OMNICOM GROUP	OMC	\$17,092	0.07%	3.06%	4.95%	8.01%	0.0060%
ORACLE CORP	ORCL	\$201,767	0.88%	1.34%	8.77%	10.11%	0.0891%
O'REILLY AUTOMOTIVE INC	ORLY	\$18,956	0.08%	0.00%	15.32%	15.32%	0.0127%
OCCIDENTAL PETROLEUM CORP	OXY	\$49,093	0.21%	4.80%	-3.39%	1.42%	0.0030%
PAYCHEX INC	PAYX	\$21,503	0.09%	3.28%	7.70%	10.98%	0.0103%
PEOPLE'S UNITED FINANCIAL	PBCT	\$6,250	0.03%	4.04%	2.00%	6.04%	0.0016%
PACCAR INC	PCAR	\$25,419	0.11%	2.33%	6.73%	9.07%	0.0101%
P G & E CORP	PCG	\$34,918	0.15%	2.92%	3.00%	5.92%	0.0090%
PRICELINE GROUP INC/THE	PCLN	\$89,818	0.39%	0.00%	17.26%	17.26%	0.0677%
PATTERSON COMPANIES INC	PDCO	\$3,699	0.02%	2.73%	10.63%	13.36%	0.0022%
PUBLIC SERVICE ENTERPRISE GP	PEG	\$23,397	0.10%	3.70%	2.90%	6.60%	0.0067%
PEPSICO INC	PEP	\$158,845	0.69%	2.77%	6.06%	8.82%	0.0612%
PFIZER INC	PFE	\$212,320	0.93%	3.68%	8.43%	12.11%	0.1124%
PRINCIPAL FINANCIAL GROUP	PFG	\$18,592	0.08%	2.94%	10.40%	13.34%	0.0108%
PROCTER & GAMBLE CO/THE	PG	\$232,000	1.01%	3.01%	7.18%	10.19%	0.1033%
PROGRESSIVE CORP	PGR	\$28,134	0.12%	3.09%	11.83%	14.93%	0.0183%
PARKER HANNIFIN CORP	PH	\$23,313	0.10%	1.61%	11.88%	13.49%	0.0137%
PULTEGROUP INC	PHM	\$8,246	0.04%	1.50%	18.40%	19.90%	0.0072%
PACKAGING CORP OF AMERICA	PKG	\$10,820	0.05%	2.27%	8.25%	10.52%	0.0050%
PERKINELMER INC	PKI	\$7,602	0.03%	0.43%	10.42%	10.85%	0.0036%
PROLOGIS INC	PLD	\$33,606	0.15%	2.77%	6.31%	9.08%	0.0133%
PHILIP MORRIS INTERNATIONAL	PM	\$172,419	0.75%	3.78%	9.61%	13.39%	0.1009%
PNC FINANCIAL SERVICES GROUP	PNC	\$64,583	0.28%	1.79%	10.12%	11.91%	0.0336%
PENTAIR PLC	PNR	\$12,333	0.05%	2.19%	8.04%	10.23%	0.0055%
PINNACLE WEST CAPITAL	PNW	\$9,439	0.04%	3.03%	5.50%	8.53%	0.0035%
PPG INDUSTRIES INC	PPG	\$27,869	0.12%	1.56%	8.09%	9.65%	0.0118%
PPL CORP	PPL	\$25,836	0.11%	3.99%	0.10%	4.09%	0.0046%
PERRIGO CO PLC	PRGO	\$12,072	0.05%	0.74%	5.97%	6.71%	0.0035%

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight In Index	Dividend Yield D(1/P(0))	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
PRUDENTIAL FINANCIAL INC	PRU	\$45,399	0.20%	2.92%	8.00%	10.92%	0.0217%
PUBLIC STORAGE	PSA	\$37,235	0.16%	3.77%	5.45%	9.22%	0.0150%
PHILLIPS 66	PSX	\$46,860	0.20%	2.90%	-3.74%	-0.84%	-0.0017%
PVH CORP	PVH	\$9,760	0.04%	0.16%	10.96%	11.11%	0.0047%
QUANTA SERVICES INC	PWR	\$5,799	0.03%	0.00%	8.00%	8.00%	0.0020%
PRAXAIR INC	PX	\$39,975	0.17%	2.39%	10.35%	12.74%	0.0222%
PIONEER NATURAL RESOURCES CO	PXD	\$25,096	0.11%	0.10%	20.00%	20.10%	0.0220%
PAYPAL HOLDINGS INC	PYPL	\$76,989	0.34%	0.00%	19.83%	19.83%	0.0667%
QUINTILES IMS HOLDINGS INC	Q	\$20,585	0.09%	0.00%	14.33%	14.33%	0.0129%
QUALCOMM INC	QCOM	\$76,519	0.33%	4.39%	8.75%	13.14%	0.0439%
QORVO INC	QRVO	\$8,995	0.04%	0.00%	13.18%	13.18%	0.0052%
ROYAL CARIBBEAN CRUISES LTD	RCL	\$25,499	0.11%	1.77%	19.10%	20.87%	0.0232%
EVEREST RE GROUP LTD	RE	\$9,379	0.04%	2.26%	10.00%	12.26%	0.0050%
REGENCY CENTERS CORP	REG	\$10,564	0.05%	3.39%	9.26%	12.65%	0.0058%
REGENERON PHARMACEUTICALS	REGN	\$47,910	0.21%	0.00%	18.00%	18.00%	0.0377%
REGIONS FINANCIAL CORP	RF	\$18,201	0.08%	2.01%	13.86%	15.87%	0.0126%
ROBERT HALF INTL INC	RHI	\$6,352	0.03%	2.03%	8.30%	10.33%	0.0029%
RED HAT INC	RHT	\$19,673	0.09%	0.00%	17.00%	17.00%	0.0146%
RAYMOND JAMES FINANCIAL INC	RJF	\$12,159	0.05%	1.16%	15.45%	16.61%	0.0088%
RALPH LAUREN CORP	RL	\$7,175	0.03%	2.23%	0.29%	2.52%	0.0008%
RESMED INC	RMD	\$10,951	0.05%	1.81%	11.56%	13.37%	0.0064%
ROCKWELL AUTOMATION INC	ROK	\$22,875	0.10%	2.78%	11.84%	14.63%	0.0146%
ROPER TECHNOLOGIES INC	ROP	\$24,880	0.11%	0.58%	12.93%	13.51%	0.0147%
ROSS STORES INC	ROST	\$24,898	0.11%	1.03%	13.60%	14.63%	0.0159%
RANGE RESOURCES CORP	RRC	\$4,856	0.02%	0.39%	-19.59%	-19.20%	-0.0041%
REPUBLIC SERVICES INC	RSG	\$22,247	0.10%	2.05%	11.46%	13.51%	0.0131%
RAYTHEON COMPANY	RTN	\$54,155	0.24%	1.74%	8.41%	10.15%	0.0240%
SBA COMMUNICATIONS CORP	SBAC	\$17,338	0.08%	0.00%	23.05%	23.05%	0.0175%
STARBUCKS CORP	SBUX	\$77,552	0.34%	1.99%	16.52%	18.50%	0.0627%
SCANA CORP	SCG	\$6,930	0.03%	4.21%	3.25%	7.46%	0.0023%
SCHWAB (CHARLES) CORP	SCHW	\$58,573	0.26%	0.80%	19.46%	20.26%	0.0518%
SEALED AIR CORP	SEE	\$8,118	0.04%	1.55%	8.12%	9.66%	0.0034%
SHERWIN-WILLIAMS CO/THE	SHW	\$33,445	0.15%	1.03%	10.99%	12.01%	0.0175%
SIGNET JEWELERS LTD	SIG	\$4,024	0.02%	1.75%	3.40%	5.15%	0.0009%
JM SMUCKER CO/THE	SJM	\$11,918	0.05%	2.89%	3.96%	6.85%	0.0036%
SCHLUMBERGER LTD	SLB	\$96,584	0.42%	3.59%	41.71%	45.30%	0.1911%
SL GREEN REALTY CORP	SLG	\$10,179	0.04%	3.10%	0.64%	3.74%	0.0017%
SNAP-ON INC	SNA	\$8,581	0.04%	1.96%	10.85%	12.81%	0.0048%
SCRIPPS NETWORKS INTER-CL A	SNI	\$11,150	0.05%	1.71%	9.19%	10.90%	0.0053%
SYNOPSIS INC	SNPS	\$12,099	0.05%	0.00%	9.12%	9.12%	0.0048%
SOUTHERN CO/THE	SO	\$49,114	0.21%	4.61%	2.00%	6.61%	0.0142%
SIMON PROPERTY GROUP INC	SPG	\$50,049	0.22%	4.39%	7.06%	11.45%	0.0250%
S&P GLOBAL INC	SPGI	\$40,172	0.18%	1.08%	10.00%	11.08%	0.0194%
STERICYCLE INC	SRCL	\$6,112	0.03%	0.00%	7.68%	7.68%	0.0020%
SEMPRA ENERGY	SRE	\$28,655	0.13%	2.89%	14.25%	17.14%	0.0215%
SUNTRUST BANKS INC	STI	\$28,686	0.13%	1.95%	9.42%	11.37%	0.0142%
STATE STREET CORP	STT	\$35,728	0.16%	1.71%	11.80%	13.51%	0.0211%
SEAGATE TECHNOLOGY	STX	\$9,547	0.04%	8.05%	8.73%	16.78%	0.0070%
CONSTELLATION BRANDS INC-A	STZ	\$39,135	0.17%	0.92%	16.36%	17.28%	0.0295%
STANLEY BLACK & DECKER INC	SWK	\$23,121	0.10%	1.65%	11.00%	12.65%	0.0128%
SKYWORKS SOLUTIONS INC	SWKS	\$18,723	0.08%	1.14%	13.59%	14.74%	0.0121%
SYNCHRONY FINANCIAL	SYF	\$24,695	0.11%	1.83%	8.09%	9.92%	0.0107%
STRYKER CORP	SYK	\$53,124	0.23%	1.18%	9.23%	10.41%	0.0242%

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
SYMANTEC CORP	SYMC	\$20,163	0.09%	0.98%	13.14%	14.12%	0.0124%
SYSCO CORP	SY	\$28,479	0.12%	2.55%	10.04%	12.59%	0.0157%
AT&T INC	T	\$240,504	1.05%	5.34%	5.25%	10.59%	0.1112%
MOLSON COORS BREWING CO -B	TAP	\$17,604	0.08%	1.98%	7.32%	9.30%	0.0071%
TRANSDIGM GROUP INC	TDG	\$13,271	0.06%	9.83%	10.21%	20.04%	0.0116%
TE CONNECTIVITY LTD	TEL	\$29,352	0.13%	1.92%	6.87%	8.78%	0.0113%
TARGET CORP	TGT	\$32,233	0.14%	4.12%	-0.78%	3.34%	0.0047%
TIFFANY & CO	TIF	\$11,428	0.05%	2.12%	10.10%	12.22%	0.0061%
TJX COMPANIES INC	TJX	\$46,912	0.20%	1.65%	10.65%	12.30%	0.0252%
TORCHMARK CORP	TMK	\$9,316	0.04%	0.78%	8.00%	8.78%	0.0036%
THERMO FISHER SCIENTIFIC INC	TMO	\$75,719	0.33%	0.34%	13.00%	13.34%	0.0441%
TRIPADVISOR INC	TRIP	\$5,624	0.02%	0.00%	14.50%	14.50%	0.0036%
T ROWE PRICE GROUP INC	TROW	\$21,788	0.10%	2.77%	12.85%	15.62%	0.0149%
TRAVELERS COS INC/THE	TRV	\$33,809	0.15%	2.39%	11.58%	13.97%	0.0206%
TRACTOR SUPPLY COMPANY	TSCO	\$8,019	0.04%	1.72%	13.65%	15.37%	0.0054%
TYSON FOODS INC-CL A	TSN	\$27,558	0.12%	1.42%	8.60%	10.02%	0.0121%
TOTAL SYSTEM SERVICES INC	TSS	\$12,068	0.05%	0.63%	11.14%	11.76%	0.0062%
TIME WARNER INC	TWX	\$79,686	0.35%	2.06%	8.30%	10.36%	0.0361%
TEXAS INSTRUMENTS INC	TXN	\$88,747	0.39%	2.33%	10.53%	12.85%	0.0498%
TEXTRON INC	TXT	\$14,263	0.06%	0.16%	8.78%	8.94%	0.0056%
UNDER ARMOUR INC-CLASS C	UA	\$6,919	0.03%	0.00%	9.68%	9.68%	0.0029%
UNITED CONTINENTAL HOLDINGS	UAL	\$18,521	0.08%	0.00%	-0.23%	-0.23%	-0.0002%
UDR INC	UDR	\$10,176	0.04%	3.22%	6.13%	9.35%	0.0042%
UNIVERSAL HEALTH SERVICES-B	UHS	\$10,612	0.05%	0.38%	8.69%	9.07%	0.0042%
ULTA SALON COSMETICS & FRAGR	ULTA	\$13,887	0.06%	0.00%	21.60%	21.60%	0.0131%
UNITEDHEALTH GROUP INC	UNH	\$189,360	0.83%	1.42%	12.15%	13.57%	0.1122%
UNUM GROUP	UNM	\$11,539	0.05%	2.06%	5.00%	7.06%	0.0036%
UNION PACIFIC CORP	UNP	\$92,821	0.41%	2.25%	11.63%	13.88%	0.0563%
UNITED PARCEL SERVICE-CL B	UPS	\$103,994	0.45%	2.92%	11.90%	14.82%	0.0673%
UNITED RENTALS INC	URI	\$11,729	0.05%	0.00%	14.17%	14.17%	0.0073%
US BANCORP	USB	\$89,644	0.39%	2.27%	12.13%	14.40%	0.0564%
UNITED TECHNOLOGIES CORP	UTX	\$92,722	0.41%	2.47%	8.72%	11.20%	0.0453%
VISA INC-CLASS A SHARES	V	\$240,659	1.05%	0.66%	16.76%	17.42%	0.1831%
VARIAN MEDICAL SYSTEMS INC	VAR	\$9,186	0.04%	0.00%	7.20%	7.20%	0.0029%
VF CORP	VFC	\$25,023	0.11%	2.70%	7.96%	10.66%	0.0117%
VIACOM INC-CLASS B	VIAB	\$11,634	0.05%	2.94%	2.96%	5.90%	0.0030%
VALERO ENERGY CORP	VLO	\$33,977	0.15%	3.80%	10.45%	14.25%	0.0211%
VULCAN MATERIALS CO	VMC	\$15,820	0.07%	0.85%	21.82%	22.67%	0.0157%
VORNADO REALTY TRUST	VNO	\$14,566	0.06%	3.55%	-0.83%	2.72%	0.0017%
VERISK ANALYTICS INC	VRSK	\$13,689	0.06%	0.00%	7.96%	7.96%	0.0048%
VERISIGN INC	VRSN	\$10,631	0.05%	0.00%	10.20%	10.20%	0.0047%
VERTEX PHARMACEUTICALS INC	VRTX	\$38,332	0.17%	0.00%	72.50%	72.50%	0.1214%
VENTAS INC	VTR	\$23,196	0.10%	4.57%	3.03%	7.61%	0.0077%
VERIZON COMMUNICATIONS INC	VZ	\$201,890	0.88%	4.84%	1.92%	6.77%	0.0597%
WATERS CORP	WAT	\$14,330	0.06%	0.00%	8.28%	8.28%	0.0052%
WALGREENS BOOTS ALLIANCE INC	WBA	\$82,633	0.36%	1.95%	9.03%	10.98%	0.0396%
WESTERN DIGITAL CORP	WDC	\$25,503	0.11%	4.23%	11.74%	15.97%	0.0178%
WEC ENERGY GROUP INC	WEC	\$19,812	0.09%	3.21%	5.55%	8.76%	0.0076%
WELLS FARGO & CO	WFC	\$273,762	1.20%	3.07%	11.46%	14.53%	0.1737%
WHIRLPOOL CORP	WHR	\$13,460	0.06%	2.51%	14.19%	16.70%	0.0098%
WILLIS TOWERS WATSON PLC	WLTW	\$20,711	0.09%	1.40%	10.00%	11.40%	0.0103%
WASTE MANAGEMENT INC	WM	\$34,442	0.15%	2.26%	10.22%	12.47%	0.0188%
WILLIAMS COS INC	WMB	\$24,808	0.11%	3.61%	18.00%	21.61%	0.0234%

Market Risk Premium, All Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	13.52%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	10.66%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1/P(0))	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
WAL-MART STORES INC	WMT	\$233,420	1.02%	4.58%	5.12%	9.70%	0.0989%
WESTROCK CO	WRK	\$14,409	0.06%	2.90%	9.67%	12.56%	0.0079%
WESTERN UNION CO	WU	\$8,909	0.04%	3.68%	8.00%	11.68%	0.0045%
WEYERHAEUSER CO	WY	\$25,623	0.11%	3.86%	7.40%	11.26%	0.0126%
WYNDHAM WORLDWIDE CORP	WYN	\$10,835	0.05%	2.27%	14.25%	16.52%	0.0078%
WYNN RESORTS LTD	WYNN	\$15,274	0.07%	1.60%	31.90%	33.50%	0.0224%
CIMAREX ENERGY CO	XEC	\$10,830	0.05%	0.39%	63.66%	64.05%	0.0303%
XCEL ENERGY INC	XEL	\$24,027	0.10%	2.96%	6.05%	9.01%	0.0095%
XL GROUP LTD	XL	\$10,176	0.04%	2.24%	9.00%	11.24%	0.0050%
XILINX INC	XLNX	\$17,608	0.08%	2.06%	8.37%	10.43%	0.0080%
EXXON MOBIL CORP	XOM	\$347,358	1.52%	4.15%	19.49%	23.64%	0.3587%
DENTSPLY SIRONA INC	XRAY	\$13,727	0.06%	0.59%	9.80%	10.39%	0.0062%
XEROX CORP	XRX	\$8,461	0.04%	3.47%	2.90%	6.37%	0.0024%
XYLEM INC	XYL	\$11,246	0.05%	1.14%	15.00%	16.14%	0.0079%
YUM! BRANDS INC	YUM	\$25,379	0.11%	1.98%	12.74%	14.72%	0.0163%
ZIMMER BIOMET HOLDINGS INC	ZBH	\$23,675	0.10%	0.87%	8.38%	9.25%	0.0096%
ZIONS BANCORPORATION	ZION	\$9,538	0.04%	0.76%	9.00%	9.76%	0.0041%
ZOETIS INC	ZTS	\$31,186	0.14%	0.53%	14.75%	15.28%	0.0208%
Total Market Capitalization:		\$22,891,249	100.00%			Weighted Total:	13.52%

Source: Bloomberg

Note: CINF, GT, HRS, L, MAA excluded due to no long-term growth estimates provided

Ticker	30 day avg Stock Price	Market Cap	Q3 2016 Dividend	Q4 2016 Dividend	Q1 2017 Dividend	Q2 2017 Dividend	D(0) Historical Dividend	Long- Term Growth Est (g)	D(1) = D(0) * (1+g/2)	Div Yld = D(1) / P0
A	\$65.22	\$20,661	\$0.115	\$0.132	\$0.132	\$0.132	\$0.51	9.53%	0.535	0.82%
AAL	\$45.89	\$23,128	\$0.100	\$0.100	\$0.100	\$0.100	\$0.40	-3.18%	0.394	0.86%
AAP	\$97.01	\$7,327	\$0.060	\$0.060	\$0.060	\$0.060	\$0.24	8.96%	0.251	0.26%
AAPL	\$157.61	\$796,065	\$0.570	\$0.570	\$0.570	\$0.630	\$2.34	10.98%	2.468	1.57%
ABBV	\$85.16	\$141,651	\$0.570	\$0.570	\$0.640	\$0.640	\$2.42	8.60%	2.524	2.96%
ABC	\$81.53	\$18,131	\$0.340	\$0.365	\$0.365	\$0.365	\$1.44	6.76%	1.484	1.82%
ABT	\$52.05	\$92,710	\$0.260	\$0.265	\$0.265	\$0.265	\$1.06	11.77%	1.117	2.15%
ACN	\$135.28	\$87,222	\$0.000	\$1.210	\$0.000	\$1.210	\$2.42	10.63%	2.549	1.88%
ADBE	\$152.27	\$73,537	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	19.82%	-	0.00%
ADI	\$83.59	\$31,682	\$0.420	\$0.420	\$0.450	\$0.450	\$1.74	11.55%	1.840	2.20%
ADM	\$43.07	\$23,913	\$0.300	\$0.300	\$0.320	\$0.320	\$1.24	9.80%	1.301	3.02%
ADP	\$107.81	\$48,586	\$0.530	\$0.570	\$0.570	\$0.570	\$2.24	11.48%	2.369	2.20%
ADS	\$218.35	\$12,292	\$0.000	\$0.000	\$0.520	\$0.520	\$1.04	14.00%	1.113	0.51%
ADSK	\$113.40	\$24,607	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	26.00%	-	0.00%
AEE	\$59.25	\$14,034	\$0.425	\$0.440	\$0.440	\$0.440	\$1.75	6.00%	1.797	3.03%
AEP	\$72.32	\$34,547	\$0.560	\$0.590	\$0.590	\$0.590	\$2.33	5.00%	2.388	3.30%
AES	\$11.19	\$7,276	\$0.110	\$0.230	\$0.120	\$0.120	\$0.58	8.00%	0.603	5.39%
AET	\$158.35	\$52,807	\$0.250	\$0.250	\$0.500	\$0.500	\$1.50	11.46%	1.586	1.00%
AFL	\$82.65	\$32,168	\$0.410	\$0.430	\$0.430	\$0.430	\$1.70	2.85%	1.724	2.09%
AGN	\$218.14	\$68,516	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.33%	-	0.00%
AIG	\$60.27	\$55,460	\$0.320	\$0.320	\$0.320	\$0.320	\$1.28	11.00%	1.350	2.24%
AIV	\$45.15	\$6,887	\$0.330	\$0.330	\$0.360	\$0.360	\$1.38	19.07%	1.512	3.35%
AIZ	\$93.36	\$5,147	\$0.500	\$0.530	\$0.530	\$0.530	\$2.09	19.35%	2.292	2.46%
AJG	\$60.10	\$11,089	\$0.380	\$0.380	\$0.390	\$0.390	\$1.54	10.83%	1.623	2.70%
AKAM	\$47.28	\$8,352	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	13.40%	-	0.00%
ALB	\$127.23	\$15,059	\$0.305	\$0.305	\$0.320	\$0.320	\$1.25	12.95%	1.331	1.05%
ALGN	\$183.91	\$14,930	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	30.00%	-	0.00%
ALK	\$74.66	\$9,411	\$0.275	\$0.275	\$0.300	\$0.300	\$1.15	6.33%	1.186	1.59%
ALL	\$90.27	\$33,213	\$0.330	\$0.330	\$0.370	\$0.370	\$1.40	16.27%	1.514	1.68%
ALLE	\$82.68	\$8,213	\$0.120	\$0.120	\$0.160	\$0.160	\$0.56	13.09%	0.597	0.72%
ALXN	\$143.01	\$31,311	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	20.50%	-	0.00%
AMAT	\$46.89	\$55,553	\$0.100	\$0.100	\$0.100	\$0.100	\$0.40	16.71%	0.433	0.92%
AMD	\$12.78	\$12,071	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	5.00%	-	0.00%
AME	\$65.07	\$15,242	\$0.090	\$0.090	\$0.090	\$0.090	\$0.36	11.62%	0.381	0.59%
AMG	\$180.99	\$10,623	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	15.79%	-	0.00%
AMGN	\$185.07	\$136,048	\$1.000	\$1.000	\$1.150	\$1.150	\$4.30	4.67%	4.400	2.38%
AMP	\$140.33	\$22,268	\$0.750	\$0.750	\$0.750	\$0.830	\$3.08	10.40%	3.240	2.31%
AMT	\$141.90	\$58,660	\$0.550	\$0.510	\$0.620	\$0.640	\$2.32	20.68%	2.560	1.80%
AMZN	\$968.99	\$461,813	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	27.82%	-	0.00%
ANDV	\$102.63	\$16,184	\$0.550	\$0.550	\$0.550	\$0.550	\$2.20	18.94%	2.408	2.35%
ANSS	\$125.25	\$10,403	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.40%	-	0.00%
ANTM	\$188.56	\$49,860	\$0.650	\$0.650	\$0.650	\$0.650	\$2.60	9.78%	2.727	1.45%
AON	\$143.55	\$37,159	\$0.330	\$0.330	\$0.330	\$0.360	\$1.35	11.86%	1.430	1.00%
AOS	\$57.95	\$10,254	\$0.120	\$0.120	\$0.140	\$0.140	\$0.52	15.00%	0.559	0.96%
APA	\$42.47	\$17,447	\$0.250	\$0.250	\$0.250	\$0.250	\$1.00	-20.64%	0.897	2.11%
APC	\$44.88	\$27,373	\$0.050	\$0.050	\$0.050	\$0.050	\$0.20	-10.30%	0.190	0.42%
APD	\$149.10	\$32,960	\$0.860	\$0.860	\$0.950	\$0.950	\$3.62	9.29%	3.788	2.54%
APH	\$82.04	\$25,853	\$0.140	\$0.160	\$0.160	\$0.160	\$0.62	11.23%	0.655	0.80%
ARE	\$119.59	\$11,139	\$0.800	\$0.830	\$0.830	\$0.860	\$3.32	6.80%	3.433	2.87%
ARNC	\$25.46	\$10,973	\$0.090	\$0.090	\$0.060	\$0.060	\$0.30	16.90%	0.325	1.28%
ATVI	\$64.47	\$48,700	\$0.000	\$0.300	\$0.300	\$0.000	\$0.60	13.63%	0.641	0.99%
AVB	\$182.75	\$24,637	\$1.350	\$1.350	\$1.420	\$1.420	\$5.54	6.42%	5.718	3.13%
AVGO	\$245.07	\$98,951	\$0.510	\$1.020	\$1.020	\$1.020	\$3.57	15.32%	3.843	1.57%

Ticker	30 day Avg Stock Price	Market Cap	Q3 2016 Dividend	Q4 2016 Dividend	Q1 2017 Dividend	Q2 2017 Dividend	D(0) Historical Dividend	Long-Term Growth Est (g)	D(1) = D(0) * (1+g/2)	Div Yld = D(1) / P0
AVY	\$96.74	\$8,692	\$0.410	\$0.410	\$0.410	\$0.450	\$1.68	7.65%	1.744	1.80%
AWK	\$81.78	\$14,425	\$0.375	\$0.750	\$0.375	\$0.415	\$1.92	7.95%	1.991	2.43%
AXP	\$87.33	\$79,965	\$0.320	\$0.320	\$0.320	\$0.320	\$1.28	9.70%	1.342	1.54%
AYI	\$171.72	\$7,210	\$0.130	\$0.130	\$0.130	\$0.130	\$0.52	17.67%	0.566	0.33%
AZO	\$560.34	\$16,681	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	13.31%	-	0.00%
BA	\$247.48	\$150,259	\$1.090	\$1.090	\$1.420	\$1.420	\$5.02	15.20%	5.402	2.18%
BAC	\$24.38	\$267,352	\$0.075	\$0.075	\$0.075	\$0.075	\$0.30	10.47%	0.316	1.30%
BAX	\$63.34	\$34,191	\$0.130	\$0.130	\$0.130	\$0.160	\$0.55	13.56%	0.587	0.93%
BBT	\$45.04	\$37,932	\$0.300	\$0.300	\$0.300	\$0.300	\$1.20	9.75%	1.258	2.79%
BBY	\$55.75	\$17,042	\$0.280	\$0.280	\$0.340	\$0.340	\$1.24	12.68%	1.319	2.37%
BCR	\$320.18	\$23,291	\$0.260	\$0.260	\$0.260	\$0.260	\$1.04	11.00%	1.097	0.34%
BDX	\$196.79	\$44,591	\$0.660	\$0.730	\$0.730	\$0.730	\$2.85	12.53%	3.028	1.54%
BEN	\$42.70	\$24,823	\$0.180	\$0.200	\$0.200	\$0.200	\$0.78	10.00%	0.819	1.92%
BF/B	\$54.12	\$21,101	\$0.170	\$0.183	\$0.183	\$0.183	\$0.72	9.72%	0.752	1.39%
BHF	\$56.98	\$7,282	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	8.00%	-	0.00%
BHGE	\$36.23	\$41,935	\$0.000	\$0.000	\$0.000	\$0.170	\$0.17	6.50%	0.176	0.48%
BIIB	\$319.44	\$66,204	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	6.48%	-	0.00%
BK	\$51.87	\$54,778	\$0.190	\$0.190	\$0.190	\$0.190	\$0.76	13.24%	0.810	1.56%
BLK	\$428.95	\$72,681	\$2.290	\$2.290	\$2.500	\$2.500	\$9.58	13.60%	10.232	2.39%
BLL	\$40.66	\$14,529	\$0.065	\$0.065	\$0.065	\$0.100	\$0.30	7.23%	0.306	0.75%
BMJ	\$62.50	\$104,529	\$0.380	\$0.390	\$0.390	\$0.390	\$1.55	8.00%	1.612	2.58%
BRK/B	\$180.27	\$452,056	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	2.00%	-	0.00%
BSX	\$28.69	\$40,025	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	10.33%	-	0.00%
BWA	\$48.56	\$10,813	\$0.130	\$0.140	\$0.140	\$0.000	\$0.41	5.09%	0.420	0.87%
BXP	\$121.54	\$18,963	\$0.650	\$0.750	\$0.750	\$0.000	\$2.15	4.46%	2.198	1.81%
C	\$69.76	\$198,184	\$0.160	\$0.160	\$0.160	\$0.160	\$0.64	12.97%	0.682	0.98%
CA	\$33.09	\$14,062	\$0.255	\$0.255	\$0.255	\$0.255	\$1.02	2.97%	1.035	3.13%
CAG	\$34.03	\$14,024	\$0.250	\$0.250	\$0.200	\$0.200	\$0.90	7.00%	0.932	2.74%
CAH	\$67.77	\$21,094	\$0.449	\$0.449	\$0.449	\$0.462	\$1.81	12.37%	1.921	2.83%
CAT	\$121.82	\$73,700	\$0.770	\$0.770	\$0.770	\$0.770	\$3.08	10.00%	3.234	2.65%
CB	\$142.12	\$66,345	\$0.690	\$0.690	\$0.690	\$0.710	\$2.78	10.60%	2.927	2.06%
CBG	\$36.97	\$12,801	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	9.35%	-	0.00%
CBOE	\$105.16	\$12,138	\$0.250	\$0.250	\$0.250	\$0.250	\$1.00	22.39%	1.112	1.06%
CBS	\$59.42	\$23,312	\$0.180	\$0.180	\$0.180	\$0.180	\$0.72	13.37%	0.768	1.29%
CCI	\$103.64	\$40,619	\$0.885	\$0.950	\$0.950	\$0.950	\$3.74	21.60%	4.138	3.99%
CCL	\$65.92	\$46,369	\$0.350	\$0.350	\$0.350	\$0.400	\$1.45	13.28%	1.546	2.35%
CDNS	\$38.41	\$11,060	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	11.45%	-	0.00%
CELG	\$142.32	\$114,082	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	19.46%	-	0.00%
CERN	\$69.87	\$23,648	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.00%	-	0.00%
CF	\$33.44	\$8,201	\$0.300	\$0.300	\$0.300	\$0.300	\$1.20	6.00%	1.236	3.70%
CFG	\$35.09	\$18,960	\$0.120	\$0.120	\$0.140	\$0.140	\$0.52	21.44%	0.576	1.64%
CHD	\$49.36	\$12,089	\$0.177	\$0.180	\$0.190	\$0.190	\$0.74	9.14%	0.771	1.56%
CHK	\$4.03	\$3,906	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	-13.02%	-	0.00%
CHRW	\$73.08	\$10,683	\$0.430	\$0.880	\$0.450	\$0.450	\$2.21	9.20%	2.312	3.16%
CHTR	\$374.72	\$104,821	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	23.96%	-	0.00%
CI	\$184.39	\$47,067	\$0.040	\$0.000	\$0.040	\$0.000	\$0.08	12.91%	0.085	0.05%
CINF	\$75.97	\$12,556	\$0.480	\$0.480	\$0.500	\$0.500	\$1.96	#N/A	#N/A	#N/A
CL	\$72.16	\$64,169	\$0.390	\$0.390	\$0.790	\$0.400	\$1.97	9.47%	2.063	2.86%
CLX	\$134.11	\$17,004	\$0.800	\$0.800	\$0.800	\$0.840	\$3.24	6.72%	3.349	2.50%
CMA	\$70.51	\$13,415	\$0.230	\$0.230	\$0.230	\$0.260	\$0.95	8.00%	0.988	1.40%
CMCSA	\$38.30	\$181,371	\$0.138	\$0.138	\$0.158	\$0.158	\$0.59	9.13%	0.617	1.61%
CME	\$131.27	\$46,119	\$0.600	\$0.600	\$3.910	\$0.660	\$5.77	10.47%	6.072	4.63%
CMG	\$311.81	\$8,777	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	50.05%	-	0.00%

Ticker	30 day avg Stock Price	Market Cap	Q3 2016 Dividend	Q4 2016 Dividend	Q1 2017 Dividend	Q2 2017 Dividend	D(0) Historical Dividend	Long- Term Growth Est (g)	D(1) = D(0) * (1+g/2)	Div Yld = D(1) / P0
CMI	\$165.38	\$28,165	\$1.025	\$1.025	\$1.025	\$1.025	\$4.10	10.23%	4.310	2.61%
CMS	\$47.56	\$13,063	\$0.310	\$0.333	\$0.330	\$0.333	\$1.31	5.00%	1.338	2.81%
CNC	\$92.14	\$16,690	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.48%	-	0.00%
CNP	\$29.73	\$12,590	\$0.258	\$0.258	\$0.268	\$0.268	\$1.05	6.00%	1.082	3.64%
COF	\$80.85	\$40,949	\$0.400	\$0.400	\$0.400	\$0.400	\$1.60	5.97%	1.648	2.04%
COG	\$26.59	\$12,372	\$0.020	\$0.020	\$0.020	\$0.050	\$0.11	31.95%	0.128	0.48%
COH	\$40.62	\$11,445	\$0.338	\$0.338	\$0.338	\$0.338	\$1.35	11.57%	1.428	3.52%
COL	\$130.65	\$21,237	\$0.330	\$0.330	\$0.330	\$0.330	\$1.32	10.73%	1.391	1.06%
COO	\$241.45	\$11,606	\$0.000	\$0.030	\$0.000	\$0.030	\$0.06	9.75%	0.063	0.03%
COP	\$47.08	\$60,908	\$0.250	\$0.250	\$0.270	\$0.265	\$1.04	7.00%	1.071	2.28%
COST	\$161.25	\$72,056	\$0.450	\$0.450	\$0.450	\$7.500	\$8.85	10.18%	9.300	5.77%
COTY	\$16.55	\$12,381	\$0.275	\$0.125	\$0.125	\$0.125	\$0.65	17.00%	0.705	4.26%
CPB	\$47.05	\$14,071	\$0.350	\$0.350	\$0.350	\$0.350	\$1.40	4.46%	1.431	3.04%
CRM	\$95.07	\$67,141	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	28.05%	-	0.00%
CSCO	\$32.60	\$166,534	\$0.260	\$0.260	\$0.290	\$0.290	\$1.10	6.43%	1.135	3.48%
CSRA	\$32.08	\$5,275	\$0.100	\$0.100	\$0.100	\$0.100	\$0.40	7.55%	0.415	1.29%
CSX	\$52.16	\$49,556	\$0.180	\$0.180	\$0.180	\$0.200	\$0.74	11.33%	0.782	1.50%
CTAS	\$136.28	\$15,588	\$0.000	\$1.330	\$0.000	\$0.000	\$1.33	11.58%	1.407	1.03%
CTL	\$18.92	\$10,388	\$0.540	\$0.540	\$0.540	\$0.540	\$2.16	-2.86%	2.129	11.26%
CTSH	\$71.82	\$42,844	\$0.000	\$0.000	\$0.000	\$0.150	\$0.15	14.35%	0.161	0.22%
CTXS	\$76.42	\$11,639	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	13.10%	-	0.00%
CVS	\$81.05	\$82,667	\$0.425	\$0.425	\$0.500	\$0.500	\$1.85	13.33%	1.973	2.43%
CVX	\$114.53	\$222,663	\$1.070	\$1.080	\$1.080	\$1.080	\$4.31	42.57%	5.227	4.56%
CXO	\$122.09	\$19,588	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	20.00%	-	0.00%
D	\$78.13	\$49,434	\$0.700	\$0.700	\$0.755	\$0.755	\$2.91	5.60%	2.991	3.83%
DAL	\$48.01	\$34,913	\$0.203	\$0.203	\$0.200	\$0.200	\$0.81	5.57%	0.827	1.72%
DE	\$120.33	\$40,352	\$0.600	\$0.600	\$0.600	\$0.600	\$2.40	4.50%	2.454	2.04%
DFS	\$60.33	\$24,009	\$0.300	\$0.300	\$0.300	\$0.300	\$1.20	3.98%	1.224	2.03%
DG	\$77.28	\$22,148	\$0.250	\$0.250	\$0.260	\$0.260	\$1.02	8.55%	1.064	1.38%
DGX	\$102.48	\$12,773	\$0.400	\$0.400	\$0.450	\$0.450	\$1.70	6.95%	1.759	1.72%
DHI	\$37.20	\$14,945	\$0.080	\$0.100	\$0.100	\$0.100	\$0.38	12.66%	0.404	1.09%
DHR	\$86.14	\$59,590	\$0.125	\$0.125	\$0.140	\$0.140	\$0.53	7.57%	0.550	0.64%
DIS	\$98.81	\$152,141	\$0.000	\$0.780	\$0.000	\$0.780	\$1.56	7.19%	1.616	1.64%
DISCA	\$21.40	\$12,045	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	9.70%	-	0.00%
DISH	\$54.27	\$25,277	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	-7.33%	-	0.00%
DLPH	\$99.19	\$26,257	\$0.290	\$0.290	\$0.290	\$0.290	\$1.16	12.18%	1.231	1.24%
DLR	\$118.34	\$24,552	\$0.880	\$0.880	\$0.930	\$0.930	\$3.62	5.58%	3.721	3.14%
DLTR	\$83.85	\$20,563	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.88%	-	0.00%
DOV	\$89.53	\$14,233	\$0.440	\$0.440	\$0.440	\$0.440	\$1.76	15.47%	1.896	2.12%
DPS	\$90.66	\$16,077	\$0.530	\$0.530	\$0.580	\$0.580	\$2.22	8.58%	2.315	2.55%
DRE	\$29.35	\$10,252	\$0.180	\$0.190	\$0.190	\$0.380	\$0.94	4.52%	0.961	3.27%
DRI	\$81.19	\$9,875	\$0.560	\$0.560	\$0.560	\$0.560	\$2.24	9.57%	2.347	2.89%
DTE	\$110.39	\$19,259	\$0.770	\$0.830	\$0.825	\$0.825	\$3.25	5.35%	3.337	3.02%
DUK	\$86.13	\$58,734	\$0.855	\$0.855	\$0.855	\$0.855	\$3.42	2.00%	3.454	4.01%
DVA	\$58.95	\$11,355	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	3.75%	-	0.00%
DVN	\$34.18	\$19,292	\$0.060	\$0.060	\$0.060	\$0.060	\$0.24	18.42%	0.262	0.77%
DWDP	\$68.43	\$161,719	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	7.83%	-	0.00%
DXC	\$84.88	\$24,449	\$0.140	\$0.140	\$0.140	\$0.180	\$0.60	15.25%	0.646	0.76%
EA	\$118.37	\$36,448	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	14.17%	-	0.00%
EBAY	\$37.91	\$41,164	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	8.54%	-	0.00%
ECL	\$130.69	\$37,217	\$0.350	\$0.370	\$0.370	\$0.370	\$1.46	12.86%	1.554	1.19%
ED	\$83.27	\$24,996	\$0.670	\$0.670	\$0.690	\$0.690	\$2.72	5.00%	2.788	3.35%
EFX	\$111.31	\$12,758	\$0.330	\$0.330	\$0.390	\$0.390	\$1.44	11.03%	1.519	1.37%

Ticker	30 day avg Stock Price	Market Cap	Q3 2016 Dividend	Q4 2016 Dividend	Q1 2017 Dividend	Q2 2017 Dividend	D(0) Historical Dividend	Long- Term Growth Est (g)	D(1) = D(0) * (1+g/2)	Div Yld = D(1) / P0
EIX	\$79.68	\$25,143	\$0.480	\$0.543	\$0.543	\$0.543	\$2.11	6.23%	2.173	2.73%
EL	\$108.67	\$39,743	\$0.300	\$0.340	\$0.340	\$0.340	\$1.32	11.49%	1.396	1.28%
EMN	\$86.37	\$13,110	\$0.460	\$0.510	\$0.510	\$0.510	\$1.99	7.53%	2.065	2.39%
EMR	\$61.92	\$40,219	\$0.475	\$0.480	\$0.480	\$0.480	\$1.92	7.45%	1.986	3.21%
EOG	\$92.00	\$55,862	\$0.168	\$0.168	\$0.168	\$0.168	\$0.67	-18.26%	0.609	0.66%
EQIX	\$453.70	\$34,787	\$1.750	\$2.000	\$2.000	\$2.000	\$7.75	29.25%	8.884	1.96%
EQR	\$66.94	\$24,217	\$3.504	\$0.504	\$0.504	\$0.504	\$5.02	5.87%	5.162	7.71%
EQT	\$63.65	\$11,308	\$0.030	\$0.030	\$0.030	\$0.030	\$0.12	15.00%	0.129	0.20%
ES	\$62.06	\$19,153	\$0.450	\$0.430	\$0.480	\$0.480	\$1.84	6.10%	1.896	3.06%
ESRX	\$62.50	\$36,570	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	13.28%	-	0.00%
ESS	\$259.98	\$16,763	\$1.600	\$1.600	\$1.750	\$1.750	\$6.70	5.99%	6.901	2.65%
ETFC	\$41.30	\$11,980	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	15.37%	-	0.00%
ETN	\$75.32	\$34,156	\$0.570	\$0.570	\$0.600	\$0.600	\$2.34	10.22%	2.460	3.27%
ETR	\$78.29	\$13,708	\$0.850	\$0.870	\$0.870	\$0.870	\$3.46	-3.83%	3.394	4.34%
EVHC	\$47.07	\$5,431	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	8.03%	-	0.00%
EW	\$111.74	\$23,082	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	16.60%	-	0.00%
EXC	\$37.58	\$36,167	\$0.320	\$0.318	\$0.330	\$0.330	\$1.30	3.57%	1.321	3.52%
EXPD	\$57.64	\$10,819	\$0.000	\$0.400	\$0.000	\$0.420	\$0.82	8.40%	0.854	1.48%
EXPE	\$144.01	\$21,827	\$0.260	\$0.260	\$0.280	\$0.280	\$1.08	17.98%	1.177	0.82%
EXR	\$79.20	\$10,070	\$0.780	\$0.780	\$0.780	\$0.780	\$3.12	6.57%	3.222	4.07%
F	\$11.66	\$47,542	\$0.150	\$0.150	\$0.200	\$0.150	\$0.65	-2.07%	0.643	5.52%
FAST	\$43.86	\$13,126	\$0.300	\$0.300	\$0.320	\$0.320	\$1.24	15.40%	1.335	3.04%
FB	\$170.59	\$496,200	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	26.79%	-	0.00%
FBHS	\$64.73	\$10,354	\$0.160	\$0.160	\$0.180	\$0.180	\$0.68	12.12%	0.721	1.11%
FCX	\$14.30	\$20,320	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	24.46%	-	0.00%
FDX	\$216.80	\$60,489	\$0.800	\$0.400	\$0.400	\$0.400	\$2.00	12.50%	2.125	0.98%
FE	\$31.47	\$13,698	\$0.360	\$0.360	\$0.360	\$0.000	\$1.08	-5.00%	1.053	3.35%
FFIV	\$117.82	\$7,661	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	11.85%	-	0.00%
FIS	\$92.76	\$31,044	\$0.260	\$0.260	\$0.290	\$0.290	\$1.10	8.23%	1.145	1.23%
FISV	\$125.01	\$27,142	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	10.80%	-	0.00%
FITB	\$26.66	\$20,614	\$0.130	\$0.140	\$0.140	\$0.140	\$0.55	4.20%	0.562	2.11%
FL	\$35.49	\$4,367	\$0.275	\$0.275	\$0.310	\$0.310	\$1.17	3.40%	1.190	3.35%
FLIR	\$39.06	\$5,338	\$0.120	\$0.150	\$0.150	\$0.150	\$0.57	15.00%	0.613	1.57%
FLR	\$40.37	\$5,890	\$0.210	\$0.210	\$0.210	\$0.210	\$0.84	11.89%	0.890	2.20%
FLS	\$41.41	\$5,564	\$0.190	\$0.190	\$0.190	\$0.190	\$0.76	12.68%	0.808	1.95%
FMC	\$88.69	\$11,979	\$0.165	\$0.165	\$0.165	\$0.165	\$0.66	12.60%	0.702	0.79%
FOX	\$26.14	\$48,360	\$0.180	\$0.180	\$0.180	\$0.000	\$0.54	9.23%	0.565	2.16%
FRT	\$127.01	\$9,011	\$0.980	\$0.980	\$0.980	\$0.980	\$3.92	4.67%	4.012	3.16%
FTI	\$26.82	\$13,045	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	8.59%	-	0.00%
FTV	\$68.55	\$24,571	\$0.070	\$0.070	\$0.070	\$0.000	\$0.21	9.37%	0.220	0.32%
GD	\$201.54	\$61,563	\$0.760	\$3.040	\$0.840	\$0.840	\$5.48	8.51%	5.713	2.83%
GE	\$24.40	\$209,349	\$0.230	\$0.240	\$0.240	\$0.240	\$0.95	11.23%	1.003	4.11%
GGP	\$21.13	\$18,319	\$0.200	\$0.260	\$0.220	\$0.220	\$0.90	4.65%	0.921	4.36%
GILD	\$83.21	\$105,806	\$0.470	\$0.470	\$0.520	\$0.520	\$1.98	-7.44%	1.906	2.29%
GIS	\$53.86	\$29,417	\$0.480	\$0.480	\$0.480	\$0.480	\$1.92	9.57%	2.012	3.74%
GLW	\$29.43	\$27,023	\$0.135	\$0.135	\$0.155	\$0.155	\$0.58	8.58%	0.605	2.06%
GM	\$38.70	\$58,842	\$0.380	\$0.380	\$0.380	\$0.380	\$1.52	9.04%	1.589	4.10%
GOOG	\$931.30	\$669,246	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	16.64%	-	0.00%
GPC	\$88.10	\$14,044	\$0.658	\$0.658	\$0.675	\$0.675	\$2.67	8.92%	2.784	3.16%
GPN	\$95.78	\$14,491	\$0.010	\$0.010	\$0.010	\$0.021	\$0.05	14.50%	0.055	0.06%
GPS	\$27.53	\$11,580	\$0.230	\$0.230	\$0.230	\$0.230	\$0.92	5.60%	0.946	3.44%
GRMN	\$52.55	\$10,130	\$0.510	\$0.510	\$0.510	\$0.510	\$2.04	5.68%	2.098	3.99%
GS	\$226.87	\$95,564	\$0.650	\$0.650	\$0.650	\$0.750	\$2.70	11.19%	2.851	1.26%

30 day avg	Market	Q3 2016	Q4 2016	Q1 2017	Q2 2017	D(0)	Long	D(1) =		
30 day avg	Market	Q3 2016	Q4 2016	Q1 2017	Q2 2017	D(0)	Term	D(1) =	Div Yld =	
Stock Price	Cap	Dividend	Dividend	Dividend	Dividend	Historical	Growth	D(0) *	D(1) / P0	
Stock Price	Cap	Dividend	Dividend	Dividend	Dividend	Dividend	Est (g)	(1+g) ²	D(1) / P0	
GT	\$32.02	\$8,371	\$0.170	\$0.100	\$0.100	\$0.100	\$0.47	#N/A	#N/A	#N/A
GWW	\$171.19	\$10,370	\$1.220	\$1.220	\$1.220	\$1.280	\$4.94	9.55%	5.176	3.02%
HAL	\$42.65	\$40,120	\$0.180	\$0.180	\$0.180	\$0.180	\$0.72	74.00%	0.986	2.31%
HAS	\$95.57	\$12,217	\$0.510	\$0.510	\$0.570	\$0.570	\$2.16	9.70%	2.265	2.37%
HBAN	\$13.04	\$15,217	\$0.070	\$0.080	\$0.080	\$0.080	\$0.31	10.71%	0.327	2.50%
HBI	\$24.92	\$8,981	\$0.110	\$0.110	\$0.150	\$0.150	\$0.52	10.45%	0.547	2.20%
HCA	\$78.06	\$28,752	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.07%	-	0.00%
HCN	\$73.04	\$25,925	\$0.860	\$0.860	\$0.870	\$0.870	\$3.46	2.61%	3.505	4.80%
HCP	\$29.14	\$13,051	\$0.575	\$0.370	\$0.370	\$0.370	\$1.69	3.11%	1.711	5.87%
HD	\$158.82	\$192,807	\$0.690	\$0.690	\$0.890	\$0.890	\$3.16	13.69%	3.376	2.13%
HES	\$43.03	\$14,904	\$0.250	\$0.250	\$0.250	\$0.250	\$1.00	-14.74%	0.926	2.15%
HIG	\$54.01	\$20,193	\$0.210	\$0.230	\$0.230	\$0.230	\$0.90	9.50%	0.943	1.75%
HLT	\$66.74	\$22,223	\$0.210	\$0.210	\$0.150	\$0.150	\$0.72	15.74%	0.777	1.16%
HOG	\$48.04	\$8,224	\$0.350	\$0.350	\$0.365	\$0.365	\$1.43	7.85%	1.486	3.09%
HOLX	\$37.84	\$10,291	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	9.18%	-	0.00%
HON	\$138.84	\$107,803	\$0.595	\$0.665	\$0.665	\$0.665	\$2.59	9.95%	2.719	1.96%
HP	\$49.19	\$5,658	\$0.700	\$0.700	\$0.700	\$0.700	\$2.80	12.00%	2.968	6.03%
HPPE	\$13.88	\$23,822	\$0.000	\$0.130	\$0.065	\$0.065	\$0.26	-3.56%	0.255	1.84%
HPQ	\$19.57	\$33,338	\$0.124	\$0.270	\$0.133	\$0.260	\$0.79	4.09%	0.803	4.10%
HRB	\$26.31	\$5,536	\$0.220	\$0.220	\$0.220	\$0.240	\$0.90	11.00%	0.950	3.61%
HRL	\$31.40	\$16,964	\$0.145	\$0.170	\$0.170	\$0.170	\$0.66	6.15%	0.675	2.15%
HRS	\$127.28	\$15,684	\$0.530	\$0.530	\$0.530	\$0.530	\$2.12	#N/A	#N/A	#N/A
HSIC	\$83.15	\$12,964	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	10.25%	-	0.00%
HST	\$18.27	\$13,684	\$0.200	\$0.250	\$0.200	\$0.200	\$0.85	4.10%	0.867	4.75%
HSY	\$108.04	\$23,193	\$0.618	\$0.620	\$1.180	\$0.618	\$3.04	9.53%	3.181	2.94%
HUM	\$247.88	\$35,209	\$0.290	\$0.290	\$0.400	\$0.400	\$1.38	12.93%	1.469	0.59%
IBM	\$144.87	\$135,206	\$1.400	\$1.400	\$1.400	\$1.500	\$5.70	2.38%	5.768	3.98%
ICE	\$66.37	\$40,429	\$0.170	\$0.170	\$0.200	\$0.200	\$0.74	10.98%	0.781	1.18%
IDXX	\$157.38	\$13,571	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	10.81%	-	0.00%
IFF	\$142.63	\$11,286	\$0.640	\$0.640	\$0.640	\$0.640	\$2.56	4.00%	2.611	1.83%
ILMN	\$205.90	\$29,083	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	15.48%	-	0.00%
INCY	\$120.95	\$24,591	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	44.05%	-	0.00%
INFO	\$46.92	\$17,583	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	13.51%	-	0.00%
INTC	\$36.60	\$178,938	\$0.520	\$0.260	\$0.260	\$0.273	\$1.31	8.14%	1.366	3.73%
INTU	\$143.08	\$36,242	\$0.340	\$0.340	\$0.340	\$0.340	\$1.36	14.88%	1.461	1.02%
IP	\$56.12	\$23,462	\$0.440	\$0.463	\$0.463	\$0.463	\$1.83	7.23%	1.894	3.37%
IPG	\$20.52	\$8,176	\$0.150	\$0.150	\$0.180	\$0.180	\$0.66	8.64%	0.689	3.36%
IR	\$88.33	\$22,620	\$0.320	\$0.400	\$0.400	\$0.400	\$1.52	10.71%	1.601	1.81%
IRM	\$39.56	\$10,285	\$0.485	\$0.550	\$0.550	\$0.550	\$2.14	14.60%	2.292	5.79%
ISRG	\$344.52	\$38,994	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	10.05%	-	0.00%
IT	\$123.35	\$11,271	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	17.50%	-	0.00%
ITW	\$144.09	\$50,920	\$0.550	\$0.650	\$0.650	\$0.650	\$2.50	9.20%	2.615	1.81%
IVZ	\$33.21	\$14,257	\$0.280	\$0.280	\$0.280	\$0.290	\$1.13	12.29%	1.199	3.61%
JBHT	\$103.28	\$12,156	\$0.220	\$0.220	\$0.230	\$0.230	\$0.90	13.35%	0.960	0.93%
JCI	\$39.86	\$37,566	\$0.290	\$0.250	\$0.250	\$0.250	\$1.04	8.47%	1.084	2.72%
JEC	\$56.46	\$7,011	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	8.73%	-	0.00%
JNJ	\$132.00	\$348,947	\$0.800	\$0.800	\$0.800	\$0.840	\$3.24	6.03%	3.338	2.53%
JNPR	\$27.58	\$10,584	\$0.100	\$0.100	\$0.100	\$0.100	\$0.40	8.62%	0.417	1.51%
JPM	\$92.40	\$336,096	\$0.480	\$0.480	\$0.500	\$0.500	\$1.96	3.00%	1.989	2.15%
JWN	\$46.59	\$7,838	\$0.370	\$0.370	\$0.370	\$0.370	\$1.48	6.00%	1.524	3.27%
K	\$65.96	\$21,526	\$0.520	\$0.520	\$0.520	\$0.520	\$2.08	6.23%	2.145	3.25%
KEY	\$17.80	\$20,468	\$0.085	\$0.085	\$0.085	\$0.095	\$0.35	10.90%	0.369	2.07%
KHC	\$80.26	\$94,475	\$0.600	\$0.600	\$0.600	\$0.600	\$2.40	8.39%	2.501	3.12%

30 day avg Stock Price	Market Cap	Q3 2016 Dividend	Q4 2016 Dividend	Q1 2017 Dividend	Q2 2017 Dividend	D(0) Historical Dividend	Long- Term Growth Est (g)	D(1) D(0) * (1+g/2)	Div Yld = D(1) / P0	
KIM	\$19.88	\$8,321	\$0.255	\$0.270	\$0.270	\$0.270	\$1.07	19.96%	1.171	5.89%
KLAC	\$98.79	\$16,631	\$0.520	\$0.540	\$0.540	\$0.540	\$2.14	7.90%	2.225	2.25%
KMB	\$119.60	\$41,577	\$0.920	\$0.920	\$0.970	\$0.970	\$3.78	6.22%	3.898	3.26%
KMI	\$19.38	\$42,833	\$0.125	\$0.125	\$0.125	\$0.125	\$0.50	20.00%	0.550	2.84%
KMX	\$70.50	\$13,790	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	13.79%	-	0.00%
KO	\$45.86	\$191,981	\$0.350	\$0.350	\$0.370	\$0.370	\$1.44	5.61%	1.480	3.23%
KORS	\$44.80	\$7,255	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	7.00%	-	0.00%
KR	\$21.16	\$17,844	\$0.120	\$0.120	\$0.120	\$0.120	\$0.48	5.57%	0.493	2.33%
KSS	\$44.23	\$7,696	\$0.500	\$0.500	\$0.550	\$0.550	\$2.10	5.45%	2.157	4.88%
KSU	\$106.30	\$11,457	\$0.330	\$0.330	\$0.330	\$0.330	\$1.32	14.00%	1.412	1.33%
L	\$47.15	\$16,110	\$0.063	\$0.063	\$0.063	\$0.063	\$0.25	#N/A	#N/A	#N/A
LB	\$39.40	\$11,811	\$0.600	\$0.600	\$0.600	\$0.600	\$2.40	7.54%	2.490	6.32%
LEG	\$46.14	\$6,314	\$0.340	\$0.340	\$0.340	\$0.360	\$1.38	19.00%	1.511	3.28%
LEN	\$51.17	\$12,140	\$0.040	\$0.040	\$0.040	\$0.040	\$0.16	11.29%	0.169	0.33%
LH	\$154.53	\$15,369	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	11.35%	-	0.00%
LKQ	\$35.18	\$11,116	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.50%	-	0.00%
LLL	\$185.97	\$14,739	\$0.700	\$0.700	\$0.750	\$0.750	\$2.90	6.90%	3.000	1.61%
LLY	\$82.76	\$94,179	\$0.510	\$0.510	\$0.520	\$0.520	\$2.06	8.50%	2.148	2.59%
LMT	\$305.15	\$89,361	\$1.650	\$1.820	\$1.820	\$1.820	\$7.11	9.42%	7.445	2.44%
LNC	\$70.20	\$16,278	\$0.250	\$0.290	\$0.290	\$0.290	\$1.12	9.25%	1.172	1.67%
LNT	\$42.46	\$9,605	\$0.294	\$0.294	\$0.315	\$0.315	\$1.22	5.50%	1.251	2.95%
LOW	\$78.06	\$66,575	\$0.350	\$0.350	\$0.350	\$0.410	\$1.46	14.38%	1.565	2.00%
LRCX	\$172.57	\$30,068	\$0.300	\$0.450	\$0.450	\$0.450	\$1.65	7.70%	1.714	0.99%
LUK	\$23.75	\$9,056	\$0.063	\$0.063	\$0.063	\$0.063	\$0.25	18.00%	0.273	1.15%
LUV	\$54.08	\$33,508	\$0.100	\$0.375	\$0.100	\$0.125	\$0.70	6.43%	0.723	1.34%
LVLTL	\$53.30	\$19,328	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	5.00%	-	0.00%
LYB	\$95.19	\$39,204	\$0.850	\$0.850	\$0.850	\$0.900	\$3.45	6.50%	3.562	3.74%
M	\$21.81	\$6,645	\$0.378	\$0.378	\$0.378	\$0.378	\$1.51	-0.48%	1.506	6.91%
MA	\$139.39	\$150,363	\$0.190	\$0.190	\$0.220	\$0.220	\$0.82	16.63%	0.888	0.64%
MAA	\$107.12	\$12,142	\$0.820	\$0.870	\$0.870	\$0.870	\$3.43	#N/A	#N/A	#N/A
MAC	\$54.29	\$7,774	\$0.680	\$0.710	\$0.710	\$0.710	\$2.81	7.66%	2.918	5.37%
MAR	\$106.15	\$41,063	\$0.300	\$0.300	\$0.300	\$0.330	\$1.23	15.12%	1.323	1.25%
MAS	\$37.70	\$12,428	\$0.100	\$0.100	\$0.100	\$0.100	\$0.40	14.33%	0.429	1.14%
MAT	\$15.40	\$5,305	\$0.380	\$0.380	\$0.380	\$0.380	\$1.52	11.30%	1.606	10.43%
MCD	\$157.76	\$126,910	\$0.890	\$0.940	\$0.940	\$0.940	\$3.71	10.09%	3.897	2.47%
MCHP	\$88.53	\$20,894	\$0.360	\$0.361	\$0.362	\$0.362	\$1.44	17.06%	1.567	1.77%
MCK	\$153.16	\$32,298	\$0.280	\$0.280	\$0.280	\$0.280	\$1.12	5.30%	1.150	0.75%
MCO	\$136.39	\$26,589	\$0.370	\$0.750	\$0.380	\$0.380	\$1.88	8.00%	1.955	1.43%
MDLZ	\$40.67	\$61,301	\$0.190	\$0.190	\$0.190	\$0.190	\$0.76	11.64%	0.804	1.98%
MDT	\$80.22	\$105,347	\$0.430	\$0.430	\$0.430	\$0.460	\$1.75	6.43%	1.806	2.25%
MET	\$49.28	\$55,122	\$0.400	\$0.400	\$0.400	\$0.400	\$1.60	35.90%	1.887	3.83%
MGM	\$32.70	\$18,746	\$0.000	\$0.000	\$0.110	\$0.110	\$0.22	17.46%	0.239	0.73%
MHK	\$252.70	\$18,399	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	8.48%	-	0.00%
MKC	\$97.98	\$13,441	\$0.430	\$0.430	\$0.470	\$0.470	\$1.80	9.60%	1.886	1.93%
MLM	\$203.47	\$12,959	\$0.420	\$0.420	\$0.420	\$0.420	\$1.68	21.24%	1.858	0.91%
MMC	\$81.60	\$42,955	\$0.340	\$0.340	\$0.340	\$0.340	\$1.36	12.86%	1.447	1.77%
MMM	\$209.00	\$125,261	\$1.110	\$1.110	\$1.175	\$1.175	\$4.57	8.80%	4.771	2.28%
MNST	\$55.98	\$31,391	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	20.30%	-	0.00%
MO	\$62.86	\$121,676	\$0.610	\$0.610	\$0.610	\$0.610	\$2.44	0.61%	2.447	3.89%
MON	\$118.55	\$52,640	\$0.540	\$0.540	\$1.080	\$0.000	\$2.16	7.47%	2.241	1.89%
MOS	\$20.58	\$7,579	\$0.275	\$0.270	\$0.275	\$0.150	\$0.97	11.70%	1.027	4.99%
MPC	\$53.98	\$28,391	\$0.360	\$0.360	\$0.360	\$0.360	\$1.44	12.68%	1.531	2.84%
MRK	\$64.98	\$174,632	\$0.460	\$0.470	\$0.470	\$0.470	\$1.87	6.07%	1.927	2.96%

Ticker	30 day avg Stock Price	Market Cap	Q3 2016 Dividend	Q4 2016 Dividend	Q1 2017 Dividend	Q3 2017 Dividend	D(0) Historical Dividend	Long- Term Growth Est (g)	D(1)= D(0) * (1+g/2)	Div Yld= D(1) / P0
MRO	\$12.28	\$11,524	\$0.050	\$0.050	\$0.050	\$0.050	\$0.20	5.00%	0.205	1.67%
MS	\$46.67	\$88,468	\$0.200	\$0.200	\$0.200	\$0.200	\$0.80	16.72%	0.867	1.86%
MSFT	\$74.34	\$573,740	\$0.390	\$0.390	\$0.390	\$0.390	\$1.56	10.54%	1.642	2.21%
MSI	\$85.40	\$13,804	\$0.410	\$0.470	\$0.470	\$0.470	\$1.82	4.10%	1.857	2.17%
MTB	\$151.38	\$24,467	\$0.700	\$0.700	\$0.750	\$0.750	\$2.90	10.19%	3.048	2.01%
MTD	\$622.97	\$16,072	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.08%	-	0.00%
MU	\$34.82	\$43,816	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	0.83%	-	0.00%
MYL	\$31.88	\$16,823	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	3.20%	-	0.00%
NAVI	\$14.26	\$4,117	\$0.160	\$0.160	\$0.160	\$0.160	\$0.64	8.00%	0.666	4.67%
NBL	\$26.29	\$13,798	\$0.100	\$0.100	\$0.100	\$0.200	\$0.50	3.72%	0.509	1.94%
NDAQ	\$75.59	\$12,938	\$0.320	\$0.320	\$0.320	\$0.380	\$1.34	9.08%	1.401	1.85%
NEE	\$148.26	\$68,766	\$0.870	\$0.870	\$0.983	\$0.983	\$3.71	6.67%	3.829	2.58%
NEM	\$38.14	\$20,003	\$0.025	\$0.050	\$0.050	\$0.050	\$0.18	-11.65%	0.165	0.43%
NFLX	\$181.67	\$78,298	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	40.60%	-	0.00%
NFX	\$27.56	\$5,914	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.19%	-	0.00%
NI	\$26.43	\$8,339	\$0.165	\$0.175	\$0.350	\$0.175	\$0.87	6.10%	0.891	3.37%
NKE	\$53.11	\$85,106	\$0.160	\$0.180	\$0.180	\$0.180	\$0.70	8.50%	0.730	1.37%
NLSN	\$39.97	\$14,780	\$0.310	\$0.310	\$0.310	\$0.340	\$1.27	10.00%	1.334	3.34%
NOC	\$274.74	\$50,090	\$0.900	\$0.900	\$0.900	\$1.000	\$3.70	7.67%	3.842	1.40%
NOV	\$34.06	\$13,579	\$0.050	\$0.050	\$0.050	\$0.050	\$0.20	-10.46%	0.190	0.56%
NRG	\$24.11	\$8,098	\$0.030	\$0.030	\$0.030	\$0.030	\$0.12	-15.70%	0.111	0.46%
NSC	\$127.70	\$38,109	\$0.590	\$0.590	\$0.610	\$0.610	\$2.40	13.57%	2.563	2.01%
NTAP	\$41.04	\$11,805	\$0.190	\$0.190	\$0.190	\$0.200	\$0.77	9.90%	0.808	1.97%
NTRS	\$89.24	\$21,005	\$0.380	\$0.380	\$0.380	\$0.380	\$1.52	12.14%	1.612	1.81%
NUE	\$54.64	\$17,901	\$0.375	\$0.378	\$0.378	\$0.378	\$1.51	12.00%	1.598	2.92%
NVDA	\$174.23	\$107,262	\$0.115	\$0.140	\$0.140	\$0.140	\$0.54	12.52%	0.568	0.33%
NWL	\$43.59	\$20,913	\$0.190	\$0.190	\$0.190	\$0.230	\$0.80	11.32%	0.845	1.94%
NWS	\$13.54	\$7,794	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	12.59%	-	0.00%
O	\$58.48	\$15,674	\$0.601	\$0.606	\$0.624	\$0.633	\$2.46	4.42%	2.518	4.31%
OKE	\$55.79	\$21,056	\$0.615	\$0.615	\$0.615	\$0.615	\$2.46	13.25%	2.623	4.70%
OMC	\$73.61	\$17,092	\$0.550	\$0.550	\$0.550	\$0.550	\$2.20	4.95%	2.254	3.06%
ORCL	\$49.82	\$201,767	\$0.150	\$0.150	\$0.150	\$0.190	\$0.64	8.77%	0.668	1.34%
ORLY	\$206.06	\$18,956	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	15.32%	-	0.00%
OXY	\$62.25	\$49,093	\$0.760	\$0.760	\$0.760	\$0.760	\$3.04	-3.39%	2.989	4.80%
PAYX	\$58.35	\$21,503	\$0.460	\$0.460	\$0.460	\$0.460	\$1.84	7.70%	1.911	3.28%
PBCT	\$17.08	\$6,250	\$0.170	\$0.170	\$0.170	\$0.173	\$0.68	2.00%	0.689	4.04%
PCAR	\$69.58	\$25,419	\$0.240	\$0.840	\$0.240	\$0.250	\$1.57	6.73%	1.623	2.33%
PCG	\$69.52	\$34,918	\$0.490	\$0.490	\$0.490	\$0.530	\$2.00	3.00%	2.030	2.92%
PCLN	\$1,847.14	\$89,818	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	17.26%	-	0.00%
PDCO	\$38.57	\$3,699	\$0.240	\$0.240	\$0.260	\$0.260	\$1.00	10.63%	1.053	2.73%
PEG	\$46.06	\$23,397	\$0.410	\$0.410	\$0.430	\$0.430	\$1.68	2.90%	1.704	3.70%
PEP	\$114.00	\$158,845	\$0.753	\$0.753	\$0.753	\$0.805	\$3.06	6.06%	3.155	2.77%
PFE	\$35.11	\$212,320	\$0.300	\$0.300	\$0.320	\$0.320	\$1.24	8.43%	1.292	3.68%
PFGE	\$62.61	\$18,592	\$0.410	\$0.430	\$0.450	\$0.460	\$1.75	10.40%	1.841	2.94%
PG	\$92.82	\$232,000	\$0.670	\$0.670	\$0.670	\$0.690	\$2.70	7.18%	2.795	3.01%
PGR	\$46.62	\$28,134	\$0.000	\$0.681	\$0.681	\$0.000	\$1.36	11.83%	1.442	3.09%
PH	\$169.81	\$23,313	\$0.630	\$0.630	\$0.660	\$0.660	\$2.58	11.88%	2.733	1.61%
PHM	\$26.15	\$8,246	\$0.090	\$0.090	\$0.090	\$0.090	\$0.36	18.40%	0.393	1.50%
PKG	\$115.40	\$10,820	\$0.630	\$0.630	\$0.630	\$0.630	\$2.52	8.25%	2.624	2.27%
PKI	\$68.34	\$7,602	\$0.070	\$0.070	\$0.070	\$0.070	\$0.28	10.42%	0.295	0.43%
PLD	\$64.12	\$33,606	\$0.420	\$0.420	\$0.440	\$0.440	\$1.72	6.31%	1.774	2.77%
PM	\$115.23	\$172,419	\$1.040	\$1.040	\$1.040	\$1.040	\$4.16	9.61%	4.360	3.78%
PNC	\$128.97	\$64,583	\$0.550	\$0.550	\$0.550	\$0.550	\$2.20	10.12%	2.311	1.79%

Ticker	30 Day Avg. Stock Price	Market Cap	Q3 2016 Dividend	Q4 2016 Dividend	Q1 2017 Dividend	Q2 2017 Dividend	D(0) Historical Dividend	Long-Term Growth Est (g)	D(1) = D(0) * (1+g/2)	Div Yld = D(1) / P0
PNR	\$65.01	\$12,333	\$0.340	\$0.340	\$0.345	\$0.345	\$1.37	8.04%	1.425	2.19%
PNW	\$87.94	\$9,439	\$0.625	\$0.655	\$0.655	\$0.655	\$2.59	5.50%	2.661	3.03%
PPG	\$106.76	\$27,869	\$0.400	\$0.400	\$0.400	\$0.400	\$1.60	8.09%	1.665	1.56%
PPL	\$38.91	\$25,836	\$0.380	\$0.380	\$0.395	\$0.395	\$1.55	0.10%	1.551	3.99%
PRGO	\$84.46	\$12,072	\$0.145	\$0.145	\$0.160	\$0.160	\$0.61	5.97%	0.628	0.74%
PRU	\$103.26	\$45,399	\$0.700	\$0.700	\$0.750	\$0.750	\$2.90	8.00%	3.016	2.92%
PSA	\$212.54	\$37,235	\$1.800	\$2.000	\$2.000	\$2.000	\$7.80	5.45%	8.013	3.77%
PSX	\$87.70	\$46,860	\$0.630	\$0.630	\$0.630	\$0.700	\$2.59	-3.74%	2.542	2.90%
PVH	\$127.20	\$9,760	\$0.038	\$0.038	\$0.075	\$0.038	\$0.19	10.96%	0.198	0.16%
PWR	\$36.61	\$5,799	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	8.00%	-	0.00%
PX	\$135.56	\$39,975	\$0.750	\$0.750	\$0.788	\$0.788	\$3.08	10.35%	3.234	2.39%
PXD	\$138.22	\$25,096	\$0.040	\$0.040	\$0.040	\$0.000	\$0.12	20.00%	0.132	0.10%
PYPL	\$62.90	\$76,989	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	19.83%	-	0.00%
Q	\$95.57	\$20,585	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	14.33%	-	0.00%
QCOM	\$51.36	\$76,519	\$0.530	\$0.530	\$0.530	\$0.570	\$2.16	8.75%	2.254	4.39%
QRVO	\$72.06	\$8,995	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	13.18%	-	0.00%
RCL	\$118.75	\$25,499	\$0.480	\$0.480	\$0.480	\$0.480	\$1.92	19.10%	2.103	1.77%
RE	\$227.42	\$9,379	\$1.150	\$1.250	\$1.250	\$1.250	\$4.90	10.00%	5.145	2.26%
REG	\$63.62	\$10,564	\$0.500	\$0.500	\$0.530	\$0.530	\$2.06	9.26%	2.155	3.39%
REGN	\$450.26	\$47,910	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	18.00%	-	0.00%
RF	\$14.11	\$18,201	\$0.065	\$0.065	\$0.065	\$0.070	\$0.27	13.86%	0.283	2.01%
RHI	\$47.16	\$6,352	\$0.220	\$0.220	\$0.240	\$0.240	\$0.92	8.30%	0.958	2.03%
RHT	\$107.69	\$19,673	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	17.00%	-	0.00%
RJF	\$80.12	\$12,159	\$0.200	\$0.220	\$0.220	\$0.220	\$0.86	15.45%	0.926	1.16%
RL	\$89.78	\$7,175	\$0.500	\$0.500	\$0.500	\$0.500	\$2.00	0.29%	2.003	2.23%
RMD	\$78.41	\$10,951	\$0.330	\$0.330	\$0.330	\$0.350	\$1.34	11.56%	1.417	1.81%
ROK	\$172.13	\$22,875	\$0.725	\$1.520	\$1.520	\$0.760	\$4.53	11.84%	4.793	2.78%
ROP	\$238.31	\$24,880	\$0.300	\$0.300	\$0.350	\$0.350	\$1.30	12.93%	1.384	0.58%
ROST	\$61.12	\$24,898	\$0.135	\$0.135	\$0.160	\$0.160	\$0.59	13.60%	0.630	1.03%
RRC	\$18.65	\$4,856	\$0.020	\$0.020	\$0.020	\$0.020	\$0.08	-19.59%	0.072	0.39%
RSG	\$66.11	\$22,247	\$0.320	\$0.320	\$0.320	\$0.320	\$1.28	11.46%	1.353	2.05%
RTN	\$183.10	\$54,155	\$0.000	\$1.465	\$0.798	\$0.798	\$3.06	8.41%	3.189	1.74%
SBAC	\$147.24	\$17,338	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	23.05%	-	0.00%
SBUX	\$54.51	\$77,552	\$0.250	\$0.250	\$0.250	\$0.250	\$1.00	16.52%	1.083	1.99%
SCG	\$57.30	\$6,930	\$0.575	\$0.575	\$0.613	\$0.613	\$2.38	3.25%	2.414	4.21%
SCHW	\$40.92	\$58,573	\$0.070	\$0.070	\$0.080	\$0.080	\$0.30	19.46%	0.329	0.80%
SEE	\$43.07	\$8,118	\$0.160	\$0.160	\$0.160	\$0.160	\$0.64	8.12%	0.666	1.55%
SHW	\$347.29	\$33,445	\$0.840	\$0.840	\$0.850	\$0.850	\$3.38	10.99%	3.566	1.03%
SIG	\$66.33	\$4,024	\$0.260	\$0.260	\$0.310	\$0.310	\$1.14	3.40%	1.159	1.75%
SJM	\$106.86	\$11,918	\$0.750	\$0.750	\$0.750	\$0.780	\$3.03	3.96%	3.090	2.89%
SLB	\$67.29	\$96,584	\$0.500	\$0.500	\$0.500	\$0.500	\$2.00	41.71%	2.417	3.59%
SLG	\$98.42	\$10,179	\$0.720	\$0.775	\$0.775	\$0.775	\$3.05	0.64%	3.055	3.10%
SNA	\$147.73	\$8,581	\$0.610	\$0.710	\$0.710	\$0.710	\$2.74	10.85%	2.889	1.96%
SNI	\$85.65	\$11,150	\$0.250	\$0.250	\$0.300	\$0.600	\$1.40	9.19%	1.464	1.71%
SNPS	\$79.98	\$12,099	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	9.12%	-	0.00%
SO	\$49.47	\$49,114	\$0.560	\$0.560	\$0.560	\$0.580	\$2.26	2.00%	2.283	4.61%
SPG	\$160.36	\$50,049	\$1.650	\$1.650	\$1.750	\$1.750	\$6.80	7.06%	7.040	4.39%
SPGI	\$154.23	\$40,172	\$0.360	\$0.410	\$0.410	\$0.410	\$1.59	10.00%	1.670	1.08%
SRCL	\$70.98	\$6,112	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	7.68%	-	0.00%
SRE	\$117.29	\$28,655	\$0.760	\$0.750	\$0.820	\$0.830	\$3.16	14.25%	3.385	2.89%
STI	\$55.86	\$28,686	\$0.260	\$0.260	\$0.260	\$0.260	\$1.04	9.42%	1.089	1.95%
STT	\$94.24	\$35,728	\$0.380	\$0.380	\$0.380	\$0.380	\$1.52	11.80%	1.610	1.71%
STX	\$32.66	\$9,547	\$0.630	\$0.630	\$0.630	\$0.630	\$2.52	8.73%	2.630	8.05%

Ticker	30 day avg Stock Price	Market Cap	Q3 2016 Dividend	Q4 2016 Dividend	Q1 2017 Dividend	Q2 2017 Dividend	D(0) Historical Dividend	Long- Term Growth Est (g)	D(1) = D(0) * (1+g/2)	Div Yld = D(1) / P0
STZ	\$201.97	\$39,135	\$0.400	\$0.400	\$0.400	\$0.520	\$1.72	16.36%	1.861	0.92%
SWK	\$148.07	\$23,121	\$0.580	\$0.580	\$0.580	\$0.580	\$2.32	11.00%	2.448	1.65%
SWKS	\$104.75	\$18,723	\$0.280	\$0.280	\$0.280	\$0.280	\$1.12	13.59%	1.196	1.14%
SYF	\$29.61	\$24,695	\$0.130	\$0.130	\$0.130	\$0.130	\$0.52	8.09%	0.541	1.83%
SYK	\$142.17	\$53,124	\$0.380	\$0.380	\$0.425	\$0.425	\$1.61	9.23%	1.684	1.18%
SYMC	\$32.47	\$20,163	\$0.075	\$0.075	\$0.075	\$0.075	\$0.30	13.14%	0.320	0.98%
SYU	\$53.54	\$28,479	\$0.310	\$0.330	\$0.330	\$0.330	\$1.30	10.04%	1.365	2.55%
T	\$37.50	\$240,504	\$0.480	\$0.490	\$0.490	\$0.490	\$1.95	5.25%	2.001	5.34%
TAP	\$85.83	\$17,604	\$0.410	\$0.410	\$0.410	\$0.410	\$1.64	7.32%	1.700	1.98%
TDG	\$256.69	\$13,271	\$0.000	\$24.000	\$0.000	\$0.000	\$24.00	10.21%	25.226	9.83%
TEL	\$81.35	\$29,352	\$0.370	\$0.370	\$0.370	\$0.400	\$1.51	6.87%	1.562	1.92%
TGT	\$58.52	\$32,233	\$0.600	\$0.600	\$0.600	\$0.620	\$2.42	-0.78%	2.411	4.12%
TIF	\$91.57	\$11,428	\$0.450	\$0.450	\$0.450	\$0.500	\$1.85	10.10%	1.943	2.12%
TJX	\$73.16	\$46,912	\$0.260	\$0.260	\$0.313	\$0.313	\$1.15	10.65%	1.206	1.65%
TMK	\$77.75	\$9,316	\$0.140	\$0.140	\$0.150	\$0.150	\$0.58	8.00%	0.603	0.78%
TMO	\$189.52	\$75,719	\$0.150	\$0.150	\$0.150	\$0.150	\$0.60	13.00%	0.639	0.34%
TRIP	\$43.40	\$5,624	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	14.50%	-	0.00%
TROW	\$85.36	\$21,788	\$0.540	\$0.540	\$0.570	\$0.570	\$2.22	12.85%	2.363	2.77%
TRV	\$120.76	\$33,809	\$0.670	\$0.670	\$0.670	\$0.720	\$2.73	11.58%	2.888	2.39%
TSCO	\$61.55	\$8,019	\$0.240	\$0.240	\$0.240	\$0.270	\$0.99	13.65%	1.058	1.72%
TSN	\$65.91	\$27,558	\$0.150	\$0.300	\$0.225	\$0.225	\$0.90	8.60%	0.939	1.42%
TSS	\$67.55	\$12,068	\$0.100	\$0.100	\$0.100	\$0.100	\$0.40	11.14%	0.422	0.63%
TWX	\$101.79	\$79,686	\$0.403	\$0.403	\$0.403	\$0.805	\$2.01	8.30%	2.096	2.06%
TXN	\$85.11	\$88,747	\$0.380	\$0.500	\$0.500	\$0.500	\$1.88	10.53%	1.979	2.33%
TXT	\$51.80	\$14,263	\$0.020	\$0.020	\$0.020	\$0.020	\$0.08	8.78%	0.084	0.16%
UA	\$15.71	\$6,919	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	9.68%	-	0.00%
UAL	\$59.92	\$18,521	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	-0.23%	-	0.00%
UDR	\$38.68	\$10,176	\$0.295	\$0.295	\$0.310	\$0.310	\$1.21	6.13%	1.247	3.22%
UHS	\$109.81	\$10,612	\$0.100	\$0.100	\$0.100	\$0.100	\$0.40	8.69%	0.417	0.38%
ULTA	\$224.72	\$13,887	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	21.60%	-	0.00%
UNH	\$196.62	\$189,360	\$0.625	\$0.625	\$0.625	\$0.750	\$2.63	12.15%	2.784	1.42%
UNM	\$49.08	\$11,539	\$0.185	\$0.200	\$0.200	\$0.400	\$0.99	5.00%	1.010	2.06%
UNP	\$111.37	\$92,821	\$0.550	\$0.605	\$0.605	\$0.605	\$2.37	11.63%	2.503	2.25%
UPS	\$117.02	\$103,994	\$0.780	\$0.780	\$0.830	\$0.830	\$3.22	11.90%	3.412	2.92%
URI	\$128.93	\$11,729	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	14.17%	-	0.00%
USB	\$52.31	\$89,644	\$0.280	\$0.280	\$0.280	\$0.280	\$1.12	12.13%	1.188	2.27%
UTX	\$113.12	\$92,722	\$0.660	\$0.660	\$0.660	\$0.700	\$2.68	8.72%	2.797	2.47%
V	\$104.72	\$240,659	\$0.140	\$0.165	\$0.165	\$0.165	\$0.64	16.76%	0.688	0.66%
VAR	\$105.27	\$9,186	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	7.20%	-	0.00%
VFC	\$62.78	\$25,023	\$0.370	\$0.420	\$0.420	\$0.420	\$1.63	7.96%	1.695	2.70%
VIAB	\$27.61	\$11,634	\$0.200	\$0.200	\$0.200	\$0.200	\$0.80	2.96%	0.812	2.94%
VLO	\$72.03	\$33,977	\$0.600	\$0.600	\$0.700	\$0.700	\$2.60	10.45%	2.736	3.80%
VMC	\$117.56	\$15,820	\$0.200	\$0.200	\$0.250	\$0.250	\$0.90	21.82%	0.998	0.85%
VNO	\$75.12	\$14,566	\$0.630	\$0.630	\$0.710	\$0.710	\$2.68	-0.83%	2.669	3.55%
VRSK	\$81.83	\$13,689	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	7.96%	-	0.00%
VRSN	\$104.33	\$10,631	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	10.20%	-	0.00%
VRTX	\$154.28	\$38,332	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	72.50%	-	0.00%
VTR	\$67.82	\$23,196	\$0.730	\$0.775	\$0.775	\$0.775	\$3.06	3.03%	3.101	4.57%
VZ	\$48.17	\$201,890	\$0.578	\$0.578	\$0.578	\$0.578	\$2.31	1.92%	2.333	4.84%
WAT	\$184.20	\$14,330	\$0.000	\$0.000	\$0.000	\$0.000	\$0.00	8.28%	-	0.00%
WBA	\$80.49	\$82,633	\$0.375	\$0.375	\$0.375	\$0.375	\$1.50	9.03%	1.568	1.95%
WDC	\$87.64	\$25,503	\$0.500	\$0.500	\$0.500	\$2.000	\$3.50	11.74%	3.705	4.23%
WEC	\$64.93	\$19,812	\$0.495	\$0.495	\$0.520	\$0.520	\$2.03	5.55%	2.086	3.21%

Ticker	30 day avg Stock Price	Market Cap	Q3 2016 Dividend	Q4 2016 Dividend	Q1 2017 Dividend	Q2 2017 Dividend	D(0) Historical Dividend	Long Term Growth Est (g)	D(1) = D(0) * (1+g/2)	Div Yld = D(1) / P0
WFC	\$52.32	\$273,762	\$0.380	\$0.380	\$0.380	\$0.380	\$1.52	11.46%	1.607	3.07%
WHR	\$174.92	\$13,460	\$1.000	\$1.000	\$1.000	\$1.100	\$4.10	14.19%	4.391	2.51%
WLTW	\$151.99	\$20,711	\$0.480	\$0.480	\$0.530	\$0.530	\$2.02	10.00%	2.121	1.40%
WM	\$77.78	\$34,442	\$0.410	\$0.410	\$0.425	\$0.425	\$1.67	10.22%	1.755	2.26%
WMB	\$30.18	\$24,808	\$0.200	\$0.200	\$0.300	\$0.300	\$1.00	18.00%	1.090	3.61%
WMT	\$79.54	\$233,420	\$0.500	\$0.500	\$0.510	\$2.040	\$3.55	5.12%	3.641	4.58%
WRK	\$56.99	\$14,409	\$0.375	\$0.400	\$0.400	\$0.400	\$1.58	9.67%	1.651	2.90%
WU	\$18.92	\$8,909	\$0.160	\$0.160	\$0.175	\$0.175	\$0.67	8.00%	0.697	3.68%
WY	\$33.32	\$25,623	\$0.310	\$0.310	\$0.310	\$0.310	\$1.24	7.40%	1.286	3.86%
WYN	\$101.86	\$10,835	\$0.500	\$0.500	\$0.580	\$0.580	\$2.16	14.25%	2.314	2.27%
WYNN	\$144.76	\$15,274	\$0.500	\$0.500	\$0.500	\$0.500	\$2.00	31.90%	2.319	1.60%
XEC	\$107.21	\$10,830	\$0.080	\$0.080	\$0.080	\$0.080	\$0.32	63.66%	0.422	0.39%
XEL	\$48.69	\$24,027	\$0.340	\$0.340	\$0.360	\$0.360	\$1.40	6.05%	1.442	2.96%
XL	\$39.15	\$10,176	\$0.200	\$0.200	\$0.220	\$0.220	\$0.84	9.00%	0.878	2.24%
XLNX	\$67.66	\$17,608	\$0.330	\$0.330	\$0.330	\$0.350	\$1.34	8.37%	1.396	2.06%
XOM	\$79.86	\$347,358	\$0.750	\$0.750	\$0.750	\$0.770	\$3.02	19.49%	3.314	4.15%
XRAY	\$58.54	\$13,727	\$0.078	\$0.078	\$0.088	\$0.088	\$0.33	9.80%	0.346	0.59%
XRX	\$32.75	\$8,461	\$0.310	\$0.310	\$0.250	\$0.250	\$1.12	2.90%	1.136	3.47%
XYL	\$63.12	\$11,246	\$0.155	\$0.155	\$0.180	\$0.180	\$0.67	15.00%	0.720	1.14%
YUM	\$75.72	\$25,379	\$0.000	\$0.810	\$0.300	\$0.300	\$1.41	12.74%	1.500	1.98%
ZBH	\$115.44	\$23,675	\$0.240	\$0.240	\$0.240	\$0.240	\$0.96	8.38%	1.000	0.87%
ZION	\$44.18	\$9,538	\$0.080	\$0.080	\$0.080	\$0.080	\$0.32	9.00%	0.334	0.76%
ZTS	\$64.28	\$31,186	\$0.000	\$0.105	\$0.105	\$0.105	\$0.32	14.75%	0.338	0.53%

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	12.63%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	9.77%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(Y/P)(%)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
AGILENT TECHNOLOGIES INC	A	\$20,661	0.11%	0.82%	9.53%	10.35%	0.0115%
AMERICAN AIRLINES GROUP INC	AAL	\$23,128	0.12%	0.86%	-3.18%	-2.32%	-0.0029%
ADVANCE AUTO PARTS INC	AAP	\$7,327	0.04%	0.26%	8.96%	9.22%	0.0036%
APPLE INC	AAPL	\$796,065	4.27%	1.57%	10.98%	12.54%	0.5359%
ABBVIE INC	ABBV	\$141,651	0.76%	2.96%	8.60%	11.56%	0.0879%
AMERISOURCEBERGEN CORP	ABC	\$18,131	0.10%	1.82%	6.76%	8.58%	0.0083%
ABBOTT LABORATORIES	ABT	\$92,710	0.50%	2.15%	11.77%	13.91%	0.0692%
ACCENTURE PLC-CL A	ACN	\$87,222	0.47%	1.88%	10.63%	12.52%	0.0586%
ANALOG DEVICES INC	ADI	\$31,682	0.17%	2.20%	11.55%	13.75%	0.0234%
ARCHER-DANIELS-MIDLAND CO	ADM	\$23,913	0.13%	3.02%	9.80%	12.82%	0.0165%
AUTOMATIC DATA PROCESSING	ADP	\$48,586	0.26%	2.20%	11.48%	13.67%	0.0357%
ALLIANCE DATA SYSTEMS CORP	ADS	\$12,292	0.07%	0.51%	14.00%	14.51%	0.0096%
AMEREN CORPORATION	AEE	\$14,034	0.08%	3.03%	6.00%	9.03%	0.0068%
AMERICAN ELECTRIC POWER	AEP	\$34,547	0.19%	3.30%	5.00%	8.30%	0.0154%
AES CORP	AES	\$7,276	0.04%	5.39%	8.00%	13.39%	0.0052%
AETNA INC	AET	\$52,807	0.28%	1.00%	11.46%	12.46%	0.0353%
AFLAC INC	AFL	\$32,168	0.17%	2.09%	2.85%	4.94%	0.0085%
AMERICAN INTERNATIONAL GROUP	AIG	\$55,460	0.30%	2.24%	11.00%	13.24%	0.0394%
APARTMENT INVT & MGMT CO -A	AIV	\$6,887	0.04%	3.35%	19.07%	22.42%	0.0083%
ASSURANT INC	AIZ	\$5,147	0.03%	2.46%	19.35%	21.81%	0.0060%
ARTHUR J GALLAGHER & CO	AJG	\$11,089	0.06%	2.70%	10.83%	13.53%	0.0081%
ALBERMARLE	ALB	\$15,059	0.08%	1.05%	12.95%	14.00%	0.0113%
ALASKA AIR GROUP INC	ALK	\$9,411	0.05%	1.59%	6.33%	7.92%	0.0040%
ALLSTATE CORP	ALL	\$33,213	0.18%	1.68%	16.27%	17.94%	0.0320%
ALLEGION PLC	ALLE	\$8,213	0.04%	0.72%	13.09%	13.81%	0.0061%
APPLIED MATERIALS INC	AMAT	\$55,553	0.30%	0.92%	16.71%	17.63%	0.0526%
AMETEK INC	AME	\$15,242	0.08%	0.59%	11.62%	12.21%	0.0100%
AMGEN INC	AMGN	\$136,048	0.73%	2.38%	4.67%	7.04%	0.0514%
AMERIPRISE FINANCIAL INC	AMP	\$22,268	0.12%	2.31%	10.40%	12.71%	0.0152%
AMERICAN TOWER CORP	AMT	\$58,660	0.31%	1.80%	20.68%	22.48%	0.0708%
ANDEAVOR CORP (TESORO)	ANDV	\$16,184	0.09%	2.35%	18.94%	21.28%	0.0185%
ANTHEM INC	ANTM	\$49,860	0.27%	1.45%	9.78%	11.22%	0.0300%
AON PLC	AON	\$37,159	0.20%	1.00%	11.86%	12.86%	0.0256%
A.O. SMITH CORP	AOS	\$10,254	0.06%	0.96%	15.00%	15.96%	0.0088%
APACHE CORP	APA	\$17,447	0.09%	2.11%	-20.64%	-18.53%	-0.0173%
ANADARKO PETROLEUM CORP	APC	\$27,373	0.15%	0.42%	-10.30%	-9.88%	-0.0145%
AIR PRODUCTS & CHEMICALS INC	APD	\$32,960	0.18%	2.54%	9.29%	11.83%	0.0209%
AMPHENOL CORP-CL A	APH	\$25,853	0.14%	0.80%	11.23%	12.03%	0.0167%
ALEXANDRIA REAL ESTATE EQUITIES	ARE	\$11,139	0.06%	2.87%	6.80%	9.67%	0.0058%
ARCONIC INC	ARNC	\$10,973	0.06%	1.28%	16.90%	18.18%	0.0107%
ACTIVISION BLIZZARD INC	ATVI	\$48,700	0.26%	0.99%	13.63%	14.62%	0.0382%
AVALONBAY COMMUNITIES INC	AVB	\$24,637	0.13%	3.13%	6.42%	9.55%	0.0126%
BROADCOM LTD	AVGO	\$98,951	0.53%	1.57%	15.32%	16.89%	0.0897%
AVERY DENNISON CORP	AVY	\$8,692	0.05%	1.80%	7.65%	9.45%	0.0044%
AMERICAN WATER WORKS CO INC	AWK	\$14,425	0.08%	2.43%	7.95%	10.38%	0.0080%
AMERICAN EXPRESS CO	AXP	\$79,965	0.43%	1.54%	9.70%	11.24%	0.0482%
ACUITY BRANDS INC	AYI	\$7,210	0.04%	0.33%	17.67%	18.00%	0.0070%
BOEING CO/THE	BA	\$150,259	0.81%	2.18%	15.20%	17.38%	0.1402%
BANK OF AMERICA CORP	BAC	\$267,352	1.43%	1.30%	10.47%	11.76%	0.1688%
BAXTER INTERNATIONAL INC	BAX	\$34,191	0.18%	0.93%	13.56%	14.49%	0.0266%
BB&T CORP	BBT	\$37,932	0.20%	2.79%	9.75%	12.54%	0.0255%
BEST BUY CO INC	BBY	\$17,042	0.09%	2.37%	12.68%	15.05%	0.0138%
CR BARD INC	BCR	\$23,291	0.13%	0.34%	11.00%	11.34%	0.0142%

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Estimated Required Return on Market (S&P 500)	12.63%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	9.77%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1/Y) (%)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
BECTON DICKINSON AND CO	BDX	\$44,591	0.24%	1.54%	12.53%	14.06%	0.0337%
FRANKLIN RESOURCES INC	BEN	\$24,823	0.13%	1.92%	10.00%	11.92%	0.0159%
BROWN-FORMAN CORP-CLASS B	BF/B	\$21,101	0.11%	1.39%	9.72%	11.11%	0.0126%
BAKER HUGES	BHGE	\$41,935	0.23%	0.48%	6.50%	6.98%	0.0157%
BANK OF NEW YORK MELLON CORP	BK	\$54,778	0.29%	1.56%	13.24%	14.80%	0.0435%
BLACKROCK INC	BLK	\$72,681	0.39%	2.39%	13.60%	15.99%	0.0624%
BALL CORP	BLL	\$14,529	0.08%	0.75%	7.23%	7.98%	0.0062%
BRISTOL-MYERS SQUIBB CO	BMJ	\$104,529	0.56%	2.58%	8.00%	10.58%	0.0593%
BORGWARNER INC	BWA	\$10,813	0.06%	0.87%	5.09%	5.95%	0.0035%
BOSTON PROPERTIES INC	BXP	\$18,963	0.10%	1.81%	4.46%	6.27%	0.0064%
CITIGROUP INC	C	\$198,184	1.06%	0.98%	12.97%	13.95%	0.1483%
CA INC	CA	\$14,062	0.08%	3.13%	2.97%	6.10%	0.0046%
CONAGRA BRANDS INC	CAG	\$14,024	0.08%	2.74%	7.00%	9.74%	0.0073%
CARDINAL HEALTH INC	CAH	\$21,094	0.11%	2.83%	12.37%	15.20%	0.0172%
CATERPILLAR INC	CAT	\$73,700	0.40%	2.65%	10.00%	12.65%	0.0501%
CHUBB LTD	CB	\$66,345	0.36%	2.06%	10.60%	12.66%	0.0451%
CBOE HOLDINGS INC	CBOE	\$12,138	0.07%	1.06%	22.39%	23.44%	0.0153%
CBS CORP-CLASS B NON VOTING	CBS	\$23,312	0.13%	1.29%	13.37%	14.66%	0.0183%
CROWN CASTLE INTL CORP	CCI	\$40,619	0.22%	3.99%	21.60%	25.59%	0.0558%
CARNIVAL CORP	CCL	\$46,369	0.25%	2.35%	13.28%	15.63%	0.0389%
CF INDUSTRIES HOLDINGS INC	CF	\$8,201	0.04%	3.70%	6.00%	9.70%	0.0043%
CITIZENS FINANCIAL GROUP	CFG	\$18,960	0.10%	1.64%	21.44%	23.08%	0.0235%
CHURCH & DWIGHT CO INC	CHD	\$12,089	0.06%	1.56%	9.14%	10.70%	0.0069%
C.H. ROBINSON WORLDWIDE INC	CHRW	\$10,683	0.06%	3.16%	9.20%	12.36%	0.0071%
CIGNA CORP	CI	\$47,067	0.25%	0.05%	12.91%	12.96%	0.0327%
COLGATE-PALMOLIVE CO	CL	\$64,169	0.34%	2.86%	9.47%	12.33%	0.0425%
CLOROX COMPANY	CLX	\$17,004	0.09%	2.50%	6.72%	9.21%	0.0084%
COMERICA INC	CMA	\$13,415	0.07%	1.40%	8.00%	9.40%	0.0068%
COMCAST CORP-CLASS A	CMCSA	\$181,371	0.97%	1.61%	9.13%	10.74%	0.1046%
CME GROUP INC	CME	\$46,119	0.25%	4.63%	10.47%	15.09%	0.0374%
CUMMINS INC	CMI	\$28,165	0.15%	2.61%	10.23%	12.83%	0.0194%
CMS ENERGY CORP	CMS	\$13,063	0.07%	2.81%	5.00%	7.81%	0.0055%
CENTERPOINT ENERGY INC	CNP	\$12,590	0.07%	3.64%	6.00%	9.64%	0.0065%
CAPITAL ONE FINANCIAL CORP	COF	\$40,949	0.22%	2.04%	5.97%	8.01%	0.0176%
CABOT OIL & GAS CORP	COG	\$12,372	0.07%	0.48%	31.95%	32.42%	0.0215%
COACH INC	COH	\$11,445	0.06%	3.52%	11.57%	15.09%	0.0093%
ROCKWELL COLLINS INC	COL	\$21,237	0.11%	1.06%	10.73%	11.79%	0.0134%
COOPER COS INC/THE	COO	\$11,606	0.06%	0.03%	9.75%	9.78%	0.0061%
CONOCOPHILLIPS	COP	\$60,908	0.33%	2.28%	7.00%	9.28%	0.0303%
COSTCO WHOLESALE CORP	COST	\$72,056	0.39%	5.77%	10.18%	15.95%	0.0617%
COTY INC-CL A	COTY	\$12,381	0.07%	4.26%	17.00%	21.26%	0.0141%
CAMPBELL SOUP CO	CPB	\$14,071	0.08%	3.04%	4.46%	7.50%	0.0057%
CISCO SYSTEMS INC	CSCO	\$166,534	0.89%	3.48%	6.43%	9.91%	0.0886%
CSRA INC	CSRA	\$5,275	0.03%	1.29%	7.55%	8.84%	0.0025%
CSX CORP	CSX	\$49,556	0.27%	1.50%	11.33%	12.82%	0.0341%
CINTAS CORP	CTAS	\$15,588	0.08%	1.03%	11.58%	12.61%	0.0106%
CENTURYLINK INC	CTL	\$10,388	0.06%	11.26%	-2.86%	8.40%	0.0047%
COGNIZANT TECH SOLUTIONS-A	CTSH	\$42,844	0.23%	0.22%	14.35%	14.57%	0.0335%
CVS HEALTH CORP	CVS	\$82,667	0.44%	2.43%	13.33%	15.76%	0.0699%
CHEVRON CORP	CVX	\$222,663	1.20%	4.56%	42.57%	47.13%	0.5633%
DOMINION RESOURCES INC/VA	D	\$49,434	0.27%	3.83%	5.60%	9.43%	0.0250%
DELTA AIR LINES INC	DAL	\$34,913	0.19%	1.72%	5.57%	7.29%	0.0137%
DEERE & CO	DE	\$40,352	0.22%	2.04%	4.50%	6.54%	0.0142%

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	12.63%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	9.77%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
DISCOVER FINANCIAL SERVICES	DFS	\$24,009	0.13%	2.03%	3.98%	6.01%	0.0077%
DOLLAR GENERAL CORP	DG	\$22,148	0.12%	1.38%	8.55%	9.93%	0.0118%
QUEST DIAGNOSTICS INC	DGX	\$12,773	0.07%	1.72%	6.95%	8.67%	0.0059%
DR HORTON INC	DHI	\$14,945	0.08%	1.09%	12.66%	13.74%	0.0110%
DANAHER CORP	DHR	\$59,590	0.32%	0.64%	7.57%	8.21%	0.0263%
WALT DISNEY CO/THE	DIS	\$152,141	0.82%	1.64%	7.19%	8.83%	0.0721%
DELPHI AUTOMOTIVE PLC	DLPH	\$26,257	0.14%	1.24%	12.18%	13.42%	0.0189%
DIGITAL REALTY TRUST INC	DLR	\$24,552	0.13%	3.14%	5.58%	8.72%	0.0115%
DOVER CORP	DOV	\$14,233	0.08%	2.12%	15.47%	17.58%	0.0134%
DR PEPPER SNAPPLE GROUP INC	DPS	\$16,077	0.09%	2.55%	8.58%	11.14%	0.0096%
DUKE REALTY CORP	DRE	\$10,252	0.06%	3.27%	4.52%	7.80%	0.0043%
DARDEN RESTAURANTS INC	DRI	\$9,875	0.05%	2.89%	9.57%	12.46%	0.0066%
DTE ENERGY COMPANY	DTE	\$19,259	0.10%	3.02%	5.35%	8.37%	0.0087%
DUKE ENERGY CORP	DUK	\$58,734	0.32%	4.01%	2.00%	6.01%	0.0189%
DEVON ENERGY CORP	DVN	\$19,292	0.10%	0.77%	18.42%	19.18%	0.0199%
DXC TECHNOLOGY CO	DXC	\$24,449	0.13%	0.76%	15.25%	16.01%	0.0210%
ECOLAB INC	ECL	\$37,217	0.20%	1.19%	12.86%	14.05%	0.0281%
CONSOLIDATED EDISON INC	ED	\$24,996	0.13%	3.35%	5.00%	8.35%	0.0112%
EQUIFAX INC	EFX	\$12,758	0.07%	1.37%	11.03%	12.40%	0.0085%
EDISON INTERNATIONAL	EIX	\$25,143	0.13%	2.73%	6.23%	8.95%	0.0121%
ESTEE LAUDER COMPANIES-CL A	EL	\$39,743	0.21%	1.28%	11.49%	12.78%	0.0273%
EASTMAN CHEMICAL CO	EMN	\$13,110	0.07%	2.39%	7.53%	9.92%	0.0070%
EMERSON ELECTRIC CO	EMR	\$40,219	0.22%	3.21%	7.45%	10.66%	0.0230%
EOG RESOURCES INC	EOG	\$55,862	0.30%	0.66%	-18.26%	-17.60%	-0.0528%
EQUINIX INC	EQIX	\$34,787	0.19%	1.96%	29.25%	31.21%	0.0583%
EQUITY RESIDENTIAL	EQR	\$24,217	0.13%	7.71%	5.87%	13.58%	0.0177%
EQT CORP	EQT	\$11,308	0.06%	0.20%	15.00%	15.20%	0.0092%
EVERSOURCE ENERGY	ES	\$19,153	0.10%	3.06%	6.10%	9.16%	0.0094%
ESSEX PROPERTY TRUST INC	ESS	\$16,763	0.09%	2.65%	5.99%	8.64%	0.0078%
EATON CORP PLC	ETN	\$34,156	0.18%	3.27%	10.22%	13.49%	0.0247%
ENTERGY CORP	ETR	\$13,708	0.07%	4.34%	-3.83%	0.51%	0.0004%
EXELON CORP	EXC	\$36,167	0.19%	3.52%	3.57%	7.08%	0.0137%
EXPEDITORS INTL WASH INC	EXPD	\$10,819	0.06%	1.48%	8.40%	9.88%	0.0057%
EXPEDIA INC	EXPE	\$21,827	0.12%	0.82%	17.98%	18.80%	0.0220%
EXTRA SPACE STORAGE INC	EXR	\$10,070	0.05%	4.07%	6.57%	10.64%	0.0057%
FORD MOTOR CO	F	\$47,542	0.26%	5.52%	-2.07%	3.45%	0.0088%
FASTENAL CO	FAST	\$13,126	0.07%	3.04%	15.40%	18.44%	0.0130%
FORTUNE BRANDS HOME & SECURI	FBHS	\$10,354	0.06%	1.11%	12.12%	13.23%	0.0074%
FEDEX CORP	FDX	\$60,489	0.32%	0.98%	12.50%	13.48%	0.0438%
FIRSTENERGY CORP	FE	\$13,698	0.07%	3.35%	-5.00%	-1.65%	-0.0012%
FIDELITY NATIONAL INFO SERV	FIS	\$31,044	0.17%	1.23%	8.23%	9.47%	0.0158%
FIFTH THIRD BANCORP	FITB	\$20,614	0.11%	2.11%	4.20%	6.31%	0.0070%
FOOT LOCKER INC	FL	\$4,367	0.02%	3.35%	3.40%	6.75%	0.0016%
FLIR SYSTEMS INC	FLIR	\$5,338	0.03%	1.57%	15.00%	16.57%	0.0047%
FLUOR CORP	FLR	\$5,890	0.03%	2.20%	11.89%	14.09%	0.0045%
FLOWERVE CORP	FLS	\$5,564	0.03%	1.95%	12.68%	14.63%	0.0044%
FMC CORP	FMC	\$11,979	0.06%	0.79%	12.60%	13.39%	0.0086%
TWENTY-FIRST CENTURY FOX INC	FOX	\$48,360	0.26%	2.16%	9.23%	11.39%	0.0296%
FEDERAL REALTY INVS TRUST	FRT	\$9,011	0.05%	3.16%	4.67%	7.83%	0.0038%
FORTIVE CORP	FTV	\$24,571	0.13%	0.32%	9.37%	9.69%	0.0128%
GENERAL DYNAMICS CORP	GD	\$61,563	0.33%	2.83%	8.51%	11.35%	0.0375%
GENERAL ELECTRIC CO	GE	\$209,349	1.12%	4.11%	11.23%	15.35%	0.1724%
GENERAL GROWTH PROPERTIES	GGP	\$18,319	0.10%	4.36%	4.65%	9.01%	0.0089%

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	12.63%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	9.77%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
GILEAD SCIENCES INC	GILD	\$105,806	0.57%	2.29%	-7.44%	-5.15%	-0.0292%
GENERAL MILLS INC	GIS	\$29,417	0.16%	3.74%	9.57%	13.30%	0.0210%
CORNING INC	GLW	\$27,023	0.15%	2.06%	8.58%	10.63%	0.0154%
GENERAL MOTORS CO	GM	\$58,842	0.32%	4.10%	9.04%	13.14%	0.0415%
GENUINE PARTS CO	GPC	\$14,044	0.08%	3.16%	8.92%	12.07%	0.0091%
GLOBAL PAYMENTS INC	GPN	\$14,491	0.08%	0.06%	14.50%	14.56%	0.0113%
GAP INC/THE	GPS	\$11,580	0.06%	3.44%	5.60%	9.04%	0.0056%
GARMIN LTD	GRMN	\$10,130	0.05%	3.99%	5.68%	9.67%	0.0053%
GOLDMAN SACHS GROUP INC	GS	\$95,564	0.51%	1.26%	11.19%	12.45%	0.0638%
WW GRAINGER INC	GWV	\$10,370	0.06%	3.02%	9.55%	12.57%	0.0070%
HALLIBURTON CO	HAL	\$40,120	0.22%	2.31%	74.00%	76.31%	0.1643%
HASBRO INC	HAS	\$12,217	0.07%	2.37%	9.70%	12.07%	0.0079%
HUNTINGTON BANCSHARES INC	HBAN	\$15,217	0.08%	2.50%	10.71%	13.21%	0.0108%
HANESBRANDS INC	HBI	\$8,981	0.05%	2.20%	10.45%	12.65%	0.0061%
WELLTOWER INC	HCN	\$25,925	0.14%	4.80%	2.61%	7.41%	0.0103%
HCP INC	HCP	\$13,051	0.07%	5.87%	3.11%	8.98%	0.0063%
HOME DEPOT INC	HD	\$192,807	1.03%	2.13%	13.69%	15.82%	0.1637%
HESS CORP	HES	\$14,904	0.08%	2.15%	-14.74%	-12.58%	-0.0101%
HARTFORD FINANCIAL SVCS GRP	HIG	\$20,193	0.11%	1.75%	9.50%	11.25%	0.0122%
HILTON HOTELS CORP	HLT	\$22,223	0.12%	1.16%	15.74%	16.90%	0.0202%
HARLEY-DAVIDSON INC	HOG	\$8,224	0.04%	3.09%	7.85%	10.94%	0.0048%
HONEYWELL INTERNATIONAL INC	HON	\$107,803	0.58%	1.96%	9.95%	11.91%	0.0689%
HP INC	HP	\$5,658	0.03%	6.03%	12.00%	18.03%	0.0055%
HEWLETT PACKARD ENTERPRIS	HPE	\$23,822	0.13%	1.84%	-3.56%	-1.72%	-0.0022%
HP INC	HPQ	\$33,338	0.18%	4.10%	4.09%	8.19%	0.0147%
H&R BLOCK INC	HRB	\$5,536	0.03%	3.61%	11.00%	14.61%	0.0043%
HORMEL FOODS CORP	HRL	\$16,964	0.09%	2.15%	6.15%	8.30%	0.0076%
HOST HOTELS & RESORTS INC	HST	\$13,684	0.07%	4.75%	4.10%	8.85%	0.0065%
HERSHEY CO/THE	HSY	\$23,193	0.12%	2.94%	9.53%	12.48%	0.0155%
HUMANA INC	HUM	\$35,209	0.19%	0.59%	12.93%	13.52%	0.0256%
INTL BUSINESS MACHINES CORP	IBM	\$135,206	0.73%	3.98%	2.38%	6.36%	0.0461%
INTERCONTINENTAL EXCHANGE IN	ICE	\$40,429	0.22%	1.18%	10.98%	12.15%	0.0264%
INTL FLAVORS & FRAGRANCES	IFF	\$11,286	0.06%	1.83%	4.00%	5.83%	0.0035%
INTEL CORP	INTC	\$178,938	0.96%	3.73%	8.14%	11.87%	0.1140%
INTUIT INC	INTU	\$36,242	0.19%	1.02%	14.88%	15.90%	0.0309%
INTERNATIONAL PAPER CO	IP	\$23,462	0.13%	3.37%	7.23%	10.60%	0.0133%
INTERPUBLIC GROUP OF COS INC	IPG	\$8,176	0.04%	3.36%	8.64%	12.00%	0.0053%
INGERSOLL-RAND PLC	IR	\$22,620	0.12%	1.81%	10.71%	12.52%	0.0152%
IRON MOUNTAIN INC	IRM	\$10,285	0.06%	5.79%	14.60%	20.39%	0.0113%
ILLINOIS TOOL WORKS	ITW	\$50,920	0.27%	1.81%	9.20%	11.01%	0.0301%
INVESCO LTD	IVZ	\$14,257	0.08%	3.61%	12.29%	15.90%	0.0122%
HUNT (JB) TRANSPRT SVCS INC	JBHT	\$12,156	0.07%	0.93%	13.35%	14.28%	0.0093%
JOHNSON CONTROLS INTERNATION	JCI	\$37,566	0.20%	2.72%	8.47%	11.19%	0.0226%
JOHNSON & JOHNSON	JNJ	\$348,947	1.87%	2.53%	6.03%	8.56%	0.1604%
JUNIPER NETWORKS INC	JNPR	\$10,584	0.06%	1.51%	8.62%	10.13%	0.0058%
JPMORGAN CHASE & CO	JPM	\$336,096	1.80%	2.15%	3.00%	5.15%	0.0930%
NORDSTROM INC	JWN	\$7,838	0.04%	3.27%	6.00%	9.27%	0.0039%
KELLOGG CO	K	\$21,526	0.12%	3.25%	6.23%	9.48%	0.0110%
KEYCORP	KEY	\$20,468	0.11%	2.07%	10.90%	12.97%	0.0143%
KRAFT HEINZ CO/THE	KHC	\$94,475	0.51%	3.12%	8.39%	11.51%	0.0583%
KIMCO REALTY CORP	KIM	\$8,321	0.04%	5.89%	19.96%	25.86%	0.0115%
KLA-TENCOR CORP	KLAC	\$16,631	0.09%	2.25%	7.90%	10.15%	0.0091%
KIMBERLY-CLARK CORP	KMB	\$41,577	0.22%	3.26%	6.22%	9.48%	0.0212%

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	12.63%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	9.77%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D1/Y(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
KINDER MORGAN INC	KMI	\$42,833	0.23%	2.84%	20.00%	22.84%	0.0525%
COCA-COLA CO/THE	KO	\$191,981	1.03%	3.23%	5.61%	8.84%	0.0911%
KROGER CO	KR	\$17,844	0.10%	2.33%	5.57%	7.90%	0.0076%
KOHL'S CORP	KSS	\$7,696	0.04%	4.88%	5.45%	10.33%	0.0043%
KANSAS CITY SOUTHERN	KSU	\$11,457	0.06%	1.33%	14.00%	15.33%	0.0094%
L BRANDS INC	LB	\$11,811	0.06%	6.32%	7.54%	13.86%	0.0088%
LEGGETT & PLATT INC	LEG	\$6,314	0.03%	3.28%	19.00%	22.28%	0.0075%
LENNAR CORP-A	LEN	\$12,140	0.07%	0.33%	11.29%	11.62%	0.0076%
L-3 COMMUNICATIONS HOLDINGS	LLL	\$14,739	0.08%	1.61%	6.90%	8.51%	0.0067%
ELI LILLY & CO	LLY	\$94,179	0.51%	2.59%	8.50%	11.09%	0.0561%
LOCKHEED MARTIN CORP	LMT	\$89,361	0.48%	2.44%	9.42%	11.86%	0.0569%
LINCOLN NATIONAL CORP	LNC	\$16,278	0.09%	1.67%	9.25%	10.92%	0.0095%
ALLIANT ENERGY CORP	LNT	\$9,605	0.05%	2.95%	5.50%	8.45%	0.0044%
LOWE'S COS INC	LOW	\$66,575	0.36%	2.00%	14.38%	16.38%	0.0585%
LAM RESEARCH CORP	LRCX	\$30,068	0.16%	0.99%	7.70%	8.69%	0.0140%
LEUCADIA NATIONAL CORP	LUK	\$9,056	0.05%	1.15%	18.00%	19.15%	0.0093%
SOUTHWEST AIRLINES CO	LUV	\$33,508	0.18%	1.34%	6.43%	7.77%	0.0140%
LYONDELLBASELL INDU-CL A	LYB	\$39,204	0.21%	3.74%	6.50%	10.24%	0.0215%
MACY'S INC	M	\$6,645	0.04%	6.91%	-0.48%	6.43%	0.0023%
MASTERCARD INC - A	MA	\$150,363	0.81%	0.64%	16.63%	17.26%	0.1393%
MACERICH CO/THE	MAC	\$7,774	0.04%	5.37%	7.66%	13.03%	0.0054%
MARRIOTT INTERNATIONAL -CL A	MAR	\$41,063	0.22%	1.25%	15.12%	16.36%	0.0361%
MASCO CORP	MAS	\$12,428	0.07%	1.14%	14.33%	15.46%	0.0103%
MATTEL INC	MAT	\$5,305	0.03%	10.43%	11.30%	21.73%	0.0062%
MCDONALD'S CORP	MCD	\$126,910	0.68%	2.47%	10.09%	12.56%	0.0855%
MICROCHIP TECHNOLOGY INC	MCHP	\$20,894	0.11%	1.77%	17.06%	18.82%	0.0211%
MCKESSON CORP	MCK	\$32,298	0.17%	0.75%	5.30%	6.05%	0.0105%
MOODY'S CORP	MCO	\$26,589	0.14%	1.43%	8.00%	9.43%	0.0135%
MONDELEZ INTERNATIONAL INC-A	MDLZ	\$61,301	0.33%	1.98%	11.64%	13.62%	0.0448%
MEDTRONIC PLC	MDT	\$105,347	0.57%	2.25%	6.43%	8.68%	0.0491%
METLIFE INC	MET	\$55,122	0.30%	3.83%	35.90%	39.73%	0.1175%
MGM RESORTS INTERNATIONAL	MGM	\$18,746	0.10%	0.73%	17.46%	18.19%	0.0183%
MCCORMICK & CO-NON VTG SHRS	MKC	\$13,441	0.07%	1.93%	9.60%	11.53%	0.0083%
MARTIN MARIETTA MATERIALS	MLM	\$12,959	0.07%	0.91%	21.24%	22.15%	0.0154%
MARSH & MCLENNAN COS	MMC	\$42,955	0.23%	1.77%	12.86%	14.63%	0.0337%
3M CO	MMM	\$125,261	0.67%	2.28%	8.80%	11.08%	0.0745%
ALTRIA GROUP INC	MO	\$121,676	0.65%	3.89%	0.61%	4.51%	0.0294%
MONSANTO CO	MON	\$52,640	0.28%	1.89%	7.47%	9.36%	0.0264%
MOSAIC CO/THE	MOS	\$7,579	0.04%	4.99%	11.70%	16.69%	0.0068%
MARATHON PETROLEUM CORP	MPC	\$28,391	0.15%	2.84%	12.68%	15.52%	0.0236%
MERCK & CO. INC.	MRK	\$174,632	0.94%	2.96%	6.07%	9.03%	0.0847%
MARATHON OIL CORP	MRO	\$11,524	0.06%	1.67%	5.00%	6.67%	0.0041%
MORGAN STANLEY	MS	\$88,468	0.47%	1.86%	16.72%	18.58%	0.0882%
MICROSOFT CORP	MSFT	\$573,740	3.08%	2.21%	10.54%	12.75%	0.3927%
MOTOROLA SOLUTIONS INC	MSI	\$13,804	0.07%	2.17%	4.10%	6.27%	0.0046%
M & T BANK CORP	MTB	\$24,467	0.13%	2.01%	10.19%	12.20%	0.0160%
NAVIENT CORP	NAVI	\$4,117	0.02%	4.67%	8.00%	12.67%	0.0028%
NOBLE ENERGY INC	NBL	\$13,798	0.07%	1.94%	3.72%	5.65%	0.0042%
NASDAQ INC	NDAQ	\$12,938	0.07%	1.85%	9.08%	10.93%	0.0076%
NEXTERA ENERGY INC	NEE	\$68,766	0.37%	2.58%	6.67%	9.25%	0.0341%
NEWMONT MINING CORP	NEM	\$20,003	0.11%	0.43%	-11.65%	-11.22%	-0.0120%
NISOURCE INC	NI	\$8,339	0.04%	3.37%	6.10%	9.47%	0.0042%
NIKE INC -CL B	NKE	\$85,106	0.46%	1.37%	8.50%	9.87%	0.0451%

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	12.63%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	9.77%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
NIELSEN HOLDINGS PLC	NLSN	\$14,780	0.08%	3.34%	10.00%	13.34%	0.0106%
NORTHROP GRUMMAN CORP	NOC	\$50,090	0.27%	1.40%	7.67%	9.07%	0.0244%
NATIONAL OILWELL VARCO INC	NOV	\$13,579	0.07%	0.56%	-10.46%	-9.90%	-0.0072%
NRG ENERGY INC	NRG	\$8,098	0.04%	0.46%	-15.70%	-15.24%	-0.0066%
NORFOLK SOUTHERN CORP	NSC	\$38,109	0.20%	2.01%	13.57%	15.57%	0.0319%
NETAPP INC	NTAP	\$11,805	0.06%	1.97%	9.90%	11.87%	0.0075%
NORTHERN TRUST CORP	NTRS	\$21,005	0.11%	1.81%	12.14%	13.95%	0.0157%
NUCOR CORP	NUE	\$17,901	0.10%	2.92%	12.00%	14.92%	0.0143%
NVIDIA CORP	NVDA	\$107,262	0.58%	0.33%	12.52%	12.85%	0.0740%
NEWELL BRANDS INC	NWL	\$20,913	0.11%	1.94%	11.32%	13.26%	0.0149%
REALTY INCOME CORP	O	\$15,674	0.08%	4.31%	4.42%	8.73%	0.0073%
ONEOK INC	OKE	\$21,056	0.11%	4.70%	13.25%	17.95%	0.0203%
OMNICOM GROUP	OMC	\$17,092	0.09%	3.06%	4.95%	8.01%	0.0074%
ORACLE CORP	ORCL	\$201,767	1.08%	1.34%	8.77%	10.11%	0.1095%
OCCIDENTAL PETROLEUM CORP	OXY	\$49,093	0.26%	4.80%	-3.39%	1.42%	0.0037%
PAYCHEX INC	PAYX	\$21,503	0.12%	3.28%	7.70%	10.98%	0.0127%
PEOPLE'S UNITED FINANCIAL	PBCT	\$6,250	0.03%	4.04%	2.00%	6.04%	0.0020%
PACCAR INC	PCAR	\$25,419	0.14%	2.33%	6.73%	9.07%	0.0124%
P G & E CORP	PCG	\$34,918	0.19%	2.92%	3.00%	5.92%	0.0111%
PATTERSON COMPANIES INC	PDCO	\$3,699	0.02%	2.73%	10.63%	13.36%	0.0027%
PUBLIC SERVICE ENTERPRISE GP	PEG	\$23,397	0.13%	3.70%	2.90%	6.60%	0.0083%
PEPSICO INC	PEP	\$158,845	0.85%	2.77%	6.06%	8.82%	0.0752%
PFIZER INC	PFE	\$212,320	1.14%	3.68%	8.43%	12.11%	0.1380%
PRINCIPAL FINANCIAL GROUP	PFG	\$18,592	0.10%	2.94%	10.40%	13.34%	0.0133%
PROCTER & GAMBLE CO/THE	PG	\$232,000	1.25%	3.01%	7.18%	10.19%	0.1269%
PROGRESSIVE CORP	PGR	\$28,134	0.15%	3.09%	11.83%	14.93%	0.0225%
PARKER HANNIFIN CORP	PH	\$23,313	0.13%	1.61%	11.88%	13.49%	0.0169%
PULTEGROUP INC	PHM	\$8,246	0.04%	1.50%	18.40%	19.90%	0.0088%
PACKAGING CORP OF AMERICA	PKG	\$10,820	0.06%	2.27%	8.25%	10.52%	0.0061%
PERKINELMER INC	PKI	\$7,602	0.04%	0.43%	10.42%	10.85%	0.0044%
PROLOGIS INC	PLD	\$33,606	0.18%	2.77%	6.31%	9.08%	0.0164%
PHILIP MORRIS INTERNATIONAL	PM	\$172,419	0.93%	3.78%	9.61%	13.39%	0.1239%
PNC FINANCIAL SERVICES GROUP	PNC	\$64,583	0.35%	1.79%	10.12%	11.91%	0.0413%
PENTAIR PLC	PNR	\$12,333	0.07%	2.19%	8.04%	10.23%	0.0068%
PINNACLE WEST CAPITAL	PNW	\$9,439	0.05%	3.03%	5.50%	8.53%	0.0043%
PPG INDUSTRIES INC	PPG	\$27,869	0.15%	1.56%	8.09%	9.65%	0.0144%
PPL CORP	PPL	\$25,836	0.14%	3.99%	0.10%	4.09%	0.0057%
PERRIGO CO PLC	PRGO	\$12,072	0.06%	0.74%	5.97%	6.71%	0.0043%
PRUDENTIAL FINANCIAL INC	PRU	\$45,399	0.24%	2.92%	8.00%	10.92%	0.0266%
PUBLIC STORAGE	PSA	\$37,235	0.20%	3.77%	5.45%	9.22%	0.0184%
PHILLIPS 66	PSX	\$46,860	0.25%	2.90%	-3.74%	-0.84%	-0.0021%
PVH CORP	PVH	\$9,760	0.05%	0.16%	10.96%	11.11%	0.0058%
PRAXAIR INC	PX	\$39,975	0.21%	2.39%	10.35%	12.74%	0.0273%
PIONEER NATURAL RESOURCES CO	PXD	\$25,096	0.13%	0.10%	20.00%	20.10%	0.0271%
QUALCOMM INC	QCOM	\$76,519	0.41%	4.39%	8.75%	13.14%	0.0540%
ROYAL CARIBBEAN CRUISES LTD	RCL	\$25,499	0.14%	1.77%	19.10%	20.87%	0.0286%
EVEREST RE GROUP LTD	RE	\$9,379	0.05%	2.26%	10.00%	12.26%	0.0062%
REGENCY CENTERS CORP	REG	\$10,564	0.06%	3.39%	9.26%	12.65%	0.0072%
REGIONS FINANCIAL CORP	RF	\$18,201	0.10%	2.01%	13.86%	15.87%	0.0155%
ROBERT HALF INTL INC	RHI	\$6,352	0.03%	2.03%	8.30%	10.33%	0.0035%
RAYMOND JAMES FINANCIAL INC	RJF	\$12,159	0.07%	1.16%	15.45%	16.61%	0.0108%
RALPH LAUREN CORP	RL	\$7,175	0.04%	2.23%	0.29%	2.52%	0.0010%
RESMED INC	RMD	\$10,951	0.06%	1.81%	11.56%	13.37%	0.0079%

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	12.63%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	9.77%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
ROCKWELL AUTOMATION INC	ROK	\$22,875	0.12%	2.78%	11.84%	14.63%	0.0180%
ROPER TECHNOLOGIES INC	ROP	\$24,880	0.13%	0.58%	12.93%	13.51%	0.0180%
ROSS STORES INC	ROST	\$24,898	0.13%	1.03%	13.60%	14.63%	0.0196%
RANGE RESOURCES CORP	RRC	\$4,856	0.03%	0.39%	-19.59%	-19.20%	-0.0050%
REPUBLIC SERVICES INC	RSG	\$22,247	0.12%	2.05%	11.46%	13.51%	0.0161%
RAYTHEON COMPANY	RTN	\$54,155	0.29%	1.74%	8.41%	10.15%	0.0295%
STARBUCKS CORP	SBUX	\$77,552	0.42%	1.99%	16.52%	18.50%	0.0770%
SCANA CORP	SCG	\$6,930	0.04%	4.21%	3.25%	7.46%	0.0028%
SCHWAB (CHARLES) CORP	SCHW	\$58,573	0.31%	0.80%	19.46%	20.26%	0.0637%
SEALED AIR CORP	SEE	\$8,118	0.04%	1.55%	8.12%	9.66%	0.0042%
SHERWIN-WILLIAMS CO/THE	SHW	\$33,445	0.18%	1.03%	10.99%	12.01%	0.0216%
SIGNET JEWELERS LTD	SIG	\$4,024	0.02%	1.75%	3.40%	5.15%	0.0011%
JM SMUCKER CO/THE	SJM	\$11,918	0.06%	2.89%	3.96%	6.85%	0.0044%
SCHLUMBERGER LTD	SLB	\$96,584	0.52%	3.59%	41.71%	45.30%	0.2348%
SL GREEN REALTY CORP	SLG	\$10,179	0.05%	3.10%	0.64%	3.74%	0.0020%
SNAP-ON INC	SNA	\$8,581	0.05%	1.96%	10.85%	12.81%	0.0059%
SCRIPPS NETWORKS INTER-CL A	SNI	\$11,150	0.06%	1.71%	9.19%	10.90%	0.0065%
SOUTHERN CO/THE	SO	\$49,114	0.26%	4.61%	2.00%	6.61%	0.0174%
SIMON PROPERTY GROUP INC	SPG	\$50,049	0.27%	4.39%	7.06%	11.45%	0.0307%
S&P GLOBAL INC	SPGI	\$40,172	0.22%	1.08%	10.00%	11.08%	0.0239%
SEMPRA ENERGY	SRE	\$28,655	0.15%	2.89%	14.25%	17.14%	0.0264%
SUNTRUST BANKS INC	STI	\$28,686	0.15%	1.95%	9.42%	11.37%	0.0175%
STATE STREET CORP	STT	\$35,728	0.19%	1.71%	11.80%	13.51%	0.0259%
SEAGATE TECHNOLOGY	STX	\$9,547	0.05%	8.05%	8.73%	16.78%	0.0086%
CONSTELLATION BRANDS INC-A	STZ	\$39,135	0.21%	0.92%	16.36%	17.28%	0.0363%
STANLEY BLACK & DECKER INC	SWK	\$23,121	0.12%	1.65%	11.00%	12.65%	0.0157%
SKYWORKS SOLUTIONS INC	SWKS	\$18,723	0.10%	1.14%	13.59%	14.74%	0.0148%
SYNCHRONY FINANCIAL	SYF	\$24,695	0.13%	1.83%	8.09%	9.92%	0.0131%
STRYKER CORP	SYK	\$53,124	0.29%	1.18%	9.23%	10.41%	0.0297%
SYMANTEC CORP	SYMC	\$20,163	0.11%	0.98%	13.14%	14.12%	0.0153%
SYSCO CORP	SYI	\$28,479	0.15%	2.55%	10.04%	12.59%	0.0192%
AT&T INC	T	\$240,504	1.29%	5.34%	5.25%	10.59%	0.1366%
MOLSON COORS BREWING CO -B	TAP	\$17,604	0.09%	1.98%	7.32%	9.30%	0.0088%
TRANSDIGM GROUP INC	TDG	\$13,271	0.07%	9.83%	10.21%	20.04%	0.0143%
TE CONNECTIVITY LTD	TEL	\$29,352	0.16%	1.92%	6.87%	8.78%	0.0138%
TARGET CORP	TGT	\$32,233	0.17%	4.12%	-0.78%	3.34%	0.0058%
TIFFANY & CO	TIF	\$11,428	0.06%	2.12%	10.10%	12.22%	0.0075%
TJX COMPANIES INC	TJX	\$46,912	0.25%	1.65%	10.65%	12.30%	0.0310%
TORCHMARK CORP	TMK	\$9,316	0.05%	0.78%	8.00%	8.78%	0.0044%
THERMO FISHER SCIENTIFIC INC	TMO	\$75,719	0.41%	0.34%	13.00%	13.34%	0.0542%
T ROWE PRICE GROUP INC	TROW	\$21,788	0.12%	2.77%	12.85%	15.62%	0.0183%
TRAVELERS COS INC/THE	TRV	\$33,809	0.18%	2.39%	11.58%	13.97%	0.0253%
TRACTOR SUPPLY COMPANY	TSCO	\$8,019	0.04%	1.72%	13.65%	15.37%	0.0066%
TYSON FOODS INC-CL A	TSN	\$27,558	0.15%	1.42%	8.60%	10.02%	0.0148%
TOTAL SYSTEM SERVICES INC	TSS	\$12,068	0.06%	0.63%	11.14%	11.76%	0.0076%
TIME WARNER INC	TWX	\$79,686	0.43%	2.06%	8.30%	10.36%	0.0443%
TEXAS INSTRUMENTS INC	TXN	\$88,747	0.48%	2.33%	10.53%	12.85%	0.0612%
TEXTRON INC	TXT	\$14,263	0.08%	0.16%	8.78%	8.94%	0.0068%
UDR INC	UDR	\$10,176	0.05%	3.22%	6.13%	9.35%	0.0051%
UNIVERSAL HEALTH SERVICES-B	UHS	\$10,612	0.06%	0.38%	8.69%	9.07%	0.0052%
UNITEDHEALTH GROUP INC	UNH	\$189,360	1.02%	1.42%	12.15%	13.57%	0.1379%
UNUM GROUP	UNM	\$11,539	0.06%	2.06%	5.00%	7.06%	0.0044%
UNION PACIFIC CORP	UNP	\$92,821	0.50%	2.25%	11.63%	13.88%	0.0691%

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	12.63%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	9.77%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1/Y)0	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
UNITED PARCEL SERVICE-CL B	UPS	\$103,994	0.56%	2.92%	11.90%	14.82%	0.0827%
US BANCORP	USB	\$89,644	0.48%	2.27%	12.13%	14.40%	0.0693%
UNITED TECHNOLOGIES CORP	UTX	\$92,722	0.50%	2.47%	8.72%	11.20%	0.0557%
VISA INC-CLASS A SHARES	V	\$240,659	1.29%	0.66%	16.76%	17.42%	0.2249%
VF CORP	VFC	\$25,023	0.13%	2.70%	7.96%	10.66%	0.0143%
VIACOM INC-CLASS B	VIAB	\$11,634	0.06%	2.94%	2.96%	5.90%	0.0037%
VALERO ENERGY CORP	VLO	\$33,977	0.18%	3.80%	10.45%	14.25%	0.0260%
VULCAN MATERIALS CO	VMC	\$15,820	0.08%	0.85%	21.82%	22.67%	0.0192%
VORNADO REALTY TRUST	VNO	\$14,566	0.08%	3.55%	-0.83%	2.72%	0.0021%
VENTAS INC	VTR	\$23,196	0.12%	4.57%	3.03%	7.61%	0.0095%
VERIZON COMMUNICATIONS INC	VZ	\$201,890	1.08%	4.84%	1.92%	6.77%	0.0733%
WALGREENS BOOTS ALLIANCE INC	WBA	\$82,633	0.44%	1.95%	9.03%	10.98%	0.0487%
WESTERN DIGITAL CORP	WDC	\$25,503	0.14%	4.23%	11.74%	15.97%	0.0219%
WEC ENERGY GROUP INC	WEC	\$19,812	0.11%	3.21%	5.55%	8.76%	0.0093%
WELLS FARGO & CO	WFC	\$273,762	1.47%	3.07%	11.46%	14.53%	0.2134%
WHIRLPOOL CORP	WHR	\$13,460	0.07%	2.51%	14.19%	16.70%	0.0121%
WILLIS TOWERS WATSON PLC	WLTW	\$20,711	0.11%	1.40%	10.00%	11.40%	0.0127%
WASTE MANAGEMENT INC	WM	\$34,442	0.18%	2.26%	10.22%	12.47%	0.0231%
WILLIAMS COS INC	WMB	\$24,808	0.13%	3.61%	18.00%	21.61%	0.0288%
WAL-MART STORES INC	WMT	\$233,420	1.25%	4.58%	5.12%	9.70%	0.1215%
WESTROCK CO	WRK	\$14,409	0.08%	2.90%	9.67%	12.56%	0.0097%
WESTERN UNION CO	WU	\$8,909	0.05%	3.68%	8.00%	11.68%	0.0056%
WEYERHAEUSER CO	WY	\$25,623	0.14%	3.86%	7.40%	11.26%	0.0155%
WYNDHAM WORLDWIDE CORP	WYN	\$10,835	0.06%	2.27%	14.25%	16.52%	0.0096%
WYNN RESORTS LTD	WYNN	\$15,274	0.08%	1.60%	31.90%	33.50%	0.0275%
CIMAREX ENERGY CO	XEC	\$10,830	0.06%	0.39%	63.66%	64.05%	0.0372%
XCEL ENERGY INC	XEL	\$24,027	0.13%	2.96%	6.05%	9.01%	0.0116%
XL GROUP LTD	XL	\$10,176	0.05%	2.24%	9.00%	11.24%	0.0061%
XILINX INC	XLNX	\$17,608	0.09%	2.06%	8.37%	10.43%	0.0099%
EXXON MOBIL CORP	XOM	\$347,358	1.86%	4.15%	19.49%	23.64%	0.4407%
DENTSPLY SIRONA INC	XRAY	\$13,727	0.07%	0.59%	9.80%	10.39%	0.0077%
XEROX CORP	XRX	\$8,461	0.05%	3.47%	2.90%	6.37%	0.0029%
XYLEM INC	XYL	\$11,246	0.06%	1.14%	15.00%	16.14%	0.0097%
YUM! BRANDS INC	YUM	\$25,379	0.14%	1.98%	12.74%	14.72%	0.0201%
ZIMMER BIOMET HOLDINGS INC	ZBH	\$23,675	0.13%	0.87%	8.38%	9.25%	0.0117%
ZIONS BANCORPORATION	ZION	\$9,538	0.05%	0.76%	9.00%	9.76%	0.0050%
ZOETIS INC	ZTS	\$31,186	0.17%	0.53%	14.75%	15.28%	0.0256%
Total Market Capitalization:		\$18,632,838	100.00%			Weighted Total:	12.63%

Source: Bloomberg

Market Risk Premium, All Dividend Paying Stocks in S&P 500 with ROE between 5% and 20%

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	11.82%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	8.96%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividends Yield D(1/P)(%)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
AGILENT TECHNOLOGIES INC	A	\$20,661	0.12%	0.82%	9.53%	10.35%	0.0128%
ADVANCE AUTO PARTS INC	AAP	\$7,327	0.04%	0.26%	8.96%	9.22%	0.0041%
APPLE INC	AAPL	\$796,065	4.78%	1.57%	10.98%	12.54%	0.5998%
ABBVIE INC	ABBV	\$141,651	0.85%	2.96%	8.60%	11.56%	0.0984%
AMERISOURCEBERGEN CORP	ABC	\$18,131	0.11%	1.82%	6.76%	8.58%	0.0093%
ABBOTT LABORATORIES	ABT	\$92,710	0.56%	2.15%	11.77%	13.91%	0.0775%
ACCENTURE PLC-CL A	ACN	\$87,222	0.52%	1.88%	10.63%	12.52%	0.0656%
ANALOG DEVICES INC	ADI	\$31,682	0.19%	2.20%	11.55%	13.75%	0.0262%
ARCHER-DANIELS-MIDLAND CO	ADM	\$23,913	0.14%	3.02%	9.80%	12.82%	0.0184%
AUTOMATIC DATA PROCESSING	ADP	\$48,586	0.29%	2.20%	11.48%	13.67%	0.0399%
ALLIANCE DATA SYSTEMS CORP	ADS	\$12,292	0.07%	0.51%	14.00%	14.51%	0.0107%
AMEREN CORPORATION	AEE	\$14,034	0.08%	3.03%	6.00%	9.03%	0.0076%
AMERICAN ELECTRIC POWER	AEP	\$34,547	0.21%	3.30%	5.00%	8.30%	0.0172%
AES CORP	AES	\$7,276	0.04%	5.39%	8.00%	13.39%	0.0059%
AETNA INC	AET	\$52,807	0.32%	1.00%	11.46%	12.46%	0.0395%
AMERICAN INTERNATIONAL GROUP	AIG	\$55,460	0.33%	2.24%	11.00%	13.24%	0.0441%
ARTHUR J GALLAGHER & CO	AJG	\$11,089	0.07%	2.70%	10.83%	13.53%	0.0090%
ALBERMARLE	ALB	\$15,059	0.09%	1.05%	12.95%	14.00%	0.0127%
ALASKA AIR GROUP INC	ALK	\$9,411	0.06%	1.59%	6.33%	7.92%	0.0045%
ALLSTATE CORP	ALL	\$33,213	0.20%	1.68%	16.27%	17.94%	0.0358%
ALLEGION PLC	ALLE	\$8,213	0.05%	0.72%	13.09%	13.81%	0.0068%
APPLIED MATERIALS INC	AMAT	\$55,553	0.33%	0.92%	16.71%	17.63%	0.0588%
AMETEK INC	AME	\$15,242	0.09%	0.59%	11.62%	12.21%	0.0112%
AMGEN INC	AMGN	\$136,048	0.82%	2.38%	4.67%	7.04%	0.0576%
AMERIPRISE FINANCIAL INC	AMP	\$22,268	0.13%	2.31%	10.40%	12.71%	0.0170%
ANTHEM INC	ANTM	\$49,860	0.30%	1.45%	9.78%	11.22%	0.0336%
AON PLC	AON	\$37,159	0.22%	1.00%	11.86%	12.86%	0.0287%
A.O. SMITH CORP	AOS	\$10,254	0.06%	0.96%	15.00%	15.96%	0.0098%
AIR PRODUCTS & CHEMICALS INC	APD	\$32,960	0.20%	2.54%	9.29%	11.83%	0.0234%
AMPHENOL CORP-CL A	APH	\$25,853	0.16%	0.80%	11.23%	12.03%	0.0187%
ALEXANDRIA REAL ESTATE EQUITIES	ARE	\$11,139	0.07%	2.87%	6.80%	9.67%	0.0065%
ARCONIC INC	ARNC	\$10,973	0.07%	1.28%	16.90%	18.18%	0.0120%
ACTIVISION BLIZZARD INC	ATVI	\$48,700	0.29%	0.99%	13.63%	14.62%	0.0428%
AVALONBAY COMMUNITIES INC	AVB	\$24,637	0.15%	3.13%	6.42%	9.55%	0.0141%
BROADCOM LTD	AVGO	\$98,951	0.59%	1.57%	15.32%	16.89%	0.1004%
AVERY DENNISON CORP	AVY	\$8,692	0.05%	1.80%	7.65%	9.45%	0.0049%
AMERICAN WATER WORKS CO INC	AWK	\$14,425	0.09%	2.43%	7.95%	10.38%	0.0090%
AMERICAN EXPRESS CO	AXP	\$79,965	0.48%	1.54%	9.70%	11.24%	0.0540%
ACUITY BRANDS INC	AYI	\$7,210	0.04%	0.33%	17.67%	18.00%	0.0078%
BOEING CO/THE	BA	\$150,259	0.90%	2.18%	15.20%	17.38%	0.1569%
BANK OF AMERICA CORP	BAC	\$267,352	1.61%	1.30%	10.47%	11.76%	0.1889%
BAXTER INTERNATIONAL INC	BAX	\$34,191	0.21%	0.93%	13.56%	14.49%	0.0298%
BB&T CORP	BBT	\$37,932	0.23%	2.79%	9.75%	12.54%	0.0286%
BEST BUY CO INC	BBY	\$17,042	0.10%	2.37%	12.68%	15.05%	0.0154%
CR BARD INC	BCR	\$23,291	0.14%	0.34%	11.00%	11.34%	0.0159%
BECTON DICKINSON AND CO	BDX	\$44,591	0.27%	1.54%	12.53%	14.06%	0.0377%
FRANKLIN RESOURCES INC	BEN	\$24,823	0.15%	1.92%	10.00%	11.92%	0.0178%
BROWN-FORMAN CORP-CLASS B	BF/B	\$21,101	0.13%	1.39%	9.72%	11.11%	0.0141%
BAKER HUGES	BHGE	\$41,935	0.25%	0.48%	6.50%	6.98%	0.0176%
BANK OF NEW YORK MELLON CORP	BK	\$54,778	0.33%	1.56%	13.24%	14.80%	0.0487%
BLACKROCK INC	BLK	\$72,681	0.44%	2.39%	13.60%	15.99%	0.0698%
BALL CORP	BLL	\$14,529	0.09%	0.75%	7.23%	7.98%	0.0070%
BRISTOL-MYERS SQUIBB CO	MY	\$104,529	0.63%	2.58%	8.00%	10.58%	0.0664%

Market Risk Premium, All Dividend Paying Stocks in S&P 500 with ROE between 5% and 20%

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	11.82%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	8.96%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1/P(0))	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
BORGWARNER INC	BWA	\$10,813	0.06%	0.87%	5.09%	5.95%	0.0039%
BOSTON PROPERTIES INC	BXP	\$18,963	0.11%	1.81%	4.46%	6.27%	0.0071%
CITIGROUP INC	C	\$198,184	1.19%	0.98%	12.97%	13.95%	0.1660%
CA INC	CA	\$14,062	0.08%	3.13%	2.97%	6.10%	0.0051%
CONAGRA BRANDS INC	CAG	\$14,024	0.08%	2.74%	7.00%	9.74%	0.0082%
CARDINAL HEALTH INC	CAH	\$21,094	0.13%	2.83%	12.37%	15.20%	0.0193%
CATERPILLAR INC	CAT	\$73,700	0.44%	2.65%	10.00%	12.65%	0.0560%
CHUBB LTD	CB	\$66,345	0.40%	2.06%	10.60%	12.66%	0.0505%
CBS CORP-CLASS B NON VOTING	CBS	\$23,312	0.14%	1.29%	13.37%	14.66%	0.0205%
CARNIVAL CORP	CCL	\$46,369	0.28%	2.35%	13.28%	15.63%	0.0435%
CF INDUSTRIES HOLDINGS INC	CF	\$8,201	0.05%	3.70%	6.00%	9.70%	0.0048%
CHURCH & DWIGHT CO INC	CHD	\$12,089	0.07%	1.56%	9.14%	10.70%	0.0078%
C.H. ROBINSON WORLDWIDE INC	CHRW	\$10,683	0.06%	3.16%	9.20%	12.36%	0.0079%
CIGNA CORP	CI	\$47,067	0.28%	0.05%	12.91%	12.96%	0.0366%
COLGATE-PALMOLIVE CO	CL	\$64,169	0.39%	2.86%	9.47%	12.33%	0.0475%
CLOROX COMPANY	CLX	\$17,004	0.10%	2.50%	6.72%	9.21%	0.0094%
COMERICA INC	CMA	\$13,415	0.08%	1.40%	8.00%	9.40%	0.0076%
COMCAST CORP-CLASS A	CMCSA	\$181,371	1.09%	1.61%	9.13%	10.74%	0.1170%
CME GROUP INC	CME	\$46,119	0.28%	4.63%	10.47%	15.09%	0.0418%
CUMMINS INC	CMI	\$28,165	0.17%	2.61%	10.23%	12.83%	0.0217%
CMS ENERGY CORP	CMS	\$13,063	0.08%	2.81%	5.00%	7.81%	0.0061%
CENTERPOINT ENERGY INC	CNP	\$12,590	0.08%	3.64%	6.00%	9.64%	0.0073%
CAPITAL ONE FINANCIAL CORP	COF	\$40,949	0.25%	2.04%	5.97%	8.01%	0.0197%
COACH INC	COH	\$11,445	0.07%	3.52%	11.57%	15.09%	0.0104%
ROCKWELL COLLINS INC	COL	\$21,237	0.13%	1.06%	10.73%	11.79%	0.0150%
COOPER COS INC/THE	COO	\$11,606	0.07%	0.03%	9.75%	9.78%	0.0068%
CONOCOPHILLIPS	COP	\$60,908	0.37%	2.28%	7.00%	9.28%	0.0339%
COSTCO WHOLESALE CORP	COST	\$72,056	0.43%	5.77%	10.18%	15.95%	0.0690%
CAMPBELL SOUP CO	CPB	\$14,071	0.08%	3.04%	4.46%	7.50%	0.0063%
CISCO SYSTEMS INC	CSCO	\$166,534	1.00%	3.48%	6.43%	9.91%	0.0992%
CSRA INC	CSRA	\$5,275	0.03%	1.29%	7.55%	8.84%	0.0028%
CSX CORP	CSX	\$49,556	0.30%	1.50%	11.33%	12.82%	0.0382%
CINTAS CORP	CTAS	\$15,588	0.09%	1.03%	11.58%	12.61%	0.0118%
CENTURYLINK INC	CTL	\$10,388	0.06%	11.26%	-2.86%	8.40%	0.0052%
COGNIZANT TECH SOLUTIONS-A	CTSH	\$42,844	0.26%	0.22%	14.35%	14.57%	0.0375%
CVS HEALTH CORP	CVS	\$82,667	0.50%	2.43%	13.33%	15.76%	0.0783%
DOMINION RESOURCES INC/VA	D	\$49,434	0.30%	3.83%	5.60%	9.43%	0.0280%
DELTA AIR LINES INC	DAL	\$34,913	0.21%	1.72%	5.57%	7.29%	0.0153%
DEERE & CO	DE	\$40,352	0.24%	2.04%	4.50%	6.54%	0.0159%
DISCOVER FINANCIAL SERVICES	DFS	\$24,009	0.14%	2.03%	3.98%	6.01%	0.0087%
DOLLAR GENERAL CORP	DG	\$22,148	0.13%	1.38%	8.55%	9.93%	0.0132%
QUEST DIAGNOSTICS INC	DGX	\$12,773	0.08%	1.72%	6.95%	8.67%	0.0066%
DR HORTON INC	DHI	\$14,945	0.09%	1.09%	12.66%	13.74%	0.0123%
DANAHER CORP	DHR	\$59,590	0.36%	0.64%	7.57%	8.21%	0.0294%
WALT DISNEY CO/THE	DIS	\$152,141	0.91%	1.64%	7.19%	8.83%	0.0807%
DELPHI AUTOMOTIVE PLC	DLPH	\$26,257	0.16%	1.24%	12.18%	13.42%	0.0212%
DIGITAL REALTY TRUST INC	DLR	\$24,552	0.15%	3.14%	5.58%	8.72%	0.0129%
DOVER CORP	DOV	\$14,233	0.09%	2.12%	15.47%	17.58%	0.0150%
DR PEPPER SNAPPLE GROUP INC	DPS	\$16,077	0.10%	2.55%	8.58%	11.14%	0.0108%
DUKE REALTY CORP	DRE	\$10,252	0.06%	3.27%	4.52%	7.80%	0.0048%
DARDEN RESTAURANTS INC	DRI	\$9,875	0.06%	2.89%	9.57%	12.46%	0.0074%
DTE ENERGY COMPANY	DTE	\$19,259	0.12%	3.02%	5.35%	8.37%	0.0097%
DUKE ENERGY CORP	DUK	\$58,734	0.35%	4.01%	2.00%	6.01%	0.0212%

Market Risk Premium, All Dividend Paying Stocks in S&P 500 with ROE between 5% and 20%

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	11.82%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	8.96%

Company Name	Ticker	Market Capitalization	Company Weight In Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
DEVON ENERGY CORP	DVN	\$19,292	0.12%	0.77%	18.42%	19.18%	0.0222%
DXC TECHNOLOGY CO	DXC	\$24,449	0.15%	0.76%	15.25%	16.01%	0.0235%
ECOLAB INC	ECL	\$37,217	0.22%	1.19%	12.86%	14.05%	0.0314%
CONSOLIDATED EDISON INC	ED	\$24,996	0.15%	3.35%	5.00%	8.35%	0.0125%
EQUIFAX INC	EFX	\$12,758	0.08%	1.37%	11.03%	12.40%	0.0095%
EDISON INTERNATIONAL	EIX	\$25,143	0.15%	2.73%	6.23%	8.95%	0.0135%
ESTEE LAUDER COMPANIES-CL A	EL	\$39,743	0.24%	1.28%	11.49%	12.78%	0.0305%
EASTMAN CHEMICAL CO	EMN	\$13,110	0.08%	2.39%	7.53%	9.92%	0.0078%
EMERSON ELECTRIC CO	EMR	\$40,219	0.24%	3.21%	7.45%	10.66%	0.0257%
EQUITY RESIDENTIAL	EQR	\$24,217	0.15%	7.71%	5.87%	13.58%	0.0198%
EQT CORP	EQT	\$11,308	0.07%	0.20%	15.00%	15.20%	0.0103%
EVERSOURCE ENERGY	ES	\$19,153	0.12%	3.06%	6.10%	9.16%	0.0105%
ESSEX PROPERTY TRUST INC	ESS	\$16,763	0.10%	2.65%	5.99%	8.64%	0.0087%
EATON CORP PLC	ETN	\$34,156	0.21%	3.27%	10.22%	13.49%	0.0277%
EXELON CORP	EXC	\$36,167	0.22%	3.52%	3.57%	7.08%	0.0154%
EXPEDITORS INTL WASH INC	EXPD	\$10,819	0.06%	1.48%	8.40%	9.88%	0.0064%
EXPEDIA INC	EXPE	\$21,827	0.13%	0.82%	17.98%	18.80%	0.0246%
EXTRA SPACE STORAGE INC	EXR	\$10,070	0.06%	4.07%	6.57%	10.64%	0.0064%
FASTENAL CO	FAST	\$13,126	0.08%	3.04%	15.40%	18.44%	0.0145%
FORTUNE BRANDS HOME & SECURI	FBHS	\$10,354	0.06%	1.11%	12.12%	13.23%	0.0082%
FEDEX CORP	FDX	\$60,489	0.36%	0.98%	12.50%	13.48%	0.0490%
FIDELITY NATIONAL INFO SERV	FIS	\$31,044	0.19%	1.23%	8.23%	9.47%	0.0177%
FIFTH THIRD BANCORP	FITB	\$20,614	0.12%	2.11%	4.20%	6.31%	0.0078%
FOOT LOCKER INC	FL	\$4,367	0.03%	3.35%	3.40%	6.75%	0.0018%
FLIR SYSTEMS INC	FLIR	\$5,338	0.03%	1.57%	15.00%	16.57%	0.0053%
FLUOR CORP	FLR	\$5,890	0.04%	2.20%	11.89%	14.09%	0.0050%
FLOWSERVE CORP	FLS	\$5,564	0.03%	1.95%	12.68%	14.63%	0.0049%
FMC CORP	FMC	\$11,979	0.07%	0.79%	12.60%	13.39%	0.0096%
TWENTY-FIRST CENTURY FOX INC	FOX	\$48,360	0.29%	2.16%	9.23%	11.39%	0.0331%
FEDERAL REALTY INVS TRUST	FRT	\$9,011	0.05%	3.16%	4.67%	7.83%	0.0042%
FORTIVE CORP	FTV	\$24,571	0.15%	0.32%	9.37%	9.69%	0.0143%
GENERAL DYNAMICS CORP	GD	\$61,563	0.37%	2.83%	8.51%	11.35%	0.0420%
GENERAL ELECTRIC CO	GE	\$209,349	1.26%	4.11%	11.23%	15.35%	0.1930%
GENERAL GROWTH PROPERTIES	GGP	\$18,319	0.11%	4.36%	4.65%	9.01%	0.0099%
GENERAL MILLS INC	GIS	\$29,417	0.18%	3.74%	9.57%	13.30%	0.0235%
CORNING INC	GLW	\$27,023	0.16%	2.06%	8.58%	10.63%	0.0173%
GENERAL MOTORS CO	GM	\$58,842	0.35%	4.10%	9.04%	13.14%	0.0465%
GENUINE PARTS CO	GPC	\$14,044	0.08%	3.16%	8.92%	12.07%	0.0102%
GLOBAL PAYMENTS INC	GPN	\$14,491	0.09%	0.06%	14.50%	14.56%	0.0127%
GAP INC/THE	GPS	\$11,580	0.07%	3.44%	5.60%	9.04%	0.0063%
GARMIN LTD	GRMN	\$10,130	0.06%	3.99%	5.68%	9.67%	0.0059%
GOLDMAN SACHS GROUP INC	GS	\$95,564	0.57%	1.26%	11.19%	12.45%	0.0714%
WW GRAINGER INC	GWV	\$10,370	0.06%	3.02%	9.55%	12.57%	0.0078%
HASBRO INC	HAS	\$12,217	0.07%	2.37%	9.70%	12.07%	0.0089%
HUNTINGTON BANCSHARES INC	HBAN	\$15,217	0.09%	2.50%	10.71%	13.21%	0.0121%
HANESBRANDS INC	HBI	\$8,981	0.05%	2.20%	10.45%	12.65%	0.0068%
WELLTOWER INC	HCN	\$25,925	0.16%	4.80%	2.61%	7.41%	0.0115%
HCP INC	HCP	\$13,051	0.08%	5.87%	3.11%	8.98%	0.0070%
HOME DEPOT INC	HD	\$192,807	1.16%	2.13%	13.69%	15.82%	0.1832%
HARTFORD FINANCIAL SVCS GRP	HIG	\$20,193	0.12%	1.75%	9.50%	11.25%	0.0136%
HILTON HOTELS CORP	HLT	\$22,223	0.13%	1.16%	15.74%	16.90%	0.0226%
HARLEY-DAVIDSON INC	HOG	\$8,224	0.05%	3.09%	7.85%	10.94%	0.0054%
HONEYWELL INTERNATIONAL INC	HON	\$107,803	0.65%	1.96%	9.95%	11.91%	0.0771%

Market Risk Premium, All Dividend Paying Stocks in S&P 500 with ROE between 5% and 20%

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	11.82%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	8.96%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1/P)(%)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
HP INC	HP	\$5,658	0.03%	6.03%	12.00%	18.03%	0.0061%
HP INC	HPQ	\$33,338	0.20%	4.10%	4.09%	8.19%	0.0164%
H&R BLOCK INC	HRB	\$5,536	0.03%	3.61%	11.00%	14.61%	0.0049%
HORMEL FOODS CORP	HRL	\$16,964	0.10%	2.15%	6.15%	8.30%	0.0085%
HOST HOTELS & RESORTS INC	HST	\$13,684	0.08%	4.75%	4.10%	8.85%	0.0073%
HERSHEY CO/THE	HSY	\$23,193	0.14%	2.94%	9.53%	12.48%	0.0174%
HUMANA INC	HUM	\$35,209	0.21%	0.59%	12.93%	13.52%	0.0286%
INTL BUSINESS MACHINES CORP	IBM	\$135,206	0.81%	3.98%	2.38%	6.36%	0.0516%
INTERCONTINENTAL EXCHANGE IN	ICE	\$40,429	0.24%	1.18%	10.98%	12.15%	0.0295%
INTL FLAVORS & FRAGRANCES	IFF	\$11,286	0.07%	1.83%	4.00%	5.83%	0.0040%
INTEL CORP	INTC	\$178,938	1.07%	3.73%	8.14%	11.87%	0.1276%
INTUIT INC	INTU	\$36,242	0.22%	1.02%	14.88%	15.90%	0.0346%
INTERNATIONAL PAPER CO	IP	\$23,462	0.14%	3.37%	7.23%	10.60%	0.0149%
INTERPUBLIC GROUP OF COS INC	IPG	\$8,176	0.05%	3.36%	8.64%	12.00%	0.0059%
INGERSOLL-RAND PLC	IR	\$22,620	0.14%	1.81%	10.71%	12.52%	0.0170%
ILLINOIS TOOL WORKS	ITW	\$50,920	0.31%	1.81%	9.20%	11.01%	0.0337%
INVESCO LTD	IVZ	\$14,257	0.09%	3.61%	12.29%	15.90%	0.0136%
HUNT (JB) TRANSPRT SVCS INC	JBHT	\$12,156	0.07%	0.93%	13.35%	14.28%	0.0104%
JOHNSON CONTROLS INTERNATION	JCI	\$37,566	0.23%	2.72%	8.47%	11.19%	0.0252%
JOHNSON & JOHNSON	JNJ	\$348,947	2.10%	2.53%	6.03%	8.56%	0.1795%
JUNIPER NETWORKS INC	JNPR	\$10,584	0.06%	1.51%	8.62%	10.13%	0.0064%
JPMORGAN CHASE & CO	JPM	\$336,096	2.02%	2.15%	3.00%	5.15%	0.1040%
NORDSTROM INC	JWN	\$7,838	0.05%	3.27%	6.00%	9.27%	0.0044%
KELLOGG CO	K	\$21,526	0.13%	3.25%	6.23%	9.48%	0.0123%
KEYCORP	KEY	\$20,468	0.12%	2.07%	10.90%	12.97%	0.0160%
KRAFT HEINZ CO/THE	KHC	\$94,475	0.57%	3.12%	8.39%	11.51%	0.0653%
KLA-TENCOR CORP	KLAC	\$16,631	0.10%	2.25%	7.90%	10.15%	0.0101%
KIMBERLY-CLARK CORP	KMB	\$41,577	0.25%	3.26%	6.22%	9.48%	0.0237%
COCA-COLA CO/THE	KO	\$191,981	1.15%	3.23%	5.61%	8.84%	0.1020%
KROGER CO	KR	\$17,844	0.11%	2.33%	5.57%	7.90%	0.0085%
KOHL'S CORP	KSS	\$7,696	0.05%	4.88%	5.45%	10.33%	0.0048%
KANSAS CITY SOUTHERN	KSU	\$11,457	0.07%	1.33%	14.00%	15.33%	0.0105%
L BRANDS INC	LB	\$11,811	0.07%	6.32%	7.54%	13.86%	0.0098%
LENNAR CORP-A	LEN	\$12,140	0.07%	0.33%	11.29%	11.62%	0.0085%
L-3 COMMUNICATIONS HOLDINGS	LLL	\$14,739	0.09%	1.61%	6.90%	8.51%	0.0075%
ELI LILLY & CO	LLY	\$94,179	0.57%	2.59%	8.50%	11.09%	0.0628%
LOCKHEED MARTIN CORP	LMT	\$89,361	0.54%	2.44%	9.42%	11.86%	0.0636%
LINCOLN NATIONAL CORP	LNC	\$16,278	0.10%	1.67%	9.25%	10.92%	0.0107%
ALLIANT ENERGY CORP	LNT	\$9,605	0.06%	2.95%	5.50%	8.45%	0.0049%
LOWE'S COS INC	LOW	\$66,575	0.40%	2.00%	14.38%	16.38%	0.0655%
LAM RESEARCH CORP	LRCX	\$30,068	0.18%	0.99%	7.70%	8.69%	0.0157%
LEUCADIA NATIONAL CORP	LUK	\$9,056	0.05%	1.15%	18.00%	19.15%	0.0104%
SOUTHWEST AIRLINES CO	LUV	\$33,508	0.20%	1.34%	6.43%	7.77%	0.0156%
LYONDELLBASELL INDU-CL A	LYB	\$39,204	0.24%	3.74%	6.50%	10.24%	0.0241%
MACY'S INC	M	\$6,645	0.04%	6.91%	-0.48%	6.43%	0.0026%
MASTERCARD INC - A	MA	\$150,363	0.90%	0.64%	16.63%	17.26%	0.1559%
MACERICH CO/THE	MAC	\$7,774	0.05%	5.37%	7.66%	13.03%	0.0061%
MARRIOTT INTERNATIONAL -CL A	MAR	\$41,063	0.25%	1.25%	15.12%	16.36%	0.0404%
MASCO CORP	MAS	\$12,428	0.07%	1.14%	14.33%	15.46%	0.0115%
MCDONALD'S CORP	MCD	\$126,910	0.76%	2.47%	10.09%	12.56%	0.0957%
MICROCHIP TECHNOLOGY INC	MCHP	\$20,894	0.13%	1.77%	17.06%	18.82%	0.0236%
MCKESSON CORP	MCK	\$32,298	0.19%	0.75%	5.30%	6.05%	0.0117%
MOODY'S CORP	MCO	\$26,589	0.16%	1.43%	8.00%	9.43%	0.0151%

Market Risk Premium, All Dividend Paying Stocks in S&P 500 with ROE between 5% and 20%

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	11.82%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	8.96%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
MONDELEZ INTERNATIONAL INC-A	MDLZ	\$61,301	0.37%	1.98%	11.64%	13.62%	0.0501%
MEDTRONIC PLC	MDT	\$105,347	0.63%	2.25%	6.43%	8.68%	0.0549%
MGM RESORTS INTERNATIONAL	MGM	\$18,746	0.11%	0.73%	17.46%	18.19%	0.0205%
MCCORMICK & CO-NON VTG SHRS	MKC	\$13,441	0.08%	1.93%	9.60%	11.53%	0.0093%
MARSH & MCLENNAN COS	MMC	\$42,955	0.26%	1.77%	12.86%	14.63%	0.0378%
3M CO	MMM	\$125,261	0.75%	2.28%	8.80%	11.08%	0.0834%
MONSANTO CO	MON	\$52,640	0.32%	1.89%	7.47%	9.36%	0.0296%
MOSAIC CO/THE	MOS	\$7,579	0.05%	4.99%	11.70%	16.69%	0.0076%
MARATHON PETROLEUM CORP	MPC	\$28,391	0.17%	2.84%	12.68%	15.52%	0.0265%
MERCK & CO. INC.	MRK	\$174,632	1.05%	2.96%	6.07%	9.03%	0.0947%
MARATHON OIL CORP	MRO	\$11,524	0.07%	1.67%	5.00%	6.67%	0.0046%
MORGAN STANLEY	MS	\$88,468	0.53%	1.86%	16.72%	18.58%	0.0987%
MICROSOFT CORP	MSFT	\$573,740	3.45%	2.21%	10.54%	12.75%	0.4395%
MOTOROLA SOLUTIONS INC	MSI	\$13,804	0.08%	2.17%	4.10%	6.27%	0.0052%
M & T BANK CORP	MTB	\$24,467	0.15%	2.01%	10.19%	12.20%	0.0179%
NAVIENT CORP	NAVI	\$4,117	0.02%	4.67%	8.00%	12.67%	0.0031%
NOBLE ENERGY INC	NBL	\$13,798	0.08%	1.94%	3.72%	5.65%	0.0047%
NASDAQ INC	NDAQ	\$12,938	0.08%	1.85%	9.08%	10.93%	0.0085%
NEXTERA ENERGY INC	NEE	\$68,766	0.41%	2.58%	6.67%	9.25%	0.0382%
NISOURCE INC	NI	\$8,339	0.05%	3.37%	6.10%	9.47%	0.0047%
NIKE INC -CL B	NKE	\$85,106	0.51%	1.37%	8.50%	9.87%	0.0505%
NIELSEN HOLDINGS PLC	NLSN	\$14,780	0.09%	3.34%	10.00%	13.34%	0.0118%
NORTHROP GRUMMAN CORP	NOC	\$50,090	0.30%	1.40%	7.67%	9.07%	0.0273%
NORFOLK SOUTHERN CORP	NSC	\$38,109	0.23%	2.01%	13.57%	15.57%	0.0357%
NETAPP INC	NTAP	\$11,805	0.07%	1.97%	9.90%	11.87%	0.0084%
NORTHERN TRUST CORP	NTRS	\$21,005	0.13%	1.81%	12.14%	13.95%	0.0176%
NUCOR CORP	NUE	\$17,901	0.11%	2.92%	12.00%	14.92%	0.0160%
NVIDIA CORP	NVDA	\$107,262	0.64%	0.33%	12.52%	12.85%	0.0828%
NEWELL BRANDS INC	NWL	\$20,913	0.13%	1.94%	11.32%	13.26%	0.0167%
REALTY INCOME CORP	O	\$15,674	0.09%	4.31%	4.42%	8.73%	0.0082%
ONEOK INC	OKE	\$21,056	0.13%	4.70%	13.25%	17.95%	0.0227%
OMNICOM GROUP	OMC	\$17,092	0.10%	3.06%	4.95%	8.01%	0.0082%
ORACLE CORP	ORCL	\$201,767	1.21%	1.34%	8.77%	10.11%	0.1225%
PAYCHEX INC	PAYX	\$21,503	0.13%	3.28%	7.70%	10.98%	0.0142%
PEOPLE'S UNITED FINANCIAL	PBCT	\$6,250	0.04%	4.04%	2.00%	6.04%	0.0023%
PACCAR INC	PCAR	\$25,419	0.15%	2.33%	6.73%	9.07%	0.0138%
P G & E CORP	PCG	\$34,918	0.21%	2.92%	3.00%	5.92%	0.0124%
PATTERSON COMPANIES INC	PDCO	\$3,699	0.02%	2.73%	10.63%	13.36%	0.0030%
PUBLIC SERVICE ENTERPRISE GP	PEG	\$23,397	0.14%	3.70%	2.90%	6.60%	0.0093%
PEPSICO INC	PEP	\$158,845	0.95%	2.77%	6.06%	8.82%	0.0842%
PFIZER INC	PFE	\$212,320	1.28%	3.68%	8.43%	12.11%	0.1545%
PRINCIPAL FINANCIAL GROUP	PFG	\$18,592	0.11%	2.94%	10.40%	13.34%	0.0149%
PROCTER & GAMBLE CO/THE	PG	\$232,000	1.39%	3.01%	7.18%	10.19%	0.1420%
PROGRESSIVE CORP	PGR	\$28,134	0.17%	3.09%	11.83%	14.93%	0.0252%
PARKER HANNIFIN CORP	PH	\$23,313	0.14%	1.61%	11.88%	13.49%	0.0189%
PULTEGROUP INC	PHM	\$8,246	0.05%	1.50%	18.40%	19.90%	0.0099%
PACKAGING CORP OF AMERICA	PKG	\$10,820	0.06%	2.27%	8.25%	10.52%	0.0068%
PERKINELMER INC	PKI	\$7,602	0.05%	0.43%	10.42%	10.85%	0.0050%
PROLOGIS INC	PLD	\$33,606	0.20%	2.77%	6.31%	9.08%	0.0183%
PHILIP MORRIS INTERNATIONAL	PM	\$172,419	1.04%	3.78%	9.61%	13.39%	0.1387%
PNC FINANCIAL SERVICES GROUP	PNC	\$64,583	0.39%	1.79%	10.12%	11.91%	0.0462%
PENTAIR PLC	PNR	\$12,333	0.07%	2.19%	8.04%	10.23%	0.0076%
PINNACLE WEST CAPITAL	PNW	\$9,439	0.06%	3.03%	5.50%	8.53%	0.0048%

Market Risk Premium, All Dividend Paying Stocks in S&P 500 with ROE between 5% and 20%

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	11.82%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	8.96%

Company Name	Ticker	Market Capitalization	Company Weight In Index	Dividend Yield D(1/Y)(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
PPG INDUSTRIES INC	PPG	\$27,869	0.17%	1.56%	8.09%	9.65%	0.0162%
PERRIGO CO PLC	PRGO	\$12,072	0.07%	0.74%	5.97%	6.71%	0.0049%
PRUDENTIAL FINANCIAL INC	PRU	\$45,399	0.27%	2.92%	8.00%	10.92%	0.0298%
PUBLIC STORAGE	PSA	\$37,235	0.22%	3.77%	5.45%	9.22%	0.0206%
PVH CORP	PVH	\$9,760	0.06%	0.16%	10.96%	11.11%	0.0065%
PRAXAIR INC	PX	\$39,975	0.24%	2.39%	10.35%	12.74%	0.0306%
QUALCOMM INC	QCOM	\$76,519	0.46%	4.39%	8.75%	13.14%	0.0604%
EVEREST RE GROUP LTD	RE	\$9,379	0.06%	2.26%	10.00%	12.26%	0.0069%
REGENCY CENTERS CORP	REG	\$10,564	0.06%	3.39%	9.26%	12.65%	0.0080%
REGIONS FINANCIAL CORP	RF	\$18,201	0.11%	2.01%	13.86%	15.87%	0.0173%
ROBERT HALF INTL INC	RHI	\$6,352	0.04%	2.03%	8.30%	10.33%	0.0039%
RAYMOND JAMES FINANCIAL INC	RJF	\$12,159	0.07%	1.16%	15.45%	16.61%	0.0121%
RESMED INC	RMD	\$10,951	0.07%	1.81%	11.56%	13.37%	0.0088%
ROCKWELL AUTOMATION INC	ROK	\$22,875	0.14%	2.78%	11.84%	14.63%	0.0201%
ROPER TECHNOLOGIES INC	ROP	\$24,880	0.15%	0.58%	12.93%	13.51%	0.0202%
ROSS STORES INC	ROST	\$24,898	0.15%	1.03%	13.60%	14.63%	0.0219%
REPUBLIC SERVICES INC	RSG	\$22,247	0.13%	2.05%	11.46%	13.51%	0.0181%
RAYTHEON COMPANY	RTN	\$54,155	0.33%	1.74%	8.41%	10.15%	0.0330%
STARBUCKS CORP	SBUX	\$77,552	0.47%	1.99%	16.52%	18.50%	0.0862%
SCANA CORP	SCG	\$6,930	0.04%	4.21%	3.25%	7.46%	0.0031%
SEALED AIR CORP	SEE	\$8,118	0.05%	1.55%	8.12%	9.66%	0.0047%
SHERWIN-WILLIAMS CO/THE	SHW	\$33,445	0.20%	1.03%	10.99%	12.01%	0.0241%
SIGNET JEWELERS LTD	SIG	\$4,024	0.02%	1.75%	3.40%	5.15%	0.0012%
JM SMUCKER CO/THE	SJM	\$11,918	0.07%	2.89%	3.96%	6.85%	0.0049%
SNAP-ON INC	SNA	\$8,581	0.05%	1.96%	10.85%	12.81%	0.0066%
SCRIPPS NETWORKS INTER-CL A	SNI	\$11,150	0.07%	1.71%	9.19%	10.90%	0.0073%
SOUTHERN CO/THE	SO	\$49,114	0.30%	4.61%	2.00%	6.61%	0.0195%
SIMON PROPERTY GROUP INC	SPG	\$50,049	0.30%	4.39%	7.06%	11.45%	0.0344%
S&P GLOBAL INC	SPGI	\$40,172	0.24%	1.08%	10.00%	11.08%	0.0267%
SEMPRA ENERGY	SRE	\$28,655	0.17%	2.89%	14.25%	17.14%	0.0295%
SUNTRUST BANKS INC	STI	\$28,686	0.17%	1.95%	9.42%	11.37%	0.0196%
STATE STREET CORP	STT	\$35,728	0.21%	1.71%	11.80%	13.51%	0.0290%
SEAGATE TECHNOLOGY	STX	\$9,547	0.06%	8.05%	8.73%	16.78%	0.0096%
CONSTELLATION BRANDS INC-A	STZ	\$39,135	0.24%	0.92%	16.36%	17.28%	0.0406%
STANLEY BLACK & DECKER INC	SWK	\$23,121	0.14%	1.65%	11.00%	12.65%	0.0176%
SKYWORKS SOLUTIONS INC	SWKS	\$18,723	0.11%	1.14%	13.59%	14.74%	0.0166%
SYNCHRONY FINANCIAL	SYF	\$24,695	0.15%	1.83%	8.09%	9.92%	0.0147%
STRYKER CORP	SYK	\$53,124	0.32%	1.18%	9.23%	10.41%	0.0332%
SYMANTEC CORP	SYMC	\$20,163	0.12%	0.98%	13.14%	14.12%	0.0171%
SYSCO CORP	SYI	\$28,479	0.17%	2.55%	10.04%	12.59%	0.0215%
AT&T INC	T	\$240,504	1.44%	5.34%	5.25%	10.59%	0.1529%
MOLSON COORS BREWING CO -B	TAP	\$17,604	0.11%	1.98%	7.32%	9.30%	0.0098%
TE CONNECTIVITY LTD	TEL	\$29,352	0.18%	1.92%	6.87%	8.78%	0.0155%
TIFFANY & CO	TIF	\$11,428	0.07%	2.12%	10.10%	12.22%	0.0084%
TJX COMPANIES INC	TJX	\$46,912	0.28%	1.65%	10.65%	12.30%	0.0347%
TORCHMARK CORP	TMK	\$9,316	0.06%	0.78%	8.00%	8.78%	0.0049%
THERMO FISHER SCIENTIFIC INC	TMO	\$75,719	0.45%	0.34%	13.00%	13.34%	0.0607%
T ROWE PRICE GROUP INC	TROW	\$21,788	0.13%	2.77%	12.85%	15.62%	0.0204%
TRAVELERS COS INC/THE	TRV	\$33,809	0.20%	2.39%	11.58%	13.97%	0.0284%
TRACTOR SUPPLY COMPANY	TSCO	\$8,019	0.05%	1.72%	13.65%	15.37%	0.0074%
TYSON FOODS INC-CL A	TSN	\$27,558	0.17%	1.42%	8.60%	10.02%	0.0166%
TOTAL SYSTEM SERVICES INC	TSS	\$12,068	0.07%	0.63%	11.14%	11.76%	0.0085%
TIME WARNER INC	TWX	\$79,686	0.48%	2.06%	8.30%	10.36%	0.0496%

Market Risk Premium, All Dividend Paying Stocks in S&P 500 with ROE between 5% and 20%

Equity Risk Premium Analysis

Estimated Required Return on Market (S&P 500)	11.82%
30-Year Treasury Rate - Current	2.86%
Observed Equity Risk Premium	8.96%

Company Name	Ticker	Market Capitalization	Company Weight in Index	Dividend Yield D(1)/P(0)	Long-Term Growth Estimate	Implied Cost of Equity (ROE)	Weighted Implied ROE
TEXAS INSTRUMENTS INC	TXN	\$88,747	0.53%	2.33%	10.53%	12.85%	0.0685%
TEXTRON INC	TXT	\$14,263	0.09%	0.16%	8.78%	8.94%	0.0077%
UDR INC	UDR	\$10,176	0.06%	3.22%	6.13%	9.35%	0.0057%
UNIVERSAL HEALTH SERVICES-B	UHS	\$10,612	0.06%	0.38%	8.69%	9.07%	0.0058%
UNITEDHEALTH GROUP INC	UNH	\$189,360	1.14%	1.42%	12.15%	13.57%	0.1543%
UNUM GROUP	UNM	\$11,539	0.07%	2.06%	5.00%	7.06%	0.0049%
UNION PACIFIC CORP	UNP	\$92,821	0.56%	2.25%	11.63%	13.88%	0.0774%
UNITED PARCEL SERVICE-CL B	UPS	\$103,994	0.62%	2.92%	11.90%	14.82%	0.0925%
US BANCORP	USB	\$89,644	0.54%	2.27%	12.13%	14.40%	0.0775%
UNITED TECHNOLOGIES CORP	UTX	\$92,722	0.56%	2.47%	8.72%	11.20%	0.0624%
VISA INC-CLASS A SHARES	V	\$240,659	1.45%	0.66%	16.76%	17.42%	0.2517%
VF CORP	VFC	\$25,023	0.15%	2.70%	7.96%	10.66%	0.0160%
VIACOM INC-CLASS B	VIAB	\$11,634	0.07%	2.94%	2.96%	5.90%	0.0041%
VALERO ENERGY CORP	VLO	\$33,977	0.20%	3.80%	10.45%	14.25%	0.0291%
VENTAS INC	VTR	\$23,196	0.14%	4.57%	3.03%	7.61%	0.0106%
VERIZON COMMUNICATIONS INC	VZ	\$201,890	1.21%	4.84%	1.92%	6.77%	0.0820%
WALGREENS BOOTS ALLIANCE INC	WBA	\$82,633	0.50%	1.95%	9.03%	10.98%	0.0545%
WESTERN DIGITAL CORP	WDC	\$25,503	0.15%	4.23%	11.74%	15.97%	0.0245%
WEC ENERGY GROUP INC	WEC	\$19,812	0.12%	3.21%	5.55%	8.76%	0.0104%
WELLS FARGO & CO	WFC	\$273,762	1.64%	3.07%	11.46%	14.53%	0.2389%
WHIRLPOOL CORP	WHR	\$13,460	0.08%	2.51%	14.19%	16.70%	0.0135%
WILLIS TOWERS WATSON PLC	WLTW	\$20,711	0.12%	1.40%	10.00%	11.40%	0.0142%
WASTE MANAGEMENT INC	WM	\$34,442	0.21%	2.26%	10.22%	12.47%	0.0258%
WAL-MART STORES INC	WMT	\$233,420	1.40%	4.58%	5.12%	9.70%	0.1359%
WESTROCK CO	WRK	\$14,409	0.09%	2.90%	9.67%	12.56%	0.0109%
WESTERN UNION CO	WU	\$8,909	0.05%	3.68%	8.00%	11.68%	0.0063%
WEYERHAEUSER CO	WY	\$25,623	0.15%	3.86%	7.40%	11.26%	0.0173%
WYNDHAM WORLDWIDE CORP	WYN	\$10,835	0.07%	2.27%	14.25%	16.52%	0.0108%
XCEL ENERGY INC	XEL	\$24,027	0.14%	2.96%	6.05%	9.01%	0.0130%
XL GROUP LTD	XL	\$10,176	0.06%	2.24%	9.00%	11.24%	0.0069%
XILINX INC	XLNX	\$17,608	0.11%	2.06%	8.37%	10.43%	0.0110%
DENTSPLY SIRONA INC	XRAY	\$13,727	0.08%	0.59%	9.80%	10.39%	0.0086%
XEROX CORP	XRX	\$8,461	0.05%	3.47%	2.90%	6.37%	0.0032%
XYLEM INC	XYL	\$11,246	0.07%	1.14%	15.00%	16.14%	0.0109%
YUM! BRANDS INC	YUM	\$25,379	0.15%	1.98%	12.74%	14.72%	0.0224%
ZIMMER BIOMET HOLDINGS INC	ZBH	\$23,675	0.14%	0.87%	8.38%	9.25%	0.0131%
ZIONS BANCORPORATION	ZION	\$9,538	0.06%	0.76%	9.00%	9.76%	0.0056%
ZOETIS INC	ZTS	\$31,186	0.19%	0.53%	14.75%	15.28%	0.0286%
Total Market Capitalization:		\$16,648,054	100.00%			Weighted Total:	11.82%

Source: Bloomberg

Company Name	Ticker Symbol	Value-Line Beta
American States Water	AWR	0.75
American Water Works	AWK	0.60
Aqua America	WTR	0.70
California Water	CWT	0.75
Connecticut Water	CTWS	0.65
Middlesex Water	MSEX	0.75
SJW Group	SJW	0.70
York Water	YORW	0.80

Mean 0.71

Capital Asset Pricing Model (CAPM) Calculations	
(1) Risk-free rate [Rf]	2.86%
(2) Beta	0.71
(3) Equity Risk Premium [ERP]	9.14%
Ke = Rf + (Beta x ERP)	
CAPM Cost of Equity (k_e)	9.37%

Notes:

- (1) 30-Year United States Treasury rate as of October 1, 2017
- (2) Average beta of comparable companies
- (3) See Schedule B.1

Market Risk Premium, All Stocks in S&P 500

Company Name	Ticker Symbol	Value Line Beta
American States Water	AWR	0.75
American Water Works	AWK	0.60
Aqua America	WTR	0.70
California Water	CWT	0.75
Connecticut Water	CTWS	0.65
Middlesex Water	MSEX	0.75
SJW Group	SJW	0.70
York Water	YORW	0.80

Mean 0.71

Capital Asset Pricing Model (CAPM) Calculations	
(1) Risk-free rate [Rf]	2.86%
(2) Beta	0.71
(3) Equity Risk Premium [ERP]	10.66%
Ke = Rf + (Beta x ERP)	
CAPM Cost of Equity (k_e)	10.45%

Notes:

- (1) 30-Year United States Treasury rate as of October 1, 2017
- (2) Average beta of comparable companies
- (3) See Schedule B.2

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Company Name	Ticker Symbol	Value Line Beta
American States Water	AWR	0.75
American Water Works	AWK	0.60
Aqua America	WTR	0.70
California Water	CWT	0.75
Connecticut Water	CTWS	0.65
Middlesex Water	MSEX	0.75
SJW Group	SJW	0.70
York Water	YORW	0.80

Mean 0.71

Capital Asset Pricing Model (CAPM) Calculations	
(1) Risk-free rate [Rf]	2.86%
(2) Beta	0.71
(3) Equity Risk Premium [ERP]	9.77%
Ke = Rf + (Beta x ERP)	
CAPM Cost of Equity (k_e)	9.82%

Notes:

- (1) 30-Year United States Treasury rate as of October 1, 2017
- (2) Average beta of comparable companies
- (3) See Schedule B.3

Market Risk Premium, All Stocks in S&P 500

Company Name	Ticker Symbol	Value Line Beta
American States Water	AWR	0.75
American Water Works	AWK	0.60
Aqua America	WTR	0.70
California Water	CWT	0.75
Connecticut Water	CTWS	0.65
Middlesex Water	MSEX	0.75
SJW Group	SJW	0.70
York Water	YORW	0.80

Mean 0.71

Capital Asset Pricing Model (CAPM) Calculations	
(1) Risk-free rate [Rf]	2.86%
(2) Beta	0.71
(3) Equity Risk Premium [ERP]	8.96%
Ke = Rf + (Beta x ERP)	
CAPM Cost of Equity (k_e)	9.24%

Notes:

- (1) 30-Year United States Treasury rate as of October 1, 2017
- (2) Average beta of comparable companies
- (3) See Schedule B.4

Company Name	Ticker Symbol	Value Line Beta
American States Water	AWR	0.75
American Water Works	AWK	0.60
Aqua America	WTR	0.70
California Water	CWT	0.75
Connecticut Water	CTWS	0.65
Middlesex Water	MSEX	0.75
SJW Group	SJW	0.70
York Water	YORW	0.80

Mean 0.71

Capital Asset Pricing Model (CAPM) Calculations	
(1) Risk-free rate [Rf]	3.06%
(2) Beta	0.71
(3) Equity Risk Premium [ERP]	9.14%
Ke = Rf + (Beta x ERP)	
CAPM Cost of Equity (k_e)	9.57%

Notes:

- (1) Average of forecast 30-Year Treasury rate as of year-ends 2018, 2022
- (2) Average beta of comparable companies
- (3) See Schedule B.1

**Double Diamond Utility Company
Capital Asset Pricing Model (Forecast Rf)**

**Schedule B.10
As of October 1, 2017**

Market Risk Premium, All Stocks in S&P 500

Company Name	Ticker Symbol	Value Line Beta
American States Water	AWR	0.75
American Water Works	AWK	0.60
Aqua America	WTR	0.70
California Water	CWT	0.75
Connecticut Water	CTWS	0.65
Middlesex Water	MSEX	0.75
SJW Group	SJW	0.70
York Water	YORW	0.80

Mean 0.71

Capital Asset Pricing Model (CAPM) Calculations	
(1) Risk-free rate [Rf]	3.06%
(2) Beta	0.71
(3) Equity Risk Premium [ERP]	10.66%
Ke = Rf + (Beta x ERP)	
CAPM Cost of Equity (k_e)	10.65%

Notes:

- (1) Average of forecast 30-Year Treasury rate as of year-ends 2018, 2022
- (2) Average beta of comparable companies
- (3) See Schedule B.2

Market Risk Premium, All Dividend Paying Stocks in S&P 500

Company Name	Ticker Symbol	Value Line Beta
American States Water	AWR	0.75
American Water Works	AWK	0.60
Aqua America	WTR	0.70
California Water	CWT	0.75
Connecticut Water	CTWS	0.65
Middlesex Water	MSEX	0.75
SJW Group	SJW	0.70
York Water	YORW	0.80

Mean 0.71

Capital Asset Pricing Model (CAPM) Calculations	
(1) Risk-free rate [Rf]	3.06%
(2) Beta	0.71
(3) Equity Risk Premium [ERP]	9.77%
Ke = Rf + (Beta x ERP)	
CAPM Cost of Equity (k_e)	10.02%

Notes:

- (1) Average of forecast 30-Year Treasury rate as of year-ends 2018, 2022
- (2) Average beta of comparable companies
- (3) See Schedule B.3

Market Risk Premium, All Stocks in S&P 500

Company Name	Ticker Symbol	Value Line Beta
American States Water	AWR	0.75
American Water Works	AWK	0.60
Aqua America	WTR	0.70
California Water	CWT	0.75
Connecticut Water	CTWS	0.65
Middlesex Water	MSEX	0.75
SJW Group	SJW	0.70
York Water	YORW	0.80

Mean 0.71

Capital Asset Pricing Model (CAPM) Calculations	
(1) Risk-free rate [Rf]	3.06%
(2) Beta	0.71
(3) Equity Risk Premium [ERP]	8.96%
Ke = Rf + (Beta x ERP)	
CAPM Cost of Equity (k_e)	9.44%

Notes:

- (1) Average of forecast 30-Year Treasury rate as of year-ends 2018, 2022
- (2) Average beta of comparable companies
- (3) See Schedule B.4

Company	Ticker	Stock Price	2017 DCF	2018 DCF	2019 DCF	2020 DCF	ROE	
American States Water	AWR	\$50.26	\$1.05	2.09%	6.50%	8.59%		
American Water Works	AWK	\$81.78	\$1.76	2.15%	8.50%	10.65%		
Aqua America	WTR	\$33.73	\$0.85	2.52%	7.00%	9.52%		
California Water	CWT	\$37.75	\$0.75	1.99%	9.00%	10.99%		
Connecticut Water	CTWS	\$56.64	\$1.24	2.19%	4.50%	6.69%		
Middlesex Water	MSEX	\$39.06	\$0.87	2.23%	8.50%	10.73%		
SJW Group	SJW	\$56.41	\$0.93	1.65%	3.00%	4.65%		
York Water	YORW	\$33.48	\$0.70	2.09%	7.00%	9.09%		
GROUP AVERAGE							9.93%	

Notes:

(1) Source: Bloomberg, September 2017 Trading Day Average

(2) Source: Value Line

(3) Estimated '14-'16 to '20 - '22 annual earnings growth rate (Source: Value Line)

(*) Result excluded if indicated ROE < 7% or > 12%

Company	Ticker	Stock Price (\$)	Dividend (\$)	Dividend Yield (%)	Yahoo Earnings Growth (G)	ROE (%)
American States Water	AWR	\$50.26	\$1.05	2.09%	4.45%	6.54%
American Water Works	AWK	\$81.78	\$1.76	2.15%	7.03%	9.18%
Aqua America	WTR	\$33.73	\$0.85	2.52%	5.50%	8.02%
California Water	CWT	\$37.75	\$0.75	1.99%	9.70%	11.69%
Connecticut Water	CTWS	\$56.64	\$1.24	2.19%	6.00%	8.19%
Middlesex Water	MSEX	\$39.06	\$0.87	2.23%	2.70%	4.93%
SJW Group	SJW	\$56.41	\$0.93	1.65%	14.00%	15.65%
York Water	YORW	\$33.48	\$0.70	2.09%	4.90%	6.99%
GROUP AVERAGE				2.11%	6.79%	9.27%

Notes:

(1) Source: Bloomberg

(2) Source: Value Line

(3) Estimated growth rate (Source: Yahoo)

(*) Result excluded if indicated ROE < 7% or > 12%

Summary of Assumptions							
Company Name	Ticker	Stock Price	Cash Flows			Price	Implied IRR
			Year 1 Div	Year 2 Div	Year 3 Div		
American States Water	AWR	(\$50.26)	\$1.05	\$1.20	\$1.35	\$66	11.69%
American Water Works	AWK	(\$81.78)	\$1.76	\$2.06	\$2.35	\$106	11.40%
Aqua America	WTR	(\$33.73)	\$0.85	\$1.00	\$1.15	\$44	12.14%
California Water	CWT	(\$37.75)	\$0.75	\$0.87	\$0.99	\$48	10.28%
Connecticut Water	CTWS	(\$56.64)	\$1.24	\$1.32	\$1.40	\$69	8.80%
Middlesex Water	MSEX	(\$39.06)	\$0.87	\$0.95	\$1.02	\$55	14.34%
SJW Group	SJW	(\$56.41)	\$0.93	\$1.03	\$1.12	\$62	5.19%
York Water	YORW	(\$33.48)	\$0.70	\$0.80	\$0.90	\$48	14.78%

Mean 10.54%

- * Result excluded if indicated ROE < 7% or > 12%
 - * Price in final year equals ValueLine P/E ratio x Forecast EPS
 - * Last Year's Dividend = VL 2020 - 2022 Forecast Dividend
- Source: Value Line estimates, Bloomberg

Cash Flows								
Company Name	Ticker	Stock Price	Year 1 Div	Year 2 Div	Year 3 Div	Year 4 Div	Price	Implied IRR
American States Water	AWR	(\$50.26)	\$1.05	\$1.15	\$1.25	\$1.35	\$66	9.21%
American Water Works	AWK	(\$81.78)	\$1.76	\$1.96	\$2.15	\$2.35	\$106	9.03%
Aqua America	WTR	(\$33.73)	\$0.85	\$0.95	\$1.05	\$1.15	\$44	9.67%
California Water	CWT	(\$37.75)	\$0.75	\$0.83	\$0.91	\$0.99	\$48	8.16%
Connecticut Water	CTWS	(\$56.64)	\$1.24	\$1.29	\$1.35	\$1.40	\$69	7.09%
Middlesex Water	MSEX	(\$39.06)	\$0.87	\$0.92	\$0.97	\$1.02	\$55	11.13%
SJW Group	SJW	(\$56.41)	\$0.93	\$0.99	\$1.06	\$1.12	\$62	4.31%
York Water	YORW	(\$33.48)	\$0.70	\$0.77	\$0.83	\$0.90	\$48	11.44%

Mean 9.39%

* Result excluded if indicated ROE < 7% or > 12%

* Price in final year equals ValueLine P/E ratio x Forecast EPS

* Last Year's Dividend = VL 2020 - 2022 Forecast Dividend

Source: Value Line estimates, Bloomberg

Company Name	Ticker	Stock Price	Cash Flows					Price	Implied IRR
			Year 1 Div	Year 2 Div	Year 3 Div	Year 4 Div	Year 5 Div		
American States Water	AWR	(\$50.26)	\$1.05	\$1.13	\$1.20	\$1.28	\$1.35	\$66	7.74%
American Water Works	AWK	(\$81.78)	\$1.76	\$1.91	\$2.06	\$2.20	\$2.35	\$106	7.62%
Aqua America	WTR	(\$33.73)	\$0.85	\$0.93	\$1.00	\$1.08	\$1.15	\$44	8.21%
California Water	CWT	(\$37.75)	\$0.75	\$0.81	\$0.87	\$0.93	\$0.99	\$48	6.91%
Connecticut Water	CTWS	(\$56.64)	\$1.24	\$1.28	\$1.32	\$1.36	\$1.40	\$69	6.07%
Middlesex Water	MSEX	(\$39.06)	\$0.87	\$0.91	\$0.95	\$0.98	\$1.02	\$55	9.25%
SJW Group	SJW	(\$56.41)	\$0.93	\$0.98	\$1.03	\$1.07	\$1.12	\$62	3.79%
York Water	YORW	(\$33.48)	\$0.70	\$0.75	\$0.80	\$0.85	\$0.90	\$48	9.48%

Mean 8.46%

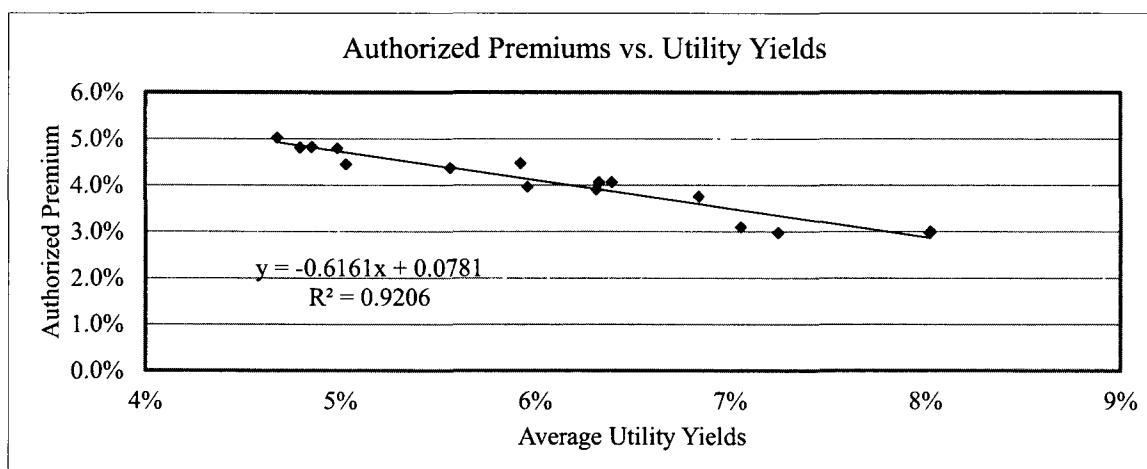
* Result excluded if indicated ROE < 7% or > 12%

* Price in final year equals ValueLine P/E ratio x Forecast EPS

* Last Year's Dividend = VL 2020 - 2022 Forecast Dividend

Source: Value Line estimates, Bloomberg

Year	Utility Bond Yield (1)	Year	Authorized Gas Utility Equity Returns (2)	Premiums
2001	8.03%	2002	11.03%	3.00%
2002	8.02%	2003	10.99%	2.97%
2003	6.84%	2004	10.59%	3.75%
2004	6.40%	2005	10.46%	4.07%
2005	5.93%	2006	10.40%	4.48%
2006	6.32%	2007	10.22%	3.90%
2007	6.33%	2008	10.39%	4.06%
2008	7.24%	2009	10.22%	2.98%
2009	7.05%	2010	10.15%	3.10%
2010	5.96%	2011	9.92%	3.96%
2011	5.57%	2012	9.94%	4.37%
2012	4.85%	2013	9.68%	4.83%
2013	4.98%	2014	9.78%	4.80%
2014	4.79%	2015	9.60%	4.81%
2015	5.03%	2016	9.48%	4.45%
2016	4.68%	2017	9.70%	5.02%

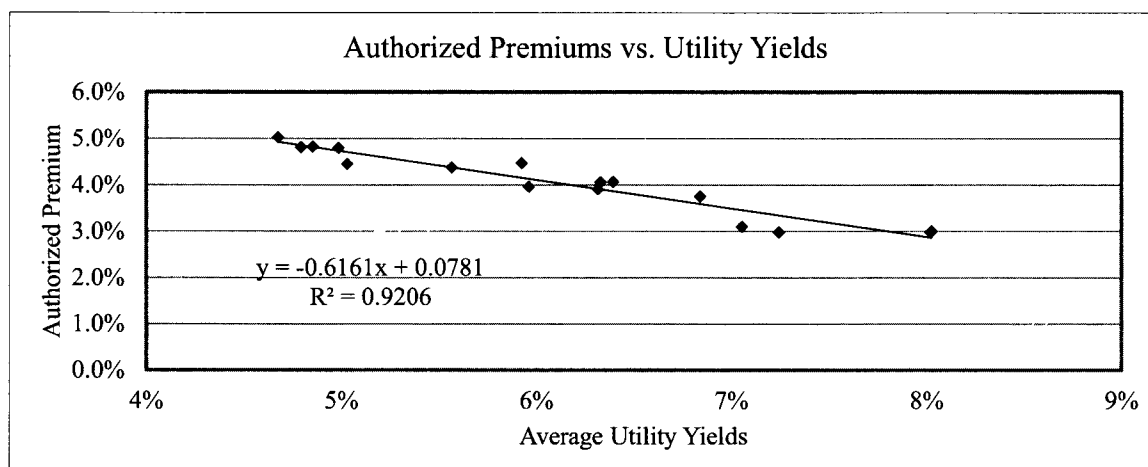


Indicated Cost of Equity

Utility Bond Yield - Current	4.28%
Indicated Equity Premium	
Intercept	0.0781
Variable	-0.6161
Indicated Equity Premium	5.17%
Indicated Equity Return	9.45%

(1) 12 Mo. Avg Yield From Bloomberg Professional Service - Adjusted for 12 Mo. Reg. Lag
2002 Authorized Returns Compared with 2001 Utility Bond Yields
(2) Regulatory Research Associates' Regulatory Focus

2001	8.03%	2002	3.00%
2002	8.02%	2003	2.97%
2003	6.84%	2004	3.75%
2004	6.40%	2005	4.07%
2005	5.93%	2006	4.48%
2006	6.32%	2007	3.90%
2007	6.33%	2008	4.06%
2008	7.24%	2009	2.98%
2009	7.05%	2010	3.10%
2010	5.96%	2011	3.96%
2011	5.57%	2012	4.37%
2012	4.85%	2013	4.83%
2013	4.98%	2014	4.80%
2014	4.79%	2015	4.81%
2015	5.03%	2016	4.45%
2016	4.68%	2017	5.02%



Indicated Cost of Equity

Utility Bond Yield - Forecast (Schedule E.5) 4.97%

Indicated Equity Premium

Intercept 0.0781

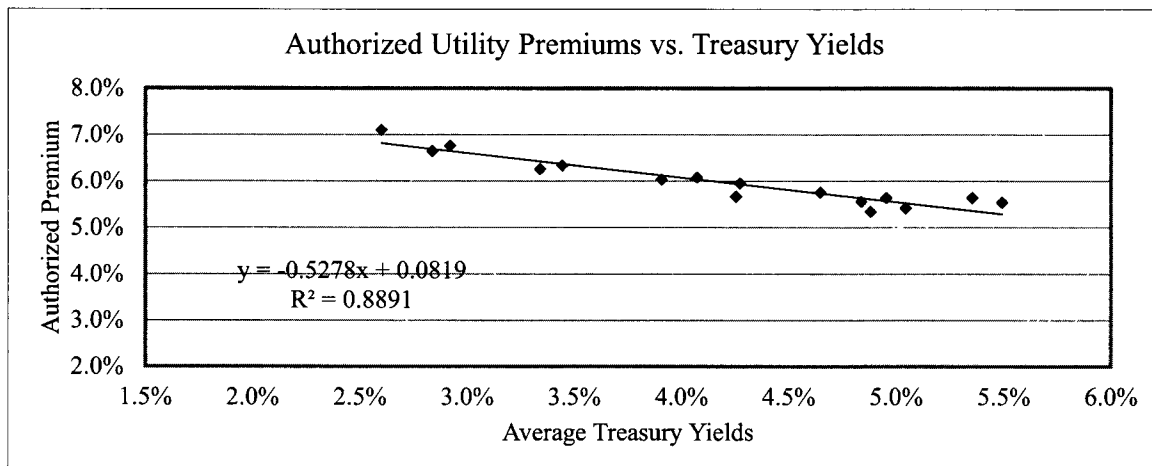
Variable -0.6161

Indicated Equity Premium 4.74%

Indicated Equity Return 9.72%

(1) 12 Mo. Avg Yield From Bloomberg Professional Service - Adjusted for 12 Mo. Reg. Lag

Average Treasury Yields		Authorized Utility Equity Return		Authorized Utility Premium
2001	5.49%	2002	11.03%	5.54%
2002	5.36%	2003	10.99%	5.64%
2003	4.96%	2004	10.59%	5.64%
2004	5.05%	2005	10.46%	5.42%
2005	4.65%	2006	10.40%	5.75%
2006	4.88%	2007	10.22%	5.34%
2007	4.84%	2008	10.39%	5.55%
2008	4.27%	2009	10.22%	5.95%
2009	4.07%	2010	10.15%	6.08%
2010	4.26%	2011	9.92%	5.67%
2011	3.91%	2012	9.94%	6.03%
2012	2.92%	2013	9.68%	6.76%
2013	3.44%	2014	9.78%	6.34%
2014	3.34%	2015	9.60%	6.26%
2015	2.84%	2016	9.48%	6.64%
2016	2.60%	2017	9.70%	7.10%

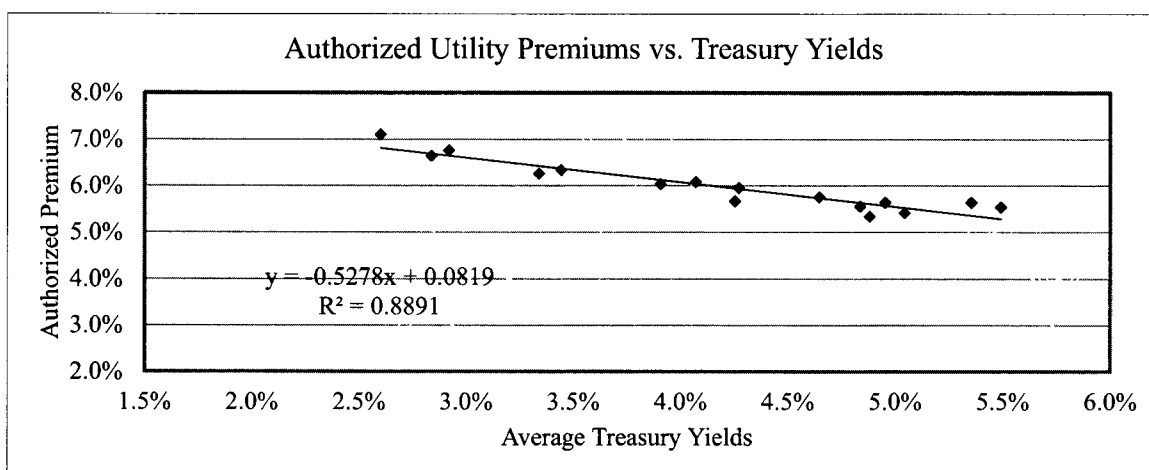


Indicated Cost of Equity

Treasury Bond Yield - Current	2.86%
Indicated Equity Return	
Intercept	0.0819
Variable	-0.5278
Indicated Equity Premium	6.68%
Indicated Equity Return	9.54%

(1) Average Quarterly Yields of Long-Term Government Bonds from Bloomberg- Adjusted for 12 Mo. Reg. Lag

Year	Average Treasury Yield	Authorized Gas Utility Premium	
2001	5.49%	2002	5.54%
2002	5.36%	2003	5.64%
2003	4.96%	2004	5.64%
2004	5.05%	2005	5.42%
2005	4.65%	2006	5.75%
2006	4.88%	2007	5.34%
2007	4.84%	2008	5.55%
2008	4.27%	2009	5.95%
2009	4.07%	2010	6.08%
2010	4.26%	2011	5.67%
2011	3.91%	2012	6.03%
2012	2.92%	2013	6.76%
2013	3.44%	2014	6.34%
2014	3.34%	2015	6.26%
2015	2.84%	2016	6.64%
2016	2.60%	2017	7.10%

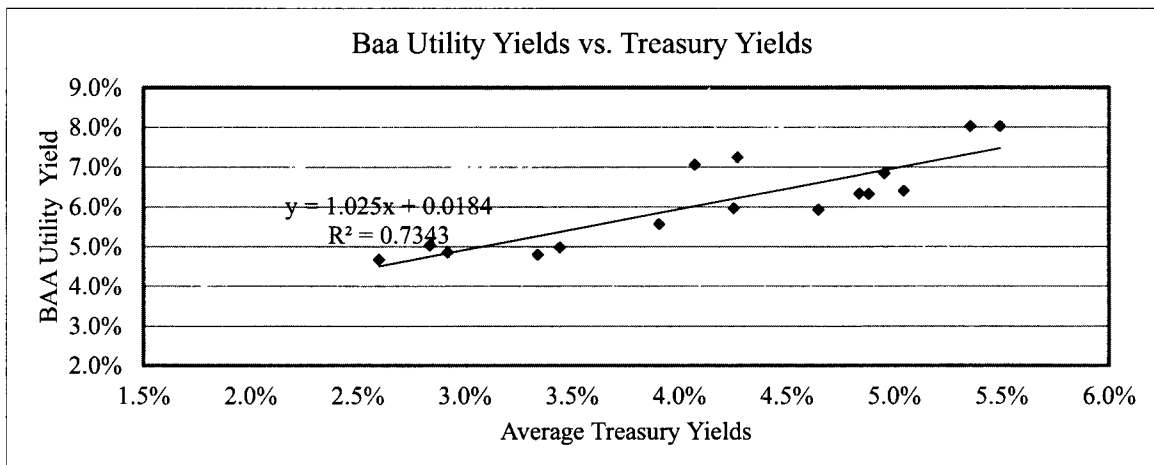


Indicated Cost of Equity

Treasury Bond Yield - Forecast	3.06%
Indicated Equity Return	
Intercept	0.0819
Variable	-0.5278
Indicated Equity Premium	6.58%
Indicated Equity Return	9.63%

(1) Average Quarterly Yields of Long-Term Government Bonds from Bloomberg- Adjusted for 12 Mo. Reg. Lag

Average Quarterly Yield	Moody's Average Public Utility Bond Yield
2001	5.49%
2002	5.36%
2003	4.96%
2004	5.05%
2005	4.65%
2006	4.88%
2007	4.84%
2008	4.27%
2009	4.07%
2010	4.26%
2011	3.91%
2012	2.92%
2013	3.44%
2014	3.34%
2015	2.84%
2016	2.60%
2002	8.03%
2003	8.02%
2004	6.84%
2005	6.40%
2006	5.93%
2007	6.32%
2008	6.33%
2009	7.24%
2010	7.05%
2011	5.96%
2012	5.57%
2013	4.85%
2014	4.98%
2015	4.79%
2016	5.03%
2017	4.68%



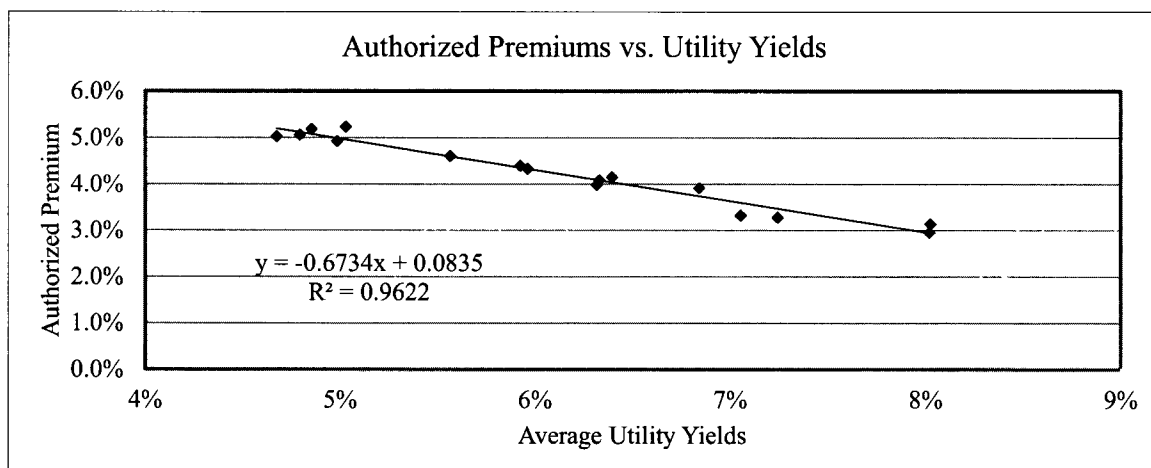
Forecast Utility Bond Yield

Treasury Bond Yield - Forecast	3.06%
Indicated Bond Yield	
Intercept	0.0184
Variable	1.025
Forecast Utility Bond Yield	4.97%

(1) Average Quarterly Yields of Long-Term Government Bonds from Bloomberg- Adjusted for 12 Mo. Reg. Lag

(2) 12 Mo. Avg Yield From Bloomberg Professional Service

Year	Utility Bond Yield	Year	Authorized Electric Utility Equity Returns	Authorized Equity Returns
2001	8.03%	2002	11.16%	3.13%
2002	8.02%	2003	10.97%	2.95%
2003	6.84%	2004	10.75%	3.91%
2004	6.40%	2005	10.54%	4.15%
2005	5.93%	2006	10.32%	4.40%
2006	6.32%	2007	10.30%	3.98%
2007	6.33%	2008	10.41%	4.08%
2008	7.24%	2009	10.52%	3.28%
2009	7.05%	2010	10.37%	3.32%
2010	5.96%	2011	10.29%	4.33%
2011	5.57%	2012	10.17%	4.60%
2012	4.85%	2013	10.03%	5.18%
2013	4.98%	2014	9.91%	4.93%
2014	4.79%	2015	9.85%	5.06%
2015	5.03%	2016	10.26%	5.23%
2016	4.68%	2017	9.70%	5.02%

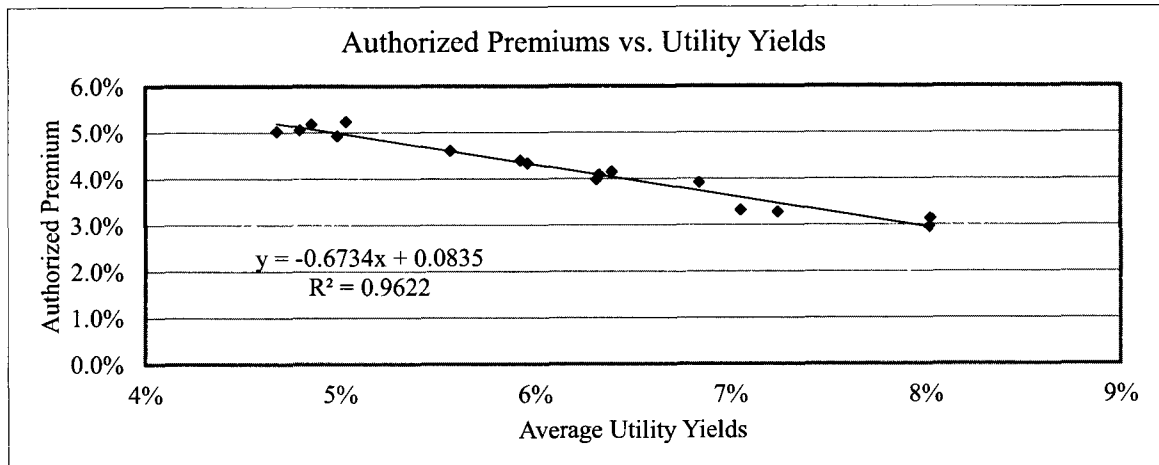


Indicated Cost of Equity

Utility Bond Yield - Current	4.28%
Indicated Equity Premium	
Intercept	0.0835
Variable	-0.6734
Indicated Equity Premium	5.47%
Indicated Equity Return	9.75%

(1) 12 Mo. Avg Yield From Bloomberg Professional Service - Adjusted for 12 Mo. Reg. Lag

2001	8.03%	2002	3.13%
2002	8.02%	2003	2.95%
2003	6.84%	2004	3.91%
2004	6.40%	2005	4.15%
2005	5.93%	2006	4.40%
2006	6.32%	2007	3.98%
2007	6.33%	2008	4.08%
2008	7.24%	2009	3.28%
2009	7.05%	2010	3.32%
2010	5.96%	2011	4.33%
2011	5.57%	2012	4.60%
2012	4.85%	2013	5.18%
2013	4.98%	2014	4.93%
2014	4.79%	2015	5.06%
2015	5.03%	2016	5.23%
2016	4.68%	2017	5.02%

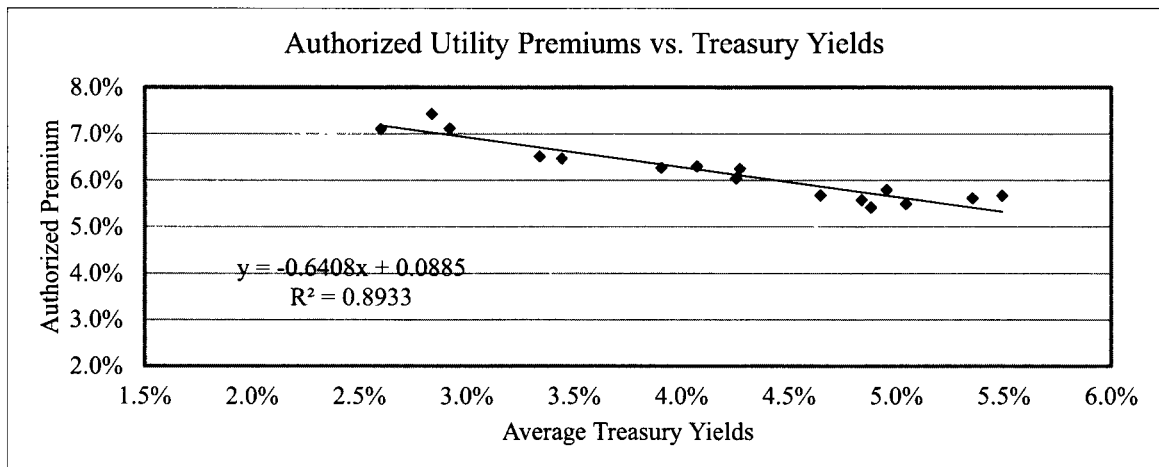


Indicated Cost of Equity

Utility Bond Yield - Forecast (Schedule E.5)	4.97%
Indicated Equity Premium	
Intercept	0.0835
Variable	-0.6734
Indicated Equity Premium	5.00%
Indicated Equity Return	9.97%

(1) 12 Mo. Avg Yield From Bloomberg Professional Service - Adjusted for 12 Mo. Reg. Lag

Year	Authorized Utility Premium	Year	Average Treasury Yields	Premium
2001	5.49%	2002	11.16%	5.67%
2002	5.36%	2003	10.97%	5.62%
2003	4.96%	2004	10.75%	5.80%
2004	5.05%	2005	10.54%	5.50%
2005	4.65%	2006	10.32%	5.67%
2006	4.88%	2007	10.30%	5.42%
2007	4.84%	2008	10.41%	5.57%
2008	4.27%	2009	10.52%	6.25%
2009	4.07%	2010	10.37%	6.30%
2010	4.26%	2011	10.29%	6.04%
2011	3.91%	2012	10.17%	6.26%
2012	2.92%	2013	10.03%	7.11%
2013	3.44%	2014	9.91%	6.47%
2014	3.34%	2015	9.85%	6.51%
2015	2.84%	2016	10.26%	7.42%
2016	2.60%	2017	9.70%	7.10%



Indicated Cost of Equity

Treasury Bond Yield - Current 2.86%

Indicated Equity Return

Intercept 0.0885

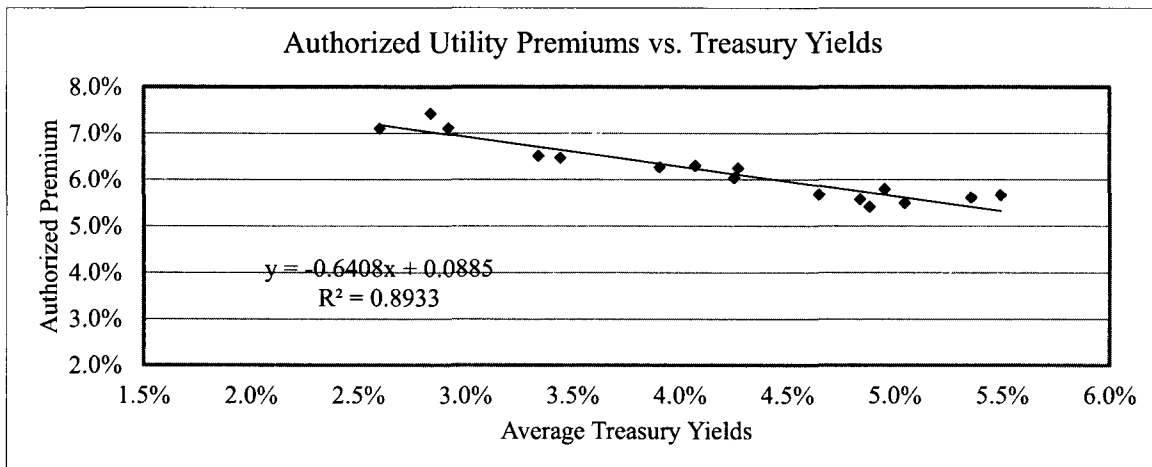
Variable -0.6408

Indicated Equity Premium 7.02%

Indicated Equity Return 9.88%

(1) Average Quarterly Yields of Long-Term Government Bonds from Bloomberg- Adjusted for 12 Mo. Reg. Lag

		Authorized Electric Utility Premium	
2001	5.49%	2002	5.67%
2002	5.36%	2003	5.62%
2003	4.96%	2004	5.80%
2004	5.05%	2005	5.50%
2005	4.65%	2006	5.67%
2006	4.88%	2007	5.42%
2007	4.84%	2008	5.57%
2008	4.27%	2009	6.25%
2009	4.07%	2010	6.30%
2010	4.26%	2011	6.04%
2011	3.91%	2012	6.26%
2012	2.92%	2013	7.11%
2013	3.44%	2014	6.47%
2014	3.34%	2015	6.51%
2015	2.84%	2016	7.42%
2016	2.60%	2017	7.10%



Indicated Cost of Equity

Treasury Bond Yield - Forecast	3.06%
Indicated Equity Return	
Intercept	0.0885
Variable	-0.6408
Indicated Equity Premium	6.89%
Indicated Equity Return	9.95%

(1) Average Quarterly Yields of Long-Term Government Bonds from Bloomberg- Adjusted for 12 Mo. Reg. Lag

Company	Ticker	2017 Earnings Per Share	2017 Book Value Per Share	2018 Earnings Per Share	2018 Book Value Per Share	2018 Expected ROE
American States Water	AWR	\$1.80	\$14.20	\$14.85	\$14.53	12.39%
American Water Works	AWK	\$3.25	\$30.80	\$32.40	\$31.60	10.28%
Aqua America	WTR	\$1.45	\$11.10	\$11.75	\$11.43	12.69%
California Water	CWT	\$1.45	\$14.20	\$14.45	\$14.33	10.12%
Connecticut Water	CTWS	\$2.35	\$21.70	\$21.65	\$21.68	10.84%
Middlesex Water	MSEX	\$1.60	\$13.95	\$14.35	\$14.15	11.31%
SJW Group	SJW	\$2.35	\$21.20	\$21.60	\$21.40	10.98%
York Water	YORW	\$1.10	\$9.10	\$9.55	\$9.33	11.80%
GROUP AVERAGE						10.89%

Notes:

(1) Source: Value Line

(2) Average of 2017 and 2018 Book Values Per Share (Source: Value Line)

* Result excluded if indicated ROE < 7% or > 12%

Company	ticker	(1) 2020-2022 Expected Earnings per Share	(2) 2020-2022 Book Value per Share	2020-2022 Implied ROE
American States Water	AWR	\$2.35	\$16.80	13.99%
American Water Works	AWK	\$4.15	\$39.45	10.52%
Aqua America	WTR	\$1.85	\$14.85	12.46%
California Water	CWT	\$1.75	\$16.00	10.94%
Connecticut Water	CTWS	\$2.65	\$22.80	11.62%
Middlesex Water	MSEX	\$2.05	\$16.45	12.46%
SJW Group	SJW	\$2.75	\$23.90	11.51%
York Water	YORW	\$1.40	\$11.00	12.73%
GROUP AVERAGE				11.15%

Notes:

(1) Source: Value Line

(2) Source: Value Line

* Result excluded if indicated ROE < 7% or > 12%

Leverage Formula

Return on Common Equity = 7.13% + (1.610% ÷ Equity Ratio)

where the Equity Ratio = Common Equity ÷ (Common Equity + Preferred Equity + Total Debt)

Inputs	Sears Equity %	DDU Equity %
Intercept	7.13%	7.13%
Leverage Factor Coefficient	1.610%	1.610%
Equity Ratio	52.3%	44.2%
ROE, with Size/Liquidity Premium of 1.0%	10.21%	10.78%

Texas Utility ROE Formula		
Return on Common Equity = Baa Utility Yield + 6.000%		
	Baa Utility Bond Yield - 10/1/2017	Forecast Baa Yield
Baa Utility Bond Yield - 10/1/2017	4.28%	4.97%
Equity Premium	6.00%	6.00%
Indicated ROE	10.28%	10.97%

* Prior to the "Worksheet", the TCEQ Typically Awarded 12.00% ROE

Duff and Phelps Buildup Method				
	Historical	Forecast Rf	Adjusted	Forecast Rf
	Inputs	Rate	ERP	& Adj ERP
Risk Free Rate	2.86%	3.06%	2.86%	3.06%
Equity Risk Premium	6.94%	6.94%	9.63%	9.63%
Water Supply Distribution Adj (SIC Code 494)	-4.06%	-4.06%	-4.06%	-4.06%
Water Equity Risk Premium	2.88%	2.88%	5.57%	5.57%
Size Adjustment (D&P MicroCap Group)	3.67%	3.67%	3.67%	3.67%
Indicated ROE	9.41%	9.61%	12.10%	12.30%

**Double Diamond Utility Company
D&P Small Stock Risk Premium (SSRP) Table**

Schedule G.1

Market Capitalization Deciles	Market Cap Range (\$millions)		Size Premium
	Low	High	
1-Largest	\$24,362	- \$609,163	-0.35%
2	\$10,784	- \$24,234	0.61%
3	\$5,684	- \$10,711	0.89%
4	\$3,521	- \$5,677	0.98%
5	\$2,393	- \$3,513	1.51%
6	\$1,571	- \$2,391	1.66%
7	\$1,033	- \$1,570	1.72%
8	\$569	- \$1,030	2.08%
9	\$264	- \$568	2.68%
10-Smallest	\$3	- \$263	5.59%
Micro-Cap Group			3.67%

Source: Duff & Phelps 2017 Valuation Handbook

Company Name	Ticker Symbol	(1) Shares Out (000's)	(2) Share Price	Market Cap (\$Millions)	(3) SSRP	Weighting	(4) Market to Book Ratio
American States Water	AWR	36,616	\$50.26	\$1,840	1.66%	6.8%	3.52
American Water Works	AWK	178,191	\$81.78	\$14,572	0.61%	53.8%	2.68
Aqua America	WTR	177,602	\$33.73	\$5,990	0.89%	22.1%	3.11
California Water	CWT	48,022	\$37.75	\$1,813	1.66%	6.7%	2.77
Connecticut Water	CTWS	11,564	\$56.64	\$655	2.08%	2.4%	2.64
Middlesex Water	MSEX	16,304	\$39.06	\$637	2.08%	2.4%	2.89
SJW Group	SJW	20,499	\$56.41	\$1,156	1.72%	4.3%	2.66
York Water	YORW	12,843	\$33.48	\$430	2.68%	1.6%	3.78
Averages				\$27,093	1.67%	100.0%	3.00
EWM and CBG SSRP Differentials							
10th Decile SSRP of 5.59% for DDU vs Comparable Group Mean of 1.67% results in additional required SSRP of 3.92%							
Additional SSRP Indicators							
				<u>Low</u>	<u>High</u>		
Private Equity Liquidity Effects				3.0%	3.0%		
Chicago Booth Study				4.0%	5.0%		

(1) Source: Value Line

(2) Source: Bloomberg 30 day average

(3) Schedule G.1

(4) Source: Bloomberg

Source	Version	Conclusion
DDU Requested ROE	Application	11.49%
Scheig ROE	Conclusion	11.50%
Sears ROE for DDU	Conclusion	8.79%
<u>Texas PUCT / TCEQ</u>		
TCEQ Historical Water ROE		12.00%
PUCT Worksheet ROE	Current Baa	10.28%
PUCT Worksheet ROE	Forecast Baa	10.97%
<u>Florida PSC</u>		
Leverage Model, DDU	Requested Cap Structure	10.78%
Leverage Model, Sears	Recommended Cap Structure	10.21%
<u>Maryland PSC - Staff Testimony, Buildup Method (1)</u>		
D&P Buildup Method with	<i>Historical Inputs</i>	9.41%
D&P Buildup Method with	<i>Forward Looking ERP</i>	9.61%
D&P Buildup Method with	<i>Forecast Risk Free Rate</i>	12.10%
D&P Buildup Method with	<i>Forecast Rf and Forward ERP</i>	12.30%

Note 1: Regulatory Economist Jeff Pongsiri's testimony only included the historical inputs. The additional scenarios were included given that the build up method requires adjustments similar to the CAPM under current market conditions.

I

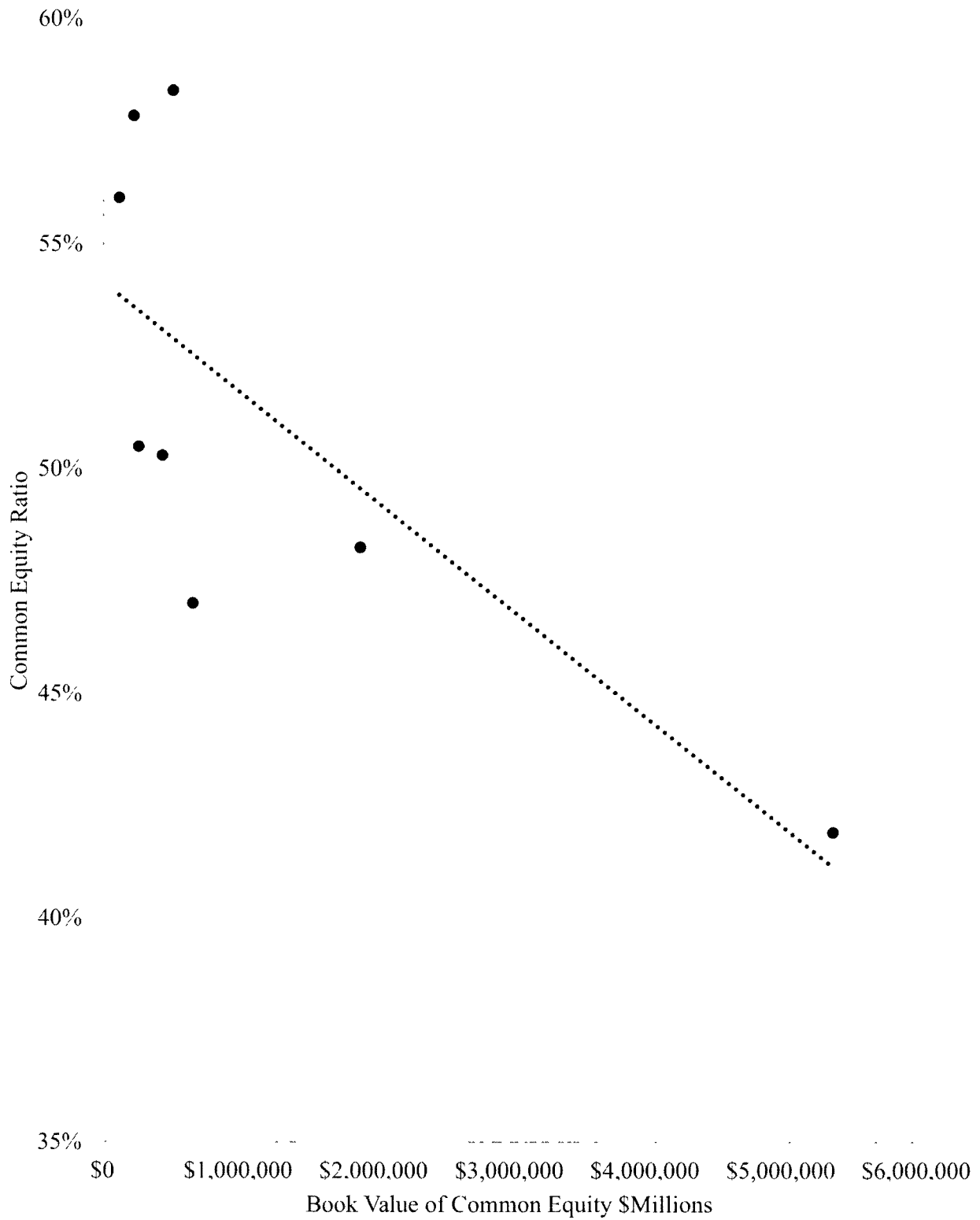
	Requested Capital Structure	Sears' Capital Structure
Long-Term Debt	55.84%	47.27%
Common Equity	44.16%	52.73%
Total	100.00%	100.00%

	% of Capital Structure	Cost	Weighted Cost
Long-Term Debt (Sears)	47.27%	4.91%	2.32%
Common Equity	52.73%	11.50%	6.06%
Total	100.00%		8.38%

	% of Capital Structure	Cost	Weighted Cost
Long-Term Debt (Requested)	55.84%	6.00%	3.35%
Common Equity	44.16%	11.50%	5.08%
Total	100.00%		8.43%

Rate of Return - Sears Capital Structure	8.38%
Rate of Return - Requested Capital Structure	8.43%
Average	8.40%

**Chart H:
Comparable Public Gas Utilities
Common Equity Ratio vs Book Value of Equity**



Company Name	Ticker	Equity \$M	Common Equity	Total Debt	Preferred Stock
American States Water	AWR	513,025	58.4%	41.6%	0.0%
American Water Works	AWK	5,384,000	41.9%	58.1%	0.0%
Aqua America	WTR	1,896,530	48.3%	51.7%	0.0%
California Water	CWT	661,834	47.0%	53.0%	0.0%
Connecticut Water	CTWS	260,048	50.5%	49.4%	0.1%
Middlesex Water	MSEX	222,324	57.8%	41.5%	0.6%
SJW Group	SJW	436,110	50.3%	49.7%	0.0%
York Water	YORW	115,250	56.0%	44.0%	0.0%
Average			51.3%	48.6%	0.1%

Source: S&P Capital IQ