THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

WESTAR ENERGY, INC.

Docket No. 15-WSEE-115-RTS

COST OF CAPITAL

DIRECT TESTIMONY

OF

J. RANDALL WOOLRIDGE, PH.D.

ON BEHALF OF

CITIZEN'S UTILITY RATEPAYER BOARD

July 9, 2015

WESTAR ENERGY, INC.

Docket No. 15-WSEE-115-RTS

Direct Testimony of J. Randall Woolridge, Ph. D.

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Q. PLEASE STATE YOUR FULL NAME, ADDRESS, AND OCCUPATION.

A. My name is J. Randall Woolridge, and my business address is 120 Haymaker Circle, State College, PA 16801. I am a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed University Fellow in Business Administration at the University Park Campus of the Pennsylvania State University. I am also the Director of the Smeal College Trading Room and President of the Nittany Lion Fund, LLC. A summary of my educational background, research, and related business experience is provided in Exhibit JRW-16, Appendix A.

I. SUBJECT OF TESTIMONY AND SUMMARY OF RECOMMENDATIONS

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. I have been asked by the Citizens' Utility Ratepayer Board ("CURB") to provide an opinion as to the overall fair rate of return or cost of capital for Westar Energy, Inc. ("Westar" or "Company") and to evaluate Westar's rate of return testimony in this proceeding.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. First, I will review my cost of capital recommendation for Westar, and review the primary areas of contention between Westar's rate of return position and CURB's rate of return position. Second, I provide an assessment of capital costs in today's capital markets. Third, I discuss my proxy group of electric utility companies for estimating the cost of capital for Westar. Fourth, I present my recommendations for the Company's

capital structure and debt cost rate. Fifth, I discuss the concept of the cost of equity capital, and then estimate the equity cost rate for Westar. Finally, I critique the Company's rate of return analysis and testimony. I have a table of contents just after the title page for a more detailed outline.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS REGARDING THE APPROPRIATE RATE OF RETURN FOR WESTAR.

A. I initially show that interest rates and capital costs remain at historically low levels, despite the recent increase in rates. I used the Company's proposed capital structure and senior capital cost rates. To estimate an equity cost rate for Westar, I have applied the Discounted Cash Flow Model ("DCF") and the Capital Asset Pricing Model ("CAPM") to my proxy group of electric utility ("Electric Proxy Group"). I have also used the proxy group developed by Westar's rate of return witness Mr.Tony Somma ("Somma Proxy Group"). My recommendation is that the appropriate equity cost rate for Westar is 8.85%. Combined with my recommended capitalization ratios and senior capital cost rate, my overall rate of return or cost of capital for Westar of 7.38% is summarized in Exhibit JRW-1.

Q. PLEASE REVIEW THE COMPANY'S PROPOSED RATE OF RETURN.

A. The Company has proposed a capital structure that includes 46.5451% long-term debt and 53.4549% common equity and a debt cost rate of 5.6877%. Westar witness Mr. Somma recommends a common equity cost rate 10.0%. Westar's overall proposed rate of return is 7.9929%

Q. PLEASE INITIALLY SUMMARIZE THE REGULATORY GUIDELINES ESTABLISHED FOR THE PURPOSE OF DETERMINING THE APPROPRIATE ROE FOR A PUBLIC UTILITY.

A. The United States Supreme Court established the guiding principles for establishing a fair return on capital for regulated public utilities in two cases: (1) *Bluefield* and (2) *Hope*.[1] In those cases, the Court recognized that the fair rate of return on equity should be: (1) comparable to returns investors expect to earn on other investments of similar risk; (2) sufficient to assure confidence in the company's financial integrity; and (3) adequate to maintain and support the company's credit and to attract capital.

Q. PLEASE SUMMARIZE THE PRIMARY ISSUES REGARDING RATE OF RETURN IN THIS PROCEEDING.

A. I have used the Company's proposed capital structure and senior capital cost rates. This is very fair to Westar given that the capital structure includes a common equity ratio that is high relative to other electric utilities. In estimating a common equity cost rate, both Mr. Somma and I have applied the DCF and the CAPM approaches to a proxy group of publicly-held electric utility companies. Mr. Somma has also used a Risk Premium ("RP") approach. The primary issues with respect to these three approaches are summarized below.

[1] *Federal Power Commission v. Hope Natural Gas Co*., 320 U.S. 591 (1944) ("*Hope*") and *Bluefield Water Works and Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) ("*Bluefield*").

A. DCF Approach

Q. WHAT ARE THE ISSUES WITH MR. SOMMA'S APPLICATION OF THE DCF APPROACH?

A. Mr. Somma has used the quarterly dividend model of the constant-growth DCF model. The primary error in his analysis is that Mr. Somma has relied excessively on the overly-optimistic and upwardly-biased forecasted earnings per share ("EPS") growth rates of Wall Street analysts and *Value Line.* In developing a DCF growth rate, I have reviewed thirteen growth rate measures including historic and projected growth rate measures and have evaluated growth in dividends, book value, and earnings per share.

Q. PLEASE ALSO DISCUSS MR. SOMMA'S COMMENTS REGARDING THE DCF GROWTH RATE AND ITS RELATIONSHIP WITH GDP GROWTH.

A. In discussing the appropriate DCF growth, Mr. Somma claims that the expected earnings growth rate for electric utilities is not related to long-term GDP growth, and that investors focus solely on the expected earnings growth rates of Wall Street analysts. This discussion is driven by the Federal Energy Regulatory Commission's ("FERC") decision in Opinion No, 531 to use a two-stage DCF model is setting an equity cost rate and using the long-term projected growth in GDP as the second stage growth rate.[2] I refute Mr. Somma's claims on this point in three ways: (1) I show that the growth of electric utilities over the past decade have been a little below GDP growth; (2) I show that projected GDP growth is at the core of analysts' EPS growth

[2] *Coakley, Mass. Attorney Gen., et al. v. Bangor Hydro-Elec. Co., et al.*, Opinion No. 531, 147 FERC ¶ 61,234 (2014) (Opinion No. 531).

rates; and (3) I show that expected returns for investors from utility stocks over the next five years make up a relative small percentage of the current stock price, thereby demonstrating the large impact of long-term expectations.

B. CAPM Approach

Q. WHAT ARE THE ISSUES WITH MR. SOMMA'S APPLICATION OF THE CAPM APPROACH?

A. The CAPM approach requires an estimate of the risk-free interest rate, beta, and the equity risk premium. The major area of disagreement involves the measurement and magnitude of the market or equity risk premium. In short, Mr. Somma's market risk premium is excessive and does not reflect current market fundamentals. As I highlight in my testimony, there are three procedures for estimating a market or equity risk premium – historic returns, surveys, and expected return models. Mr. Somma uses a projected market risk premium of 10.84%. Mr. Somma's projected equity risk premium uses analysts' EPS growth rate projections to compute an expected market return and market risk premium. These EPS growth rate projections and the resulting expected market return and risk premium include unrealistic assumptions regarding future economic and earnings growth and stock returns.

I have used a CAPM equity risk premium of 5.50%, which: (1) factors in all three approaches to estimating an equity premium; and (2) employs the results of many studies of the equity risk premium. As I note, my market risk premium reflects the market risk premiums: (1) determined in recent academic studies by leading

finance scholars; (2) employed by leading investment banks and management consulting firms; and (3) found in surveys of companies, financial forecasters, financial analysts, and corporate CFOs.

C. Risk Premium Approach

Q. WHAT ARE THE ISSUES WITH MR. SOMMA'S APPLICATION OF THE RISK PREMIUM ("RP") CAPM APPROACH?

A. Mr. Somma also estimates an equity cost rate using the RP model. His risk premium is based on the historical relationship between the yields on 10-year Treasury yields and authorized returns on equity ("ROEs") for electric utility companies. There are several issues with this approach. First and foremost, this approach is a gauge of commission behavior and not investor behavior. Capital costs are determined in the market place through the financial decisions of investors and are reflected in such fundamental factors as dividend yields, expected growth rates, interest rates, and investors' assessment of the risk and expected return of different investments. Regulatory commissions evaluate capital market data in setting authorized ROEs, but also take into account other utility- and rate case-specific information in setting ROEs. As such, Mr. Somma's RP approach and results reflects other factors used by utility commissions in authorizing ROEs in addition to capital costs. This may especially be true when the authorized ROE data includes the results of rate cases that are settled and not fully litigated. Second, the methodology produces an inflated measure of the risk premium because the approach uses historic authorized ROEs and

Treasury yields, and the resulting risk premium is applied to projected Treasury yields. Finally, the risk premium is inflated as a measure of investor's required risk premium since electric utility companies have been selling at a market-to-book ratio in excess of 1.0. This indicates that the authorized rates of return have been greater than the return that investors require.

Q. HOW DO MR. SOMMA'S RP ESTIMATES COMPARE TO THE ACTUAL STATE-LEVEL AUTHORIZED ROES?

A. His RP equity cost rate estimates of 10.33% to 10.38% overstate actual state-level authorized ROEs for electric utilities. The authorized ROEs for electric utility companies have decreased in recent years. These authorized ROEs declined from 10.01% in 2012, to 9.8% in 2013, to 9.76% in 2014, and to 9.67% in the first quarter of 2015 according to Regulatory Research Associates.[3]

D. *Hope* and *Bluefield* Standards

Q. DO YOU BELIEVE THAT YOUR 8.85% MEETS *HOPE* AND *BLUEFIELD* STANDARDS?

A. Yes. I provide evidence that my ROE recommendation of 8.85% is adequate to meet *Hope* and *Bluefield* standards. Westar's earned ROE over the past five years of 9.40% (2010-2014). Given this earned ROE, the Company has raised capital on several occasions and, more significantly, Westar has seen its issuer credit ratings raised by

[3] *Regulatory Focus*, Regulatory Research Associates, January 2015. These authorized ROEs exclude the Virginia cases that include generation-specific ROE adders.

two full rating categories by both S&P (BBB- to BBB+)) and Moody's (Baa3 to Baa1) since 2010. Furthermore, while my recommendation is a little below Westar's 9.40% average ROE, it reflects the downward trend in authorized and earned ROEs by electric utilities. This is highlighted in a recent Moody's publication that states, despite authorized and earned ROEs below 10%, the credit quality of electric and gas companies has not been impaired and, in fact, has improved and utilities are raising about $50 billion per year in capital. A major positive factor in the improved credit quality of utilities are the cost and investment recovery mechanisms that are now included in rates.

Q. PLEASE COMMENT AGAIN ON YOUR RECOMMENDATION IN LIGHT OF THE STATE-LEVEL AUTHORIZED ROES?

A. As I noted, whereas my recommendation in this proceeding is below the average state-level authorized ROEs, my recommended ROE reflects the historically low capital cost rates in the markets. In my opinion, the ROEs authorized by state utility commissions have lagged behind capital market cost rates. And I believe that this has been particularly true in recent years as some commissions have been reluctant to authorize ROEs below 10%. However, the trend has clearly been towards lower ROEs, and the norm now is below 10%. Hence, I believe that my recommended ROE reflects our historically low capital cost rates, and these low capital cost rates are finally being recognized by state utility commissions.

E. Alternative ROE Mechanism

Q. MR. SOMMA ALSO SUGGESTS AN ALTERATIVE ROE MECHANISM WHICH HE IS "PROPOSING FOR CONSIDERATION." PLEASE PROVIDE YOUR SUMMARY OBSERVATIONS.

A. Mr. Somma has proposed a ROE adjustment mechanism in which the Commission consider a formulaic annual adjustment to the Company's ROE based upon the change in long-term interest rates. Mr. Somma claims that the proposal would provide for administrative and regulatory efficiencies and allow utilities to stay out longer between rate cases. As I discuss later in my testimony, while less frequent general rate cases may result, I believe that there are other regulatory issues that would need to be built into such a proposal to provide for better regulatory oversight and control.

F. Summary of Differences in Positions

Q. PLEASE SUMMARIZE THE PRIMARY DIFFERENCES IN POSITIONS REGARDING THE COMPANY'S COST OF CAPITAL.

A. In the end, the most significant areas of disagreement in measuring Westar's cost of capital are: (1) Mr. Somma's DCF equity cost rate estimates, and in particular his excessive reliance on the long-term EPS growth rates of Wall Street analysts and *Value Line* in developing a DCF growth rate; (2) the projected interest rates and market or equity risk premium in the RP and CAPM approaches; and (3) his inclusion of an issuance cost adjustment in his equity cost rate.

II. CAPITAL COSTS IN TODAY'S MARKETS

Q. PLEASE DISCUSS CAPITAL COSTS IN U.S. MARKETS.

A. Long-term capital cost rates for U.S. corporations are a function of the required returns on risk-free securities plus a risk premium. The risk-free rate of interest is the yield on long-term U.S. Treasury bonds. The yields on 10-year U.S. Treasury bonds from 1953 to the present are provided on Panel A of Exhibit JRW-2. These yields peaked in the early 1980s and have generally declined since that time. These yields fell to below 3.0% in 2008 as a result of the financial crisis. From 2008 until 2011, these rates fluctuated between 2.5% and 3.5%. In 2012, the yields on 10-year Treasuries declined from 2.5% to 1.5% as the Federal Reserve initiated its Quantitative Easing III ("QEIII") program to support a low interest rate environment. These yields increased from mid-2012 to about 3.0% as of December of 2013 on speculation of a tapering of the Federal Reserve's QEIII policy. Since that time, the ten-year Treasury yield declined and bottomed out at 1.7% in January of 2015. These yields have increased in 2015, and now are about 2.3%.

Panel B on Exhibit JRW-2 shows the differences in yields between ten-year Treasuries and Moody's Baa-rated bonds since the year 2000. This differential primarily reflects the additional risk premium required by bond investors for the risk associated with investing in corporate bonds as opposed to obligations of the U.S. Treasury. The difference also reflects, to some degree, yield curve changes over time. The Baa rating is the lowest of the investment grade bond ratings for corporate bonds. The yield differential hovered in the 2.0% to 3.5% range until 2005, declined

to 1.5% until late 2007, and then increased significantly in response to the financial crisis. This differential peaked at 6.0% at the height of the financial crisis in early 2009 due to tightening in credit markets, which increased corporate bond yields, and the "flight to quality," which decreased Treasury yields. The differential subsequently declined, and has been in the 2.5% to 3.5% range over the past four years.

The risk premium is the return premium required by investors to purchase riskier securities. The risk premium required by investors to buy corporate bonds is observable based on yield differentials in the markets. The market risk premium is the return premium required to purchase stocks as opposed to bonds. The market or equity risk premium is not readily observable in the markets (like bond risk premiums) since expected stock market returns are not readily observable. As a result, equity risk premiums must be estimated using market data. There are alternative methodologies to estimate the equity risk premium, and these alternative approaches and equity risk premium results are subject to much debate. One way to estimate the equity risk premium is to compare the mean returns on bonds and stocks over long historical periods. Measured in this manner, the equity risk premium has been in the 5% to 7% range.[4] However, studies by leading academics indicate that the forward-looking equity risk premium is actually in the 4.0% to 6.0% range. These lower equity risk premium results are in line with the findings of equity risk premium surveys of CFOs, academics, analysts, companies, and financial forecasters.

Q. PLEASE DISCUSS INTEREST RATES ON LONG-TERM UTILITY BONDS.

[4] See Exhibit JRW-11, p. 5-6.

A. Panel A of Exhibit JRW-3 provides the yields on A-rated public utility bonds. These yields peaked in November 2008 at 7.75% and henceforth declined significantly. These yields declined to below 4.0% in mid-2013, and then increased with interest rates in general to the 4.85% range as of late 2013. They declined to below 4.0% in the first quarter of 2015, but have increased with interest rates in general since that time.

Panel B of Exhibit JRW-3 provides the yield spreads between long-term A-rated public utility bonds relative to the yields on 20-year U.S. Treasury bonds. These yield spreads increased dramatically in the third quarter of 2008 during the peak of the financial crisis and have decreased significantly since that time. For example, the yield spreads between 20-year U.S. Treasury bonds and A-rated utility bonds peaked at 3.4% in November 2008, declined to about 1.5% in the summer of 2012, and have remained in that range.

Q. PLEASE PROVIDE MORE DETAILS ABOUT THE FEDERAL RESERVE'S QEIII POLICY AND INTEREST RATES.

A. On September 13, 2012, the Federal Reserve released its policy statement relating to QEIII. In its statement, the Federal Reserve announced that it intended to expand and extend its purchasing of long-term securities to about $85 billion per month.[5] The Federal Open Market Committee ("FOMC") also indicated that it intended to keep the target for the federal funds rate between 0 to 1/4 % through at least mid-2015. In subsequent meetings over the next year, the Federal Reserve reiterated the

[5] Board of Governors of the Federal Reserve System, *Statement Regarding Transactions in Agency Mortgage-Backed Securities and Treasury Securities* (Sept. 13, 2012).

continuation of its bond buying program and tied future monetary policy moves to unemployment rates and the level of interest rates.[6]

During 2013, the speculation in the markets was that the Federal Reserve's bond buying program would be tapered or scaled back. This speculation was fueled by more positive economic data on jobs and the economy. The speculation led to an increase in interest rates, with the ten-year Treasury yield increasing to about 3.0% as of December 2013. Due to continuing positive economic data, the Federal Reserve decided to reduce its purchases of mortgage-backed securities and Treasuries by $5 billion per month beginning in January of 2014.[7]

Q. PLEASE DISCUSS THE FEDERAL RESERVE'S ACTIONS IN 2014 AND 2015.

A. The January 29, 2014, FOMC meeting was historic as Janet Yellen took over from Ben Bernanke as Fed Chairman. In subsequent monthly meetings during 2014, the FOMC noted that it saw improvement in the economy and the housing and labor markets and it continued to taper its bond buying program. In its October 28-29 meeting, the FOMC put an end to its bond buying program primarily due to improving economic conditions and, in particular, the better employment market.[8] The announcement was expected, and speculation grew as to when the Federal Reserve would change course in its "highly accommodative" monetary policy and move to increase short-term interest rates. This speculation continued through the end of 2014 and into 2015 as the economy continued to advance and the unemployment

[6] Board of Governors of the Federal Reserve System, *FOMC Statement* (Dec. 12, 2012).
[7] *Ibid.*
[8] Board of Governors of the Federal Reserve System, *FOMC Statement* (Nov. 19, 2014).

rate has declined to 5.5%. With the improvement in the economy and the labor and housing markets, the FOMC focused on the sluggish pace of inflation. In the press releases following the monthly 2015 FOMC meetings, the markets focused on one key word in regarding monetary policy– 'patient.' In its March 18 statement, the FOMC omitted the word 'patient' with respect to the normalization of monetary policy, and suggested that its target range for federal funds, and therefore short-term interest rates, would only be increased once the outlook for the labor market and price increases improved.[9] Subsequently, in its policy press release on June 17, 2015, the Federal Reserve once again reiterated its focus on the progress toward the target interest rate of 2.0%:[10]

> To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to 1/4 percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress--both realized and expected--toward its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term.

Q. HOW HAS THE YIELD ON TEN-YEAR TREASURY BONDS REACTED TO THE FEDERAL RESERVE'S MONETARY POLICY ACTIONS?

A. The yield on the ten-year Treasury note was 3.0% as of January 2, 2014. This yield trended down during 2014, and bottomed out at 1.7% in January of 2015. With

[9] Board of Governors of the Federal Reserve System, *FOMC Statement* (March 18, 2015).
[10] Board of Governors of the Federal Reserve System, *FOMC Statement* (June 17, 2015).

speculation growing about an increase in the Federal Reserve's discount rate, the ten-year yield increased to over 2.1% in February, fell back below 2.0% after the FOMC's March statement, and has subsequently increased to about 2.40%.[11]

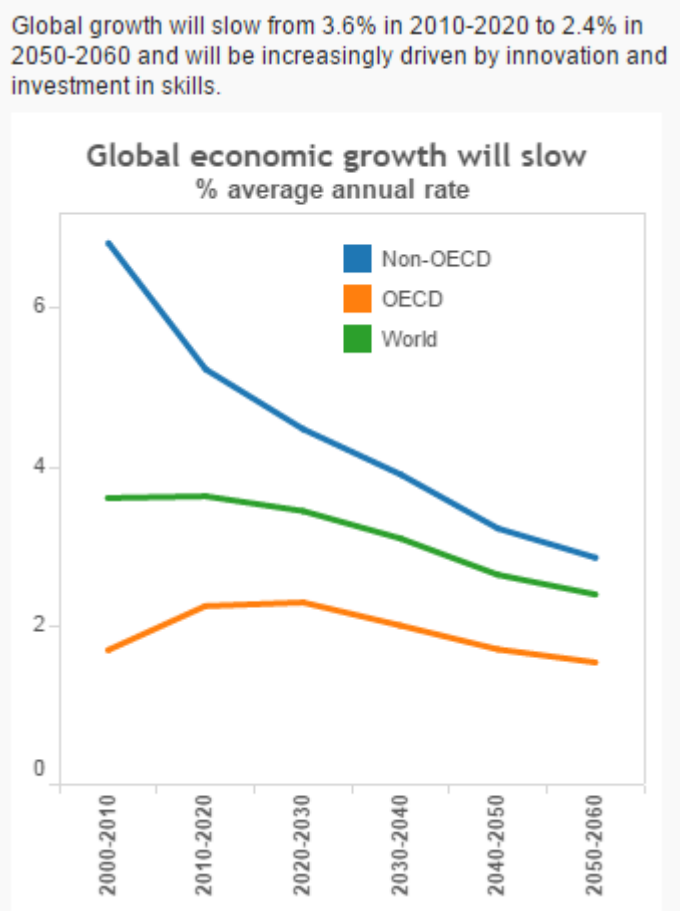
Q. YOU DISCUSS THE RECENT FEDERAL RESERVE POLICY AND CURRENT CONDITIONS IN THE ECONOMY AND THE FINANCIAL MARKETS. PLEASE PROVIDE A LONG-TERM PERSPECTIVE ON INTEREST RATES AND CAPITAL COSTS.

A. In the long run, the key drivers of economic growth measured in nominal dollars are population growth, the advancement and diffusion of science and technology, and currency inflation. Although we all grew accustomed to rapid economic growth during "post-war" period (the 63 years that separated the end of World War II and the 2008 financial crisis), the post-war period is not necessarily reflective of expected future growth. It was marked by a near-trebling of global population, from under 2.5 billion to approximately 6.7 billion. Over the succeeding 63 years, according to U.N. projections, the global population will grow considerably more slowly, reaching approximately 10.3 billion in 2070. With population growth slowing, life expectancies lengthening, and post-war "baby boomers" reaching retirement age, median ages in developed-economy nations have risen and continue to rise. The postwar period was also marked by rapid catch-up growth as Europe, Japan, and China recovered from successive devastations and as regions such as India and China deployed and leapfrogged technologies that had been developed over a much longer

[11] http://research.stlouisfed.org/fred2/series/DGS10/downloaddata.

period in earlier-industrialized nations. That period of rapid catch-up growth is coming to an end. For example, although China remains one of the world's fastest-growing regions, its growth is now widely expected to slow substantially. This convergence of projected growth in the former "second world" and "third world" towards the slower growth of the nations that have long been considered "first world" is illustrated in this "key findings" chart published by the Organization for Economic Co-operation and Development:[12]

Figure 1: Projected Global Growth



[12] See http://www.oecd.org/eco/outlook/lookingto2060.htm.

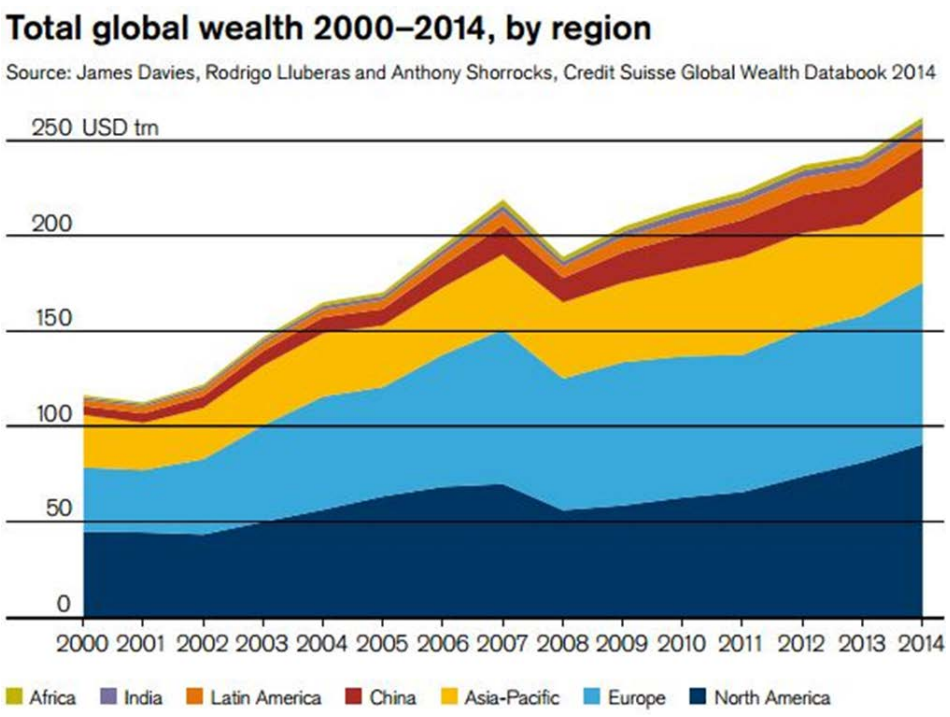
As to dollar inflation, it has declined to far below the level it reached in the 1970s. The Federal Reserve targets a 2% inflation rate, but (as noted above) has been unable to effect even that much inflation. Indeed, a recent Bloomberg article pointed out that "[t]he Fed's preferred measure of inflation has also fallen short of its 2 percent goal for 30 consecutive months," and that as revealed by the differential yields that treasury bond buyers will accept to be protected from inflation, "the outlook for consumer-price increases over the next five years has fallen almost a percentage point since its high in June to a four-year low of 1.13 percent."[13] The Energy Information Administration's annual Energy Outlook includes in its nominal GDP growth projection a long-term inflation component, which the EIA projects at only 1.8%.[14]

All of that translates into slowed growth in annual economic production and income, even when measured in nominal rather than real dollars. Meanwhile, the stored wealth that is available to fund investments has continued to rise. According to the most recent release of the Credit Suisse global wealth report, global wealth has more than doubled since the turn of this century, notwithstanding the temporary setback following the 2008 financial crisis:

[13] Susanne Walker, *Bond Investors Are Writing Off Inflation for Years, If Not Decades, to Come* (Dec 15, 2014), available at http://www.bloomberg.com/news/2014-12-15/wall-street-can-t-stop-stripping-bonds-as-inflation-deemed-dead.html.

[14] See EIA Annual Energy Outlook 2014, Table 20 (available at http://www.eia.gov/forecasts/aeo/tables_ref.cfm).

Figure 2: Global Wealth – 2000-2014



These long-term trends mean that overall, and relative to what had been the post-war norm, the world now has more wealth chasing fewer opportunities for investment rewards. Ben Bernanke, the former Chairman of the Federal Reserve, called this phenomenon a "global savings glut."[15] Like any other liquid market, capital markets are subject to the law of supply and demand. With a large supply of capital available for investment and relatively scarce demand for investment capital, it should be no surprise to see the cost of investment capital decline.

[15] Ben S. Bernanke, *The Global Saving Glut and the U.S. Current Account Deficit* (Mar. 10, 2005), available at http://www.federalreserve.gov/boarddocs/speeches/2005/200503102/.

Q. RELATEDLY, PLEASE HIGHLIGHT MR. BERANKE'S RECENT TAKE ON THE LOW INTEREST RATES IN THE U.S.

A. Mr. Bernanke addressed the issue of the continuing low interest rates recently on his weekly Brookings Blog. Bernanke indicated that he focus should be on real and not nominal interest rates and noted that, in the long term, these rates are not determined by the Federal Reserve:[16]

> If you asked the person in the street, "Why are interest rates so low?," he or she would likely answer that the Fed is keeping them low. That's true only in a very narrow sense. The Fed does, of course, set the benchmark nominal short-term interest rate. The Fed's policies are also the primary determinant of inflation and inflation expectations over the longer term, and inflation trends affect interest rates, as the figure above shows. But what matters most for the economy is the real, or inflation-adjusted, interest rate (the market, or nominal, interest rate minus the inflation rate). The real interest rate is most relevant for capital investment decisions, for example. The Fed's ability to affect real rates of return, especially longer-term real rates, is transitory and limited. Except in the short run, real interest rates are determined by a wide range of economic factors, including prospects for economic growth—not by the Fed.

Bernanke also addressed the issue about whether low-interest rates are a short-term aberration or a long-term trend:[17]

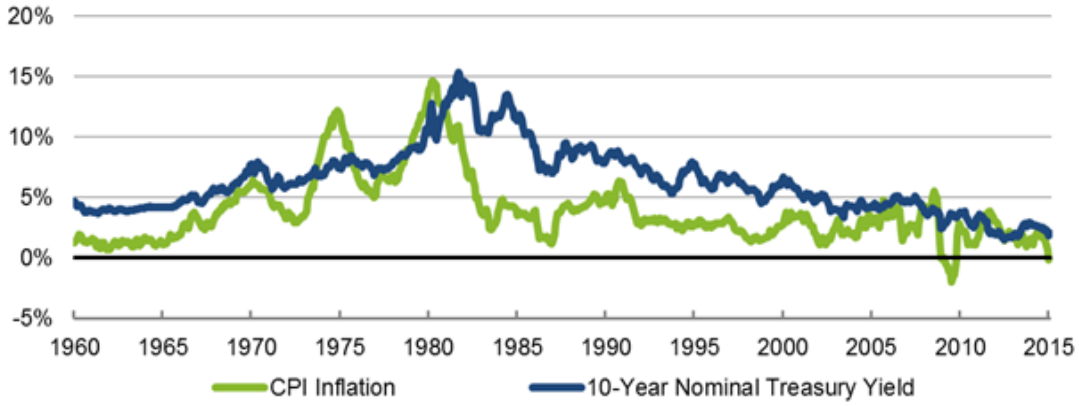
> Low interest rates are not a short-term aberration, but part of a long-term trend. As the figure below shows, ten-year government bond yields in the United States were relatively low in the 1960s, rose to a peak above 15 percent in 1981, and have been declining ever since. That pattern is partly explained by the rise and fall of inflation, also shown in the figure. All else equal, investors demand higher yields when inflation is high to compensate them for the declining purchasing power of the dollars with which they expect to be repaid. But yields on inflation-protected bonds are also very low

[16] Ben S. Bernanke, "Why are Interest Rates So Low, Weekly Blog, Brookings, March 30, 2015. http://www.brookings.edu/blogs/ben-bernanke/posts/2015/03/30-why-interest-rates-so-low

[17] *Ibid*.

today; the real or inflation-adjusted return on lending to the U.S. government for five years is currently about minus 0.1 percent.

Figure 1
Interest Rates and Inflation
1960-Present



Source: Federal Reserve Board, BLS.

BROOKINGS

Q. WHAT ARE YOUR OBSERVATIONS REGARDING THE OUTLOOK FOR INTEREST RATES AND CAPITAL COSTS?

A. I believe that there are several factors driving the markets.

First, the economy has been growing for five years, and, as noted above, the Federal Reserve continues to see continuing strength in the economy. The labor market has improved better than expected, with unemployment now down to 5.5%.

Second, interest rates remain at historically low levels and are likely to remain low. There are two factors driving the continued lower interest rates: (1) as noted by the FOMC, inflationary expectations in the U.S. remain very low and are below the FOMC's target of 2.0%; and (2) global economic growth – including Europe and Asia – remains stagnant. As a result, while the yields on ten-year U.S. Treasury bonds are low by historic standards, these yields are well above the government bond

yields in Germany, Japan, and the United Kingdom. Thus, U.S. Treasuries offer an attractive yield relative to those of other major governments around the world, thereby attracting capital to the U.S. and keeping U.S. interest rates down.

Third, reflective of the economic conditions and earnings growth and low interest rates, the stock market is near an all-time high.

Finally, with the end of the Fed's QEIII program, there were forecasts of higher interest rates for some time. However, these forecasts proved to be wrong. In fact, all the economists in Bloomberg's interest rate survey forecasted interest rates would increase in 2014, and 100% of economists were wrong. According to the *Market Watch* article:[18]

> The survey of economists' yield projections is generally skewed toward rising rates — only a few times since early 2009 have a majority of respondents to the Bloomberg survey thought rates would fall. But the unanimity of the rising rate forecasts in the spring was a stark reminder of how one-sided market views can become. It also teaches us that economists can be universally wrong.

As a final note on this issue, these consensus forecasts of economists that interest rates are going higher seem to be continually wrong. In fact, in 2014, *Bloomberg* reported that the Federal Reserve Bank of New York has stopped using the interest rate estimates of professional forecasters in the Bank's interest rate model due to the unreliability of those forecasters' interest rate forecasts.[19]

[18] Ben Eisen, *Yes, 100% of economists were dead wrong about yields*, MARKET WATCH, October 22, 2014.

[19] Susanne Walker & Liz Capo McCormick, *Unstoppable $100 Trillion Bond Market Renders Models Useless*, BLOOMBERG.COM (June 2, 2014), http://www.bloomberg.com/news/2014-06-01/the-unstoppable-100-trillion-bond-market-renders-models-useless.html.

Q. PLEASE SUMMARIZE YOUR THOUGHTS ON THE STATE OF THE MARKETS AND CAPITAL COSTS.

A. Overall, the economy and capital markets have recovered and are looking to the future, and, with low interest rates and high stock prices, capital costs continue to be at historically low levels.

III. PROXY GROUP SELECTION

Q. PLEASE DESCRIBE YOUR APPROACH TO DEVELOPING A FAIR RATE OF RETURN RECOMMENDATION FOR THE COMPANY.

A. To develop a fair rate of return recommendation for the Company, I have evaluated the return requirements of investors on the common stock of a proxy group of publicly-held electric utility companies. I have also employed the group developed by Mr. Somma.

Q. PLEASE DESCRIBE YOUR PROXY GROUP OF COMPANIES.

A. The selection criteria for the Electric Proxy Group include the following:

1. At least 50% of revenues from regulated electric operations as reported by *AUS Utilities Report*;
2. Listed as an Electric Utility by *Value Line Investment Survey* and listed as an Electric Utility or Combination Electric & Gas Utility in *AUS Utilities Report*;
3. An investment-grade corporate credit rating;
4. Has paid a cash dividend for the past six months, with no cuts or omissions;

5. Not involved in an acquisition of another utility, the target of an acquisition, or in the sale or spin-off utility assets, in the past six months; and

6. Analysts' long-term EPS growth rate forecasts available from Yahoo, Reuters, and/or Zack's.

The Electric Proxy Group includes twenty-nine companies. Summary financial statistics for the proxy group are listed in Exhibit JRW-4.[20] The median operating revenues and net plant among members of the Electric Proxy Group are $3,476.6 million and $11,197.1 million, respectively. The group receives 82% of its revenues from regulated electric operations, has a BBB+/Baa1 issuer credit ratings from Standard & Poor's and Moody's, a current common equity ratio of 46.7%, and an earned return on common equity of 9.2%.

Q. PLEASE DESCRIBE THE SOMMA PROXY GROUP.

A. Mr. Somma's group is smaller and includes only eleven electric utilities.[21] Although I believe that my group provides a more comprehensive sample to estimate an equity cost rate for the Company, I will also include the Somma Proxy Group in my analysis.

Summary financial statistics for Mr. Somma's proxy group are provided in Panel B of page 1 of Exhibit JRW-4. The median operating revenues and net plant for the Somma Proxy Group are $1,880.0 million and $5,789.0 million, respectively.

[20] In my testimony, I present financial results using both mean and medians as measures of central tendency. However, due to outliers among means, I have used the median as a measure of central tendency.

[21] His group initially includes twelve utilities, but I have eliminated TECO Energy due to its ongoing sales negotiations for its coal mining subsidiary, TECO Coal.

The group receives 90% of its revenues from regulated electric operations, has BBB+/BBB and Baa1 issuer credit ratings from S&P and Moody's, a current common equity ratio of 48.5%, and a current earned return on common equity of 9.2%.

Q. HOW DOES THE INVESTMENT RISK OF THE COMPANY COMPARE TO THAT OF YOUR ELECTRIC PROXY GROUP AND THE SOMMA PROXY GROUP?

A. I believe that bond ratings provide a good assessment of the investment risk of a company. Exhibit JRW-4 shows for S&P and Moody's issuer credit ratings for Westar and the companies in the two proxy groups. Westar's issuer credit rating is BBB+ according to S&P and Baa1 according to Moody's. These are very similar to the averages for the two groups. Therefore, I believe that these two groups are similar in risk and provide reasonable proxies to estimate the equity cost rate for Westar.

IV. CAPITAL STRUCTURE RATIOS AND DEBT COST RATES

Q. WHAT IS WESTAR'S PROPOSED CAPITAL STRUCTURE AND SENIOR CAPITAL COST RATES FOR RATEMAKING PURPOSES?

A. The Company has proposed a capital structure that includes 46.5451% long-term debt and 53.4549% common equity and a debt cost rate of 5.6877. This is shown in Panel A of Exhibit JRW-5.

Q. WHAT IS WESTAR'S ACTUAL CAPITAL STRUCTURE?

A. Panel B of Exhibit JRW-5 provides the quarterly capitalization amounts and rations for Westar Energy for the four quarters ending March 31, 2015. These amounts and ratios shown include short-term debt, since total debt and financial risk includes both long-term and short-term debt. Westar's average quarterly capital ratios are 4.84% short-term debt, 48.29% long-term debt, and 46.88% common equity.

Q. WHAT IS THE COMMON EQUITY RATIO OF THE TWP PROXY GROUPS?

A. The median common equity ratios of the Electric and Somma Proxy Groups, which are shown in Exhibit JRW-4, are 46.7% and 48.5%, respectively.

Q. ARE YOU ADOPTING WESTAR'S RECOMMENDED CAPITAL STRUCTURE?

A. Yes, but with the caveat the proposed capital structure includes a higher common equity ratio than the capital structures of electric utilities in the Electric and Somma Proxy Groups. As a result, Westar's proposed capitalization includes lower financial risk than those of other electric utilities.

Q. ARE YOU ALSO ADOPTING WESTAR'S RECOMMENDED SENIOR CAPITAL COST RATE?

A. Yes. I will use Westar's recommended long-term debt cost rate of 5.69%.

V. THE COST OF COMMON EQUITY CAPITAL

A. Overview

Q. WHY MUST AN OVERALL COST OF CAPITAL OR FAIR RATE OF RETURN BE ESTABLISHED FOR A PUBLIC UTILITY?

A. In a competitive industry, the return on a firm's common equity capital is determined through the competitive market for its goods and services. Due to the capital requirements needed to provide utility services and the economic benefit to society from avoiding duplication of these services, some public utilities are monopolies. Because of the lack of competition and the essential nature of their services, it is not appropriate to permit monopoly utilities to set their own prices. Thus, regulation seeks to establish prices that are fair to consumers and, at the same time, sufficient to meet the operating and capital costs of the utility (i.e., provide an adequate return on capital to attract investors).

Q. PLEASE PROVIDE AN OVERVIEW OF THE COST OF CAPITAL IN THE CONTEXT OF THE THEORY OF THE FIRM.

A. The total cost of operating a business includes the cost of capital. The cost of common equity capital is the expected return on a firm's common stock that the marginal investor would deem sufficient to compensate for risk and the time value of money. In equilibrium, the expected and required rates of return on a company's common stock are equal.

Normative economic models of a company or firm, developed under very restrictive assumptions, provide insight into the relationship between firm performance or profitability, capital costs, and the value of the firm. Under the economist's ideal model of perfect competition, where entry and exit are costless, products are undifferentiated, and there are increasing marginal costs of production, firms produce up to the point where price equals marginal cost. Over time, a long-run equilibrium is established where price equals average cost, including the firm's capital costs. In equilibrium, total revenues equal total costs, and because capital costs represent investors' required return on the firm's capital, actual returns equal required returns, and the market value must equal the book value of the firm's securities.

In the real world, firms can achieve competitive advantage due to product market imperfections. Most notably, companies can gain competitive advantage through product differentiation (adding real or perceived value to products) and by achieving economies of scale (decreasing marginal costs of production). Competitive advantage allows firms to price products above average cost and thereby earn accounting profits greater than those required to cover capital costs. When these profits are in excess of that required by investors, or when a firm earns a return on equity in excess of its cost of equity, investors respond by valuing the firm's equity in excess of its book value.

James M. McTaggart, founder of the international management consulting firm Marakon Associates, described this essential relationship between the return on equity, the cost of equity, and the market-to-book ratio in the following manner:[22]

> Fundamentally, the value of a company is determined by the cash flow it generates over time for its owners, and the minimum acceptable rate of return required by capital investors. This "cost of equity capital" is used to discount the expected equity cash flow, converting it to a present value. The cash flow is, in turn, produced by the interaction of a company's return on equity and the annual rate of equity growth. High return on equity (ROE) companies in low-growth markets, such as Kellogg, are prodigious generators of cash flow, while low ROE companies in high-growth markets, such as Texas Instruments, barely generate enough cash flow to finance growth.
>
> A company's ROE over time, relative to its cost of equity, also determines whether it is worth more or less than its book value. If its ROE is consistently greater than the cost of equity capital (the investor's minimum acceptable return), the business is economically profitable and its market value will exceed book value. If, however, the business earns an ROE consistently less than its cost of equity, it is economically unprofitable and its market value will be less than book value.

As such, the relationship between a firm's return on equity, cost of equity, and market-to-book ratio is relatively straightforward. A firm that earns a return on equity above its cost of equity will see its common stock sell at a price above its book value. Conversely, a firm that earns a return on equity below its cost of equity will see its common stock sell at a price below its book value.

[22] James M. McTaggart, "The Ultimate Poison Pill: Closing the Value Gap," *Commentary* (Spring 1986), p.3.

Q. PLEASE PROVIDE ADDITIONAL INSIGHTS INTO THE RELATIONSHIP BETWEEN RETURN ON EQUITY (ROE) AND MARKET-TO-BOOK RATIOS.

A. This relationship is discussed in a classic Harvard Business School case study entitled "Note on Value Drivers." On page 2 of that case study, the author describes the relationship very succinctly:[23]

> For a given industry, more profitable firms – those able to generate higher returns per dollar of equity– should have higher market-to-book ratios. Conversely, firms which are unable to generate returns in excess of their cost of equity should sell for less than book value.

Profitability	*Value*
If ROE > K	*then Market/Book > 1*
If ROE = K	*then Market/Book =1*
If ROE < K	*then Market/Book < 1*

To assess the relationship by industry, as suggested above, I performed a regression study between estimated ROE and market-to-book ratios using natural gas distribution, electric utility, and water utility companies. I used all companies in these three industries that are covered by *Value Line* and have estimated ROE and market-to-book ratio data. The results are presented in Panels A-C of Exhibit JRW-6. The average R-squares for the electric, gas, and water companies are 0.78, 0.63, and 0.49, respectively.[24] This demonstrates the strong positive relationship between ROEs and market-to-book ratios for public utilities.

[23] Benjamin Esty, "Note on Value Drivers," Harvard Business School, Case No. 9-297-082, April 7, 1997.

[24] R-square measures the percent of variation in one variable (e.g., market-to-book ratios) explained by another variable (e.g., expected ROE). R-squares vary between zero and 1.0, with values closer to 1.0 indicating a higher relationship between two variables.

Q. WHAT ECONOMIC FACTORS HAVE AFFECTED THE COST OF EQUITY CAPITAL FOR PUBLIC UTILITIES?

A. Exhibit JRW-7 provides indicators of public utility equity cost rates over the past decade.

Page 1 shows the yields on long-term A-rated rated public utility bonds. These yields decreased from 2000 until 2003, and then hovered in the 5.50%-6.50% range from mid-2003 until mid-2008. These yields spiked up to the 7.75% range with the onset of the financial crisis, and remained high and volatile until early 2009. These yields declined to below 4.0% in mid-2013, and then increased with interest rates in general to the 4.85% range as of late 2013. They subsequently declined to below 4.0% in the first quarter of 2015, but have increased with interest rates in general since that time.

Page 2 provides the dividend yields for the electric utilities over the past decade. The dividend yields for this group have declined from the year 2000 to 2007, increased to 5.2% in 2009, and have since declined to 3.80% in 2014.

Average earned returns on common equity and market-to-book ratios for the Electric Proxy Group are on page 3 of Exhibit JRW-7. For the group, earned returns on common equity have declined gradually since the year 2000 and have been in the 9.50% range in recent years. The average market-to-book ratios for this group peaked at 1.68X in 2007, declined to 1.07X in 2009, and have increased since that time. As of 2014, the average market-to-book for the group was 1.50X.

Q. WHAT FACTORS DETERMINE INVESTORS' EXPECTED OR REQUIRED RATE OF RETURN ON EQUITY?

A. The expected or required rate of return on common stock is a function of market-wide as well as company-specific factors. The most important market factor is the time value of money as indicated by the level of interest rates in the economy. Common stock investor requirements generally increase and decrease with like changes in interest rates. The perceived risk of a firm is the predominant factor that influences investor return requirements on a company-specific basis. A firm's investment risk is often separated into business and financial risk. Business risk encompasses all factors that affect a firm's operating revenues and expenses. Financial risk results from incurring fixed obligations in the form of debt in financing its assets.

Q. HOW DOES THE INVESTMENT RISK OF UTILITIES COMPARE WITH THAT OF OTHER INDUSTRIES?

A. Due to the essential nature of their service as well as their regulated status, public utilities are exposed to a lesser degree of business risk than other, non-regulated businesses. The relatively low level of business risk allows public utilities to meet much of their capital requirements through borrowing in the financial markets, thereby incurring greater than average financial risk. Nonetheless, the overall investment risk of public utilities is below most other industries.

Exhibit JRW-8 provides an assessment of investment risk for 97 industries as measured by beta, which according to modern capital market theory, is the only relevant measure of investment risk. These betas come from the *Value Line Investment Survey*. The study shows that the investment risk of utilities is very low.

The average betas for electric, water, and gas utility companies are 0.74, 0.74, and 0.80, respectively. As such, the cost of equity for utilities is among the lowest of all industries in the U.S.

Q. HOW CAN THE EXPECTED OR REQUIRED RATE OF RETURN ON COMMON EQUITY CAPITAL BE DETERMINED?

A. The costs of debt and preferred stock are normally based on historical or book values and can be determined with a great degree of accuracy. The cost of common equity capital, however, cannot be determined precisely and must instead be estimated from market data and informed judgment. This return to the stockholder should be commensurate with returns on investments in other enterprises having comparable risks.

According to valuation principles, the present value of an asset equals the discounted value of its expected future cash flows. Investors discount these expected cash flows at their required rate of return that, as noted above, reflects the time value of money and the perceived riskiness of the expected future cash flows. As such, the cost of common equity is the rate at which investors discount expected cash flows associated with common stock ownership.

Models have been developed to ascertain the cost of common equity capital for a firm. Each model, however, has been developed using restrictive economic assumptions. Consequently, judgment is required in selecting appropriate financial valuation models to estimate a firm's cost of common equity capital, in determining the data inputs for these models, and in interpreting the models' results. All of these

decisions must take into consideration the firm involved as well as current conditions in the economy and the financial markets.

Q. HOW DO YOU PLAN TO ESTIMATE THE COST OF EQUITY CAPITAL FOR THE COMPANY?

A. I rely primarily on the discounted cash flow ("DCF") model to estimate the cost of equity capital. Given the investment valuation process and the relative stability of the utility business, I believe that the DCF model provides the best measure of equity cost rates for public utilities. It is my experience that this Commission has traditionally relied on the DCF model. I have also performed a capital asset pricing model ("CAPM") study; however, I give these results less weight because I believe that risk premium studies, of which the CAPM is one form, provide a less reliable indication of equity cost rates for public utilities.

B. DCF Analysis

Q. PLEASE DESCRIBE THE THEORY BEHIND THE TRADITIONAL DCF MODEL.

A. According to the DCF model, the current stock price is equal to the discounted value of all future dividends that investors expect to receive from investment in the firm. As such, stockholders' returns ultimately result from current as well as future dividends. As owners of a corporation, common stockholders are entitled to a *pro rata* share of the firm's earnings. The DCF model presumes that earnings that are not

paid out in the form of dividends are reinvested in the firm so as to provide for future growth in earnings and dividends. The rate at which investors discount future dividends, which reflects the timing and riskiness of the expected cash flows, is interpreted as the market's expected or required return on the common stock. Therefore, this discount rate represents the cost of common equity. Algebraically, the DCF model can be expressed as:

$$P = \frac{D_1}{(1+k)^1} + \frac{D_2}{(1+k)^2} + \ldots \frac{D_n}{(1+k)^n}$$

where P is the current stock price, D_n is the dividend in year n, and k is the cost of common equity.

Q. IS THE DCF MODEL CONSISTENT WITH VALUATION TECHNIQUES EMPLOYED BY INVESTMENT FIRMS?

A. Yes. Virtually all investment firms use some form of the DCF model as a valuation technique. One common application for investment firms is called the three-stage DCF or dividend discount model ("DDM"). The stages in a three-stage DCF model are presented in Exhibit JRW-9, Page 1 of 2. This model presumes that a company's dividend payout progresses initially through a growth stage, then proceeds through a transition stage, and finally assumes a maturity (or steady-state) stage. The dividend-payment stage of a firm depends on the profitability of its internal investments which, in turn, is largely a function of the life cycle of the product or service.

1. Growth stage: Characterized by rapidly expanding sales, high profit margins, and an abnormally high growth in earnings per share. Because of highly profitable expected investment opportunities, the payout ratio is low.

Competitors are attracted by the unusually high earnings, leading to a decline in the growth rate.

2. Transition stage: In later years, increased competition reduces profit margins and earnings growth slows. With fewer new investment opportunities, the company begins to pay out a larger percentage of earnings.

3. Maturity (steady-state) stage: Eventually, the company reaches a position where its new investment opportunities offer, on average, only slightly attractive ROEs. At that time, its earnings growth rate, payout ratio, and ROE stabilize for the remainder of its life. The constant-growth DCF model is appropriate when a firm is in the maturity stage of the life cycle.

In using this model to estimate a firm's cost of equity capital, dividends are projected into the future using the different growth rates in the alternative stages, and then the equity cost rate is the discount rate that equates the present value of the future dividends to the current stock price.

Q. HOW DO YOU ESTIMATE STOCKHOLDERS' EXPECTED OR REQUIRED RATE OF RETURN USING THE DCF MODEL?

A. Under certain assumptions, including a constant and infinite expected growth rate, and constant dividend/earnings and price/earnings ratios, the DCF model can be simplified to the following:

$$P = \frac{D_1}{k - g}$$

where D_1 represents the expected dividend over the coming year and g is the expected growth rate of dividends. This is known as the constant-growth version of the DCF model. To use the constant-growth DCF model to estimate a firm's cost of equity, one solves for k in the above expression to obtain the following:

$$k = \frac{D_1}{P} + g$$

Q. IN YOUR OPINION, IS THE CONSTANT-GROWTH DCF MODEL APPROPRIATE FOR PUBLIC UTILITIES?

A. Yes. The economics of the public utility business indicate that the industry is in the steady-state or constant-growth stage of a three-stage DCF. The economics include the relative stability of the utility business, the maturity of the demand for public utility services, and the regulated status of public utilities (especially the fact that their returns on investment are effectively set through the ratemaking process). The DCF valuation procedure for companies in this stage is the constant-growth DCF. In the constant-growth version of the DCF model, the current dividend payment and stock price are directly observable. However, the primary problem and controversy in applying the DCF model to estimate equity cost rates entails estimating investors' expected dividend growth rate.

Q. WHAT FACTORS SHOULD ONE CONSIDER WHEN APPLYING THE DCF METHODOLOGY?

A. One should be sensitive to several factors when using the DCF model to estimate a firm's cost of equity capital. In general, one must recognize the assumptions under which the DCF model was developed in estimating its components (the dividend yield and the expected growth rate). The dividend yield can be measured precisely at any point in time; however, it tends to vary somewhat over time. Estimation of expected growth is considerably more difficult. One must consider recent firm performance, in conjunction with current economic developments and other information available to investors, to accurately estimate investors' expectations.

Q. WHAT DIVIDEND YIELDS HAVE YOU REVIEWED?

A. I have calculated the dividend yields for the companies in the proxy group using the current annual dividend and the 30-day, 90-day, and 180-day average stock prices. These dividend yields are provided in Panel A of page 2 of Exhibit JRW-10. For the Electric Proxy Group, the median dividend yields using the 30-day, 90-day, and 180-day average stock prices range from 3.6% to 3.8%. Given this range, and the recent increase in utility dividend yields, I use 3.75% as the dividend yield for the Electric Proxy Group. For the Somma Proxy Group, provided in Panel B of page 2 of Exhibit JRW-10, the mean and median dividend yields range from 3.5% to 3.7% using the 30-day, 90-day, and 180-day average stock prices. Given this range, and the recent increase in utility dividend yields, I am using a dividend yield of 3.65% for the Somma Proxy Group.

Q. PLEASE DISCUSS THE APPROPRIATE ADJUSTMENT TO THE SPOT DIVIDEND YIELD.

A. According to the traditional DCF model, the dividend yield term relates to the dividend yield over the coming period. As indicated by Professor Myron Gordon, who is commonly associated with the development of the DCF model for popular use, this is obtained by: (1) multiplying the expected dividend over the coming quarter by 4, and (2) dividing this dividend by the current stock price to determine the appropriate dividend yield for a firm that pays dividends on a quarterly basis.[25]

In applying the DCF model, some analysts adjust the current dividend for growth over the coming year as opposed to the coming quarter. This can be complicated because firms tend to announce changes in dividends at different times during the year. As such, the dividend yield computed based on presumed growth over the coming quarter as opposed to the coming year can be quite different. Consequently, it is common for analysts to adjust the dividend yield by some fraction of the long-term expected growth rate.

Q. GIVEN THIS DISCUSSION, WHAT ADJUSTMENT FACTOR DO YOU USE FOR YOUR DIVIDEND YIELD?

A. I adjust the dividend yield by one-half (1/2) of the expected growth so as to reflect growth over the coming year. This is the approach employed by the Federal Energy

[25] *Petition for Modification of Prescribed Rate of Return*, Federal Communications Commission, Docket No. 79-05, Direct Testimony of Myron J. Gordon and Lawrence I. Gould at 62 (April 1980).

Regulatory Commission ("FERC").[26] The DCF equity cost rate ("K") is computed as:

$$K = [(D/P) * (1 + 0.5g)] + g$$

Q. PLEASE DISCUSS THE GROWTH RATE COMPONENT OF THE DCF MODEL.

A. There is much debate as to the proper methodology to employ in estimating the growth component of the DCF model. By definition, this component is investors' expectation of the long-term dividend growth rate. Presumably, investors use some combination of historical and/or projected growth rates for earnings and dividends per share and for internal or book-value growth to assess long-term potential.

Q. WHAT GROWTH DATA HAVE YOU REVIEWED FOR THE PROXY GROUPS?

A. I have analyzed a number of measures of growth for companies in the proxy groups. I reviewed *Value Line's* historical and projected growth rate estimates for earnings per share ("EPS"), dividends per share ("DPS"), and book value per share ("BVPS"). In addition, I utilized the average EPS growth rate forecasts of Wall Street analysts as provided by Yahoo, Reuters and Zacks. These services solicit five-year earnings growth rate projections from securities analysts and compile and publish the means and medians of these forecasts. Finally, I also assessed prospective growth as

[26] Opinion No. 414-A, *Transcontinental Gas Pipe Line Corp.*, 84 FERC ¶61,084 (1998).

measured by prospective earnings retention rates and earned returns on common equity.

Q. PLEASE DISCUSS HISTORICAL GROWTH IN EARNINGS AND DIVIDENDS AS WELL AS INTERNAL GROWTH.

A. Historical growth rates for EPS, DPS, and BVPS are readily available to investors and are presumably an important ingredient in forming expectations concerning future growth. However, one must use historical growth numbers as measures of investors' expectations with caution. In some cases, past growth may not reflect future growth potential. Also, employing a single growth rate number (for example, for five or ten years) is unlikely to accurately measure investors' expectations, due to the sensitivity of a single growth rate figure to fluctuations in individual firm performance as well as overall economic fluctuations (i.e., business cycles). However, one must appraise the context in which the growth rate is being employed. According to the conventional DCF model, the expected return on a security is equal to the sum of the dividend yield and the expected long-term growth in dividends. Therefore, to best estimate the cost of common equity capital using the conventional DCF model, one must look to long-term growth rate expectations.

Internally generated growth is a function of the percentage of earnings retained within the firm (the earnings retention rate) and the rate of return earned on those earnings (the return on equity). The internal growth rate is computed as the retention rate times the return on equity. Internal growth is significant in determining long-run earnings and, therefore, dividends. Investors recognize the importance of

internally generated growth and pay premiums for stocks of companies that retain earnings and earn high returns on internal investments.

Q. PLEASE DISCUSS THE SERVICES THAT PROVIDE ANALYSTS' EPS FORECASTS.

A. Analysts' EPS forecasts for companies are collected and published by a number of different investment information services, including Institutional Brokers Estimate System ("I/B/E/S"), Bloomberg, FactSet, Zacks, First Call and Reuters, among others. Thompson Reuters publishes analysts' EPS forecasts under different product names, including I/B/E/S, First Call, and Reuters. Bloomberg, FactSet, and Zacks publish their own set of analysts' EPS forecasts for companies. These services do not reveal: (1) the analysts who are solicited for forecasts; or (2) the identity of the analysts who actually provide the EPS forecasts that are used in the compilations published by the services. I/B/E/S, Bloomberg, FactSet, and First Call are fee-based services. These services usually provide detailed reports and other data in addition to analysts' EPS forecasts. Thompson Reuters and Zacks do provide limited EPS forecast data free-of-charge on the internet. Yahoo finance (http://finance.yahoo.com) lists Thompson Reuters as the source of its summary EPS forecasts. The Reuters website (www.reuters.com) also publishes EPS forecasts from Thompson Reuters, but with more detail. Zacks (www.zacks.com) publishes its summary forecasts on its website. Zack's estimates are also available on other websites, such as msn.money (http://money.msn.com).

Q. PLEASE PROVIDE AN EXAMPLE OF THESE EPS FORECASTS.

A. The following example provides the EPS forecasts compiled by Reuters for Alliant Energy Corp. (stock symbol "LNT"). The figures are provided on page 2 of Exhibit JRW-9. The top line shows that one analyst has provided EPS estimates for the quarter ending June 30, 2015. The mean, high and low estimates are $0.57, $0.60, and $0.52, respectively. The second line shows the quarterly EPS estimates for the quarter ending September 30, 2015 of $1.66 (mean), $1.84 (high), and $1.40 (low). Lines three and four show the annual EPS estimates for the fiscal year ending December 2015 ($3.62 (mean), $3.68 (high), and $3.56 (low)) and for the fiscal year ending December 2016 ($3.82 (mean), $3.90 (high), and $3.74 (low)). The quarterly and annual EPS forecasts in lines 1-4 are expressed in dollars and cents. As in the LNT case shown here, it is common for more analysts to provide estimates of annual EPS as opposed to quarterly EPS. The bottom line shows the projected long-term EPS growth rate, which is expressed as a percentage. For LNT, two analysts have provided a long-term EPS growth rate forecast, with mean, high, and low growth rates of 5.40%, 6.00%, and 4.80%.

Q. WHICH OF THESE EPS FORECASTS IS USED IN DEVELOPING A DCF GROWTH RATE?

A. The DCF growth rate is the long-term projected growth rate in EPS, DPS, and BVPS. Therefore, in developing an equity cost rate using the DCF model, the projected long-term growth rate is the projection used in the DCF model.

Q. WHY DO YOU NOT RELY EXCLUSIVELY ON THE EPS FORECASTS OF WALL STREET ANALYSTS IN ARRIVING AT A DCF GROWTH RATE FOR THE PROXY GROUP?

A. There are several issues with using the EPS growth rate forecasts of Wall Street analysts as DCF growth rates. First, the appropriate growth rate in the DCF model is the dividend growth rate, not the earnings growth rate. Nonetheless, over the very long term, dividend and earnings will have to grow at a similar growth rate. Therefore, consideration must be given to other indicators of growth, including prospective dividend growth, internal growth, as well as projected earnings growth. Second, a recent study by Lacina, Lee, and Xu (2011) has shown that analysts' long-term earnings growth rate forecasts are not more accurate at forecasting future earnings than naïve random walk forecasts of future earnings.[27] Employing data over a twenty-year period, these authors demonstrate that using the most recent year's EPS figure to forecast EPS in the next 3-5 years proved to be just as accurate as using the EPS estimates from analysts' long-term earnings growth rate forecasts. In the authors' opinion, these results indicate that analysts' long-term earnings growth rate forecasts should be used with caution as inputs for valuation and cost of capital purposes. Finally, and most significantly, it is well known that the long-term EPS growth rate forecasts of Wall Street securities analysts are overly optimistic and upwardly biased. This has been demonstrated in a number of academic studies over the years. This issue is discussed at length in Appendix B of this testimony. Hence,

[27] M. Lacina, B. Lee & Z. Xu, *Advances in Business and Management Forecasting (Vol. 8),* Kenneth D. Lawrence, Ronald K. Klimberg (ed.), Emerald Group Publishing Limited, pp.77-101.

using these growth rates as a DCF growth rate will provide an overstated equity cost rate. On this issue, a study by Easton and Sommers (2007) found that optimism in analysts' growth rate forecasts leads to an upward bias in estimates of the cost of equity capital of almost 3.0 percentage points.[28]

Q. IS IT YOUR OPINION THAT STOCK PRICES REFLECT THE UPWARD BIAS IN THE EPS GROWTH RATE FORECASTS?

A. Yes, I do believe that investors are well aware of the bias in analysts' EPS growth rate forecasts, and therefore stock prices reflect the upward bias.

Q. HOW DOES THAT AFFECT THE USE OF THESE FORECASTS IN A DCF EQUITY COST RATE STUDY?

A. According to the DCF model, the equity cost rate is a function of the dividend yield and expected growth rate. Because stock prices reflect the bias, it would affect the dividend yield. In addition, the DCF growth rate needs to be adjusted downward from the projected EPS growth rate to reflect the upward bias.

Q. PLEASE DISCUSS THE HISTORICAL GROWTH OF THE COMPANIES IN THE PROXY GROUPS, AS PROVIDED BY *VALUE LINE*.

A. Page 3 of Exhibit JRW-10 provides the 5- and 10-year historical growth rates for EPS, DPS, and BVPS for the companies in the two proxy groups, as published in the *Value Line Investment Survey*. The median historical growth measures for EPS, DPS,

[28] Peter D. Easton & Gregory A. Sommers, *Effect of Analysts' Optimism on Estimates of the Expected Rate of Return Implied by Earnings Forecasts*, 45 J. ACCT. RES. 983–1015 (2007).

and BVPS for the Electric Proxy Group, as provided in Panel A, range from 2.5% to 4.5%, with an average of 3.5%. For the Somma Proxy Group, as shown in Panel B of page 3 of Exhibit JRW-10, the historical growth measures in EPS, DPS, and BVPS, as measured by the medians, range from 2.5% to 7.0%, with an average of 4.4%.

Q. PLEASE SUMMARIZE *VALUE LINE'S* PROJECTED GROWTH RATES FOR THE COMPANIES IN THE PROXY GROUPS.

A. *Value Line's* projections of EPS, DPS, and BVPS growth for the companies in the proxy groups are shown on page 4 of Exhibit JRW-10. As stated above, due to the presence of outliers, the medians are used in the analysis. For the Electric Proxy Group, as shown in Panel A of page 4 of Exhibit JRW-10, the medians range from 4.0% to 5.0%, with an average of 4.3%. For the Somma Proxy Group, as shown in Panel B of page 4 of Exhibit JRW-10, the medians range from 4.0% to 6.0%, with an average of 5.3%.

Also provided on page 4 of Exhibit JRW-10 are the prospective sustainable growth rates for the companies in the two proxy groups as measured by *Value Line*'s average projected retention rate and return on shareholders' equity. As noted above, sustainable growth is a significant and a primary driver of long-run earnings growth. For the Electric Proxy Group and the Somma Proxy Group, the median prospective sustainable growth rates are 3.9% and 3.6%, respectively.

Q. PLEASE ASSESS GROWTH FOR THE PROXY GROUPS AS MEASURED BY ANALYSTS' FORECASTS OF EXPECTED 5-YEAR EPS GROWTH.

A. Yahoo, Zacks, and Reuters collect, summarize, and publish Wall Street analysts' long-term EPS growth rate forecasts for the companies in the proxy groups. These forecasts are provided for the companies in the proxy groups on page 5 of Exhibit JRW-10. I have reported both the mean and median growth rates for the two groups. Since there is considerable overlap in analyst coverage between the three services, and not all of the companies have forecasts from the different services, I have averaged the expected five-year EPS growth rates from the three services for each company to arrive at an expected EPS growth rate for each company. The mean/median of analysts' projected EPS growth rates for the Electric and Somma Proxy Groups are 4.7%/5.0% and 5.5%/5.0%, respectively.[29]

Q. PLEASE SUMMARIZE YOUR ANALYSIS OF THE HISTORICAL AND PROSPECTIVE GROWTH OF THE PROXY GROUPS.

A. Page 6 of Exhibit JRW-10 shows the summary DCF growth rate indicators for the proxy groups.

The historical growth rate indicators for my Electric Proxy Group imply a baseline growth rate of 3.5%. The average of the projected EPS, DPS, and BVPS growth rates from *Value Line* is 4.3%, and *Value Line*'s projected sustainable growth rate is 3.9%. The high end of the range for the Electric Proxy Group are the projected EPS growth rates of Wall Street analysts, which are 4.7% and 5.0% as measured by the mean and median growth rates. The overall range for the projected growth rate indicators is 3.5% to 5.0%. Giving primary weight to the projected EPS growth rate

[29] Given the much higher mean of analysts' projected EPS growth rates for the Hevert Proxy Group, I have also considered the mean figures in the growth rate analysis.

of Wall Street analysis, the evidence suggests the projected growth rate is in the 4.75% to 5.0% range. I will use the midpoint of this range - 4.875% - as the DCF growth rate for the Electric Proxy Group. This growth rate figure is clearly in the upper end of the range of historic and projected growth rates for the Electric Proxy Group.

The historical growth rate indicators for the Somma Proxy Group indicate a growth rate of 4.4%. *Value Line*'s average projected EPS, DPS, and BVPS growth rate for the group is 5.3%, and *Value Line*'s projected sustainable growth rate is 3.6%. The mean/median projected EPS growth rates of Wall Street analysts for the group are 5.5% and 5.0%. The range for the projected growth rate indicators is 3.6% to 5.5%. Giving primary weight to the projected EPS growth rate of Wall Street analysis, I believe that a growth rate of 5.25% is appropriate for the Somma Proxy Group. As is the case for the Electric Proxy Group, this growth rate figure is clearly in the upper end of the range of historic and projected growth rates for the Somma Proxy Group.

Q. BASED ON THE ABOVE ANALYSIS, WHAT ARE YOUR INDICATED COMMON EQUITY COST RATES FROM THE DCF MODEL FOR THE GROUP?

A. My DCF-derived equity cost rates for the groups are summarized on page 1 of Exhibit JRW-10 and in the table below.

	Dividend Yield	1 + ½ Growth Adjustment	DCF Growth Rate	Equity Cost Rate
Electric Proxy Group	**3.75%**	**1.02438**	**4.88%**	**8.7%**
Somma Proxy Group	**3.65%**	**1.02675**	**5.25%**	**9.0%**

The result for my Electric Proxy Group is the 3.75% dividend yield, times the one and one-half growth adjustment of 1.02438, plus the DCF growth rate of 4.88%, which results in an equity cost rate of 8.7%. The result for the Somma Proxy Group includes a dividend yield of 3.65%, times the one and one-half growth adjustment of 1.02675, plus the DCF growth rate of 5.25%, which results in an equity cost rate of 9.0%.

C. Capital Asset Pricing Model

Q. PLEASE DISCUSS THE CAPITAL ASSET PRICING MODEL ("CAPM").

A. The CAPM is a risk premium approach to gauging a firm's cost of equity capital. According to the risk premium approach, the cost of equity is the sum of the interest rate on a risk-free bond (R_f) and a risk premium (RP), as in the following:

$$k = R_f + RP$$

The yield on long-term U.S. Treasury securities is normally used as R_f. Risk premiums are measured in different ways. The CAPM is a theory of the risk and expected returns of common stocks. In the CAPM, two types of risk are associated with a stock: firm-specific risk or unsystematic risk, and market or systematic risk,

which is measured by a firm's beta. The only risk that investors receive a return for bearing is systematic risk.

According to the CAPM, the expected return on a company's stock, which is also the equity cost rate (K), is equal to:

$$\boldsymbol{K = (R_f) + ß * [E(R_m) - (R_f)]}$$

Where:

- *K* represents the estimated rate of return on the stock;
- $E(R_m)$ represents the expected return on the overall stock market. Frequently, the 'market' refers to the S&P 500;
- (R_f) represents the risk-free rate of interest;
- $[E(R_m) - (R_f)]$ represents the expected equity or market risk premium—the excess return that an investor expects to receive above the risk-free rate for investing in risky stocks; and
- *Beta*—(ß) is a measure of the systematic risk of an asset.

To estimate the required return or cost of equity using the CAPM requires three inputs: the risk-free rate of interest (R_f), the beta (ß), and the expected equity or market risk premium $[E(R_m) - (R_f)]$. R_f is the easiest of the inputs to measure – it is represented by the yield on long-term U.S. Treasury bonds. ß, the measure of systematic risk, is a little more difficult to measure because there are different opinions about what adjustments, if any, should be made to historical betas due to their tendency to regress to 1.0 over time. And finally, an even more difficult input to measure is the expected equity or market risk premium $(E(R_m) - (R_f))$. I will discuss each of these inputs below.

Q. PLEASE DISCUSS EXHIBIT JRW-11.

A. Exhibit JRW-11 provides the summary results for my CAPM study. Page 1 shows the results, and the following pages contain the supporting data.

Q. PLEASE DISCUSS THE RISK-FREE INTEREST RATE.

A. The yield on long-term U.S. Treasury bonds has usually been viewed as the risk-free rate of interest in the CAPM. The yield on long-term U.S. Treasury bonds, in turn, has been considered to be the yield on U.S. Treasury bonds with 30-year maturities.

Q. WHAT RISK-FREE INTEREST RATE ARE YOU USING IN YOUR CAPM?

A. As shown on page 2 of Exhibit JRW-11, the yield on 30-year U.S. Treasury bonds has been in the 2.5% to 4.0% range over the 2013–2015 time period. These rates are currently in middle of this range. Given the recent range of yields and the possibility of higher interest rates, I use 4.0% as the risk-free rate, or R_f, in my CAPM.

Q. WHAT BETAS ARE YOU EMPLOYING IN YOUR CAPM?

A. Beta (ß) is a measure of the systematic risk of a stock. The market, usually taken to be the S&P 500, has a beta of 1.0. The beta of a stock with the same price movement as the market also has a beta of 1.0. A stock whose price movement is greater than that of the market, such as a technology stock, is riskier than the market and has a beta greater than 1.0. A stock with below average price movement, such as that of a regulated public utility, is less risky than the market and has a beta less than 1.0.

Estimating a stock's beta involves running a linear regression of a stock's return on the market return.

As shown on page 3 of Exhibit JRW-11, the slope of the regression line is the stock's ß. A steeper line indicates that the stock is more sensitive to the return on the overall market. This means that the stock has a higher ß and greater-than-average market risk. A less steep line indicates a lower ß and less market risk.

Several online investment information services, such as Yahoo and Reuters, provide estimates of stock betas. Usually these services report different betas for the same stock. The differences are usually due to: (1) the time period over which ß is measured; and (2) any adjustments that are made to reflect the fact that betas tend to regress to 1.0 over time. In estimating an equity cost rate for the proxy group, I am using the betas for the companies as provided in the *Value Line Investment Survey*. As shown on page 3 of Exhibit JRW-11, the median betas for the companies in the Electric and Somma Proxy Groups are 0.75 and 0.80, respectively.

Q. PLEASE DISCUSS THE MARKET RISK PREMIUM ("MRP").

A. The MRP is equal to the expected return on the stock market (e.g., the expected return on the S&P 500, $E(R_m)$ minus the risk-free rate of interest (R_f)). The MRP is the difference in the expected total return between investing in equities and investing in "safe" fixed-income assets, such as long-term government bonds. However, while the MRP is easy to define conceptually, it is difficult to measure because it requires an estimate of the expected return on the market - $E(R_m)$. As is discussed below, there are different ways to measure $E(R_m)$, and studies have come up with significantly

different magnitudes for $E(R_m)$. Merton Miller, 1990 Nobel Prize winner in economics, summarized the issue in this way: "I still remember the teasing we financial economists, Harry Markowitz, William Sharpe, and I, had to put up with from the physicists and chemists in Stockholm when we conceded that the basic unit of our research, the expected rate of return, was not actually observable. I tried to tease back by reminding them of their neutrino – a particle with no mass whose presence was inferred only as a missing residual from the interactions of other particles. But that was eight years ago. In the meantime, the neutrino has been detected."[30]

Q. PLEASE DISCUSS THE ALTERNATIVE APPROACHES TO ESTIMATING THE MRP.

A. Page 4 of Exhibit JRW-11 highlights the primary approaches to, and issues in, estimating the expected MRP. The traditional way to measure the MRP was to use the difference between historical average stock and bond returns. In this case, historical stock and bond returns, also called ex post returns, were used as the measures of the market's expected return (known as the *ex ante* or forward-looking expected return). This type of historical evaluation of stock and bond returns is often called the "Ibbotson approach" after Professor Roger Ibbotson, who popularized this method of using historical financial market returns as measures of expected returns. Most historical assessments of the equity risk premium suggest an equity risk

[30] Merton Miller, "The History of Finance: An Eyewitness Account," *Journal of Applied Corporate Finance*, 2000, P. 3.

premium range of 5% to 7% above the rate on long-term U.S. Treasury bonds. However, this can be a problem because: (1) ex post returns are not the same as *ex ante* expectations; (2) market risk premiums can change over time, increasing when investors become more risk-averse and decreasing when investors become less risk-averse; and (3) market conditions can change such that ex post historical returns are poor estimates of *ex ante* expectations.

The use of historical returns as market expectations has been criticized in numerous academic studies as discussed later in my testimony. The general theme of these studies is that the large equity risk premium discovered in historical stock and bond returns cannot be justified by the fundamental data. These studies, which fall under the category "Ex Ante Models and Market Data," compute *ex ante* expected returns using market data to arrive at an expected equity risk premium. These studies have also been called "Puzzle Research" after the famous study by Mehra and Prescott in which the authors first questioned the magnitude of historical equity risk premiums relative to fundamentals.[31]

In addition, there are a number of surveys of financial professionals regarding the MRP. There have also been several published surveys of academics on the equity risk premium. *CFO Magazine* conducts a quarterly survey of CFOs, which includes questions regarding their views on the current expected returns on stocks and bonds. Usually, over 500 CFOs participate in the survey.[32] Questions regarding expected stock and bond returns are also included in the Federal Reserve Bank of

[31] Rajnish Mehra & Edward C. Prescott, The Equity Premium: A Puzzle, *Journal of Monetary Economics*, 145 (1985).
[32] *See* DUKE/CFO MAGAZINE GLOBAL BUSINESS OUTLOOK SURVEY, www.cfosurvey.org (June, 2015).

Philadelphia's annual survey of financial forecasters, which is published as the *Survey of Professional Forecasters*.[33] This survey of professional economists has been published for almost fifty years. In addition, Pablo Fernandez conducts occasional surveys of financial analysts and companies regarding the equity risk premiums they use in their investment and financial decision-making.[34]

Q. PLEASE PROVIDE A SUMMARY OF THE MRP STUDIES.

A. Derrig and Orr (2003), Fernandez (2007), and Song (2007) have completed the most comprehensive reviews to date of the research on the MRP.[35] Derrig and Orr's study evaluated the various approaches to estimating MRPs, as well as the issues with the alternative approaches and summarized the findings of the published research on the MRP. Fernandez examined four alternative measures of the MRP – historical, expected, required, and implied. He also reviewed the major studies of the MRP and presented the summary MRP results. Song provides an annotated bibliography and highlights the alternative approaches to estimating the MRP.

Page 5 of Exhibit JRW-11 provides a summary of the results of the primary risk premium studies reviewed by Derrig and Orr, Fernandez, and Song, as well as other more recent studies of the MRP. In developing page 5 of Exhibit JRW-11, I

[33] Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters (Feb. 13, 2015).* The Survey of Professional Forecasters was formerly conducted by the American Statistical Association ("ASA") and the National Bureau of Economic Research ("NBER") and was known as the ASA/NBER survey. The survey, which began in 1968, is conducted each quarter. The Federal Reserve Bank of Philadelphia, in cooperation with the NBER, assumed responsibility for the survey in June 1990.

[34] Pablo Fernandez, Alberto Ortiz and Isabel Fernandez Acín, "Discount Rate (Risk-Free Rate and Market Risk Premium), used for 41 countries in 2015: a survey," April 23, 2015.

[35] *See* Richard Derrig & Elisha Orr, "Equity Risk Premium: Expectations Great and Small," Working Paper (version 3.0), Automobile Insurers Bureau of Massachusetts, (August 28, 2003); Pablo Fernandez, "Equity Premium: Historical, Expected, Required, and Implied," IESE Business School Working Paper, (2007); Zhiyi Song, "The Equity Risk Premium: An Annotated Bibliography," CFA Institute, (2007).

have categorized the studies as discussed on page 4 of Exhibit JRW-11. I have also included the results of the "Building Blocks" approach to estimating the equity risk premium, including a study I performed, which is presented in Appendix C of this testimony. The Building Blocks approach is a hybrid approach employing elements of both historical and *ex ante* models.

Q. PLEASE DISCUSS PAGE 5 OF EXHIBIT JRW-11.

A. Page 5 of JRW-11 provides a summary of the results of the MRP studies that I have reviewed. These include the results of: (1) the various studies of the historical risk premium, (2) *ex ante* MRP studies, (3) MRP surveys of CFOs, financial forecasters, analysts, companies and academics, and (4) the Building Block approach to the MRP. There are results reported for over thirty studies, and the median MRP is 4.59%.

Q. PLEASE HIGHLIGHT THE RESULTS OF THE MORE RECENT RISK PREMIUM STUDIES AND SURVEYS.

A. The studies cited on page 5 of Exhibit JRW-11 include every MRP study and survey I could identify that was published over the past decade and that provided an MRP estimate. Most of these studies were published prior to the financial crisis of 2007-2009. In addition, some of these studies were published in the early 2000s at the market peak. It should be noted that many of these studies (as indicated) used data over long periods of time (as long as fifty years of data) and so were not estimating an MRP as of a specific point in time (e.g., the year 2001). To assess the effect of the earlier studies on the MRP, I have reconstructed page 5 of Exhibit JRW-11 on page 6

of Exhibit JRW-11; however, I have eliminated all studies dated before January 2, 2010. The median for this subset of studies is 4.99%.

Q. GIVEN THESE RESULTS, WHAT MRP ARE YOU USING IN YOUR CAPM?

A. Much of the data indicates that the market risk premium is in the 4.0% to 6.0% range. Several recent studies (such as Damodaran, American Appraisers, the CFO Survey, and my supply-side model), have suggested an increase in the market risk premium. Therefore, I will use 5.5%, which is in the upper end of the range, as the market or MRP.

Q. IS YOUR *EX ANTE* MRP CONSISTENT WITH THE MRPS USED BY CFOS?

A. Yes. In the June 2015 CFO survey conducted by *CFO Magazine* and Duke University, the expected 10-year MRP was 4.5%.

Q. IS YOUR *EX ANTE* MRP CONSISTENT WITH THE MRPS OF PROFESSIONAL FORECASTERS?

A. The financial forecasters in the previously referenced Federal Reserve Bank of Philadelphia survey projected both stock and bond returns. In the February 2015 survey, the median long-term expected stock and bond returns were 5.79% and 3.91%, respectively. This provides an *ex ante* MRP of 1.88% (5.79%-3.91%).

Q. IS YOUR *EX ANTE* MRP CONSISTENT WITH THE MRPS OF FINANCIAL ANALYSTS AND COMPANIES?

A. Yes. Pablo Fernandez recently published the results of a 2015 survey of academics, financial analysts, and companies.[36] This survey included over 4,000 responses. The median MRP employed by U.S. analysts and companies was 5.5%.

Q. WHAT EQUITY COST RATE IS INDICATED BY YOUR CAPM ANALYSIS?

A. The results of my CAPM study for the proxy groups are summarized on page 1 of Exhibit JRW-11 and in the table below.

$$K = (R_f) + ß * [E(R_m) - (R_f)]$$

	Risk-Free Rate	Beta	Equity Risk Premium	Equity Cost Rate
Electric Proxy Group	**4.0%**	**0.75**	**5.5%**	**8.1%**
Somma Proxy Group	**4.0%**	**0.80**	**5.5%**	**8.4%**

For the Electric Proxy Group, the risk-free rate of 4.0% plus the product of the beta of 0.75 times the equity risk premium of 5.5% results in an 8.1% equity cost rate. For the Somma Proxy Group, the risk-free rate of 4.0% plus the product of the beta of 0.80 times the equity risk premium of 5.5% results in an 8.4% equity cost rate.

[36] *Ibid.* p. 3.

D. Equity Cost Rate Summary

Q. PLEASE SUMMARIZE YOUR EQUITY COST RATE STUDY.

A. My DCF analyses for the Electric and Somma Proxy Groups indicate equity cost rates of 8.70% and 9.00%, respectively. My CAPM analyses for the Electric and Somma Proxy Groups indicate equity cost rates of 8.1 and 8.4%%.

	DCF	CAPM
Electric Proxy Group	**8.70%**	**8.10%**
Somma Proxy Group	**9.00%**	**8.40%**

Q. GIVEN THESE RESULTS, WHAT IS YOUR ESTIMATED EQUITY COST RATE FOR THE GROUPS?

A. Given these results, I conclude that the appropriate equity cost rate for companies in my Electric Group and the Somma Proxy Group is in the 8.10% to 9.00% range. However, since I rely primarily on the DCF model, I am using the upper end of the range as the equity cost rate. Therefore, I conclude that the appropriate equity cost rate for the groups is 8.85%.

Q. ARE YOU RECOMMENDING 8.85% AS AN EQUITY COST RATE FOR WESTAR?

A. Yes. As previously discussed, Westar's S&P and Moody's long-term credit ratings suggest that the company's risk is in line with the proxy groups.

Q. PLEASE INDICATE WHY AN 8.85% RETURN IS APPROPRIATE FOR THE COMPANY AT THIS TIME.

A. There are a number of reasons why an 8.85% return on equity is appropriate and fair for the Company in this case:

1. I have employed Westar's proposed capital structure, which has a higher common equity ratio and therefore lower financial risk than the capital structures of other electric utilities;

2. As shown in Exhibit JRW-8, the electric utility industry is one of the lowest risk industries in the U.S. as measured by beta. As such, the cost of equity capital for this industry is amongst the lowest in the U.S., according to the CAPM.

3. As shown in Exhibits JRW-2 and JRW-3, capital costs for utilities, as indicated by long-term bond yields, are still at historically low levels. In addition, given low inflationary expectations and slow global economic growth, interest rates are likely to remain at low levels for some time.

4. As previously indicated, the authorized ROEs for electric utilities have gradually decreased in recent years. These authorized ROEs have declined from 10.01% in 2012, to 9.8% in 2013, 9.76% in 2014, and 9.67% in the first quarter of 2015 according to Regulatory Research Associates. In my opinion, these authorized ROEs have lagged behind capital market cost rates. This has been especially true in recent years as some state commissions have been reluctant to authorize ROEs below 10%. However, the trend has been lower towards lower ROEs, and the norm now is below ten percent. Hence, I believe that my recommended ROE reflects our present

historically low capital cost rates, and these low capital cost rates are finally being recognized by state utility commissions.

Q. PLEASE DISCUSS YOUR RECOMMENDATION IN LIGHT OF A RECENT MOODY'S PUBLICATION.

A. Moody's recently published an article on utility ROEs and credit quality. In the article, Moody's recognizes that authorized ROEs for electric and gas companies are declining due to lower interest rates. [37]

> The credit profiles of US regulated utilities will remain intact over the next few years despite our expectation that regulators will continue to trim the sector's profitability by lowering its authorized returns on equity (ROE). Persistently low interest rates and a comprehensive suite of cost recovery mechanisms ensure a low business risk profile for utilities, prompting regulators to scrutinize their profitability, which is defined as the ratio of net income to book equity. We view cash flow measures as a more important rating driver than authorized ROEs, and we note that regulators can lower authorized ROEs without hurting cash flow, for instance by targeting depreciation, or through special rate structures.

Moody's indicates that with the lower authorized ROEs, electric and gas companies are earning ROEs of 9.0% to 10.0%, but this is not impairing their credit profiles and is not deterring them from raising record amounts of capital. With respect to authorized ROEs, Moody's recognizes that utilities and regulatory commission are having trouble justifying higher ROEs in the face of lower interest rates and cost recovery mechanisms.[38]

[37] Moody's Investors Service, "Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles," March 10, 2015.
[38] *Ibid*., p. 2.

> Robust cost recovery mechanisms will help ensure that US regulated utilities' credit quality remains intact over the next few years. As a result, falling authorized ROEs are not a material credit driver at this time, but rather reflect regulators' struggle to justify the cost of capital gap between the industry's authorized ROEs and persistently low interest rates. We also see utilities struggling to defend this gap, while at the same time recovering the vast majority of their costs and investments through a variety of rate mechanisms.

Overall, this article provides direct evidence that lower ROEs are not hurting the financial integrity of utilities or their ability to attract capital.

Q. DO YOU BELIEVE THAT YOUR 8.85% MEETS *HOPE* AND *BLUEFIELD* STANDARDS?

A. Yes. As previously noted, according to the *Hope* and *Bluefield* decisions, returns on capital should be: (1) comparable to returns investors expect to earn on other investments of similar risk; (2) sufficient to assure confidence in the company's financial integrity; and (3) adequate to maintain and support the company's credit and to attract capital. Westar's earned ROE over the past five years is 9.40% (2010-2014). Given this earned ROE, the Company has raised capital on several occasions and, more significantly, Westar has seen its issuer credit ratings raised by two full rating categories by both S&P (BBB- to BBB+)) and Moody's (Baa3 to Baa1). Furthermore, while my recommendation is a little below Westar's 9.40% average ROE, it reflects the downward trend in authorized and earned ROEs of electric utilities. This is highlighted in the Moody's publication cited above that states, despite authorized and earned ROEs below 10%, the credit quality of electric and gas companies has not been impaired and, in fact, has improved and utilities are raising

about $50 billion per year in capital. Major positive factors in the improved credit quality of utilities are the cost and investment recovery mechanisms that are now included in rates. Therefore, I do believe that my ROE recommendation meets the criteria established in the *Hope* and *Bluefield* decisions.

Q. DOES THE COMPANY HAVE IN PLACE THE TYPES OF COST RECOVERY MECHANISMS NOTED IN THE MOODY'S PUBLICATION?

A. Yes. Westar has trackers that allow recovery of environmental costs, ad valorem taxes, and transmission delivery costs. In addition, WESTAR has an Energy cost Adjustment for fuel cost recovery and a tracker for pension and post-retirement benefits. The company is also seeking to implement other trackers in this case. The riders and trackers provide for more timely recovery of expenses and investments and are the types of mechanisms cited by Moody's in its report.

VI. CRITIQUE OF WESTAR'S RATE OF RETURN TESTIMONY

Q. PLEASE SUMMARIZE MR. SOMMA'S RATE OF RETURN RECOMMENDATION FOR WESTAR.

A. The Company has proposed a capital structure that includes 46.5451% long-term debt and 53.4549% common equity and a debt cost rate of 5.6877%. Mr. Somma recommends a common equity cost rate 10.0%.

Q. WHAT ISSUES DO YOU HAVE WITH THE COMPANY'S COST OF CAPITAL POSITION?

A. The primary areas of disagreement is in measuring Westar's cost of equity capital. The issues are: (1) Mr. Somma's DCF equity cost rate estimates, and in particular his excessive reliance on the long-term EPS growth rates of Wall Street analysts and *Value Line* in developing a DCF growth rate; (2) the projected interest rates and market or equity risk premium in the RP and CAPM approaches; and (3) his inclusion of a issuance cost adjustment in his equity cost rate.

Q. PLEASE REVIEW MR. SOMMA'S EQUITY COST RATE APPROACHES AND RESULTS.

A. Mr. Somma uses a twelve-company electric utility proxy group and employs DCF, CAPM, and RP equity cost rate approaches. Mr. Somma's equity cost rate estimates for Westar are summarized in Exhibit JRW-13. Based on these figures, he concludes that the appropriate equity cost rate for the Company is 10.0%.

A. DCF Approach

Q. PLEASE SUMMARIZE MR. SOMMA'S DCF ESTIMATES.

A. On pages 37-44 of his testimony, Mr. Somma develops an equity cost rate by applying the DCF model to the Somma Proxy Group. Mr. Somma's DCF results are summarized in Exhibit JRW-13. He uses the quarterly version of the constant-growth DCF model. Mr. Somma uses the 15-day stock prices for his group ending January 30, 2015. Mr. Somma has relied on the forecasted EPS growth rates of Thompson Reuters,

Bloomberg, and *Value Line*. He reports the mean and median DCF results, and adds 0.12% for issuance costs. His adjusted mean and median DCF equity cost rates are 9.59% and 9.64%.

Q. WHAT ARE THE ERRORS IN MR. SOMMA'S DCF ANALYSIS?

A. The primary issue in Mr. Somma's DCF analysis is his exclusive use of the EPS growth rate forecasts of Wall Street analysts and *Value Line.* The growth rates in his DCF models include the overly optimistic and upwardly-biased EPS growth rate estimates of Wall Street analysts and *Value Line.* In my discussion below, I also evaluate Mr. Somma's suggestion that Westar and other electric utilities will grow in the future at a higher rate than GDP growth.

1. Analysts EPS Growth Rates

Q. PLEASE DISCUSS MR. SOMMA'S USE OF THE PROJECTED EPS GROWTH RATES OF WALL STREET ANALYSTS AND *VALUE LINE* IN HIS DCF MODELS.

A. In his DCF model, Mr. Somma's DCF growth rate relies excessively on the projected EPS growth rate forecasts of investment analysts as compiled by Thompson Reuters, Bloomberg, and *Value Line*.

Q. WHY IS IT ERRONEOUS TO RELY EXCLUSIVELY ON THE EPS FORECASTS OF WALL STREET ANALYSTS IN ARRIVING AT A DCF

GROWTH RATE?

A. There are several issues with using the EPS growth rate forecasts of Wall Street analysts and *Value Line* as DCF growth rates. First, the appropriate growth rate in the DCF model is the dividend growth rate, not the earnings growth rate. Therefore, in my opinion, consideration must be given to other indicators of growth, including prospective dividend growth, internal growth, as well as projected earnings growth. Second, and most significantly, it is well-known that the long-term EPS growth rate forecasts of Wall Street securities analysts are overly optimistic and upwardly biased. This has been demonstrated in a number of academic studies over the years. In addition, I demonstrate that *Value Line*'s EPS growth rate forecasts are consistently too high. Hence, using these growth rates as a DCF growth rate will provide an overstated equity cost rate. As previously noted, a study by Easton and Sommers (2007) found that optimism in analysts' growth rate forecasts leads to an upward bias in estimates of the cost of equity capital of almost 3.0 percentage points.[39] These issues are addressed in more detail in Appendix B.

Q. PLEASE ADDRESS THESE ISSUES.

A. There are several issues. First, Mr. Soma claims that FERC got it wrong. He claims that the expected earnings growth rate for electric utilities is not related to long-term GDP growth. He suggests that due to the investment requirements of the business, the growth of electric utilities is above GDP growth. He claims that this is particularly true for Westar. Second, he claims that investors only focus on the near-term and

[39] Easton, P., & Sommers, G. (2007). Effect of analysts' optimism on estimates of the expected rate of return implied by earnings forecasts. *Journal of Accounting Research*, 45(5), 983–1015.

short-term forecasts of Wall Street analysts and so long-term GDP growth rate forecasts are immaterial. And third, Mr. Somma claims that long-term GDP forecasts are simply irrelevant to investors in valuing utility stocks.

Q. FIRST, PLEASE DISCUSS FERC'S EXPLANATION FOR APPLYING GDP GROWTH IN THE TWO-STEP DCF MODEL.

A. In Opinion No, 531, FERC made the following observation why it felt the GDP growth is appropriate for electric utilities:[40]

> We also find that it is reasonable to expect that public utilities, which transmit electricity to supply energy to the national economy, will sustain growth consistent with the growth of the economy as whole. This conclusion is buttressed by the fact that the current three to five year projected internal growth rate of electric utilities approximates the projected growth in GDP. The median internal growth rate of the 41 electric utilities in the proxy group before application of the low-end outlier test is 4.32 percent, and the midpoint internal growth rate for those utilities is 4.55 percent. These growth rates are very close to the 4.39 percent projected long-term growth in GDP.

Q. HOW DOES MR. SOMMA RESPOND TO FERC'S SUGGESTION THAT GDP GROWTH IS APPROPRIATE FOR ELECTRIC UTILITIES?

A. With respect to FERC's move to using the two-step DCF model with GDP growth, Mr. Somma makes the following comment:[41]

> The DCF method traditionally used by FERC incorporated growth expectations for the three to five year time period typically used by analysts and investors. However, the two-step method incorporates extremely long-term – up to 50 years – projections of the nominal Gross Domestic Product (nGDP) into the analysis. In my experience talking to investors, I have never encountered an investor who took projected long-term GDP growth – much

[40] *Coakley, Mass. Attorney Gen., et al. v. Bangor Hydro-Elec. Co., et al.*, Opinion No. 531, 147 FERC ¶ 61,234 (2014) (Opinion No. 531), P. 40.
[41] Somma Testimony, P. 23.

less super-long-term projections of GDP growth such as those used in the FERC approach – into consideration. Setting an authorized ROE based on a consideration not relied upon by investors yields erroneous results.

Q. PLEASE DISCUSS MR. SOMMA NOTION THAT ELECTRIC UTILITY GROWTH IS NOT CONVERGING TO GDP GROWTH.

A. Mr. Somma suggests that the investment requirements of electric utilities will result in long-term growth above GDP growth:[42]

> Second, there is simply no evidence that growth rates for electric utilities are converging to GDP. In recent years, Westar and other electric utilities have been required by federal environmental laws to make massive investments in emission control equipment. And federal and state energy policies have encouraged and continue to result in significant new investment in electric transmission. Those factors resulted in Westar's investment growing at a rate significantly in excess of the growth in GDP. In fact, as the graph below shows, from 2005 to the end of 2014, Westar's total rate base grew from $2.5 billion to $6.3 billion. That equates to over a 10% annual growth rate while the annual growth rate of the U.S. economy during that time was only about 1.5%.
>
> Currently, changes in rules related to network and physical security, rapidly changing computer and communications technology and the need to replace aging infrastructure are driving investments and will likely continue to do so in the near future. Finally, the need to replace aging generation and the potential for further environmental compliance investment is likely to keep our annual investment growth at a rate in excess of growth in the GDP for years to come. Investors are aware of these factors affecting our business. There is no evidence that investors' expectations of our growth are somehow limited by anticipated growth in the GDP.

Q. DO YOU AGREE WITH MR. SOMMA ON THIS ISSUE?

A. No. Mr. Somma's comments, which are not supported by any empirical analyses, are not consistent with the data. As shown in Panel A of page 3 of Exhibit JRW-10, the historical 5-year and 10-year growth rates are in the 3.0% to 4.0% range, which is

[42] Somma Testimony, P. 35.

consistent with GDP growth as well as FERC's long-term GDP growth rate of 4.39%. In addition, Mr. Somma makes special note of Westar's rate base growth as an indicator that future growth will be above GDP growth. As shown in Panel A of page 5 of Exhibit JRW-10, the average projected EPS growth rate of Wall Street analysts is 3.4%. This is below projected GDP growth.

Q. MR. SOMMA ALSO SUGGESTS THAT INVESTORS ARE NOT CONCERNED ABOUT GDP GROWTH IN ASSESSING FUTURE GROWTH.

A. Mr. Somma makes the claim that long-term GDP growth is irrelevant to investors.[43]

> Additionally, investors are much more interested in short and near term projections which are readily available from investment research firms and are inherently more reliable than 50 year estimates of the growth the entire U.S. economy. Individual investors can and do move their money very quickly from one investment to another simply by calling their brokers or submitting bids over the Internet. Institutional investors – such as professional money managers – are constantly performing research and analysis on the companies in their portfolios, making changes to their positions as needed. When good or bad news is released about a publicly-traded company, investors can and do react within minutes – or seconds or fractions of seconds – to move their money into or out of that company's stock. The result is that bad news almost immediately reduces a firm's stock price – thereby raising its cost of capital. No investor or money manager I have spoken with has ever indicated that he or she considers GDP forecasts in evaluating expectations for individual firms nor am I aware of any research to the contrary. The two-step analysis incorporates a theoretical argument that is divorced from both investor perceptions and investor behavior in the capital markets.

Q. DO YOU AGREE WITH MR. SOMMA ON THIS ISSUE?

A. No. At the core of analysts' long-term EPS growth rate forecasts are an explicit projection of GDP growth. This is due to the long-term relationship between EPS and GDP growth. This is demonstrated by the methodology used by *Value Line* in its

[43] Somma Testimony, P. 36.

EPS growth rate forecasts. *Value Line* specifically states that EPS growth rate projections begin with the forecast of GDP growth. This is provided below.

Value Line's Approach to Forecasting Earnings Growth

Value Line's estimates of sales and earnings growth for individual companies are derived by correlating sales, earnings, and dividends to appropriate components or subcomponents of the Gross Domestic Product, presented below. A more detailed forecast appears periodically in *Selection & Opinion*.

HYPOTHESIZED ECONOMIC ENVIRONMENT 3 TO 5 YEARS HENCE

The hypothesized 2014-2016 economic environment into which earnings are forecast is as follows: Unemployment will average about 7.5% of the national labor force. There will be no major war in progress at that time. Industrial production will be expanding 3.7% per year. Inflation will continue to be modest. Prices as measured by the broad-based GDP deflator will advance about 2% per year on the average. The corporate income tax rate will be around 35%. Long-term interest rates on high-grade corporate bonds are projected to be about 6.5% in the years 2014-2016. We expect the Federal Reserve to pursue neutral-to-fairly accommodative policies except in years in which the economy is overheating. Based on these assumptions, the Gross Domestic Product will average $18,204 billion in the years 2014-2016, a level that is roughly 25% above the 2010 total of $14,527 billion.

Things may turn out differently. But in the absence of knowledge of the future, we use the above assumptions, which appear to be most plausible. Thus we are able to apply a common economic environment to all stocks for the purpose of measuring relative growth potential.

Source: www.Valueline.com.

Therefore, at the core of analysts' EPS growth rate forecasts are a projection for GDP growth.

Q. IN DISMISSING GDP PROJECTIONS, MR. SOMMA ALSO SUGGESTS THAT INVESTORS ONLY CARE ABOUT SHORT-TERM EARNINGS FORECASTS AND ARE NOT CONCERNED WITH LONG-TERM EXPECTATIONS. PLEASE COMMENT.

A. Mr. Somma suggests that long-term GDP projections are of no concern to investors. To evaluate the importance of long-term expectations on stock prices, on page 2 of Exhibit JRW-13, I have used Mr. Somma's proxy group and data and computed the percent of the current stock price that is represented by the present value of the five years of dividends. This analysis is predicated on the DCF model which states that at any point in time, the current value of the stock is equal to the present value of expected future dividends. I have started with the current annual dividend for each

utility in his proxy group (and including Westar), and then computed the expected annual dividends over the next five years (D1 – D5). The compute the present value of these dividends (PV (D1-D5), using Mr. Somma's 10.0% ROE for Westar. Given each utility's current stock price (as of June 26th), I then compute the percent of the current stock price that is represented by the present value of current dividends (PV (D1-D5)/Stock Price). The average for the proxy group is 17.7%. This means that only 17.7% of the current stock price is represented by the next five years of dividends. Stated another way -- over 80% of the current stock price is based on the present value of future dividends beyond five years. Hence, contrary to Mr, Somma's assertions, long-term expectations are very important to investors and the driving force behind stock prices.

Q. PLEASE SUMMARIZE YOUR ASSESSMENT OF MR. SOMMA'S ASSESSMENT OF ELECTRIC UTILITY EARNINGS GROWTH AND LONG-TERM GDP PROJECTIONS.

A. Mr. Somma's dismissal of the importance of GDP growth on long-term utility earnings, which are based on speculation and not supported by empirical analyses, are simply incorrect. In particular, I show that: (1) the growth of electric utilities over the past decade has trailed behind expected GDP growth; (2) projected GDP growth is at the core of analysts' EPS growth rates; and (3) expected dividends for investors from utility stocks over the next five years make up a relative small percentage of the current stock price, thereby demonstrating the large impact of long-term expectations.

2. Issuance Costs

Q. PLEASE DISCUSS MR. SOMMA'S ADJUSTMENT FOR ISSUANCE COSTS.

A. Mr. Somma makes an upward adjustment of 0.12% to the equity cost rate to account for issuance costs. This would result in the Company receiving annual revenues in the form of a higher rate of return to cover issuance costs. To justify the adjustment, he cites the fact that Westar has issued over $1 billion of equity since 2007 since 2007 and incurred over $30 million in issuance costs.

Q. WHAT IS YOUR OPINION ON MR. SOMMA'S DISCUSSION OF ISSUANCE COSTS?

A. I have several general comments on issuance costs.

First, I oppose general adjustments to the ROE to account for issuance costs such as that proposed by Mr. Somma. A major reason I oppose such adjustments are the arguments made by Staff Witness Gatewood that this approach lack an accounting mechanism to identify and track the issuance costs incurred and to identify and track the issuance costs recovered through rates;

Second, I recommend that only out-of-pocket costs associated with an equity issuance, such as legal and printing costs, be recovered directly as an expense. That would make for an accurate accounting for the expense and recovery of out-of-pocket issuance costs;

Third, issuance costs consist primarily of the underwriting spread or fee and not out-of-pocket expenses. On a per-share basis, the underwriting spread is the

difference between the price the investment banker receives from investors and the price the investment banker pays to the company. Therefore, these are not expenses that must be recovered through the regulatory process. Furthermore, the underwriting spread is known to the investors who are buying the new issue of stock, and who are well aware of the difference between the price they are paying to buy the stock and the price that the Company is receiving. The offering price they pay is what matters when investors decide to buy a stock based on its expected return and risk prospects. Therefore, the company is not entitled to an adjustment to the allowed return to account for those costs;

Fourth, the general issuance cost add-on as proposed by Mr. Somma is applied to the entire shareholder equity base and not just to the new equity that is raised. As a result, such an adjustment, which would include the underwriting spread, results in an overstatement of the issuance costs; and

Fifth, the general issuance cost add-on as proposed by Mr. Somma is not needed to prevent dilution of shareholders' equity. If an equity issuance cost adjustment is similar to a debt issuance cost adjustment, the fact that the market-to-book ratios for electric utility companies are over 1.5X actually suggests that there should be a issuance cost reduction (and not an increase) to the equity cost rate. This is because when (a) a bond is issued at a price in excess of face or book value, and (b) the difference between market price and the book value is greater than the issuance or issuance costs, the cost of that debt is lower than the coupon rate of the debt. The amount by which market values of electric utility companies are in excess of book values is much greater than issuance costs. Hence, if common stock issuance costs

were exactly like bond issuance costs, and one were making an explicit issuance cost adjustment to the cost of common equity, the adjustment would be downward.

B. CAPM Approach

Q. PLEASE DISCUSS MR. SOMMA'S CAPM.

A. On pages 25-30 of his testimony, Mr. Somma estimates an equity cost rate by applying a CAPM model to his proxy group. The CAPM approach requires an estimate of the risk-free interest rate, beta, and the equity risk premium. Mr. Somma uses two different measures of the 30-Year Treasury bond yield (a current rate of 2.41% and a projected rate of 3.30%), a Beta for Bloomberg of 0.78, and a market risk premium of 10.84%. Based on these figures, he finds a CAPM equity cost rate range from 10.86% to 11.76%. Mr. Somma's CAPM results are summarized in Exhibit JRW-13.

Q. WHAT ARE THE ERRORS IN MR. SOMMA'S CAPM ANALYSES?

A. The primary error in Mr. Somma's CAPM analyses is the market premium of 10.84%.

1. Market Risk Premiums

Q. PLEASE ASSESS MR. SOMMA'S MARKET RISK PREMIUM DERIVED FROM APPLYING THE DCF MODEL TO THE S&P 500 AND VALUE LINE INVESTMENT SURVEY.

A. Mr. Somma computes market risk premium of 10.84% by: (1) calculating an expected market return by applying the DCF model to the S&P 500; and (2) subtracting the current 30-year Treasury bond yield. Mr. Somma's estimated expected market returns from these approaches of 13.25% using Bloomberg long-term EPS growth rate estimates.is not realistic. He uses a dividend yield of 1.85% and an expected DCF growth rate of 11.40%. The primary error is that the expected DCF growth rate is the projected 5-year EPS growth rate from Wall Street analysts as reported by Bloomberg. As explained below, this produces an overstated expected market return and equity risk premium.

Q. WHAT EVIDENCE CAN YOU PROVIDE THAT MR. SOMMA'S GROWTH RATE IS ERRONEOUS?

A. Mr. Somma's expected long-term EPS growth rate of 11.40% for Bloomberg represents the forecasted 5-year EPS growth rates of Wall Street analysts. The error with this approach is that the EPS growth rate forecasts of Wall Street securities analysts are overly optimistic and upwardly biased. This is detailed at length in Appendix B of this testimony.

Q. IS AN S&P 500 EPS GROWTH RATE OF 11.40% CONSISTENT WITH THE HISTORIC AND PROJECTED GROWTH IN EARNINGS AND THE ECONOMY?

A. No. A long-term EPS growth rate of 11.40% is not consistent with historic or projected economic and earnings growth in the U.S for several reasons: (1) long-term growth in EPS is far below Mr. Somma's projected EPS growth rates; (2) more recent trends in GDP growth, as well as projections of GDP growth, suggest slower long-term economic and earnings growth in the future; and (3) over time, EPS growth tends to lag behind GDP growth.

The long-term economic, earnings, and dividend growth rate in the U.S. has only been in the 5% to 7% range. I performed a study of the growth in nominal GDP, S&P 500 stock price appreciation, and S&P 500 EPS and DPS growth since 1960. The results are provided on page 1 of Exhibit JRW-14, and a summary is provided in Table 2 below.

Table 2
GDP, S&P 500 Stock Price, EPS, and DPS Growth
1960-Present

Nominal GDP	**6.63%**
S&P 500 Stock Price	**6.83%**
S&P 500 EPS	**6.92%**
S&P 500 DPS	**5.65%**
Average	**6.51%**

The results are presented graphically on page 2 of Exhibit JRW-14. In sum, the historical long-run growth rates for GDP, S&P EPS, and S&P DPS are in the 5% to 7% range.

Q. DO MORE RECENT DATA SUGGEST THAT U.S. ECONOMIC GROWTH IS FASTER OR SLOWER THAN THE LONG-TERM DATA?

A. As previously discussed and presented in the table below, the more recent trend suggests lower future economic growth than the long-term historic GDP growth. The historic GDP growth rates for 10-, 20-, 30-, 40- and 50- years clearly suggest that nominal GDP growth in recent decades has slowed to the 4.0% to 5.0%range. By comparison, Mr. Somma's long-run growth rate projection of 11.40% is vastly overstated. These estimates suggest that companies in the U.S. would be expected to: (1) increase their growth rate of EPS by almost 100% in the future and (2) maintain that growth indefinitely in an economy that is expected to grow at about one-half of his projected growth rates.

Historic GDP Growth Rates

10-Year Average - 2005-2014	**3.56%**
20-Year Average - 1995-2014	**4.44%**
30-Year Average - 1985-2014	**4.99%**
40-Year Average - 1975-2014	**6.24%**
50-Year Average - 1965-2014	**6.68%**

Q. ARE THE LOWER GDP GROWTH RATES OF RECENT DECADES CONSISTENT WITH THE FORECASTS OF GDP GROWTH?

A. Yes. A lower range is also consistent with long-term GDP forecasts. There are several forecasts of annual GDP growth that are available from economists and government agencies. These are listed on page 3 of Exhibit JRW-14. The mean 10-year nominal GDP growth forecast (as of February 2015) by economists in the recent *Survey of Professional Forecasters* is 4.7%. The Energy Information Administration ("EIA"), in

its projections used in preparing *Annual Energy Outlook*, forecasts long-term GDP growth of 4.5% for the period 2012-2040.[44] The Congressional Budget Office ("CBO"), in its forecasts for the period 2015 to 2025, projects a nominal GDP growth rate of 4.8%.[45] Finally, the Social Security Administration ("SSA"), in its Annual OASDI Report, provides a projection of nominal GDP from 2014-2090.[46] The projected growth GDP growth rate over this period is 4.5%.

Q. WHY IS GDP GROWTH RELEVANT IN YOUR DISCUSSION OF MR. SOMMA'S USE OF THE LONG-TERM EPS GROWTH RATES IN DEVELOPING A MARKET RISK PREMIUM FOR HIS CAPM?

A. Because, as indicated in recent research, the long-term earnings growth rates of companies are limited to the growth rate in GDP.

Q. PLEASE HIGHLIGHT THE RESEARCH ON THE LINK BETWEEN ECONOMIC AND EARNINGS GROWTH AND EQUITY RETURNS.

A. Brad Cornell of the California Institute of Technology recently published a study on GDP growth, earnings growth, and equity returns. He finds that long-term EPS growth in the U.S. is directly related to GDP growth, with GDP growth providing an upward limit on EPS growth. In addition, he finds that long-term stock returns are

[44]Energy Information Administration, A*nnual Energy Outlook*, http://www.cbo.gov/publication/49973.
[45]Congressional Budget Office, *2015 Outlook for the Budget and the Economy*. http://www.cbo.gov/publication/49973.
[46] Social Security Administration, 2014 Annual Report of the Board of Trustees of the Old-Age, Survivors, and Disability Insurance (OASDI) Program. http://www.ssa.gov/oact/tr/2014/X1_trLOT.html

determined by long-term earnings growth. He concludes with the following observations:[47]

> The long-run performance of equity investments is fundamentally linked to growth in earnings. Earnings growth, in turn, depends on growth in real GDP. This article demonstrates that both theoretical research and empirical research in development economics suggest relatively strict limits on future growth. In particular, real GDP growth in excess of 3 percent in the long run is highly unlikely in the developed world. In light of ongoing dilution in earnings per share, this finding implies that investors should anticipate real returns on U.S. common stocks to average no more than about 4–5 percent in real terms.

Given current inflation in the 2% to 3% range, the results imply nominal expected stock market returns in the 7% to 8% range. As such, Mr. Somma's projected earnings growth rates and implied expected stock market returns and equity risk premiums are not indicative of the realities of the U.S. economy and stock market. As such, his expected CAPM equity cost rate is significantly overstated.

Q. PLEASE PROVIDE A SUMMARY ASSESSMENT OF MR. SOMMA'S PROJECTED EQUITY RISK PREMIUM DERIVED FROM EXPECTED MARKET RETURNS.

A. Mr. Somma's market risk premium derived from his DCF application to the S&P 500 is inflated, due to errors and bias in his study. Investment banks, consulting firms, and CFOs use the equity risk premium concept every day in making financing, investment, and valuation decisions. On this issue, the opinions of CFOs and financial forecasters

[47] Bradford Cornell, "Economic Growth and Equity Investing," *Financial Analysts Journal* (January- February, 2010), p. 63.

are especially relevant. CFOs deal with capital markets on an ongoing basis since they must continually assess and evaluate capital costs for their companies. They are well aware of the historical stock and bond return studies of Ibbotson. The CFOs in the June 2015 *CFO Magazine* – Duke University Survey of about 500 CFOs shows an expected return on the S&P 500 of 6.81% over the next ten years. In addition, the financial forecasters in the February 2015 Federal Reserve Bank of Philadelphia survey expect an annual market return of 5.79% over the next ten years. As such, with a more realistic equity or market risk premium, the appropriate equity cost rate for a public utility should be in the 8.0% to 9.0% range, and not in the 10.0% to 11.0% range.

C. Risk Premium Approach

Q. PLEASE REVIEW MR. SOMMA'S RP ANALYSIS.

A. On pages 30-32 of his testimony, Mr. Somma estimates an equity cost rate using a RP model. Mr. Somma develops an equity cost rate by: (1) regressing the authorized returns on equity for electric utility companies from the January 1, 1980 to the present on the 10-year Treasury Yield; and (2) adding the appropriate risk premium established to current and projected 10-year Treasury yields of 2.38% and 2.19%. Mr. Somma's RP results are provided in Exhibit JRW-13**.** He reports RP equity cost rates ranging from 10.33% to 10.39%.

Q. WHAT ARE THE ERRORS IN MR. SOMMA'S RP ANALYSIS?

A. The primary issue is the excessive risk premium.

1. Risk Premium

Q. WHAT ARE THE ISSUES WITH MR. SOMMA'S RISK PREMIUM?

A. There are several problems with this approach.

One issue is that the methodology produces an inflated measure of the risk premium because the approach uses historic authorized ROEs and Treasury yields, and the resulting risk premium is applied to projected Treasury Yields. Since Treasury yields are always forecasted to increase, the resulting risk premium would be smaller if done correctly, which would be to use projected Treasury yields in the analysis rather than historic Treasury yields.

. In addition, Mr. Somma's RP approach is a gauge of *commission* behavior and not *investor* behavior. Capital costs are determined in the market place through the financial decisions of investors and are reflected in such fundamental factors as dividend yields, expected growth rates, interest rates, and investors' assessment of the risk and expected return of different investments. Regulatory commissions evaluate capital market data in setting authorized ROEs, but also take into account other utility- and rate case-specific information in setting ROEs. As such, Mr. Somma's approach and results reflect other factors such as capital structure, credit ratings and other risk measures, service territory, capital expenditures, energy supply issues, rate design, investment and expense trackers, and other factors used by utility commissions in determining an appropriate ROE in addition to capital costs. This may be especially true when the authorized ROE data includes the results of rate cases that are settled and not fully litigated.

Q. WHAT OTHER ISSUES DO YOU HAVE WITH THE RATE CASE DATA USED IN MR. SOMMA'S RISK PREMIUM ANALYSIS?

A. There are a number of rates case ROEs used by Mr. Somma that involve settlements. Regulatory Research Associates' Regulatory Focus publication, the source of Mr. Somma's data, indicates the following with respect to settlements:

> Footnote (B): Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body.

Source: Regulatory Research Associates, Regulatory Focus, *Major Rate Case Decisions, January – December 2014*, dated January 15, 2015, p. 9.

D. Alternative ROE Mechanism

Q. PLEASE REVIEW MR. SOMMA'S SUGGESTED ALTERATIVE ROE MECHANISM WHICH HE IS "PROPOSING FOR CONSIDERATION."

A. Mr. Somma has proposed a ROE adjustment mechanism to the Commission. He is asking for consideration of a formulaic annual adjustment to the Company's ROE based upon the change in long-term interest rates. Specifically, Mr. Somma makes the following proposal:[48]

> I propose an annual ROE review that would be based on a bond index established at the time the rate order is issued. In my view, Moody's Baa Utility Bond Index would be the appropriate index for Westar. The index would be referred to as the "Base Year Index" or "BYI." It would initially be set equal to the average bond index yield for the 12-month period ended in the month

[48] Somma Testimony, pp. 73-4.

> immediately preceding the rate order in this case, that is, the 12-month period ending September 30, 2015.
>
> In October 2016, we would calculate the average bond index yield for the 12-month period ended September 30, 2016 and compare it to the BYI. If the 12-month average bond yield for that period is less than 50 basis points higher or lower than the BYI – the dead band – then no ROE adjustment would be made. However, if the 12-month average bond yield is 50 basis points or more higher or lower than the BYI, then the equity return would be adjusted up or down by 75% of the difference between the 12-month average bond yield for the current period and the BYI. Additionally, a new BYI for use in the next year – the "Adjusted Base Year Index" or "Adjusted BYI" – would be established as the then 12-month average bond yield for the current period.
>
> This calculation would be conducted by Westar each October based upon the 12-month average bond index yield for the twelve month period ended September 30. The filing would be made annually no later than October 31 and would also include an updated cost of debt as of September 30. The method I propose is simple, and accordingly, I would suggest that it exclude the complexity of updating capital structure, but rather, simply continue to use the capital structure from the prior general rate case.
>
> The updated revenue requirement based upon the updated rate of return would be effective in rates billed to customers beginning January 1 of the following year. Any year in which the index moves outside of the dead band would result in establishing a new Adjusted BYI which would be used for the subsequent year calculations and further adjusted only in years in which the index moves outside the 50 basis point dead band, and even then, only by 75% of the index change. Each year thereafter the process would repeat itself by referring to the same bond index established in the rate year.

Mr. Somma goes on to illustrate how the adjustment mechanism would work with changes in interest rates. Mr. Somma claims that the proposal would provide for administrative and regulatory efficiencies and allow utilities to stay out longer between rate cases.

Q. WHAT ARE YOUR THOUHTS ON MR. SOMMA'S ALTERATIVE ROE MECHANISM?

A. There are a number of factors the Commission should evaluate before considering the proposal.

1. I believe that the Company should provide an empirical study over an extended period of time to review the impact of the alternative ROE mechanism on the authorized ROE adjustments in different capital market environments and on the resulting rates that customers would pay.

2. Contrary to Mr. Somma's proposal, I do believe that any changes in capital structure should also be incorporated into the adjustments when a ROE adjustment is made. Capitalization ratios are directly tied to capital costs and they should also be adjusted as well.

3. The Commission must also assess the impact of such a mechanism on Westar's risk. Since the authorized ROE would be changed more readily to reflect interest rates and capital costs, it would seem that such a mechanism would reduce the risk of the Company.

4. The ROE mechanism makes the assumption that Westar's risk does not change. If the Company's credit ratings change, the adjustment mechanism must account for the change in risk and credit ratings.

5. As proposed, Westar would provide the calculations and effect the resulting changes in the authorized ROE and rates. At the very least, given the impact of such a mechanism, it would appear that a formal regulatory review of the process and the figures employed would be required.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

VERIFICATION

COMMONWEALTH OF PENNSYLVANIA)

COUNTY OF CENTRE) ss:

Dr. J. Randall Woolridge, being duly sworn upon his oath, deposes and states that he is a consultant for the Citizens' Utility Ratepayer Board, that he has read the above and foregoing document, and, upon information and belief, states that the matters therein appearing are true and correct.

Dr. J. Randall Woolridge

SUBSCRIBED AND SWORN to before me this 7th day of July, 2015.

Notary Public

My Commission expires: 11-10-2015

NOTARIAL SEAL
RONALD E FLEBOTTE
Notary Public
STATE COLLEGE BORO., CENTRE COUNTY
My Commission Expires Nov 10, 2015

APPENDIX A

Educational background, Research, and Related Business Experience

Appendix A
Educational Background, Research, and Related Business Experience
J. Randall Woolridge

J. Randall Woolridge is a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed Faculty Fellow in Business Administration in the College of Business Administration of the Pennsylvania State University in University Park, PA. In addition, Professor Woolridge is Director of the Smeal College Trading Room and President and CEO of the Nittany Lion Fund, LLC.

Professor Woolridge received a Bachelor of Arts degree in Economics from the University of North Carolina, a Master of Business Administration degree from the Pennsylvania State University, and a Doctor of Philosophy degree in Business Administration (major area-finance, minor area-statistics) from the University of Iowa. He has taught Finance courses including corporation finance, commercial and investment banking, and investments at the undergraduate, graduate, and executive MBA levels.

Professor Woolridge's research has centered on empirical issues in corporation finance and financial markets. He has published over 35 articles in the best academic and professional journals in the field, including the *Journal of Finance*, the *Journal of Financial Economics*, and the *Harvard Business Review*. His research has been cited extensively in the business press. His work has been featured in the *New York Times*, *Forbes*, *Fortune*, *The Economist*, *Barron's*, *Wall Street Journal*, *Business Week*, *Investors' Business Daily*, *USA Today*, and other publications. In addition, Dr. Woolridge has appeared as a guest to discuss the implications of his research on CNN's *Money Line*, CNBC's *Morning Call* and *Business Today*, and Bloomberg's *Morning Call*.

Professor Woolridge's stock valuation book, *The StreetSmart Guide to Valuing a Stock* (McGraw-Hill, 2003), was released in its second edition. He has also co-authored *Spinoffs and Equity Carve-Outs: Achieving Faster Growth and Better Performance* (Financial Executives Research Foundation, 1999) as well as a textbook entitled *Basic Principles of Finance* (Kendall Hunt, 2011).

Professor Woolridge has also consulted with corporations, financial institutions, and government agencies. In addition, he has directed and participated in university- and company-sponsored professional development programs for executives in 25 countries in North and South America, Europe, Asia, and Africa.

Over the past twenty-five years Dr. Woolridge has prepared testimony and/or provided consultation services in regulatory rate cases in the rate of return area in following states: Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Indiana, Kansas, Kentucky, Massachusetts, Missouri, Nebraska, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Vermont, Washington, and Washington, D.C. He has also prepared testimony which was submitted to the Federal Energy Regulatory Commission.

J. Randall Woolridge

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Academic Experience

Professor of Finance, the Smeal College of Business Administration, the Pennsylvania State University (July 1, 1990 to the present).

President, Nittany Lion Fund LLC, (January 1, 2005 to the present)

Director, the Smeal College Trading Room (January 1, 2001 to the present)

Goldman, Sachs & Co. and Frank P. Smeal Endowed University Fellow in Business Administration (July 1, 1987 to the present).

Associate Professor of Finance, College of Business Administration, the Pennsylvania State University (July 1, 1984 to June 30, 1990).

Assistant Professor of Finance, College of Business Administration, the Pennsylvania State University (September, 1979 to June 30, 1984).

Education

Doctor of Philosophy in Business Administration, the University of Iowa (December, 1979). Major field: Finance.

Master of Business Administration, the Pennsylvania State University (December, 1975).

Bachelor of Arts, the University of North Carolina (May, 1973) Major field: Economics.

Books

James A. Miles and J. Randall Woolridge, *Spinoffs and Equity Carve-Outs: Achieving Faster Growth and Better Performance* (Financial Executives Research Foundation), 1999

Patrick Cusatis, Gary Gray, and J. Randall Woolridge, *The StreetSmart Guide to Valuing a Stock* (2nd Edition, McGraw-Hill), 2003.

J. Randall Woolridge and Gary Gray, *The New Corporate Finance, Capital Markets, and Valuation: An Introductory Text* (Kendall Hunt, 2003).

Research

Dr. Woolridge has published over 35 articles in the best academic and professional journals in the field, including the *Journal of Finance,* the *Journal of Financial Economics,* and the *Harvard Business Review*.

APPENDIX B

The Research on Analysts' Long-Term EPS Growth Rate Forecasts
B-1 thru B-13

Analysts' Long-Term Projected EPS Growth Rate Analysis
Exhibit JRW-B1 (pages 1-6)

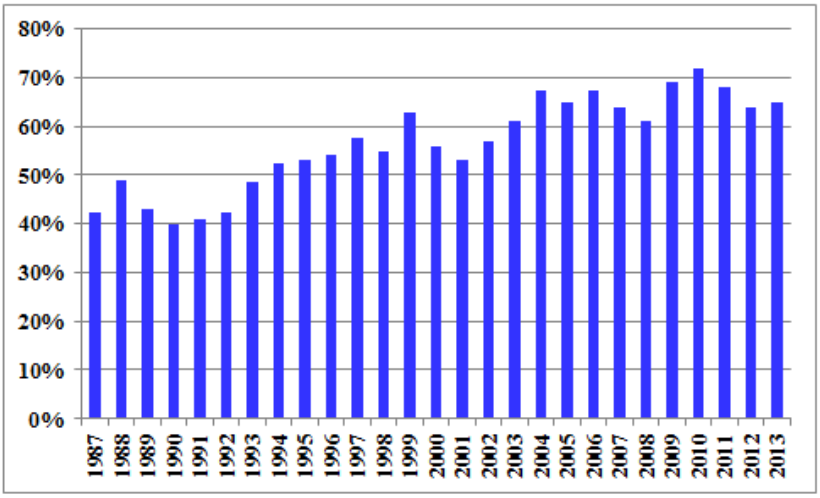
Appendix B
The Research on Analysts' Long-Term EPS Growth Rate Forecasts

Most of the attention given to the accuracy of analysts' EPS forecasts comes from media coverage of companies' quarterly earnings announcements. When companies' announced earnings beat Wall Street's EPS estimates ("a positive surprise"), their stock prices usually go up. When a company's EPS figure misses or is below Wall Street's forecasted EPS ("a negative surprise"), their stock price usually declines, sometimes precipitously so. Wall Street's estimate is the consensus forecast for quarterly EPS made by analysts who follow the stock as of the announcement date. And so Wall Street's so-called "estimate" is analysts' consensus quarterly EPS forecast made in the days leading up to the EPS announcement.

In recent years, it has become more common for companies to beat Wall Street's quarterly EPS estimate. A *Wall Street Journal* article summarized the results for the first quarter of 2012: "While this "positive surprise ratio" of 70% is above the 20 year average of 58% and also higher than last quarter's tally, it is just middling since the current bull market began in 2009. In the past decade, the ratio only dipped below 60% during the financial crisis. Look before 2002, though, and 70% would have been literally off the chart. From 1993 through 2001, about half of companies had positive surprises."[1] Figure 1 below provides the record for companies beating Wall Street's EPS estimate on an annual basis over the past twenty-five years.

[1] Spencer Jakab, "Earnings Surprises Lose Punch," *Wall Street Journal* (May 7, 2012), p. C1.

Figure 1
Percent of Companies Beating Wall Street's Quarterly Estimates



A. RESEARCH ON THE ACCURACY OF ANALYSTS' NEAR-TERM EPS ESTIMATES

There is a long history of studies that evaluate how well analysts forecast near-term EPS estimates and long-term EPS growth rates. Most of these studies have evaluated the accuracy of earnings forecasts for the current quarter or year. Many of the early studies indicated that analysts make overly optimistic EPS earnings forecasts for quarter-to-quarter EPS (Stickel (1990); Brown (1997); Chopra (1998)).[2] More recent studies have shown that the optimistic bias tends to be larger for longer-term forecasts and smaller for forecasts made nearer to the EPS announcement date. Richardson, Teoh, and Wysocki (2004) report that the

[2] S. Stickel, "Predicting Individual Analyst Earnings Forecasts," *Journal of Accounting Research*, Vol. 28, 409-417, 1990. Brown, L.D., "Analyst Forecasting Errors: Additional Evidence," *Financial Analysts Journal*, Vol. 53, 81-88, 1997, and Chopra, V.K., "Why So Much Error in Analysts' Earnings Forecasts?" *Financial Analysts Journal*, Vol. 54, 30-37 (1998).

upward bias in earnings growth rates declines in the quarters leading up to the earnings announcement date.[3] They call this result the "walk-down to beatable analyst forecasts." They hypothesize that the walk-down might be driven by the "earning-guidance game," in which analysts give optimistic forecasts at the start of a fiscal year, then revise their estimates downwards until the firm can beat the forecasts at the earnings announcement date.

However, two regulatory developments over the past decade have potentially impacted analysts' EPS growth rate estimates. First, Regulation Fair Disclosure ("Reg FD") was introduced by the Securities and Exchange Commission ("SEC") in October of 2000. Reg FD prohibits private communication between analysts and management so as to level the information playing field in the markets. With Reg FD, analysts are less dependent on gaining access to management to obtain information and, therefore, are not as likely to make optimistic forecasts to gain access to management. Second, the conflict of interest within investment firms with investment banking and analyst operations was addressed in the Global Analysts Research Settlements ("GARS"). GARS, as agreed upon on April 23, 2003, between the SEC, NASD, NYSE and ten of the largest U.S. investment firms, includes a number of regulations that were introduced to prevent investment bankers from pressuring analysts to provide favorable projections.

[3] S. Richardson, S. Teoh, and P. Wysocki, "The Walk-Down to Beatable Analyst Forecasts: The Role of Equity Issuance and Insider Trading Incentives," *Contemporary Accounting Research*, pp. 885−924, (2004).

The previously cited *Wall Street Journal* article acknowledged the impact of the new regulatory rules in explaining the recent results:[4] "What changed? One potential reason is the tightening of rules governing analyst contacts with management. Analysts now must rely on publicly available guidance or, gasp, figure things out by themselves. That puts companies, with an incentive to set the bar low so that earnings are received positively, in the driver's seat. While that makes managers look good short-term, there is no lasting benefit for buy-and-hold investors."

These comments on the impact of regulatory developments on the accuracy of short-term EPS estimates were addressed in a study by Hovakimian and Saenyasiri (2010).[5] The authors investigate analysts' forecasts of annual earnings for the following time periods: (1) the time prior to Reg FD (1984-2000); (2) the time period after Reg FD but prior to GARS (2000-2002);[6] and (3) the time period after GARS (2002-2006). For the pre-Reg FD period, Hovakimian and Saenyasiri find that analysts generally make overly optimistic forecasts of annual earnings. The forecast bias is higher for early forecasts and steadily declines in the months leading up to the earnings announcement. The results are similar for the time period after Reg FD but prior to GARS. However, the bias is lower in the later forecasts (the forecasts made just prior to the announcement).

[4] Spencer Jakab, "Earnings Surprises Lose Punch," *Wall Street Journal* (May 7, 2012), p. C1.

[5] A. Hovakimian and E. Saenyasiri, "Conflicts of Interest and Analysts Behavior: Evidence from Recent Changes in Regulation," *Financial Analysts* Journal (July-August, 2010), pp. 96-107.

[6] Whereas the GARS settlement was signed in 2003, rules addressing analysts' conflict of interest by separating the research and investment banking activities of analysts went into effect with the passage of NYSE and NASD rules in July of 2002.

For the time period after GARS, the average forecasts declined significantly, but a positive bias remains. In sum, Hovakimian and Saenyasiri find that: (1) analysts make overly optimistic short-term forecasts of annual earnings; (2) Reg FD had no effect on this bias; and (3) GARS did result in a significant reduction in the bias, but analysts' short-term forecasts of annual earnings still have a small positive bias.

B. RESEARCH ON THE ACCURACY OF ANALYSTS' LONG-TERM EPS GROWTH RATE FORECASTS

There have been very few studies regarding the accuracy of analysts' long-term EPS growth rate forecasts. Cragg and Malkiel (1968) studied analysts' long-term EPS growth rate forecasts made in 1962 and 1963 by five brokerage houses for 185 firms. They concluded that analysts' long-term earnings growth forecasts are on the whole no more accurate than naive forecasts based on past earnings growth. Harris (1999) evaluated the accuracy of analysts' long-term EPS forecasts over the 1982-1997 time period using a sample of 7,002 firm-year observations.[7] He concluded the following: (1) the accuracy of analysts' long-term EPS forecasts is very low; (2) a superior long-run method to forecast long-term EPS growth is to assume that all companies will have an earnings growth rate equal to historic GDP growth; and (3) analysts' long-term EPS forecasts are significantly upwardly biased, with forecasted earnings growth exceeding actual earnings growth by seven percent per annum. Subsequent studies by DeChow, P., A. Hutton, and R. Sloan (2000), and Chan, Karceski, and Lakonishok (2003) also

[7] R.D. Harris, "The Accuracy, Bias, and Efficiency of Analysts' Long Run Earnings Growth Forecasts," *Journal of Business Finance & Accounting*, pp. 725-55 (June/July 1999).

conclude that analysts' long-term EPS growth rate forecasts are overly optimistic and upwardly biased.[8] The Chan, Karceski, and Lakonishok (2003) study evaluated the accuracy of analysts' long-term EPS growth rate forecasts over the 1982-98 time period. They reported a median IBES growth forecast of 14.5%, versus a median realized five-year growth rate of about 9%. They also found the IBES forecasts of EPS beyond two years are not accurate. They concluded the following: "Over long horizons, however, there is little forecastability in earnings, and analysts' estimates tend to be overly optimistic."

Lacina, Lee, and Xu (2011) evaluated the accuracy of analysts' long-term earnings growth rate forecasts over the 1983-2003 time period.[9] The study included 27,081 firm year observations, and compared the accuracy of analysts' EPS forecasts to those produced by two naïve forecasting models: (1) a random walk model ("RW") where the long-term EPS (t+5) is simply equal to last year's EPS figure (t-1); and (2) a RW model with drift ("RWGDP"), where the drift or growth rate is GDP growth for period t-1. In this model, long-term EPS (t+5) is simply equal to last year's EPS figure (t-1) times (1 + GDP growth (t-1)). The authors conclude that using the RW model to forecast EPS in the next 3-5 years proved to be just as accurate as using the EPS estimates from analysts' long-term earnings growth rate forecasts. They find that the RWGDP model performs better

[8] P. DeChow, A. Hutton, and R. Sloan, "The Relation Between Analysts' Forecasts of Long-Term Earnings Growth and Stock Price Performance Following Equity Offerings," *Contemporary Accounting Research (2000)* and K. Chan, L., Karceski, J., & Lakonishok, J., "The Level and Persistence of Growth Rates," *Journal of Finance* pp. 643−684, (2003).

[9] M. Lacina, B. Lee and Z. Xu, *Advances in Business and Management Forecasting (Vol. 8)*, Kenneth D. Lawrence, Ronald K. Klimberg (ed.), Emerald Group Publishing Limited, pp.77-101

than the pure RW model, and that both models perform as well as analysts in forecasting long-term EPS. They also discover an optimistic bias in analysts' long-term EPS forecasts. In the authors' opinion, these results indicate that analysts' long-term earnings growth rate forecasts should be used with caution as inputs for valuation and cost of capital purposes.

C. ISSUES REGARDING THE SUPERIORITY OF ANALYSTS' EPS FORECASTS OVER HISTORIC AND TIME-SERIES ESTIMATES OF LONG-TERM EPS GROWTH

As highlighted by the classic study by Brown and Rozeff (1976) and the other studies that followed, analysts' forecasts of quarterly earnings estimates are superior to the estimates derived from historic and time-series analyses.[10] This is often attributed to the information and timing advantage that analysts have over historic and time-series analyses. These studies relate to analysts' forecasts of quarterly and/or annual forecasts, and not to long-term EPS growth rate forecasts. The previously cited studies by Harris (1999), Chan, Karceski, and Lakonishok (2003), and Lacina, Lee, and Xu (2011) all conclude that analysts' forecasts are no better than time-series models and historic growth rates in forecasting long-term EPS. Harris (1999) and Lacina, Lee, and Xu (2011) concluded that historic GDP growth was superior to analysts' forecasts for long run earnings growth. These overall results are similar to the findings by Bradshaw, Drake, Myers, and Myers (2009) that discovered that time-series estimates of annual earnings are more accurate over longer horizons than analysts' forecasts of earnings. As the

[10] L. Brown and M. Rozeff, "The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings," *The Journal of Finance* 33 (1): pp. 1-16 (1976).

authors state, "These findings suggest an incomplete and misleading generalization about the superiority of analysts' forecasts over even simple time-series-based earnings forecasts."[11]

D. STUDY OF THE ACCURACY OF ANALYSTS' LONG-TERM EARNINGS GROWTH RATES

To evaluate the accuracy of analysts' EPS forecasts, I have compared actual 3-5 year EPS growth rates with forecasted EPS growth rates on a quarterly basis over the past 20 years for all companies covered by the I/B/E/S data base. In Panel A of page 1 of Exhibit JRW-B1, I show the average analysts' forecasted 3-5 year EPS growth rate with the average actual 3-5 year EPS growth rate for the past twenty years.

The following example shows how the results can be interpreted. For the 3-5 year period ending the first quarter of 1999, analysts had projected an EPS growth rate of 15.13%, but companies only generated an average annual EPS growth rate over the 3-5 years of 9.37%. This projected EPS growth rate figure represented the average projected growth rate for over 1,510 companies, with an average of 4.88 analysts' forecasts per company. For the entire twenty-year period of the study, for each quarter there were on average 5.6 analysts' EPS projections for 1,281 companies. Overall, my findings indicate that forecast errors for long-term estimates are predominantly positive, which indicates an upward bias in growth rate estimates. The mean and median forecast errors over the observation period are 143.06% and 75.08%, respectively. The forecasting errors

[11] M. Bradshaw, M. Drake, J. Myers, and L. Myers, "A Re-examination of Analysts' Superiority Over Time-Series Forecasts," Workings paper, (1999), http://ssrn.com/abstract=1528987.

are negative for only eleven of the eighty quarterly time periods: five consecutive quarters starting at the end of 1995 and six consecutive quarters starting in 2006. As shown in Panel A of page 1 of Exhibit JRW-B1, the quarters with negative forecast errors were for the 3-5 year periods following earnings declines associated with the 1991 and 2001 economic recessions in the U.S. Thus, there is evidence of a persistent upward bias in long-term EPS growth forecasts.

The average 3-5 year EPS growth rate projections for all companies provided in the I/B/E/S database on a quarterly basis from 1988 to 2008 are shown in Panel B of page 1 of Exhibit JRW-B1. In this graph, no comparison to actual EPS growth rates is made, and hence, there is no follow-up period. Therefore, since companies are not lost from the sample due to a lack of follow-up EPS data, these results are for a larger sample of firms. The average projected growth rate increased to the 18.0% range in 2004, and has since decreased to about 14.0%.

The upward bias in analysts' long-term EPS growth rate forecasts appears to be known in the markets. Page 2 of Exhibit JRW-B1 provides an article published in the *Wall Street Journal*, dated March 21, 2008, that discusses the upward bias in analysts' EPS growth rate forecasts.[12] In addition, a recent *Bloomberg Businessweek* article also highlighted the upward bias in analysts' EPS forecasts,

[12] Andrew Edwards, "Study Suggests Bias in Analysts' Rosy Forecasts," *Wall Street Journal* (March 21, 2008), p. C6.

citing a study by McKinsey Associates. This article is provided on pages 3 and 4 of Exhibit JRW-B1. The article concludes with the following:[13]

The bottom line: *Despite reforms intended to improve Wall Street research, stock analysts seem to be promoting an overly rosy view of profit prospects.*

E. REGULATORY DEVELOPMENTS AND THE ACCURACY OF ANALYSTS' LONG-TERM EARNINGS GROWTH RATES FORECASTS

Whereas Hovakimian and Saenyasiri evaluated the impact of regulations on analysts' short-term EPS estimates, there is little research on the impact of Reg FD and GARS on the long-term EPS forecasts of Wall Street analysts. My study with Patrick Cusatis did find that the long-term EPS growth rate forecasts of analysts did not decline significantly and have continued to be overly optimistic in the post-Reg FD and GARS period.[14] Analysts' long-term EPS growth rate forecasts before and after GARS are about two times the level of historic GDP growth. These observations are supported by a *Wall Street Journal* article entitled "Analysts Still Coming Up Rosy – Over-Optimism on Growth Rates is Rampant – and the Estimates Help to Buoy the Market's Valuation." The following quote provides insight into the continuing bias in analysts' forecasts:

> Hope springs eternal, says Mark Donovan, who manages Boston Partners Large Cap Value Fund. "You would have thought that, given what happened in the last three years, people would have given up the ghost. But in large measure they have not.

[13] Roben Farzad, "For Analysts, Things are Always Looking Up," *Bloomberg Businessweek* (June 14, 2010), pp. 39-40.

[14] P. Cusatis and J. R. Woolridge, "The Accuracy of Analysts' Long-Term EPS Growth Rate Forecasts," Working Paper (July 2008).

> These overly optimistic growth estimates also show that, even with all the regulatory focus on too-bullish analysts allegedly influenced by their firms' investment-banking relationships, a lot of things haven't changed. Research remains rosy and many believe it always will.[15]

These observations are echoed in a recent McKinsey study entitled "Equity Analysts: Still Too Bullish" which involved a study of the accuracy on analysts long-term EPS growth rate forecasts. The authors conclude that after a decade of stricter regulation, analysts' long-term earnings forecasts continue to be excessively optimistic. They made the following observation (emphasis added):

[16]

> Alas, a recently completed update of our work only reinforces this view—despite a series of rules and regulations, dating to the last decade, that were intended to improve the quality of the analysts' long-term earnings forecasts, restore investor confidence in them, and prevent conflicts of interest. For executives, many of whom go to great lengths to satisfy Wall Street's expectations in their financial reporting and long-term strategic moves, this is a cautionary tale worth remembering. This pattern confirms our earlier findings that analysts typically lag behind events in revising their forecasts to reflect new economic conditions. When economic growth accelerates, the size of the forecast error declines; when economic growth slows, it increases. So as economic growth cycles up and down, the actual earnings S&P 500 companies report occasionally coincide with the analysts' forecasts, as they did, for example, in 1988, from 1994 to 1997, and from 2003 to 2006. Moreover, analysts have been persistently overoptimistic for the past 25 years, with estimates ranging from 10 to 12 percent a year, compared with actual earnings growth of 6 percent. Over this time frame, actual earnings growth surpassed forecasts in only two instances, both during the earnings recovery following a recession. On average, analysts' forecasts have been almost 100 percent too high.

F. ANALYSTS' LONG-TERM EPS GROWTH RATE FORECASTS FOR UTILITY COMPANIES

[15] Ken Brown, "Analysts Still Coming Up Rosy – Over-Optimism on Growth Rates is Rampant – and the Estimates Help to Buoy the Market's Valuation," *Wall Street Journal,* p. C1, (January 27, 2003).
[16] Marc H. Goedhart, Rishi Raj, and Abhishek Saxena, "Equity Analysts, Still Too Bullish," *McKinsey on Finance,* pp. 14-17, (Spring 2010).

To evaluate whether analysts' EPS growth rate forecasts are upwardly biased for utility companies, I conducted a study similar to the one described above using a group of electric utility and gas distribution companies. The results are shown on Panels A and B of page 5 of Exhibit JRW-B1. The projected EPS growth rates for electric utilities have been in the 4% to 6% range over the last twenty years, with the recent figures at approximately 5%. As shown, the achieved EPS growth rates have been volatile and, on average, below the projected growth rates. Over the entire period, the average quarterly 3-5 year projected and actual EPS growth rates are 4.59% and 2.90%, respectively.

For gas distribution companies, the projected EPS growth rates have declined from about 6% in the 1990s to about 5% in the 2000s. The achieved EPS growth rates have been volatile. Over the entire period, the average quarterly 3-5 year projected and actual EPS growth rates are 5.15% and 4.53%, respectively.

Overall, the upward bias in EPS growth rate projections for electric utility and gas distribution companies is not as pronounced as it is for all companies. Nonetheless, the results here are consistent with the results for companies in general -- analysts' projected EPS growth rate forecasts are upwardly biased for utility companies.

G. *VALUE LINE*'S LONG-TERM EPS GROWTH RATE FORECASTS

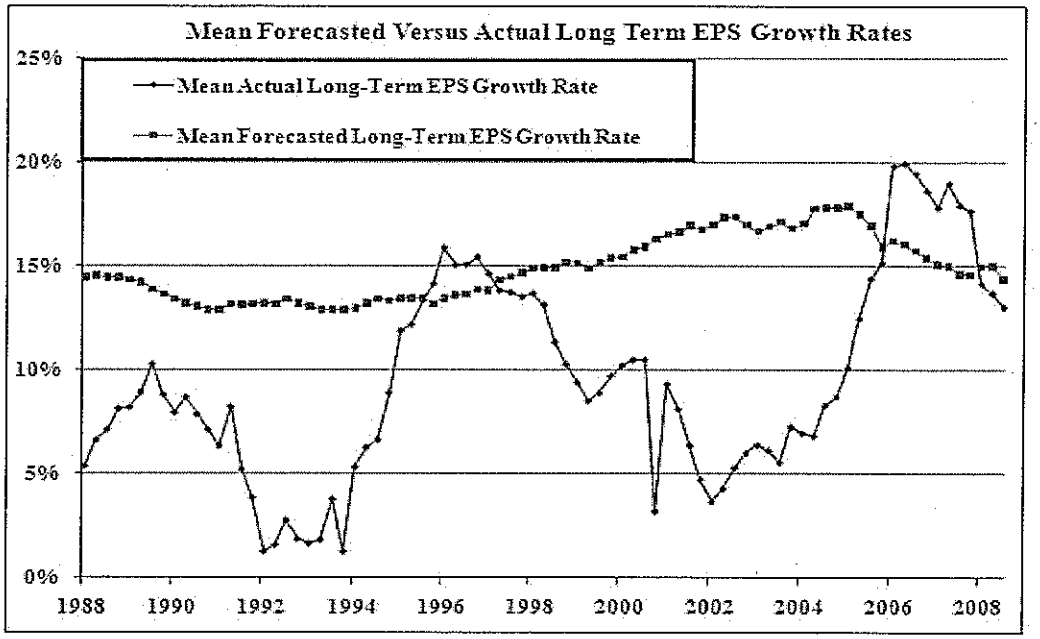
To assess *Value Line*'s earnings growth rate forecasts, I used the *Value Line Investment Analyzer*. The results are summarized in Panel A of Page 6 of Exhibit JRW-B1. I initially filtered the database and found that *Value Line* has 3-

5 year EPS growth rate forecasts for 2,333 firms. The average projected EPS growth rate was 14.70%. This is high given that the average historical EPS growth rate in the U.S. is about 7%. A major factor seems to be that *Value Line* only predicts negative EPS growth for 43 companies. This is less than two percent of the companies covered by *Value Line*. Given the ups and downs of corporate earnings, this is unreasonable.

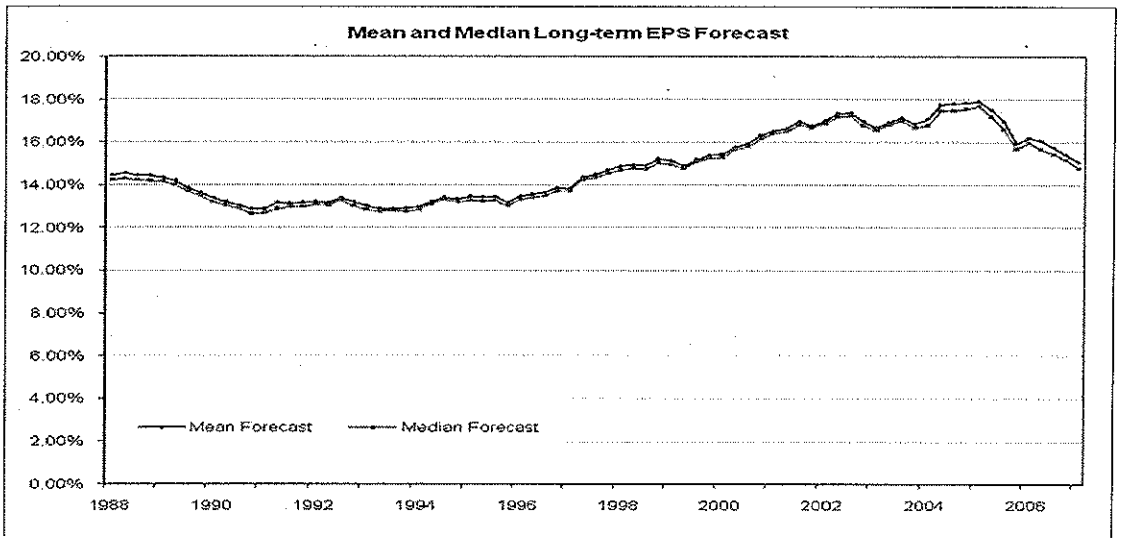
To put this figure in perspective, I screened the *Value Line* companies to see what percent of companies covered by *Value Line* had experienced negative EPS growth rates over the past five years. *Value Line* reported a five-year historic growth rate for 2,219 companies. The results are shown in Panel B of page 6 of Exhibit JRW-B1 and indicate that the average 5-year historic growth rate was 3.90%, and *Value Line* reported negative historic growth for 844 firms which represents 38.0% of these companies.

These results indicate that *Value Line*'s EPS forecasts are excessive and unrealistic. It appears that the analysts at *Value Line* are similar to their Wall Street brethren in that they are reluctant to forecast negative earnings growth.

Panel A
Long-Term Forecasted Versus Actual EPS Growth Rates
1988-2009



Panel B
Long-Term Forecasted EPS Growth Rates
1988-2007



Source: Patrick J. Cusatis and J. Randall Woolridge, "The Accuracy of Analysts' Long-Term Earnings Per Share Growth Rate Forecasts," (July, 2008).

THE WALL STREET JOURNAL.

Study Suggests Bias in Analysts' Rosy Forecasts

By ANDREW EDWARDS
March 21, 2008; Page C6

Despite an economy teetering on the brink of a recession -- if not already in one -- analysts are still painting a rosy picture of earnings growth, according to a study done by Penn State's Smeal College of Business.

The report questions analysts' impartiality five years after then-New York Attorney General Eliot Spitzer forced analysts to pay $1.5 billion in damages after finding evidence of bias.

"Wall Street analysts basically do two things: recommend stocks to buy and forecast earnings," said J. Randall Woolridge, professor of finance. "Previous studies suggest their stock recommendations do not perform well, and now we show that their long-term earnings-per-share growth-rate forecasts are excessive and upwardly biased."

The report, which examined analysts' long-term (three to five years) and one-year per-share earnings expectations from 1984 through 2006 found that companies' long-term earnings growth surpassed analysts' expectations in only two instances, and those came right after recessions.

Over the entire time period, analysts' long-term forecast earnings-per-share growth averaged 14.7%, compared with actual growth of 9.1%. One-year per-share earnings expectations were slightly more accurate: The average forecast was for 13.8% growth and the average actual growth rate was 9.8%.

"A significant factor in the upward bias in long-term earnings-rate forecasts is the reluctance of analysts to forecast" profit declines, Mr. Woolridge said. The study found that nearly one-third of all companies experienced profit drops over successive three-to-five-year periods, but analysts projected drops less than 1% of the time.

The study's authors said, "Analysts are rewarded for biased forecasts by their employers, who want them to hype stocks so that the brokerage house can garner trading commissions and win underwriting deals."

They also concluded that analysts are under pressure to hype stocks to generate trading commissions, and they often don't follow stocks they don't like.

Write to Andrew Edwards at andrew.edwards@dowjones.com

Markets & Finance June 10, 2010, 5:00PM EST

Bloomberg Businessweek

For Analysts, Things Are Always Looking Up

They're raising earnings estimates for U.S. companies at a record pace

By Roben Farzad

For years, the rap on Wall Street securities analysts was that they were shills, reflexively producing upbeat research on companies they cover to help their employers win investment banking business. The dynamic was well understood: Let my bank take your company public, or advise it on this acquisition, and—wink, wink—I will recommend your stock through thick or thin. After the Internet bubble burst, that was supposed to change. In April 2003 the Securities & Exchange Commission reached a settlement with 10 Wall Street firms in which they agreed, among other things, to separate research from investment banking.

Seven years on, Wall Street analysts remain a decidedly optimistic lot. Some economists look at the global economy and see troubles—the European debt crisis, persistently high unemployment worldwide, and housing woes in the U.S. Stock analysts as a group seem unfazed. Projected 2010 profit growth for companies in the Standard & Poor's 500-stock index has climbed seven percentage points this quarter, to 34 percent, data compiled by Bloomberg show. According to Sanford C. Bernstein (AB), that's the fastest pace since 1980, when the Dow Jones industrial average was quoted in the hundreds and Nancy Reagan was getting ready to order new window treatments for the Oval Office.

Among the companies analysts expect to excel: Intel (INTL) is projected to post an increase in net income of 142 percent this year. Caterpillar, a multinational that gets much of its revenue abroad, is expected to boost its net income by 47 percent this year. Analysts have also hiked their S&P 500 profit estimate for 2011 to $95.53 a share, up from $92.45 at the beginning of January, according to Bloomberg data. That would be a record, surpassing the previous high reached in 2007.

With such prospects, it's not surprising that more than half of S&P 500-listed stocks boast overall buy ratings. It is telling that the proportion has essentially held constant at both the market's October 2007 high and March 2009 low, bookends of a period that saw stocks fall by more than half. If the analysts are correct, the market would appear to be attractively priced right now. Using the $95.53 per share figure, the price-to-earnings ratio of the S&P 500 is a modest 11 as of June 9. If, however, analysts end up being too high by, say, 20 percent, the P/E would jump to almost 14.

If history is any guide, chances are good that the analysts are wrong. According to a recent McKinsey report by Marc Goedhart, Rishi Raj, and Abhishek Saxena, "Analysts have been persistently over-optimistic for 25 years," a stretch that saw them peg earnings growth at 10 percent to 12 percent a year when the actual number was ultimately 6 percent. "On average," the researchers note, "analysts' forecasts have been almost 100 percent too high," even after regulations were enacted to weed out conflicts and improve the rigor of their calculations. As the chart below shows, in most years analysts have been forced to lower their estimates after it became apparent they had set them too high.

While a few analysts, like Meredith Whitney, have made their names on bearish calls, most are chronically bullish. Part of the problem is that despite all the reforms they remain too aligned with the companies they cover. "Analysts still need to get the bulk of their information from companies, which have an incentive to be over-optimistic," says Stephen Bainbridge, a professor at UCLA Law School who specializes in the securities industry. "Meanwhile, analysts don't want to threaten that ongoing access by being too negative." Bainbridge says that with the era of the overpaid, superstar analyst long over, today's job description calls for resisting the urge to be an iconoclast. "It's a matter of herd behavior," he says.

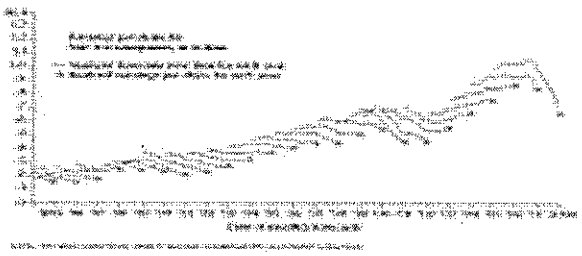
So what's a more plausible estimate of companies' earning power? Looking at factors including the strengthening dollar, which hurts exports, and higher corporate borrowing costs, David Rosenberg, chief economist at Toronto-based investment shop Gluskin Sheff + Associates, says "disappointment looms." Bernstein's Adam Parker says every 10 percent drop in the value of the euro knocks U.S. corporate earnings down by 2.5 percent to 3 percent. He sees the S&P 500 earning $86 a share next year.

As realities hit home, "It's only natural that analysts will have to revise down their views," says Todd Salamone, senior vice-president at Schaeffer's Investment Research. The market may be making its own downward adjustment, as the S&P 500 has already fallen 14 percent from its high in April. If precedent holds, analysts are bound to curb their enthusiasm belatedly, telling us next year what we really needed to know this year.

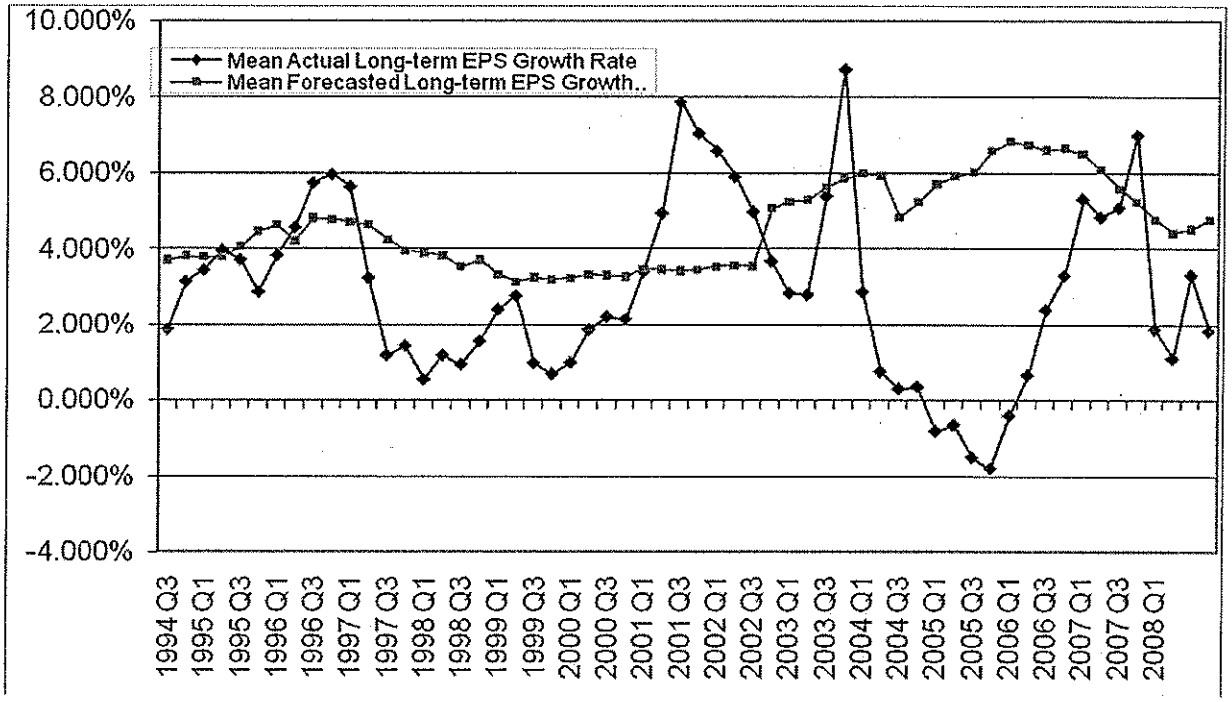
The bottom line: Despite reforms intended to improve Wall Street research, stock analysts seem to be promoting an overly rosy view of profit prospects.

Bloomberg Businessweek Senior Writer Farzad covers Wall Street and international finance.

The Earnings Roller Coaster

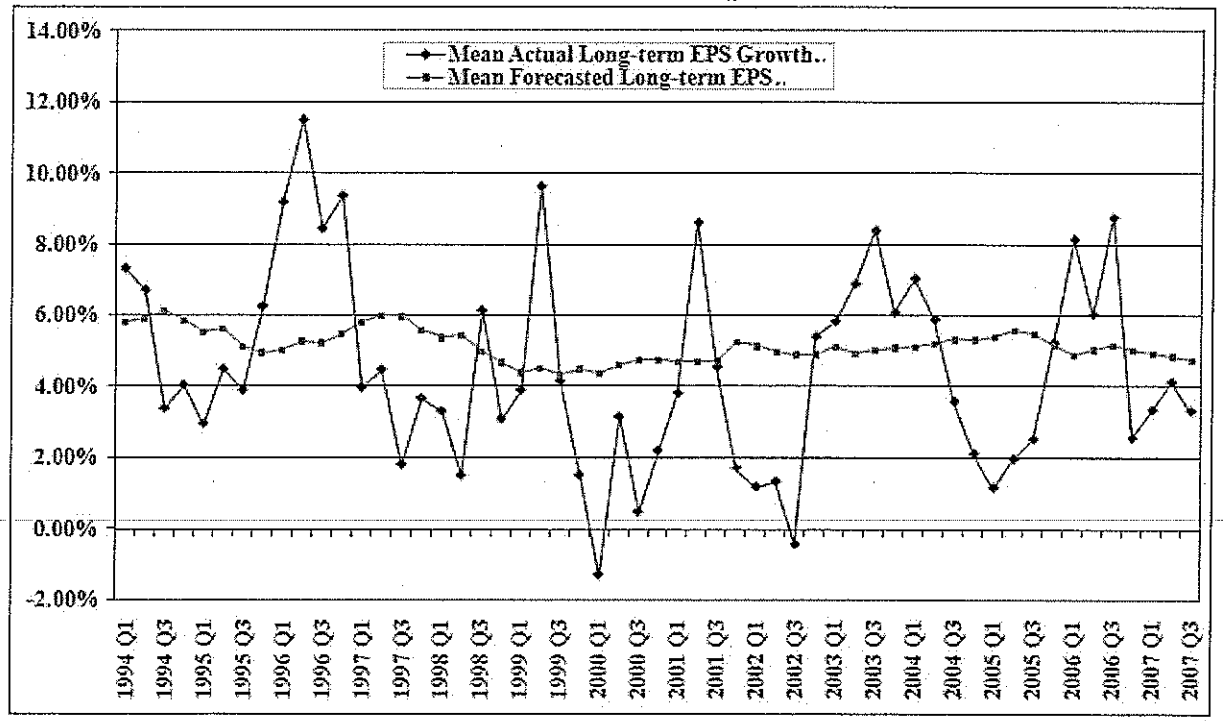


Panel A
Long-Term Forecasted Versus Actual EPS Growth Rates
Electric Utility Companies
1988-2008



Data Source: IBES

Panel B
Long-Term Forecasted Versus Actual EPS Growth Rates
Gas Distribution Companies



Panel A
Value Line 3-5 year EPS Growth Rate Forecasts

	Average Projected EPS Growth rate	Number of Negative EPS Growth Projections	Percent of Negative EPS Growth Projections
2,333 Companies	14.70%	43	1.80%

Value Line Investment Survey, June, 2012

Panel B
Historical Five-Year EPS Growth Rates for Value Line Companies

	Average Historical EPS Growth rate	Number with Negative Historical EPS Growth	Percent with Negative Historical EPS Growth
2,219 Companies	3.90%	844	38.00%

Value Line Investment Survey, June, 2012

APPENDIX C

Building Blocks Equity Risk Premium
C-1 thru C-5

Exhibit JRW-C1
(pages 1-5)

A. THE BUILDING BLOCKS MODEL

Ibbotson and Chen (2003) evaluate the ex post historical mean stock and bond returns in what is called the Building Blocks approach.[1] They use 75 years of data and relate the compounded historical returns to the different fundamental variables employed by different researchers in building ex ante expected equity risk premiums. Among the variables included were inflation, real EPS and DPS growth, ROE and book value growth, and price-earnings ("P/E") ratios. By relating the fundamental factors to the ex post historical returns, the methodology bridges the gap between the ex post and ex ante equity risk premiums. Ilmanen (2003) illustrates this approach using the geometric returns and five fundamental variables – inflation ("CPI"), dividend yield ("D/P"), real earnings growth ("RG"), repricing gains ("PEGAIN"), and return interaction/reinvestment ("INT").[2] This is shown on page 1 of Exhibit JRW-C1. The first column breaks down the 1926-2000 geometric mean stock return of 10.7% into the different return components demanded by investors: the historical U.S. Treasury bond return (5.2%), the excess equity return (5.2%), and a small interaction term (0.3%). This 10.7% annual stock return over the 1926-2000 period can then be broken down into the following fundamental elements: inflation (3.1%), dividend yield (4.3%), real earnings growth (1.8%), repricing gains (1.3%) associated with higher P/E ratios, and a small interaction term (0.2%).

[1] Roger Ibbotson and Peng Chen, "Long Run Returns: Participating in the Real Economy," *Financial Analysts Journal*, (January 2003).

[2] Antti Ilmanen, "Expected Returns on Stocks and Bonds," *Journal of Portfolio Management*, (Winter 2003), p. 11.

The third column in the graph on page 1 of Exhibit JRW-C1 shows current inputs to estimate an ex ante expected market return. These inputs include the following:

CPI – To assess expected inflation, I have employed expectations of the short-term and long-term inflation rate. Long-term inflation forecasts are available in the Federal Reserve Bank of Philadelphia's publication entitled *Survey of Professional Forecasters*. While this survey is published quarterly, only the first quarter survey includes long-term forecasts of gross domestic product ("GDP") growth, inflation, and market returns. In the first quarter 2015 survey, published on February 13, 2015, the median long-term (10-year) expected inflation rate as measured by the CPI was 2.1% (see Panel A of page 2 of Exhibit JRW-C1).

The University of Michigan's Survey Research Center surveys consumers on their short-term (one-year) inflation expectations on a monthly basis. As shown on page 3 of Exhibit JRW-C1, the current short-term expected inflation rate is 2.8%.

As a measure of expected inflation, I will use the average of the long-term (2.1%) and short-term (2.8%) inflation rate measures, or 2.50%.

D/P – As shown on page 4 of Exhibit JRW-C1, the dividend yield on the S&P 500 has fluctuated from the approximate range of 1.0% to 3.5% from 2000-2014. Ibbotson and Chen (2003) report that the long-term average dividend yield of the

S&P 500 is 4.3%.[3] Dividend yields over the past two years have averaged about 2.0%. As of February 2015, the indicated S&P 500 dividend yield was 2.0%. I will use this figure in my ex ante risk premium analysis.

RG – To measure expected real growth in earnings, I use the historical real earnings growth rate S&P 500 and the expected real GDP growth rate. The S&P 500 was created in 1960 and includes 500 companies which come from ten different sectors of the economy. On page 5 of Exhibit JRW-C1, real EPS growth is computed using the CPI as a measure of inflation. The real growth figure over 1960-2014 period for the S&P 500 is 2.9%.

The second input for expected real earnings growth is expected real GDP growth. The rationale is that over the long-term, corporate profits have averaged 5.50% of U.S. GDP.[4] Expected real GDP growth, according to the Federal Reserve Bank of Philadelphia's *Survey of Professional Forecasters,* is 2.51% (see Panel B of page 2 of Exhibit JRW-C1, Mean =2.51%).

Given these results, I will use 2.75%, for real earnings growth.

PEGAIN – PEGAIN is the repricing gain associated with an increase in the P/E ratio. It accounted for 1.3% of the 10.7% annual stock return in the 1926-2000 period. In estimating an ex ante expected stock market return, one issue is whether investors expect P/E ratios to increase from their current levels. The P/E ratios for the S&P 500 over the past 25 years are shown on page 4 of Exhibit

[3] *Ibid*. p. 90.

[4]Marc. H. Goedhart, et al, "The Real Cost of Equity," *McKinsey on Finance* (Autumn 2002), p.14.

JRW-C1. The run-up and eventual peak in P/Es in the year 2001is very evident in the chart. The average P/E declined until late 2006, and then increased to higher high levels, primarily due to the decline in EPS as a result of the financial crisis and the recession. As of February, 2015, the average P/E for the S&P 500 was 17.35X, which is above the historic average.[5] Since the current figure is above the historic average, a PEGAIN would not be appropriate in estimating an ex ante expected stock market return.

Expected Return from Building Blocks Approach - The current expected market return is represented by the last column on the right in the graph entitled "Decomposing Equity Market Returns: The Building Blocks Methodology" set forth on page 1 of Exhibit JRW-C1. As shown, the expected market return of 7.25% is composed of 2.50% expected inflation, 2.0% dividend yield, and 2.75% real earnings growth rate.

This expected return of 7.25% is consistent with other expected return forecasts.

1. In the first quarter 2015 *Survey of Financial Forecasters*, published on February 13, 2015 by the Federal Reserve Bank of Philadelphia, the mean long-term expected return on the S&P 500 was 5.79% (see Panel D of page 2 of Exhibit JRW-C1).
2. John Graham and Campbell Harvey of Duke University conduct a quarterly survey of corporate CFOs. The survey is a joint project of

[5] www.standardandpoors.com.

Duke University and *CFO Magazine.* In the March, 2015 survey, the mean expected return on the S&P 500 over the next ten years was 7.4%.[6]

B. THE BUILDING BLOCKS EQUITY RISK PREMIUM

The current 30-year U.S. Treasury yield is about 2.50%. This ex ante equity risk premium is simply the expected market return from the Building Blocks methodology minus this risk-free rate:

Ex Ante Equity Risk Premium = 7.25% - 2.50% = 4.75%

This is only one estimate of the equity risk premium. As shown on page 6 of Exhibit JRW-11, I am also using the results of many other studies and surveys to determine an equity risk premium for my CAPM.

[6] The survey results are available at www.cfosurvey.org.

Exhibit JRW-C1

Decomposing Equity Market Returns
The Building Blocks Methodology

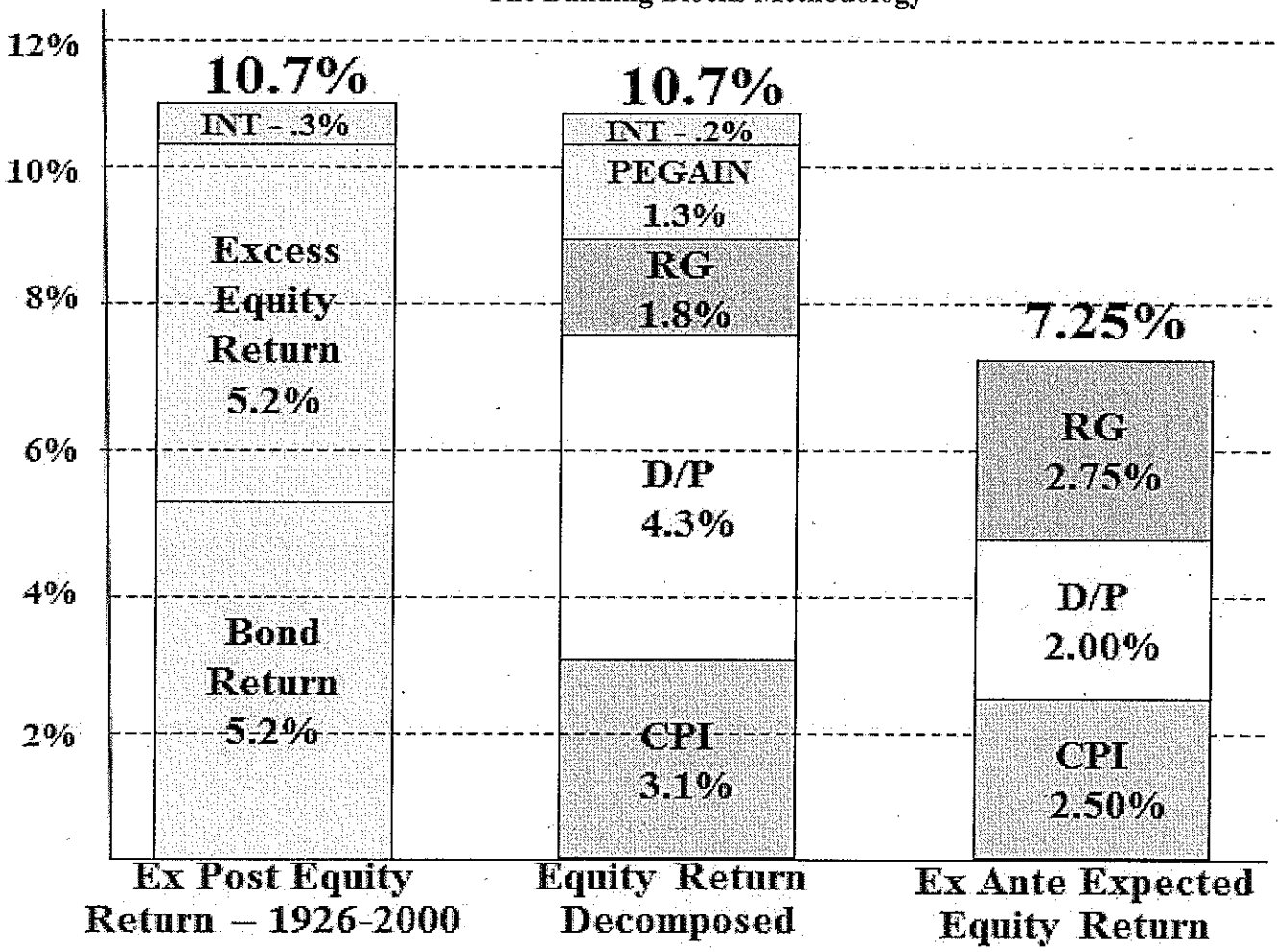


Exhibit JRW-C1

2015 Survey of Professional Forecasters
Philadelphia Federal Reserve Bank
Long-Term Forecasts

Table Seven
LONG-TERM (10 YEAR) FORECASTS

Panel A

SERIES: CPI INFLATION RATE	
STATISTIC	
MINIMUM	1.40
LOWER QUARTILE	2.00
MEDIAN	2.10
UPPER QUARTILE	2.30
MAXIMUM	3.10
MEAN	2.14
STD. DEV.	0.31
N	33
MISSING	6

Panel B

SERIES: REAL GDP GROWTH RATE	
STATISTIC	
MINIMUM	1.80
LOWER QUARTILE	2.30
MEDIAN	2.50
UPPER QUARTILE	2.68
MAXIMUM	3.07
MEAN	2.51
STD. DEV.	0.28
N	28
MISSING	11

Panel C

SERIES: PRODUCTIVITY GROWTH	
STATISTIC	
MINIMUM	0.10
LOWER QUARTILE	1.50
MEDIAN	1.70
UPPER QUARTILE	2.00
MAXIMUM	2.40
MEAN	1.63
STD. DEV.	0.55
N	21
MISSING	18

Panel D

SERIES: STOCK RETURNS (S&P 500)	
STATISTIC	
MINIMUM	1.70
LOWER QUARTILE	5.00
MEDIAN	5.45
UPPER QUARTILE	7.00
MAXIMUM	8.10
MEAN	5.79
STD. DEV.	1.38
N	20
MISSING	19

Panel E

SERIES: BOND RETURNS (10-YEAR)	
STATISTIC	
MINIMUM	2.44
LOWER QUARTILE	3.75
MEDIAN	3.98
UPPER QUARTILE	4.50
MAXIMUM	5.00
MEAN	3.91
STD. DEV.	0.70
N	25
MISSING	14

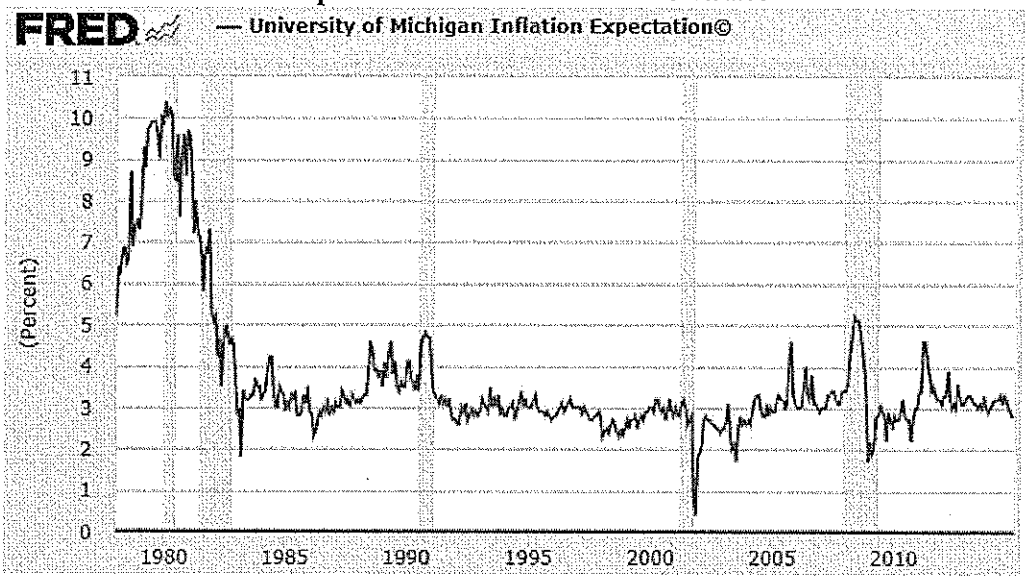
Panel F

SERIES: BILL RETURNS (3-MONTH)	
STATISTIC	
MINIMUM	0.30
LOWER QUARTILE	2.21
MEDIAN	2.67
UPPER QUARTILE	3.00
MAXIMUM	3.90
MEAN	2.55
STD. DEV.	0.74
N	24
MISSING	15

Source: Philadelphia Federal Researve Bank, Survey of Professional Forecasters, February 13, 2015.

Exhibit JRW-C1

University of Michigan Survey Research Center
Expected Short-Term Inflation Rate

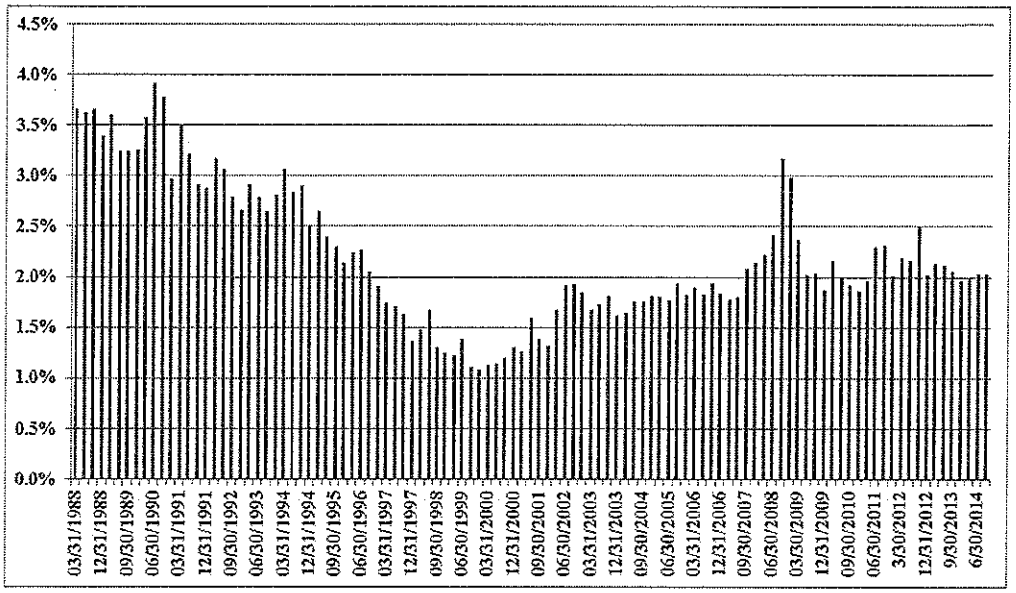


Data Source: http://research.stlouisfed.org/fred2/series/MICH?cid=98

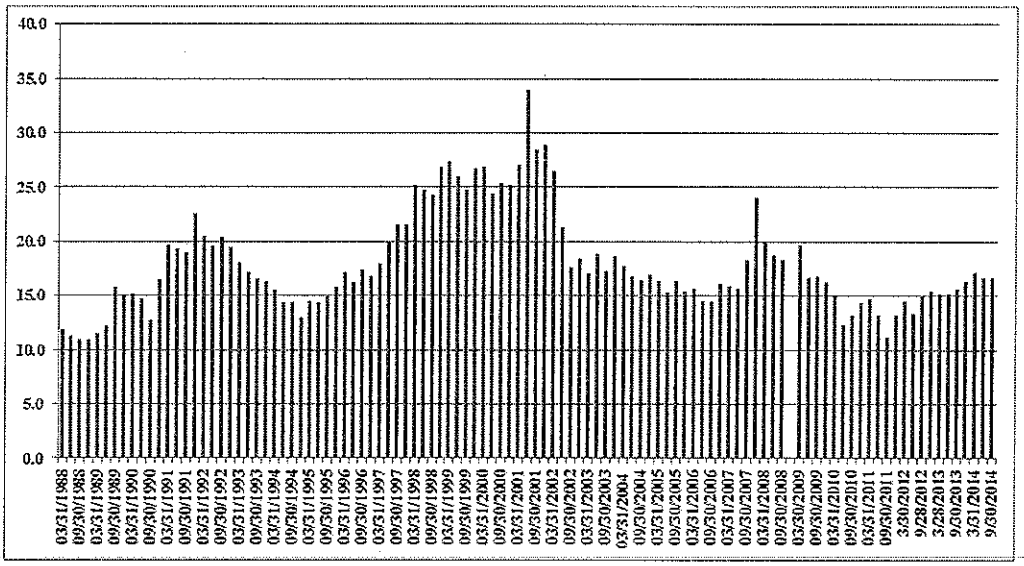
Exhibit JRW-C1

Decomposing Equity Market Returns
The Building Blocks Methodology

S&P 500 Dividend Yield



S&P 500 P/E Ratio



Data: www.standardandpoors.com

Exhibit JRW-C1

Real S&P 500 EPS Growth Rate

Year	S&P 500 EPS	Annual Inflation CPI	Inflation Adjustment Factor	Real S&P 500 EPS	
1960	3.10	0.00%	1.00	3.10	
1961	3.37	0.00%	1.00	3.37	
1962	3.67	0.00%	1.00	3.67	
1963	4.13	0.00%	1.00	4.13	
1964	4.76	0.00%	1.00	4.76	
1965	5.30	0.00%	1.00	5.30	
1966	5.41	0.00%	1.00	5.41	
1967	5.46	0.00%	1.00	5.46	
1968	5.72	0.00%	1.00	5.72	
1969	6.10	0.00%	1.00	6.10	
1970	5.51	0.00%	1.00	5.51	10-Year
1971	5.57	0.00%	1.00	5.57	5.92%
1972	6.17	0.00%	1.00	6.17	
1973	7.96	0.00%	1.00	7.96	
1974	9.35	0.00%	1.00	9.35	
1975	7.71	0.00%	1.00	7.71	
1976	9.75	0.00%	1.00	9.75	
1977	10.87	0.00%	1.00	10.87	
1978	11.64	0.00%	1.00	11.64	
1979	14.55	0.00%	1.00	14.55	
1980	14.99	0.00%	1.00	14.99	10-Year
1981	15.18	0.00%	1.00	15.18	10.53%
1982	13.82	0.00%	1.00	13.82	
1983	13.29	0.00%	1.00	13.29	
1984	16.84	0.00%	1.00	16.84	
1985	15.68	0.00%	1.00	15.68	
1986	14.43	0.00%	1.00	14.43	
1987	16.04	0.00%	1.00	16.04	
1988	24.12	0.00%	1.00	24.12	
1989	24.32	0.00%	1.00	24.32	
1990	22.65	0.00%	1.00	22.65	10-Year
1991	19.30	0.00%	1.00	19.30	4.21%
1992	20.87	0.00%	1.00	20.87	
1993	26.90	0.00%	1.00	26.90	
1994	31.75	0.00%	1.00	31.75	
1995	37.70	0.00%	1.00	37.70	
1996	40.63	0.00%	1.00	40.63	
1997	44.09	0.00%	1.00	44.09	
1998	44.27	0.00%	1.00	44.27	
1999	51.68	0.00%	1.00	51.68	
2000	56.13	0.00%	1.00	56.13	10-Year
2001	38.85	0.00%	1.00	38.85	9.50%
2002	46.04	0.00%	1.00	46.04	
2003	54.69	0.00%	1.00	54.69	
2004	67.68	0.00%	1.00	67.68	
2005	76.45	0.00%	1.00	76.45	
2006	87.72	0.00%	1.00	87.72	
2007	82.54	0.00%	1.00	82.54	
2008	65.39	0.00%	1.00	65.39	
2009	59.65	0.00%	1.00	59.65	
2010	83.66	0.00%	1.00	83.66	10-Year
2011	97.05	0.00%	1.00	97.05	4.07%
2012	102.47	0.00%	1.00	102.47	
2013	107.45	0.00%	1.00	107.45	
2014	114.74	0.80%	1.01	113.83	
Data Source: http://pages.stern.nyu.edu/~adamodar/				Real EPS Growth	**6.9%**

List of Exhibits

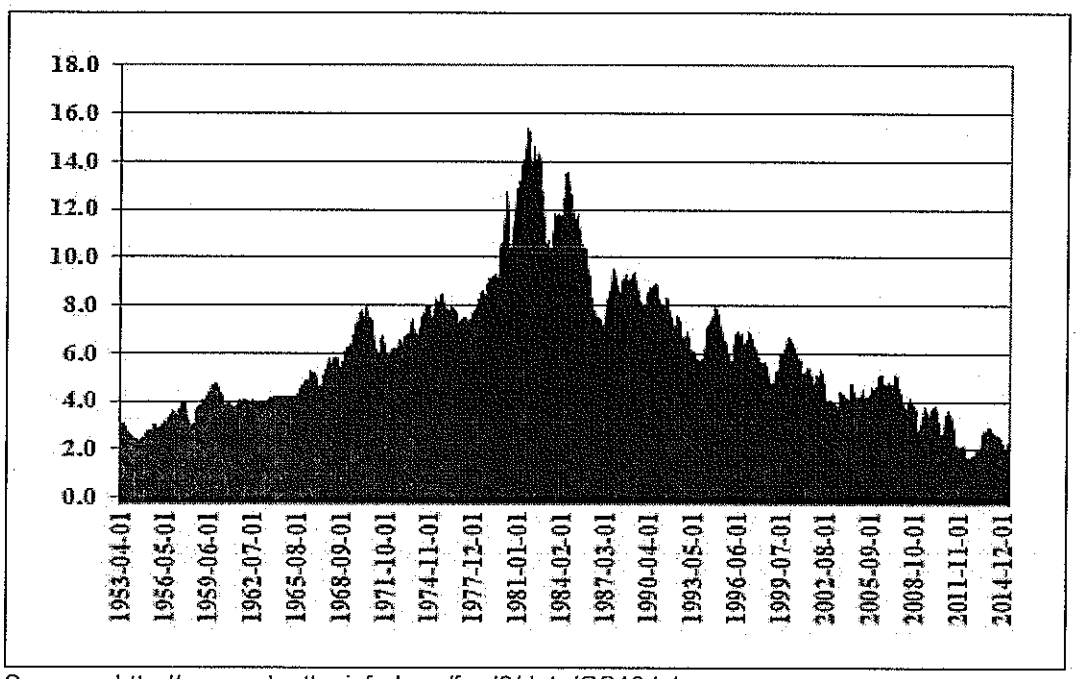
JRW-1 thru JRW-14

Exhibit JRW-1
Westar Energy
Recommended Cost of Capital

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	46.55%	5.69%	2.65%
Common Equity	53.45%	8.85%	4.73%
Total	100.00%		7.38%

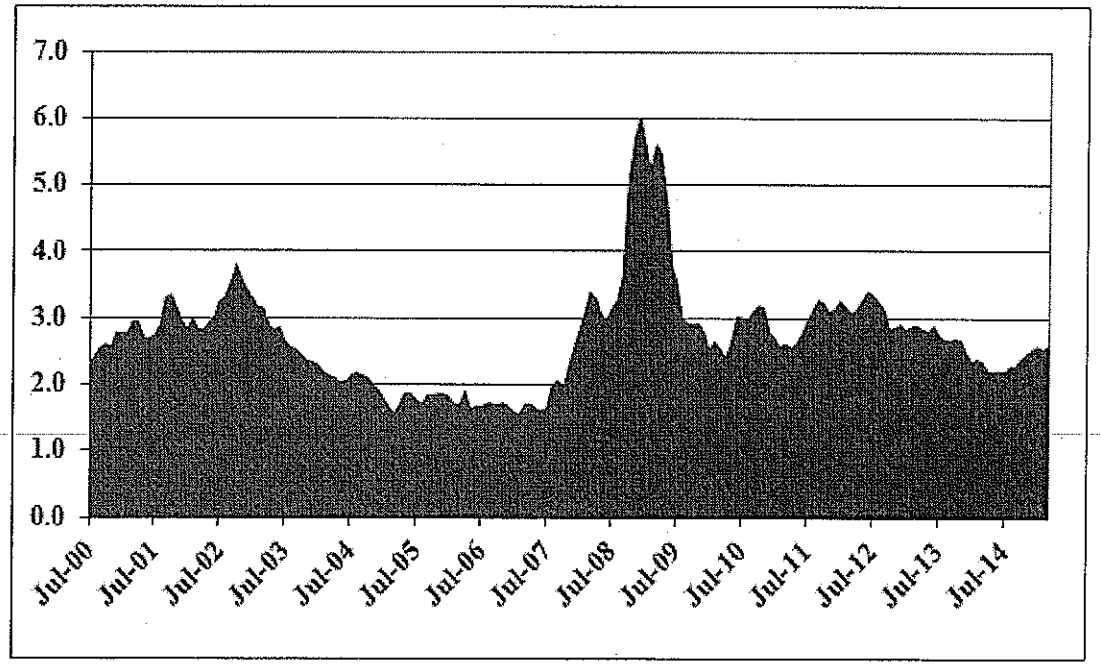
Exhibit JRW-2

Panel A
Ten-Year Treasury Yields
1953-Present



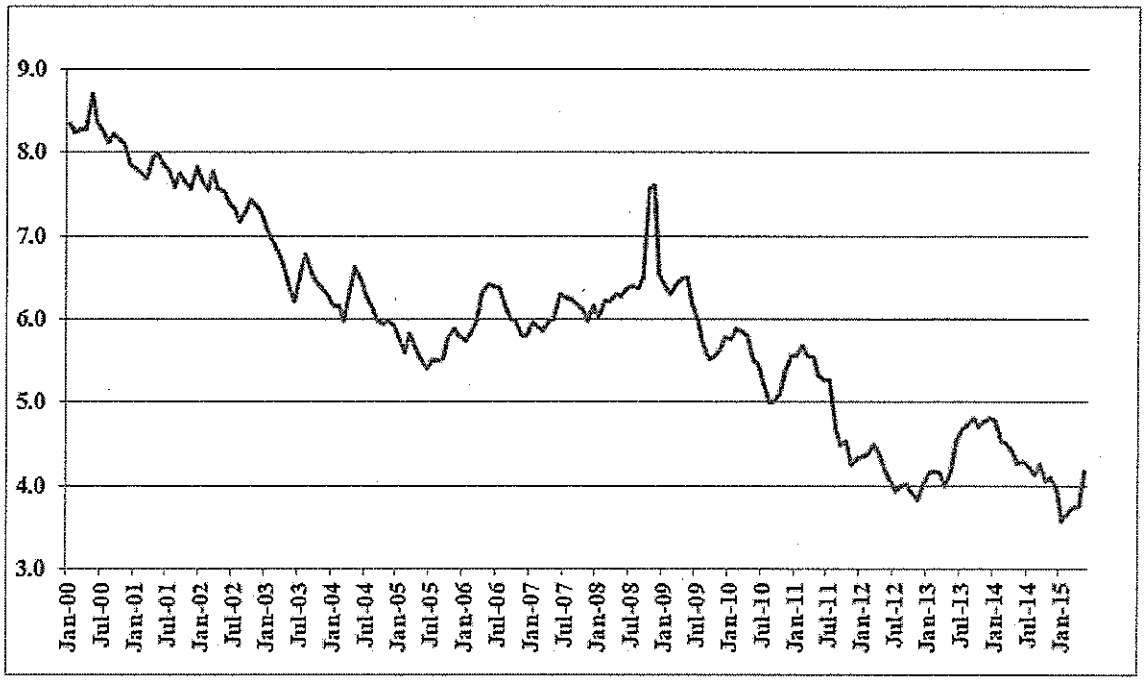
Source: http://research.stlouisfed.org/fred2/data/GS10.txt

Panel B
Long-Term Moody's Baa Yields Minus Ten-Year Treasury Yields
2000-Present

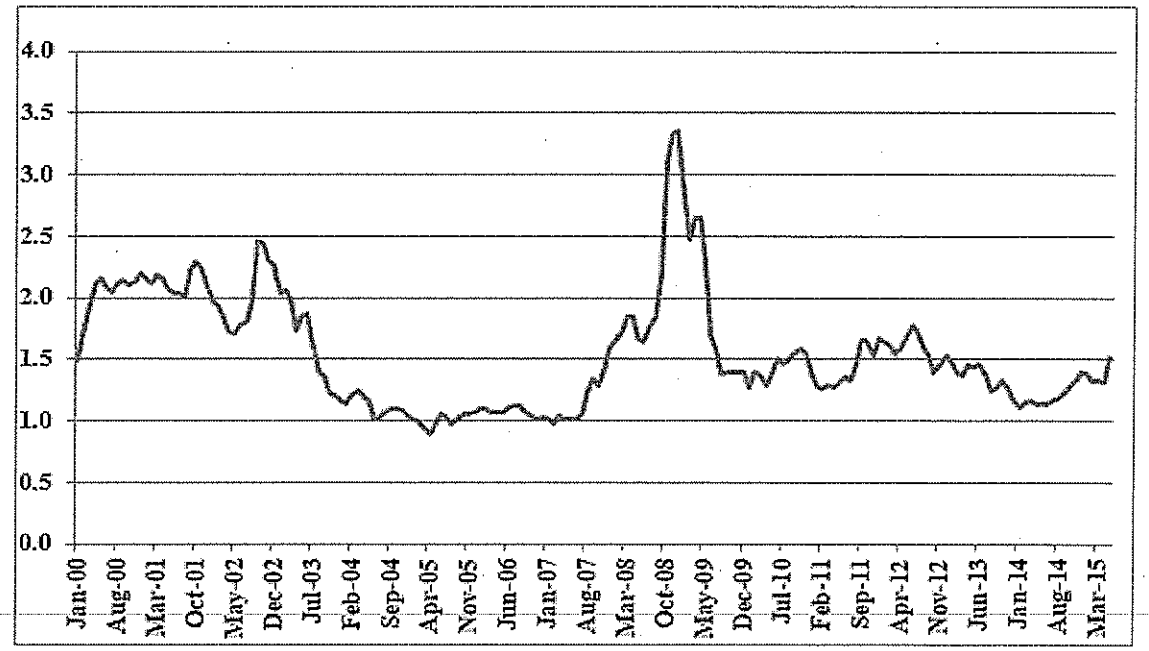


Source: Federal Reserve Bank of St. Louis, FRED Database.

Exhibit JRW-3
Panel A
Long-Term, A-Rated Public Utility Yields



Panel B
Long-Term, A-Rated Public Utility Yields minus -Twenty-Year Treasury Yields



Source: Mergent Bond Record

Exhibit JRW-4
Westar Energy
Summary Financial Statistics for Proxy Groups

Panel A
Electric Proxy Group

Company	Operating Revenue ($mil)	Percent Elec Revenue	Percent Gas Revenue	Net Plant ($mil)	Market Cap ($mil)	S&P Issuer Credit Rating	Moody's Long Term Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
ALLETE, Inc. (NYSE-ALE)	1,160.3	86		3,319.2	2.39	BBB+	A3	3.9	MN, WI	56.2	8.3	1.35
Alliant Energy Corporation (NYSE-LNT)	3,294.9	82	14	9,050.0	6.92	A-	A3	10.0	WS,IA,IL,MN	48.5	10.1	1.82
Ameren Corporation (NYSE-AEE)	6,015.0	82	18	17,700.0	9.88	BBB+	Baa1	4.1	IL,MO	47.7	9.1	1.47
American Electric Power Co. (NYSE-AEP)	17,080.0	82		44,810.0	27.34	BBB	Baa1	3.9	10 States	46.2	10.1	1.59
Avista Corporation (NYSE-AVA)	1,472.5	69	34	3,651.1	2.00	BBB	Baa1	3.4	WA,ID,AK	49.1	13.4	1.33
Black Hills Corporation (NYSE-BKH)	1,393.6	49	44	3,239.4	2.12	BBB	Baa1	4.0	CO,SD,WY,MT,NE,IA,KS	46.0	9.6	1.54
CMS Energy Corporation (NYSE-CMS)	6,767.0	63	33	13,526.0	9.43	BBB+	Baa2	2.8	MI	30.1	12.8	2.48
Consolidated Edison, Inc. (NYSE-ED)	12,745.0	71	14	29,810.0	17.91	A-	A3	3.8	NY,PA	50.1	8.7	1.40
Dominion Resources, Inc. (NYSE-D)	12,215.0	62	2	37,226.0	42.52	A-	Baa2	3.9	VA,NC,OH,WV	31.0	12.4	3.54
Duke Energy Corporation (NYSE-DUK)	23,968.0	89	2	70,301.0	53.94	A-	A3	3.6	NC,SC,FL,OH,KY	48.4	7.0	1.31
Edison International (NYSE-EIX)	12,999.0	100		33,249.0	19.74	BBB+	A3	4.9	CA	43.1	16.5	1.78
El Paso Electric Company (NYSE-EE)	895.8	100		2,541.6	1.47	BBB	Baa1	2.8	TX,NM	44.7	9.4	1.51
Empire District Electric Co. (NYSE-EDE)	637.2	91	7	1,945.9	1.03	BBB	Baa1	3.1	KS,MO,OK,AR	48.0	7.8	1.30
Entergy Corporation (NYSE-ETR)	12,206.2	79	1	28,808.0	13.68	BBB	Baa3	3.3	LA,AR,MS,TX	41.6	8.3	1.34
Eversource Energy (NYSE-ES)	7,964.7	86	14	18,810.7	15.66	A	Baa1	4.6	CT,NH,MA	50.6	8.4	1.55
FirstEnergy Corporation (ASE-FE)	14,764.0	67		36,117.0	14.98	BBB-	Baa3	1.3	OH,PA,NY,NJ,WV,MD	35.5	2.5	1.21
Great Plains Energy Incorporated (NYSE-GXP)	2,532.2	100		8,403.4	4.05	BBB+	Baa2	2.7	MO,KS	46.7	6.7	1.13
IDACORP, Inc. (NYSE-IDA)	1,269.2	100		3,864.0	3.01	BBB	Baa1	3.4	ID	50.6	9.9	1.54
NorthWestern Corporation (NYSE-NWE)	1,181.2	70	26	3,781.2	2.64	BBB	A3	2.5	SD,MT,NE	44.2	9.8	1.75
OGE Energy Corp. (NYSE-OGE)	2,372.8	100		7,012.2	6.35	A-	A3	4.7	OK,AR	53.1	12.4	1.96
Otter Tail Corporation (NDQ-OTTR)	761.6	53		1,298.9	1.01	BBB	Baa2	3.0		51.7	9.5	1.72
PG&E Corporation (NYSE-PCG)	17,098.0	80	20	44,441.0	25.42	BBB	Baa1	3.5	CA	49.3	8.2	1.62
Pinnacle West Capital Corp. (NYSE-PNW)	3,476.6	100		11,197.1	6.73	A-	Baa1	4.8	AZ	53.2	9.2	1.53
PNM Resources, Inc. (NYSE-PNM)	1,439.8	100		4,319.8	2.15	BBB	Baa3	2.4	NM,TX	42.6	7.0	1.26
Portland General Electric Company (NYSE-POR)	1,880.0	100		5,789.0	2.74	BBB	A3	2.5	OR	44.1	8.8	1.41
SCANA Corporation (NYSE-SCG)	4,751.0	54	19	12,410.0	7.63	BBB+	Baa3	3.4	SC,NC,GA	46.3	14.7	1.43
Southern Company (NYSE-SO)	18,006.0	95		55,475.0	39.68	A	Baa1	5.2	GA,AL,FL,MS	46.3	10.4	1.91
Westar Energy, Inc. (NYSE-WR)	2,564.0	100		8,232.3	4.81	BBB+	Baa1	2.8	KS	47.3	9.2	1.46
Xcel Energy Inc. (NYSE-XEL)	11,445.8	82	17	28,966.9	17.42	A-	A3	3.6	MN,WI,ND,SD,MI	44.5	9.1	1.71
Mean	7,046.8	82	18	18,941.2	12.6	BBB+	Baa1	3.7		46.1	9.6	1.62
Median	3,476.6	82	17	11,197.1	6.9	BBB+	Baa1	3.5		46.7	9.2	1.53

Data Source: *AUS Utility Reports*, June, 2015; Pre-Tax Interest Coverage and Primary Service Territory are from *Value Line Investment Survey*, 2015.

Westar Energy, Inc. (NYSE-WR)	2,564.0	100		8,232.3	4.81	BBB+	Baa1	2.8	KS	47.3	9.2	1.46

Panel B
Somma Proxy Group

Company	Operating Revenue ($mil)	Percent Elec Revenue	Percent Gas Revenue	Net Plant ($mil)	Market Cap ($mil)	S&P Issuer Credit Rating	Moody's Long Term Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
ALLETE, Inc. (NYSE-ALE)	1160.3	86	0	3319.2	2.389248	BBB+	A3	3.9	MN, WI	56.2	8.3	1.35
Alliant Energy Corporation (NYSE-LNT)	3,294.9	82	14	9,050.0	6.92	A-	A3	10.0	WS,IA,IL,MN	48.5	10.1	1.82
Ameren Corporation (NYSE-AEE)	6,015.0	82	18	17,700.0	9.88	BBB+	Baa1	4.1	IL,MO	47.7	9.1	1.47
Avista Corporation (NYSE-AVA)	1,472.5	69	34	3,651.1	2.00	BBB	Baa1	3.4	WA,ID,AK	49.1	13.4	1.33
Great Plains Energy Incorporated (NYSE-GXP)	2,532.2	100		8,403.4	4.05	BBB+	Baa2	2.7	MO,KS	46.7	6.7	1.13
IDACORP, Inc. (NYSE-IDA)	1,269.2	100		3,864.0	3.01	BBB	Baa1	3.4	ID	50.6	9.9	1.54
NorthWestern Corporation (NYSE-NWE)	1,181.2	70	26	3,781.2	2.64	BBB	A3	2.5	SD,MT,NE	44.2	9.8	1.75
OGE Energy Corp. (NYSE-OGE)	2,372.8	100		7,012.2	6.35	A-	A3	4.7	OK,AR	53.1	12.4	1.96
Pinnacle West Capital Corp. (NYSE-PNW)	3,476.6	100		11,197.1	6.73	A-	Baa1	4.8	AZ	53.2	9.2	1.53
PNM Resources, Inc. (NYSE-PNM)	1,439.8	100		4,319.8	2.15	BBB	Baa3	2.4	NM,TX	42.6	7.0	1.26
Portland General Electric Company (NYSE-POR)	1,880.0	100		5,789.0	2.74	BBB	A3	2.5	OR	44.1	8.8	1.41
Mean	2,372.2	90	18	7,098.8	4.4	BBB+/BBB	Baa1	4.0		48.7	9.5	1.51
Median	1,880.0	100	18	5,789.0	3.0	BBB+/BBB	Baa1	3.4		48.5	9.2	1.47

Data Source: *AUS Utility Reports*, June, 2015; Pre-Tax Interest Coverage and Primary Service Territory are from *Value Line Investment Survey*, 2015.

Exhibit JRW-4
Westar Energy
Summary Financial Statistics for Proxy Groups

Panel A
Electric Proxy Group

	Company	Operating Revenue ($mil)	Percent Elec Revenue	Percent Gas Revenue	Net Plant ($mil)	Market Cap ($mil)	S&P Issuer Credit Rating	Moody's Long Term Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio			
ALLETI	ALLETE, Inc. (NYSE-ALE)	1,160.3	86		3,319.2	2.39	BBB+	A3	3.9	MN, WI	56.2	8.3	1.35	1	AA-	A3
Alliant I	Alliant Energy Corporation (NYSE-LNT)	3,294.9	82	14	9,050.0	6.92	A-	A3	10.0	WS,IA,IL,MN	48.5	10.1	1.82	2	A	A1
Ameren	Ameren Corporation (NYSE-AEE)	6,015.0	82	18	17,700.0	9.88	BBB+	Baa1	4.1	IL,MO	47.7	9.1	1.47	3	A-	A3
America	American Electric Power Co. (NYSE-AEP)	17,080.0	82		44,810.0	27.34	BBB	Baa1	3.9	10 States	46.2	10.1	1.59	4	A-	A3
Avista C	Avista Corporation (NYSE-AVA)	1,472.5	69	34	3,651.1	2.00	BBB	Baa1	3.4	WA,ID,AK	49.1	13.4	1.33	5	A-	A3
Black Hi	Black Hills Corporation (NYSE-BKH)	1,393.6	49	44	3,239.4	2.12	BBB	Baa1	4.0	CO,SD,WY,MT,NE,IA,KS	46.0	9.6	1.54	6	A-	A3
CMS En	CMS Energy Corporation (NYSE-CMS)	6,767.0	63	33	13,526.0	9.43	BBB+	Baa2	2.8	MI	30.1	12.8	2.48	7	A-	A3
Consolid	Consolidated Edison, Inc. (NYSE-ED)	12,745.0	71	14	29,810.0	17.91	A-	A3	3.8	NY,PA	50.1	8.7	1.40	8	A-	A3
Dominio	Dominion Resources, Inc. (NYSE-D)	12,215.0	62	2	37,226.0	42.52	A-	Baa2	3.9	VA,NC,OH,WV	31.0	12.4	3.54	9	A-	A3
Duke En	Duke Energy Corporation (NYSE-DUK)	23,968.0	89	2	70,301.0	53.94	A-	A3	3.6	NC,SC,FL,OH,KY	48.4	7.0	1.31	10	BBB+	A3
Edison I	Edison International (NYSE-EIX)	12,999.0	100		33,249.0	19.74	BBB+	A3	4.9	CA	43.1	16.5	1.78	11	BBB+	Baa1
El Paso I	El Paso Electric Company (NYSE-EE)	895.8	100		2,541.6	1.47	BBB	Baa1	2.8	TX,NM	44.7	9.4	1.51	12	BBB+	Baa1
Empire I	Empire District Electric Co. (NYSE-EDE)	637.2	91	7	1,945.9	1.03	BBB	Baa1	3.1	KS,MO,OK,AR	48.0	7.8	1.30	13	BBB+	Baa1
Entergy	Entergy Corporation (NYSE-ETR)	12,206.2	79	1	28,808.0	13.68	BBB	Baa3	3.3	LA,AR,MS,TX	41.6	8.3	1.34	14	BBB+	Baa1
Eversou	Eversource Energy (NYSE-ES)	7,964.7	86	14	18,810.7	15.66	A	Baa1	4.6	CT,NH,MA	50.6	8.4	1.55	15	BBB+	Baa1
FirstEne	FirstEnergy Corporation (ASE-FE)	14,764.0	67		36,117.0	14.98	BBB-	Baa3	1.3	OH,PA,NY,NJ,WV,MD	35.5	2.5	1.21	16	BBB+	Baa1
Great Pl	Great Plains Energy Incorporated (NYSE-GXP)	2,532.2	100		8,403.4	4.05	BBB+	Baa2	2.7	MO,KS	46.7	6.7	1.13	17	BBB+	Baa1
IDACOI	IDACORP, Inc. (NYSE-IDA)	1,269.2	100		3,864.0	3.01	BBB	Baa1	3.4	ID	50.6	9.9	1.54	18	BBB	Baa1
NorthW	NorthWestern Corporation (NYSE-NWE)	1,181.2	70	26	3,781.2	2.64	BBB	A3	2.5	SD,MT,NE	44.2	9.8	1.75	19	BBB	Baa1
OGE En	OGE Energy Corp. (NYSE-OGE)	2,372.8	100		7,012.2	6.35	A-	A3	4.7	OK,AR	53.1	12.4	1.96	20	BBB	Baa1
Otter Ta	Otter Tail Corporation (NDQ-OTTR)	761.6	53		1,298.9	1.01	BBB	Baa2	3.0		51.7	9.5	1.72	21	BBB	Baa1
PG&E C	PG&E Corporation (NYSE-PCG)	17,098.0	80	20	44,441.0	25.42	BBB	Baa1	3.5	CA	49.3	8.2	1.62	22	BBB	Baa2
Pinnacle	Pinnacle West Capital Corp. (NYSE-PNW)	3,476.6	100		11,197.1	6.73	A-	Baa1	4.8	AZ	53.2	9.2	1.53	23	BBB	Baa2
PNM Re	PNM Resources, Inc. (NYSE-PNM)	1,439.8	100		4,319.8	2.15	BBB	Baa3	2.4	NM,TX	42.6	7.0	1.26	24	BBB	Baa2
Portland	Portland General Electric Company (NYSE-POR)	1,880.0	100		5,789.0	2.74	BBB	A3	2.5	OR	44.1	8.8	1.41	25	BBB	Baa2
SCANA	SCANA Corporation (NYSE-SCG)	4,751.0	54	19	12,410.0	7.63	BBB+	Baa3	3.4	SC,NC,GA	46.3	14.7	1.43	26	BBB	Baa3
Southern	Southern Company (NYSE-SO)	18,006.0	95		55,475.0	39.68	A	Baa1	5.2	GA,AL,FL,MS	46.3	10.4	1.91	27	BBB	Baa3
Westar E	Westar Energy, Inc. (NYSE-WR)	2,564.0	100		8,232.3	4.81	BBB+	Baa1	2.8	KS	47.3	9.2	1.46	28	BBB	Baa3
Xcel Ene	Xcel Energy Inc. (NYSE-XEL)	11,445.8	82	17	28,966.9	17.42	A-	A3	3.6	MN,WI,ND,SD,MI	44.5	9.1	1.71	29	BBB-	Baa3
	Mean	7,046.8	82	18	18,941.2	12.6	BBB+	Baa1	3.7		46.1	9.6	1.62			
	Median	3,476.6	82	17	11,197.1	6.9	BBB+	Baa1	3.5		46.7	9.2	1.53			

Data Source: *AUS Utility Reports*, June, 2015; Pre-Tax Interest Coverage and Primary Service Territory are from *Value Line Investment Survey*, 2015.

	Westar Energy, Inc. (NYSE-WR)	2,564.0	100		8,232.3	4.81	BBB+	Baa1	2.8	KS	47.3	9.2	1.46	#REF!	BBB+	Baa1

Panel B
Somma Proxy Group

America	Company	Operating Revenue ($mil)	Percent Elec Revenue	Percent Gas Revenue	Net Plant ($mil)	Market Cap ($mil)	S&P Issuer Credit Rating	Moody's Long Term Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio			
ALLETI	ALLETE, Inc. (NYSE-ALE)	1160.3	86	0	3319.2	2.389248	BBB+	A3	3.9	MN, WI	56.2	8.3	1.35	1	A	A3
Alliant I	Alliant Energy Corporation (NYSE-LNT)	3,294.9	82	14	9,050.0	6.92	A-	A3	10.0	WS,IA,IL,MN	48.5	10.1	1.82	1	AA-	A3
Ameren	Ameren Corporation (NYSE-AEE)	6,015.0	82	18	17,700.0	9.88	BBB+	Baa1	4.1	IL,MO	47.7	9.1	1.47			
Avista C	Avista Corporation (NYSE-AVA)	1,472.5	69	34	3,651.1	2.00	BBB	Baa1	3.4	WA,ID,AK	49.1	13.4	1.33	2	A	A1
Great Pl	Great Plains Energy Incorporated (NYSE-GXP)	2,532.2	100		8,403.4	4.05	BBB+	Baa2	2.7	MO,KS	46.7	6.7	1.13	2	A-	A3
IDACOI	IDACORP, Inc. (NYSE-IDA)	1,269.2	100		3,864.0	3.01	BBB	Baa1	3.4	ID	50.6	9.9	1.54	3	A-	A3
NorthW	NorthWestern Corporation (NYSE-NWE)	1,181.2	70	26	3,781.2	2.64	BBB	A3	2.5	SD,MT,NE	44.2	9.8	1.75	3	BBB+	Baa1
OGE En	OGE Energy Corp. (NYSE-OGE)	2,372.8	100		7,012.2	6.35	A-	A3	4.7	OK,AR	53.1	12.4	1.96	4	BBB	Baa1
Pinnacle	Pinnacle West Capital Corp. (NYSE-PNW)	3,476.6	100		11,197.1	6.73	A-	Baa1	4.8	AZ	53.2	9.2	1.53	5	BBB	Baa1
PNM Re	PNM Resources, Inc. (NYSE-PNM)	1,439.8	100		4,319.8	2.15	BBB	Baa3	2.4	NM,TX	42.6	7.0	1.26	6	BBB	Baa1
Portland	Portland General Electric Company (NYSE-POR)	1,880.0	100		5,789.0	2.74	BBB	A3	2.5	OR	44.1	8.8	1.41	7	BBB	Baa2
	Mean	2,372.2	90	18	7,098.8	4.4	BBB+/BBB	Baa1	4.0		48.7	9.5	1.51	7	BBB	Baa2
	Median	1,880.0	100	18	5,789.0	3.0	BBB+/BBB	Baa1	3.4		48.5	9.2	1.47			

Data Source: *AUS Utility Reports*, June, 2015; Pre-Tax Interest Coverage and Primary Service Territory are from *Value Line Investment Survey*, 2015.

Exhibit JRW-5
Westar Energy
Capital Structure Ratios and Debt Cost Rates

Panel A -Westar Energy's Proposed Capitalization Ratios and Debt Cost Rate

Capital Source	Capitalization Ratio	Cost Rate
Long-Term Debt	46.55%	5.69%
Common Equity	53.45%	10.00%
Total	100.00%	

Panel B -Westar Energy's Quarterly Capitalization Ratios

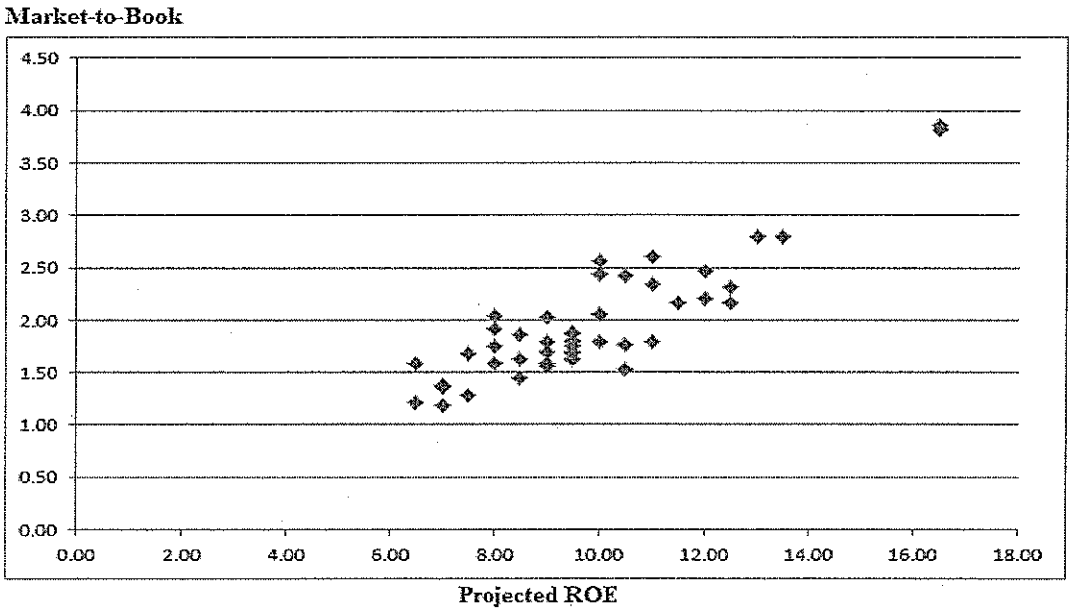
Capital Source	31-Mar-15	31-Dec-14	30-Sep-14	30-Jun-14
Short-Term Debt	453,715	285,533	230,491	371,398
Long-Term Debt	3,228,931	3,382,104	3,381,995	3,382,525
Common Equity	3,307,790	3,294,856	3,264,878	3,120,823
Total	6,990,436	6,962,493	6,877,364	6,874,746

	31-Mar-15	31-Dec-14	30-Sep-14	30-Jun-14	Average
Short-Term Debt	6.49%	4.10%	3.35%	5.40%	4.84%
Long-Term Debt	46.19%	48.58%	49.18%	49.20%	48.29%
Common Equity	47.32%	47.32%	47.47%	45.40%	46.88%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Panel D - CURB's Proposed Capitalization Ratios and Cost Rates

Capital Source	Capitalization Ratio	Cost Rate
Long-Term Debt	46.55%	5.69%
Common Equity	53.45%	
Total	100.00%	

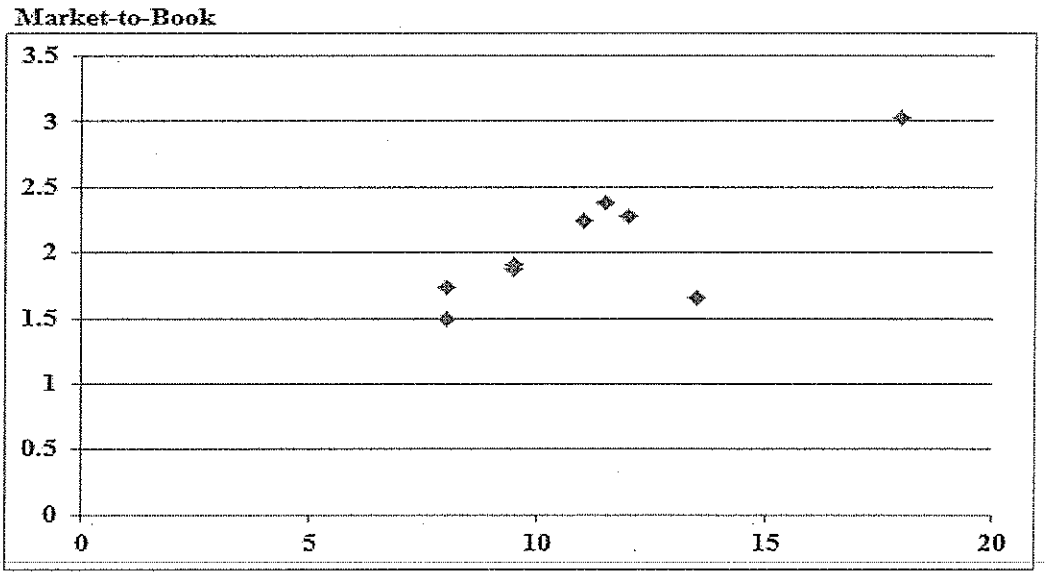
Exhibit JRW-6
Electric Utilities
Panel A



Value Line Investment Survey, 2015

R-Square = .78, N=46

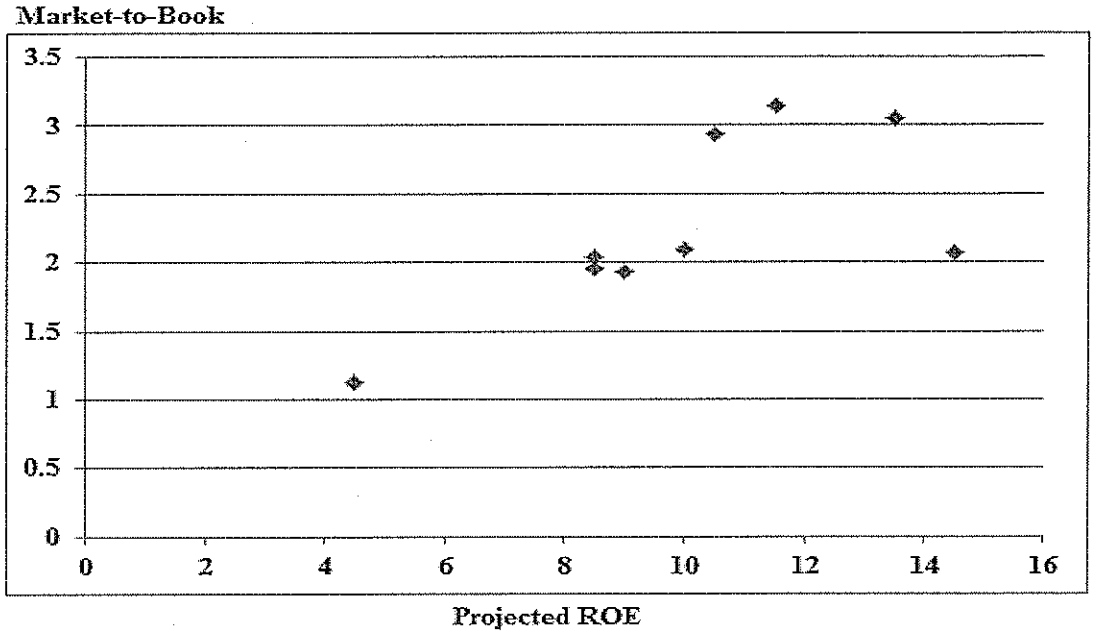
Panel B
Gas Companies



Value Line Investment Survey, 2015

R-Square = .63, N=9

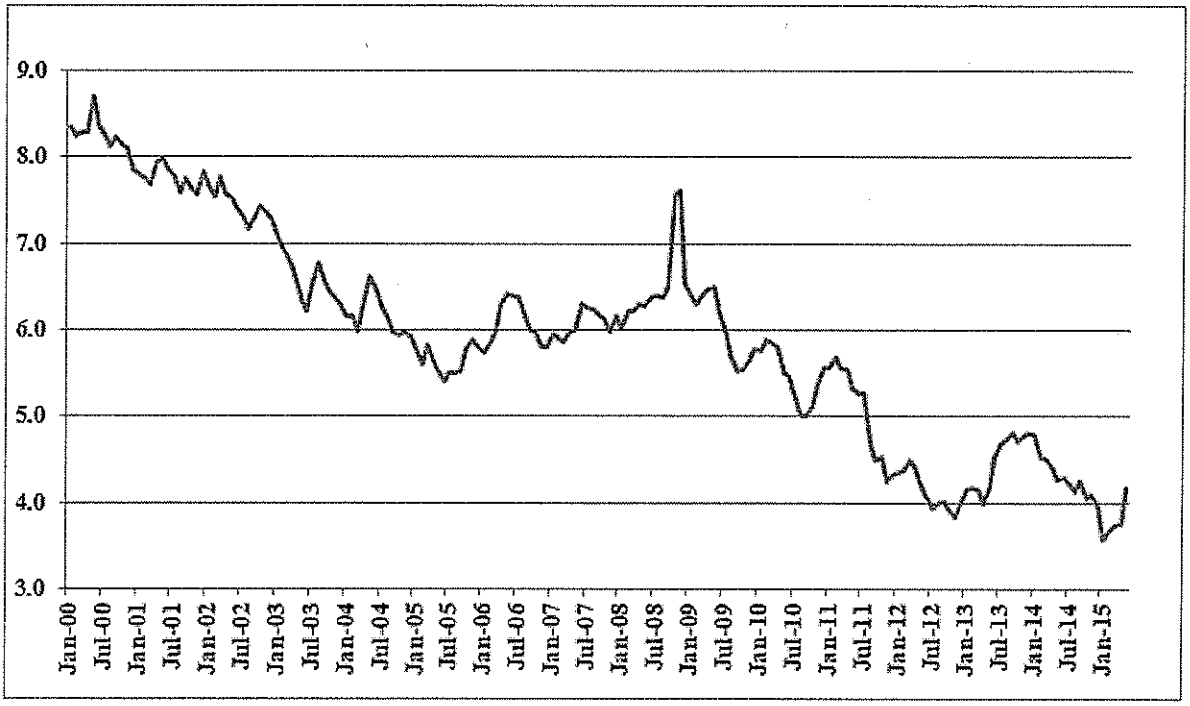
Exhibit JRW-6
Water Companies
Panel C



Value Line Investment Survey, 2015

R-Square = .49, N=9

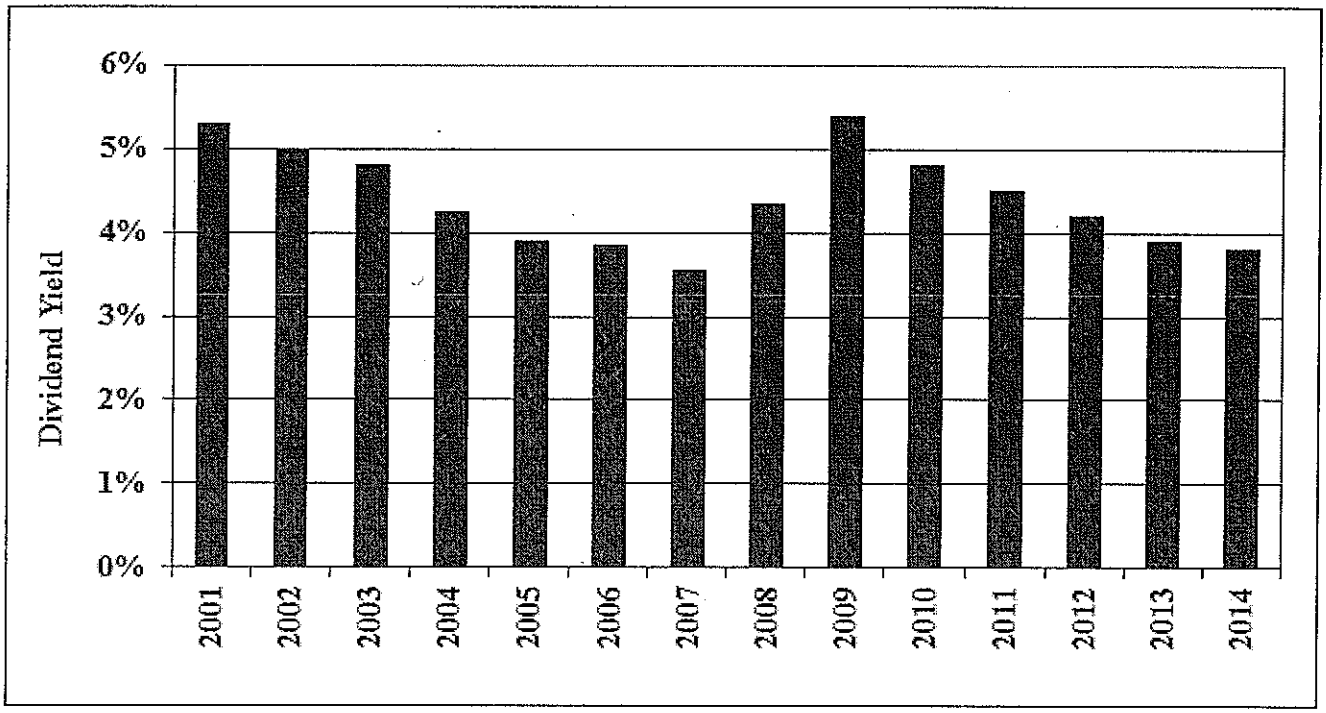
Exhibit JRW-7
Long-Term 'A' Rated Public Utility Bonds



Data Source: Mergent Bond Record

Exhibit JRW-7

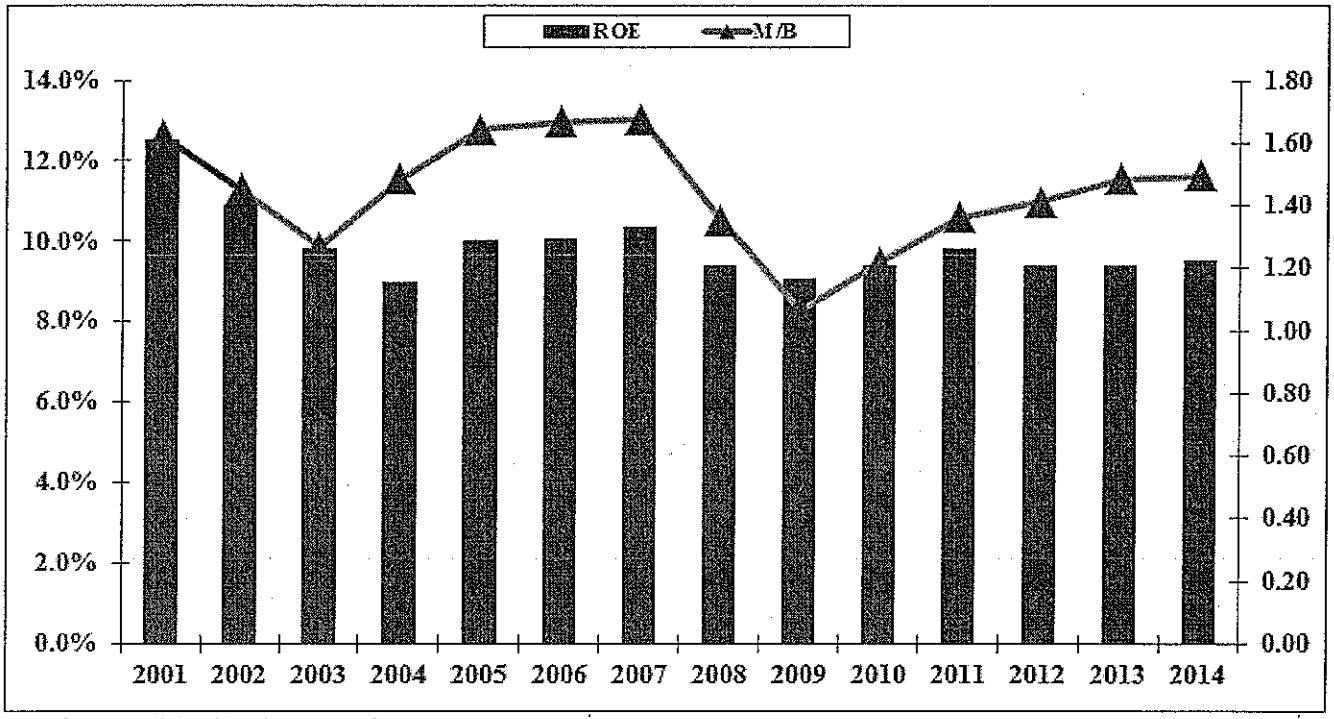
Electric Utility Average Dividend Yield



Data Source: *Value Line Investment Survey.*

Exhibit JRW-7

Electric Utility Average Return on Equity and Market-to-Book Ratios



Data Source: *Value Line Investment Survey.*

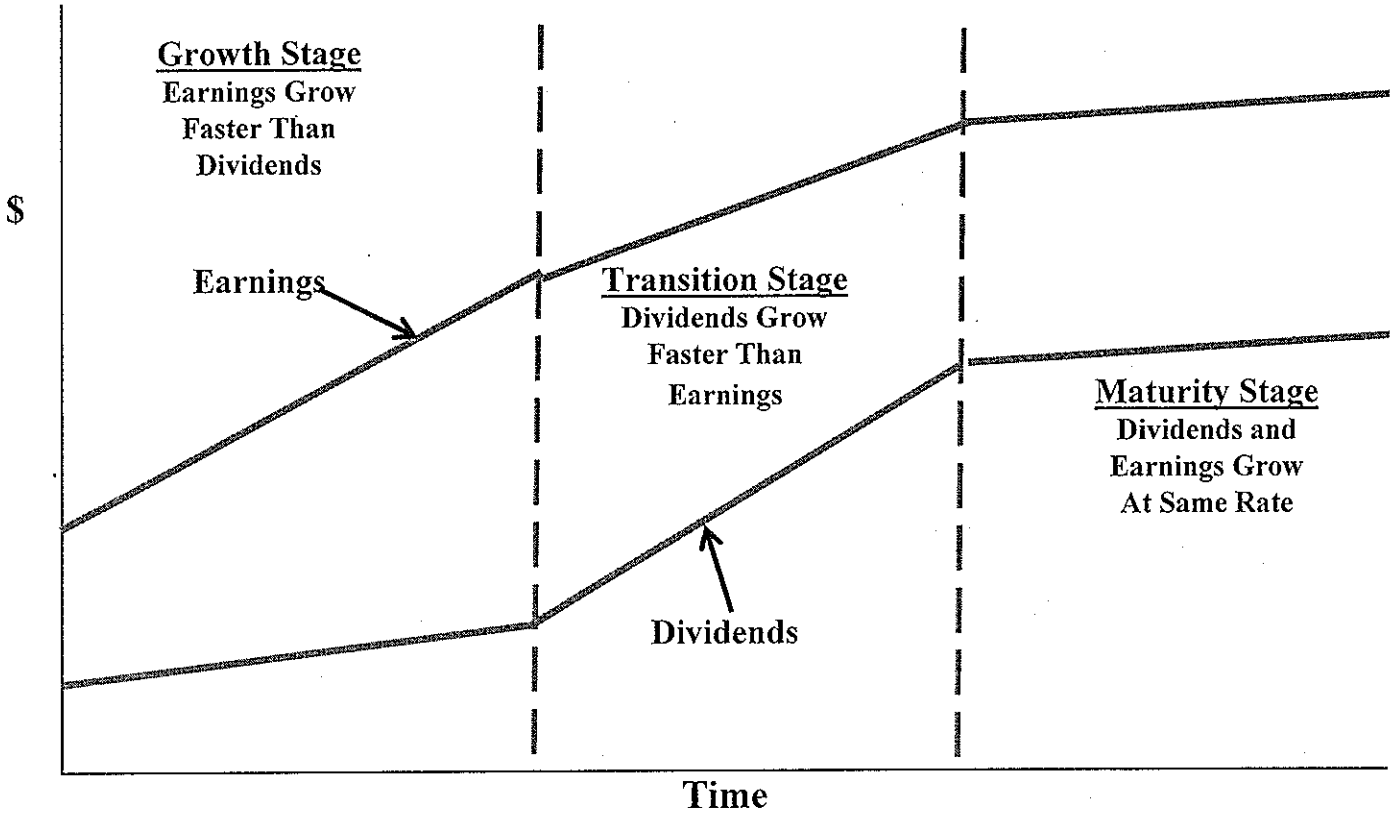
Exhibit JRW-8

Industry Average Betas

Industry Name	Beta	Industry Name	Beta	Industry Name	Beta
Homebuilding	1.47	Apparel	1.18	Retail (Softlines)	1.00
Coal	1.47	Office Equip/Supplies	1.18	Oil/Gas Distribution	0.99
Heavy Truck & Equip	1.46	Advertising	1.18	Foreign Electronics	0.99
Auto Parts	1.40	Entertainment Tech	1.17	Med Supp Non-Invasive	0.99
Oilfield Svcs/Equip.	1.40	Computers/Peripherals	1.17	Cable TV	0.99
Metals & Mining (Div.)	1.39	Automotive	1.17	Retail Building Supply	0.99
Petroleum (Producing)	1.37	Securities Brokerage	1.16	R.E.I.T.	0.98
Steel	1.37	Retail (Hardlines)	1.16	Retail Automotive	0.98
Newspaper	1.34	Trucking	1.15	Restaurant	0.97
Building Materials	1.33	Financial Svcs. (Div.)	1.15	Telecom. Utility	0.94
Metal Fabricating	1.33	E-Commerce	1.15	Information Services	0.94
Hotel/Gaming	1.32	Educational Services	1.14	Pharmacy Services	0.93
Maritime	1.32	Internet	1.13	Environmental	0.92
Semiconductor Equip	1.31	Recreation	1.12	Drug	0.92
Railroad	1.30	Paper/Forest Products	1.12	Med Supp Invasive	0.92
Public/Private Equity	1.29	Bank	1.12	Funeral Services	0.92
Electrical Equipment	1.28	Entertainment	1.12	Thrift	0.91
Insurance (Life)	1.28	Publishing	1.11	Precious Metals	0.90
Semiconductor	1.28	Wireless Networking	1.10	Retail Store	0.89
Human Resources	1.27	Computer Software	1.09	Reinsurance	0.88
Chemical (Diversified)	1.24	Bank (Midwest)	1.09	Beverage	0.86
Electronics	1.23	Industrial Services	1.08	Household Products	0.85
Chemical (Specialty)	1.23	Toiletries/Cosmetics	1.07	Food Processing	0.84
Furn/Home Furnishings	1.23	Medical Services	1.04	Insurance (Prop/Cas.)	0.84
Machinery	1.23	Biotechnology	1.04	Retail/Wholesale Food	0.81
Engineering & Const	1.23	Air Transport	1.04	Investment Co.	0.80
Petroleum (Integrated)	1.21	Aerospace/Defense	1.03	Natural Gas Utility	0.80
Natural Gas (Div.)	1.20	Packaging & Container	1.03	Pipeline MLPs	0.79
Precision Instrument	1.20	IT Services	1.03	Electric Utility (West)	0.77
Power	1.20	Shoe	1.03	Electric Util. (Central)	0.76
Chemical (Basic)	1.20	Telecom. Services	1.03	Tobacco	0.74
Diversified Co.	1.19	Healthcare Information	1.01	Water Utility	0.74
Telecom. Equipment	1.19	Investment Co.(Foreign)	1.01	Electric Utility (East)	0.70

Source: ValueLine Investment Survey, May, 2015.

Exhibit JRW-9
DCF Model



Source: William F. Sharpe, Gordon J. Alexander, and Jeffrey V. Bailey, Investments (Prentice-Hall, 1995), pp. 590-91.

Exhibit JRW-9
DCF Model
Consensus Earnings Estimates
Alliant Energy Corp. (LNT)
www.reuters.com
4/1/2015

	# of Estimates	Mean	High	Low
Earnings (per share)				
Quarter Ending Jun-15	3	0.57	0.60	0.52
Quarter Ending Sep-15	3	1.66	1.84	1.40
Year Ending Dec-15	9	3.62	3.68	3.56
Year Ending Dec-16	9	3.82	3.90	3.74
LT Growth Rate (%)	2	5.40	6.00	4.80

Data Source: www.reuters.com

Exhibit JRW-10

Westar Energy
Discounted Cash Flow Analysis

Panel A
Electric Proxy Group

Dividend Yield*	3.75%
Adjustment Factor	1.024375
Adjusted Dividend Yield	3.8%
Growth Rate**	4.88%
Equity Cost Rate	8.70%

* Page 2 of Exhibit JRW-10

** Based on data provided on pages 3, 4, 5, and 6 of Exhibit JRW-10

Panel B
Somma Proxy Group

Dividend Yield*	3.65%
Adjustment Factor	1.02625
Adjusted Dividend Yield	3.7%
Growth Rate**	5.25%
Equity Cost Rate	9.00%

* Page 2 of Exhibit JRW-10

** Based on data provided on pages 3, 4, 5, and 6 of Exhibit JRW-10

Exhibit JRW-10
Westar Energy
Monthly Dividend Yields

Panel A
Electric Proxy Group

Company	Annual Dividend	Dividend Yield 30 Day	Dividend Yield 90 Day	Dividend Yield 180 Day
ALLETE, Inc. (NYSE-ALE)	$ 2.02	4.1%	3.9%	3.9%
Alliant Energy Corporation (NYSE-LNT)	$ 2.20	3.6%	3.5%	3.5%
Ameren Corporation (NYSE-AEE)	$ 1.64	4.1%	3.9%	3.9%
American Electric Power Co. (NYSE-AEP)	$ 2.12	3.8%	3.7%	3.7%
Avista Corporation (NYSE-AVA)	$ 1.32	4.1%	3.9%	3.9%
Black Hills Corporation (NYSE-BKH)	$ 1.62	3.3%	3.3%	3.2%
CMS Energy Corporation (NYSE-CMS)	$ 1.16	3.4%	3.3%	3.4%
Consolidated Edison, Inc. (NYSE-ED)	$ 2.60	4.3%	4.2%	4.2%
Dominion Resources, Inc. (NYSE-D)	$ 2.59	3.6%	3.6%	3.6%
Duke Energy Corporation (NYSE-DUK)	$ 3.18	4.2%	4.1%	4.0%
Edison International (NYSE-EIX)	$ 1.67	2.8%	2.7%	2.7%
El Paso Electric Company (NYSE-EE)	$ 1.18	3.2%	3.1%	3.1%
Empire District Electric Co. (NYSE-EDE)	$ 1.04	4.4%	4.1%	4.0%
Entergy Corporation (NYSE-ETR)	$ 3.32	4.4%	4.2%	4.1%
Eversource Energy (NYSE-ES)	$ 1.67	3.4%	3.3%	3.3%
FirstEnergy Corporation (ASE-FE)	$ 1.44	4.1%	4.0%	4.0%
Great Plains Energy Incorporated (NYSE-GXP)	$ 0.98	3.8%	3.7%	3.7%
IDACORP, Inc. (NYSE-IDA)	$ 1.88	3.1%	3.0%	3.0%
Northwestern Corp. (NYSE-NWE)	$ 1.92	3.7%	3.6%	3.6%
OGE Energy Corp. (NYSE-OGE)	$ 1.00	3.1%	3.1%	2.9%
Otter Tail Corporation (NDQ-OTTR)	$ 1.23	4.3%	4.0%	4.1%
PG&E Corporation (NYSE-PCG)	$ 1.82	3.5%	3.4%	3.5%
Pinnacle West Capital Corp. (NYSE-PNW)	$ 2.38	3.9%	3.7%	3.8%
PNM Resources, Inc. (NYSE-PNM)	$ 0.80	2.9%	2.8%	2.8%
Portland General Electric Company (NYSE-POR)	$ 1.20	3.4%	3.3%	3.3%
SCANA Corporation (NYSE-SCG)	$ 2.18	4.1%	3.9%	3.9%
Southern Company (NYSE-SO)	$ 2.17	5.0%	4.8%	4.7%
Westar Energy, Inc. (NYSE-WR)	$ 1.44	3.9%	3.7%	3.8%
Xcel Energy Inc. (NYSE-XEL)	$ 1.28	3.8%	3.7%	3.8%
Mean		3.8%	3.6%	3.6%
Median		3.8%	3.7%	3.7%

Data Sources: http://quote.yahoo.com, June 1, 2015.

Panel B
Somma Proxy Group

Company	Annual Dividend	Dividend Yield 30 Day	Dividend Yield 90 Day	Dividend Yield 180 Day
ALLETE, Inc. (NYSE-ALE)	$ 2.02	4.1%	3.9%	3.9%
Alliant Energy Corporation (NYSE-LNT)	$ 2.20	3.6%	3.5%	3.5%
Ameren Corporation (NYSE-AEE)	$ 1.64	4.1%	3.9%	3.9%
Avista Corporation (NYSE-AVA)	$ 1.32	4.1%	3.9%	3.9%
Great Plains Energy Incorporated (NYSE-GXP)	$ 0.98	3.8%	3.7%	3.7%
IDACORP, Inc. (NYSE-IDA)	$ 1.88	3.1%	3.0%	3.0%
Northwestern Corp. (NYSE-NWE)	$ 1.92	3.7%	3.6%	3.6%
OGE Energy Corp. (NYSE-OGE)	$ 1.00	3.1%	3.1%	2.9%
Pinnacle West Capital Corp. (NYSE-PNW)	$ 2.38	3.9%	3.7%	3.8%
PNM Resources, Inc. (NYSE-PNM)	$ 0.80	2.9%	2.8%	2.8%
Portland General Electric Company (NYSE-POR)	$ 1.20	3.4%	3.3%	3.3%
Mean		3.6%	3.5%	3.5%
Median		3.7%	3.6%	3.6%

Data Sources: http://quote.yahoo.com, June 1, 2015.

Exhibit JRW-10

Westar Energy
DCF Equity Cost Growth Rate Measures
Value Line Historic Growth Rates

Panel A
Electric Proxy Group

Company	*Value Line* Historic Growth					
	Past 10 Years			Past 5 Years		
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
ALLETE, Inc. (NYSE-ALE)	7.0	nmf	4.5	1.0	2.0	5.0
Alliant Energy Corporation (NYSE-LNT)	8.0	3.5	3.5	6.5	6.5	3.5
Ameren Corporation (NYSE-AEE)	-2.0	-4.5		-4.5	-6.0	-3.5
American Electric Power Co. (NYSE-AEP)	1.5	0.5	4.5	1.5	4.0	4.5
Avista Corporation (NYSE-AVA)	7.5	9.5	4.0	6.5	11.5	4.0
Black Hills Corporation (NYSE-BKH)	2.5	2.5	3.5	7.5	1.5	2.0
CMS Energy Corporation (NYSE-CMS)			3.0	12.0	23.5	4.0
Consolidated Edison, Inc. (NYSE-ED)	3.5	1.0	4.0	2.5	1.0	3.5
Dominion Resources, Inc. (NYSE-D)	3.0	5.5	1.5	2.5	7.0	2.0
Duke Energy Corporation (NYSE-DUK)				3.5	2.5	3.0
Edison International (NYSE-EIX)	10.0		6.5	4.5	2.5	2.0
El Paso Electric Company (NYSE-EE)	13.5		8.5	6.5		8.0
Empire District Electric Co. (NYSE-EDE)	2.5	-2.5	1.5	5.0	-4.5	2.0
Entergy Corporation (NYSE-ETR)	4.0	7.5	4.0	-1.5	3.0	4.5
Eversource Energy (NYSE-ES)	8.0	9.5	5.5	5.5	11.5	9.5
FirstEnergy Corporation (ASE-FE)	-1.5	0.5	2.0	-13.0	-4.0	1.5
Great Plains Energy Incorporated (NYSE-GXP)	-4.0	-6.0	4.5	2.5	-8.5	2.5
IDACORP, Inc. (NYSE-IDA)	9.0		5.0	10.0	5.5	6.0
NorthWestern Corporation (NYSE-NWE)			3.5	8.0	3.0	5.5
OGE Energy Corp. (NYSE-OGE)	8.5	2.5	8.5	8.0	4.5	9.0
Otter Tail Corporation (NDQ-OTTR)	-2.0	1.0	1.0	2.0		-4.5
PG&E Corporation (NYSE-PCG)	14.5		9.0	-5.0	3.0	4.0
Pinnacle West Capital Corp. (NYSE-PNW)	3.5	3.5	2.0	8.0	3.0	2.0
PNM Resources, Inc. (NYSE-PNM)	-2.5	0.5	1.5	8.0	-6.0	-1.0
Portland General Electric Company (NYSE-POR)				3.0	2.5	2.0
SCANA Corporation (NYSE-SCG)	3.0	4.0	5.0	4.0	2.0	5.0
Southern Company (NYSE-SO)	3.5	4.0	5.0	3.5	4.0	4.5
Westar Energy, Inc. (NYSE-WR)	6.5	3.5	5.0	9.0	3.5	3.5
Xcel Energy Inc. (NYSE-XEL)	7.0	2.5	4.5	6.0	3.5	4.5
Mean	4.6	2.4	4.3	3.9	3.0	3.4
Median	3.5	2.5	4.3	4.5	3.0	3.5

Data Source: *Value Line Investment Survey.*

Average of Median Figures = 3.5

Panel B
Somma Proxy Group

Company	*Value Line* Historic Growth					
	Past 10 Years			Past 5 Years		
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
ALLETE, Inc. (NYSE-ALE)	7.0	nmf	4.5	1.0	2.0	5.0
Alliant Energy Corporation (NYSE-LNT)	8.0	3.5	3.5	6.5	6.5	3.5
Ameren Corporation (NYSE-AEE)	-2.0	-4.5		-4.5	-6.0	-3.5
Avista Corporation (NYSE-AVA)	7.5	9.5	4.0	6.5	11.5	4.0
Great Plains Energy Incorporated (NYSE-GXP)	-4.0	-6.0	4.5	2.5	-8.5	2.5
IDACORP, Inc. (NYSE-IDA)	9.0		5.0	10.0	5.5	6.0
NorthWestern Corporation (NYSE-NWE)			3.5	8.0	3.0	5.5
OGE Energy Corp. (NYSE-OGE)	8.5	2.5	8.5	8.0	4.5	9.0
Pinnacle West Capital Corp. (NYSE-PNW)	3.5	3.5	2.0	8.0	3.0	2.0
PNM Resources, Inc. (NYSE-PNM)	-2.5	0.5	1.5	8.0	-6.0	-1.0
Portland General Electric Company (NYSE-POR)				3.0	2.5	2.0
Mean	3.9	1.3	4.1	5.2	1.6	3.2
Median	7.0	2.5	4.0	6.5	3.0	3.5

Data Source: *Value Line Investment Survey.*

Average of Median Figures = 4.4

Exhibit JRW-10

Westar Energy
DCF Equity Cost Growth Rate Measures
Value Line Projected Growth Rates

Panel A
Electric Proxy Group

Company	*Value Line* Projected Growth Est'd. '12-'14 to '18-'20			*Value Line* Sustainable Growth		
	Earnings	Dividends	Book Value	Return on Equity	Retention Rate	Internal Growth
ALLETE, Inc. (NYSE-ALE)	6.5	4.0	4.5	9.0%	39.0%	3.5%
Alliant Energy Corporation (NYSE-LNT)	6.0	4.5	4.0	11.5%	37.0%	4.3%
Ameren Corporation (NYSE-AEE)	6.0	2.5	4.0	10.0%	45.0%	4.5%
American Electric Power Co. (NYSE-AEP)	5.0	5.0	4.0	10.5%	36.0%	3.8%
Avista Corporation (NYSE-AVA)	7.0	4.0	3.5	9.0%	36.0%	3.2%
Black Hills Corporation (NYSE-BKH)	4.5	4.0	3.5	8.5%	41.0%	3.5%
CMS Energy Corporation (NYSE-CMS)	5.5	6.5	5.5	13.5%	38.0%	5.1%
Consolidated Edison, Inc. (NYSE-ED)	3.0	2.5	3.5	9.0%	37.0%	3.3%
Dominion Resources, Inc. (NYSE-D)	8.0	7.5	6.5	17.5%	38.0%	6.7%
Duke Energy Corporation (NYSE-DUK)	5.0	2.5	2.0	8.0%	34.0%	2.7%
Edison International (NYSE-EIX)	3.0	10.0	6.0	11.5%	48.0%	5.5%
El Paso Electric Company (NYSE-EE)	3.5	5.0	4.5	9.0%	49.0%	4.4%
Empire District Electric Co. (NYSE-EDE)	3.0	3.0	2.5	8.5%	31.0%	2.6%
Entergy Corporation (NYSE-ETR)	0.5	2.5	3.0	9.0%	34.0%	3.1%
Eversource Energy (NYSE-ES)	8.5	6.5	4.0	10.0%	44.0%	4.4%
FirstEnergy Corporation (ASE-FE)	7.0	-1.5	2.5	8.5%	46.0%	3.9%
Great Plains Energy Incorporated (NYSE-GXP)	5.0	6.0	3.0	7.5%	39.0%	2.9%
IDACORP, Inc. (NYSE-IDA)	1.0	6.0	4.0	8.5%	42.0%	3.6%
NorthWestern Corporation (NYSE-NWE)	6.5	6.5	5.5	10.0%	41.0%	4.1%
OGE Energy Corp. (NYSE-OGE)	3.0	10.0	5.0	11.0%	31.0%	3.4%
Otter Tail Corporation (NDQ-OTTR)	9.0	1.5	3.5	12.5%	41.0%	5.1%
PG&E Corporation (NYSE-PCG)	8.5	2.5	5.0	9.5%	44.0%	4.2%
Pinnacle West Capital Corp. (NYSE-PNW)	4.0	3.5	3.5	9.5%	36.0%	3.4%
PNM Resources, Inc. (NYSE-PNM)	9.5	10.0	3.5	9.5%	51.0%	4.8%
Portland General Electric Company (NYSE-POR)	6.0	6.0	4.5	9.0%	44.0%	4.0%
SCANA Corporation (NYSE-SCG)	4.5	3.5	5.5	9.5%	44.0%	4.2%
Southern Company (NYSE-SO)	4.5	3.0	3.0	13.5%	29.0%	3.9%
Westar Energy, Inc. (NYSE-WR)	6.0	3.0	5.0	9.5%	45.0%	4.3%
Xcel Energy Inc. (NYSE-XEL)	4.5	6.0	4.0	10.0%	36.0%	3.6%
Mean	5.3	4.7	4.1	10.1%	39.9%	4.0%
Median	5.0	4.0	4.0	9.5%	39.0%	3.9%
Average of Median Figures =		4.3				3.9%

Data Source: *Value Line Investment Survey.*

Panel B
Somma Proxy Group

Company	*Value Line* Projected Growth Est'd. '12-'14 to '18-'20			*Value Line* Sustainable Growth		
	Earnings	Dividends	Book Value	Return on Equity	Retention Rate	Internal Growth
ALLETE, Inc. (NYSE-ALE)	6.5	4.0	4.5	9.0%	39.0%	3.5%
Alliant Energy Corporation (NYSE-LNT)	6.0	4.5	4.0	11.5%	37.0%	4.3%
Ameren Corporation (NYSE-AEE)	6.0	2.5	4.0	10.0%	45.0%	4.5%
Avista Corporation (NYSE-AVA)	7.0	4.0	3.5	9.0%	36.0%	3.2%
Great Plains Energy Incorporated (NYSE-GXP)	5.0	6.0	3.0	7.5%	39.0%	2.9%
IDACORP, Inc. (NYSE-IDA)	1.0	6.0	4.0	8.5%	42.0%	3.6%
NorthWestern Corporation (NYSE-NWE)	6.5	6.5	5.5	10.0%	41.0%	4.1%
OGE Energy Corp. (NYSE-OGE)	3.0	10.0	5.0	11.0%	31.0%	3.4%
Pinnacle West Capital Corp. (NYSE-PNW)	4.0	3.5	3.5	9.5%	36.0%	3.4%
PNM Resources, Inc. (NYSE-PNM)	9.5	10.0	3.5	9.5%	51.0%	4.8%
Portland General Electric Company (NYSE-POR)	6.0	6.0	4.5	9.0%	44.0%	4.0%
Mean	5.5	5.7	4.1	9.5%	40.1%	3.8%
Median	6.0	6.0	4.0	9.5%	39.0%	3.6%
Average of Median Figures =		5.3				3.6%

Data Source: *Value Line Investment Survey.*

Exhibit JRW-10

Westar Energy
DCF Equity Cost Growth Rate Measures
Analysts Projected EPS Growth Rate Estimates

Panel A
Electric Proxy Group

Company	Yahoo	Reuters	Zacks	Mean
ALLETE, Inc. (NYSE-ALE)	6.00%	NA	NA	6.0%
Alliant Energy Corporation (NYSE-LNT)	5.45%	5.45%	5.30%	5.4%
Ameren Corporation (NYSE-AEE)	5.85%	5.85%	6.80%	6.2%
American Electric Power Co. (NYSE-AEP)	5.10%	5.10%	4.90%	5.0%
Avista Corporation (NYSE-AVA)	5.00%	NA	NA	5.0%
Black Hills Corporation (NYSE-BKH)	7.00%	NA	NA	7.0%
CMS Energy Corporation (NYSE-CMS)	6.73%	6.73%	6.50%	6.7%
Consolidated Edison, Inc. (NYSE-ED)	2.48%	2.47%	2.70%	2.6%
Dominion Resources, Inc. (NYSE-D)	5.89%	5.89%	6.30%	6.0%
Duke Energy Corporation (NYSE-DUK)	4.49%	4.49%	4.70%	4.6%
Edison International (NYSE-EIX)	0.70%	0.70%	4.70%	2.0%
El Paso Electric Company (NYSE-EE)	7.00%	NA	6.70%	6.9%
Empire District Electric Co. (NYSE-EDE)	5.00%	NA	5.00%	5.0%
Entergy Corporation (NYSE-ETR)	-3.05%	-3.05%	-2.90%	-3.0%
Eversource Energy (NYSE-ES)	6.25%	6.24%	6.80%	6.4%
FirstEnergy Corporation (ASE-FE)	-0.64%	-0.64%	NA	-0.6%
Great Plains Energy Incorporated (NYSE-GXP)	6.90%	6.90%	5.90%	6.6%
IDACORP, Inc. (NYSE-IDA)	4.00%	4.00%	4.00%	4.0%
NorthWestern Corporation (NYSE-NWE)	5.00%	5.00%	5.00%	5.0%
OGE Energy Corp. (NYSE-OGE)	4.00%	4.00%	5.00%	4.3%
Otter Tail Corporation (NDQ-OTTR)	6.00%	NA	NA	6.0%
PG&E Corporation (NYSE-PCG)	4.71%	4.71%	5.30%	4.9%
Pinnacle West Capital Corp. (NYSE-PNW)	4.70%	4.70%	4.30%	4.6%
PNM Resources, Inc. (NYSE-PNM)	8.56%	8.56%	8.90%	8.7%
Portland General Electric Company (NYSE-POR)	4.72%	4.72%	5.20%	4.9%
SCANA Corporation (NYSE-SCG)	4.30%	4.30%	4.20%	4.3%
Southern Company (NYSE-SO)	3.32%	3.32%	3.50%	3.4%
Westar Energy, Inc. (NYSE-WR)	3.40%	3.40%	3.50%	3.4%
Xcel Energy Inc. (NYSE-XEL)	4.58%	4.58%	4.70%	4.6%
Mean	4.6%	4.2%	4.9%	4.7%
Median	5.0%	4.7%	5.0%	5.0%

Data Sources: www.reuters.com, www.zacks.com, http://quote.yahoo.com, June 1, 2015.

Panel B
Somma Proxy Group

Company	Yahoo	Reuters	Zacks	Mean
ALLETE, Inc. (NYSE-ALE)	6.00%	NA	NA	6.0%
Alliant Energy Corporation (NYSE-LNT)	5.45%	5.45%	5.30%	5.4%
Ameren Corporation (NYSE-AEE)	5.85%	5.85%	6.80%	6.2%
Avista Corporation (NYSE-AVA)	5.00%	NA	NA	5.0%
Great Plains Energy Incorporated (NYSE-GXP)	6.90%	6.90%	5.90%	6.6%
IDACORP, Inc. (NYSE-IDA)	4.00%	4.00%	4.00%	4.0%
NorthWestern Corporation (NYSE-NWE)	5.00%	5.00%	5.00%	5.0%
OGE Energy Corp. (NYSE-OGE)	4.00%	4.00%	5.00%	4.3%
Pinnacle West Capital Corp. (NYSE-PNW)	4.70%	4.70%	4.30%	4.6%
PNM Resources, Inc. (NYSE-PNM)	8.56%	8.56%	8.90%	8.7%
Portland General Electric Company (NYSE-POR)	4.72%	4.72%	5.20%	4.9%
Mean	5.5%	5.5%	5.6%	5.5%
Median	5.0%	5.0%	5.2%	5.0%

Data Sources: www.reuters.com, www.zacks.com, http://quote.yahoo.com, June 1, 2015.

Exhibit JRW-10

Westar Energy
DCF Growth Rate Indicators

Electric and Somma Proxy Groups

Growth Rate Indicator	Electric Proxy Group	Somma Proxy Group
Historic *Value Line* Growth in EPS, DPS, and BVPS	3.5%	4.4%
Projected *Value Line* Growth in EPS, DPS, and BVPS	4.3%	5.3%
Sustainable Growth ROE * Retention Rate	3.9%	3.6%
Projected EPS Growth from Yahoo, Zacks, and Reuters - Mean/Median	4.7%/5.0%	5.5%/5.0%

Exhibit JRW-11

Westar Energy
Capital Asset Pricing Model

Panel A
Electric Proxy Group

Risk-Free Interest Rate	4.00%
Beta*	0.75
Ex Ante Equity Risk Premium**	5.50%
CAPM Cost of Equity	8.1%

* See page 3 of Exhibit JRW-11

** See pages 5 and 6 of Exhibit JRW-11

Panel B
Somma Proxy Group

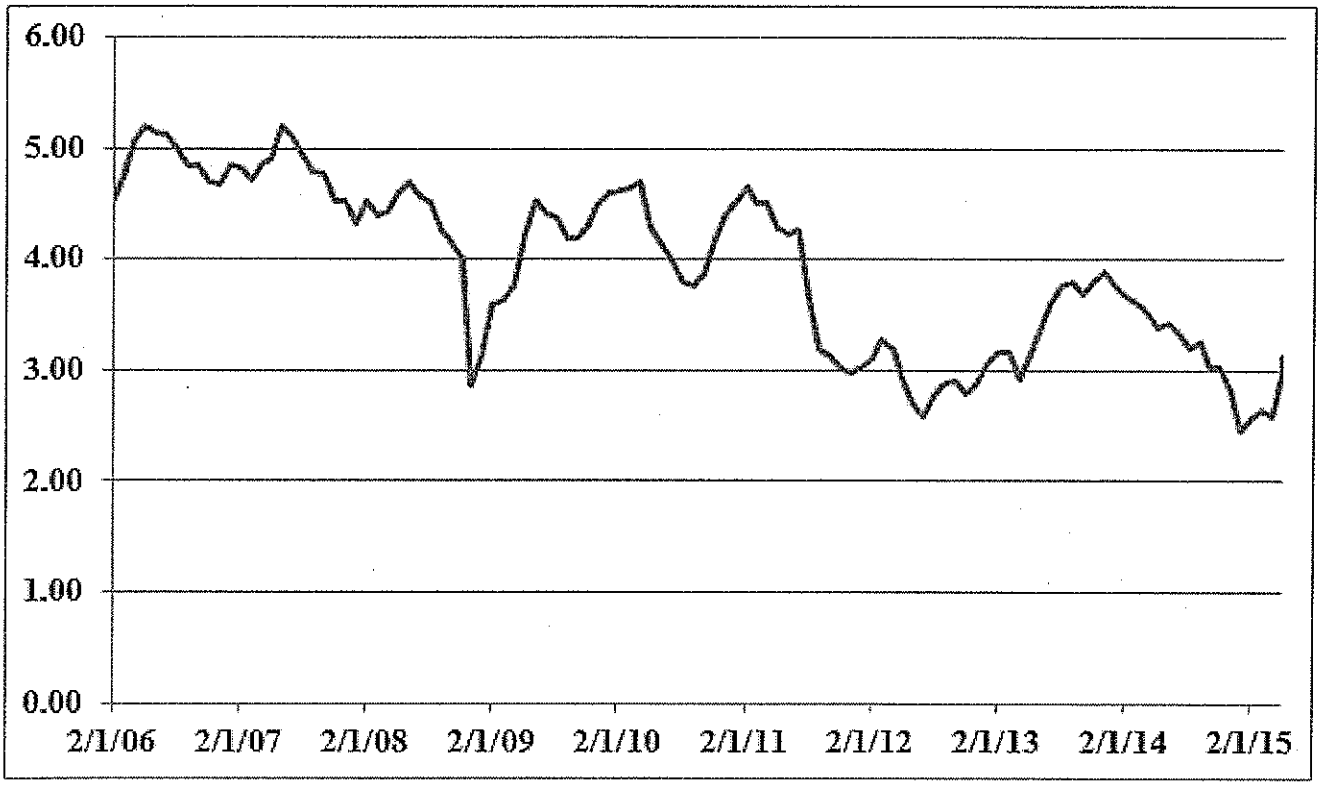
Risk-Free Interest Rate	4.00%
Beta*	0.80
Ex Ante Equity Risk Premium**	5.50%
CAPM Cost of Equity	8.4%

* See page 3 of Exhibit JRW-11

** See pages 5 and 6 of Exhibit JRW-11

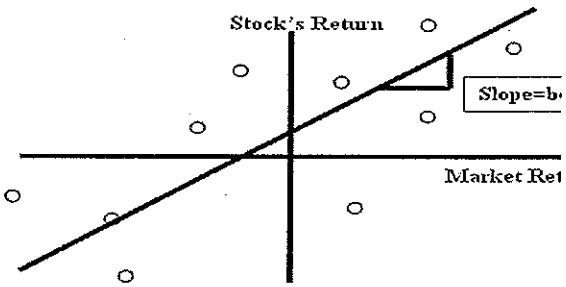
Exhibit JRW-11

Thirty-Year U.S. Treasury Yields
January 2006-Present



Source: Federal Reserve Bank of St. Louis, FRED Database.

Calculation of Beta



Panel A
Electric Proxy Group

Company Name	Beta
ALLETE, Inc. (NYSE-ALE)	0.80
Alliant Energy Corporation (NYSE-LNT)	0.80
Ameren Corporation (NYSE-AEE)	0.75
American Electric Power Co. (NYSE-AEP)	0.70
Avista Corporation (NYSE-AVA)	0.80
Black Hills Corporation (NYSE-BKH)	0.95
CMS Energy Corporation (NYSE-CMS)	0.75
Consolidated Edison, Inc. (NYSE-ED)	0.60
Dominion Resources, Inc. (NYSE-D)	0.70
Duke Energy Corporation (NYSE-DUK)	0.60
Edison International (NYSE-EIX)	0.75
El Paso Electric Company (NYSE-EE)	0.70
Empire District Electric Co. (NYSE-EDE)	0.70
Entergy Corporation (NYSE-ETR)	0.70
Eversource Energy (NYSE-ES)	0.75
FirstEnergy Corporation (ASE-FE)	0.70
Great Plains Energy Incorporated (NYSE-GXP)	0.85
IDACORP, Inc. (NYSE-IDA)	0.80
NorthWestern Corporation (NYSE-NWE)	0.70
OGE Energy Corp. (NYSE-OGE)	0.90
Otter Tail Corporation (NDQ-OTTR)	0.90
PG&E Corporation (NYSE-PCG)	0.65
Pinnacle West Capital Corp. (NYSE-PNW)	0.70
PNM Resources, Inc. (NYSE-PNM)	0.85
Portland General Electric Company (NYSE-POI	0.80
SCANA Corporation (NYSE-SCG)	0.75
Southern Company (NYSE-SO)	0.60
Westar Energy, Inc. (NYSE-WR)	0.75
Xcel Energy Inc. (NYSE-XEL)	0.65
Mean	0.75
Median	0.75

Data Source: *Value Line Investment Survey*, 2015.

Panel B
Somma Proxy Group

Company Name	Beta
ALLETE, Inc. (NYSE-ALE)	0.80
Alliant Energy Corporation (NYSE-LNT)	0.80
Ameren Corporation (NYSE-AEE)	0.75
Avista Corporation (NYSE-AVA)	0.80
Great Plains Energy Incorporated (NYSE-GXP)	0.85
IDACORP, Inc. (NYSE-IDA)	0.80
NorthWestern Corporation (NYSE-NWE)	0.70
OGE Energy Corp. (NYSE-OGE)	0.90
Pinnacle West Capital Corp. (NYSE-PNW)	0.70
PNM Resources, Inc. (NYSE-PNM)	0.85
Portland General Electric Company (NYSE-POI	0.80
Mean	0.80
Median	0.80

Data Source: *Value Line Investment Survey*, 2015.

Exhibit JRW-11
Risk Premium Approaches

	Historical Ex Post Returns	Surveys	Expected Return Models and Market Data
Means of Assessing The Market Risk Premium	Historical Average Stock Minus Bond Returns	Surveys of CFOs, Financial Forecasters, Companies, Analysts on Expected Returns and Market Risk Premiums	Use Market Prices and Market Fundamentals (such as Growth Rates) to Compute Expected Returns and Market Risk Premiums
Problems/Debated Issues	Time Variation in Required Returns, Measurement and Time Period Issues, and Biases such as Market and Company Survivorship Bias	Questions Regarding Survey Histories, Responses, and Representativeness Surveys may be Subject to Biases, such as Extrapolation	Assumptions Regarding Expectations, Especially Growth

Source: Adapted from Antti Ilmanen, Expected Returns on Stocks and Bonds," *Journal of Portfolio Management*, (Winter 2003).

Exhibit JRW-8

Westar Energy
Capital Asset Pricing Model
Equity Risk Premium

Category	Study Authors	Publication Date	Time Period Of Study	Methodology	Return Measure	Range Low	Range High	Midpoint of Range	Mean	Median
Historical Risk Premium										
	Ibbotson	2015	1928-2014	Historical Stock Returns - Bond Returns	Arithmetic				6.00%	
					Geometric				4.40%	
	Damodaran	2015	1928-2014	Historical Stock Returns - Bond Returns	Arithmetic				6.25%	
					Geometric				4.60%	
	Dimson, Marsh, Staunton	2015	1900-2014	Historical Stock Returns - Bond Returns	Arithmetic					
					Geometric				4.40%	
	Bate	2008	1900-2007	Historical Stock Returns - Bond Returns	Geometric				4.50%	
	Shiller	2006	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				7.00%	
					Geometric				5.50%	
	Siegel	2005	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				6.10%	
					Geometric				4.60%	
	Dimson, Marsh, and Staunton	2006	1900-2005	Historical Stock Returns - Bond Returns	Arithmetic				5.50%	
	Goyal & Welch	2006	1872-2004	Historical Stock Returns - Bond Returns					4.77%	
	Median									5.14%
Ex Ante Models (Pazzle Research)										
	Claus Thomas	2001	1985-1998	Abnormal Earnings Model					3.00%	
	Arnott and Bernstein	2002	1810-2001	Fundamentals - Div Yld + Growth					2.40%	
	Constantinides	2002	1872-2000	Historical Returns & Fundamentals - P/D & P/E					6.90%	
	Cornell	1999	1926-1997	Historical Returns & Fundamental GDP/Earnings		3.50%	5.50%	4.50%	4.50%	
	Easton, Taylor, et al	2002	1981-1998	Residual Income Model					5.30%	
	Fama French	2002	1951-2000	Fundamental DCF with EPS and DPS Growth		2.55%	4.32%		3.44%	
	Harris & Marston	2001	1982-1998	Fundamental DCF with Analysts' EPS Growth					7.14%	
	Best & Byrne	2001								
	McKinsey	2002	1962-2002	Fundamental (P/E, D/P, & Earnings Growth)		3.50%	4.00%		3.75%	
	Siegel	2005	1802-2001	Historical Earnings Yield	Geometric				2.50%	
	Grabowski	2006	1926-2005	Historical and Projected		3.50%	6.00%	4.75%	4.75%	
	Maheu & McCurdy	2006	1885-2003	Historical Excess Returns, Structural Breaks,		4.02%	5.10%	4.56%	4.56%	
	Bostock	2004	1960-2002	Bond Yields, Credit Risk, and Income Volatility		3.90%	1.30%	2.60%	2.60%	
	Bakshi & Chen	2005	1982-1998	Fundamentals - Interest Rates					7.31%	
	Donaldson, Kamstra, & Kramer	2006	1952-2004	Fundamental, Dividend yld., Returns,, & Volatility		3.00%	4.00%	3.50%	3.50%	
	Campbell	2008	1982-2007	Historical & Projections (D/P & Earnings Growth)		4.10%	5.40%		4.75%	
	Best & Byrne	2001	Projection	Fundamentals - Div Yld + Growth					2.00%	
	Fernandez	2007	Projection	Required Equity Risk Premium					4.00%	
	DeLong & Magin	2008	Projection	Earnings Yield - TIPS					3.22%	
	Siegel - Rethink ERP	2011	Projection	Real Stock Returns and Components					5.50%	
	Duarte & Rosa - NY Fed	2013	projection	Projections from 29 Models					5.40%	
	Duff & Phelps	2015	Projection	Normalized with 4.0% Long-Term Treasury Yield					5.00%	
	Mschchowski - VL - 2014	2014	Projection	Fundamentals - Expected Return Minus 10-Year Treasury Rate					5.50%	
	American Appraisal Quarterly ERP	2015	Projection	Fundamental Economic and Market Factors					6.00%	
	Damodaran	2015	Projection	Fundamentals - Implied from FCF to Equity Model					5.74%	
	Social Security									
	Office of Chief Actuary		1900-1995							
	John Campbell	2001	1860-2000	Historical & Projections (D/P & Earnings Growth)	Arithmetic	3.00%	4.00%	3.50%	3.50%	
			Projected for 75 Years		Geometric	1.50%	2.50%	2.00%	2.00%	
	Peter Diamond	2001	Projected for 75 Years	Fundamentals (D/P, GDP Growth)		3.00%	4.80%	3.90%	3.90%	
	John Shoven	2001	Projected for 75 Years	Fundamentals (D/P, P/E, GDP Growth)		3.00%	3.50%	3.25%	3.25%	
	Median									4.25%
Surveys										
	New York Fed	2013	Five-Year	Survey of Wall Street Firms					5.20%	
	Survey of Financial Forecasters	2015	10-Year Projection	About 20 Financial Forecasstsers					1.88%	
	Duke - CFO Magazine Survey	2015	10-Year Projection	Approximately 350 CFOs					4.50%	
	Welch - Academics	2008	30-Year Projection	Random Academics		5.00%	5.74%	5.37%	5.37%	
	Fernandez - Academics, Analysts, and Compan	2015	Long-Term	Survey of Academics, Analysts, and Companies					5.50%	
	Median									4.94%
Building Block										
	Ibbotson and Chen	2015	Projection	Historical Supply Model (D/P & Earnings Growth)	Arithmetic			6.22%	5.21%	
					Geometric			4.20%		
	Chen - Rethink ERP	2010	20-Year Projection	Combination Supply Model (Historic and Projection)	Geometric				4.00%	
	Ilmanen - Rethink ERP	2010	Projection	Current Supply Model (D/P & Earnings Growth)	Geometric				3.00%	
	Grinold, Kroner, Siegel - Rethink ERP	2011	Projection	Current Supply Model (D/P & Earnings Growth)	Arithmetic			4.63%	4.12%	
					Geometric			3.60%		
	Woolridge		2015	Current Supply Model (D/P & Earnings Growth)					4.75%	
	Median									4.12%
Mean										4.61%
Median										4.59%

Exhibit JRW-8

Westar Energy
Capital Asset Pricing Model
Equity Risk Premium

Summary of 2010-15 Equity Risk Premium Studies

Category	Study Authors	Publication Date	Time Period Of Study	Methodology	Return Measure	Range Low	Range High	Midpoint of Range	Mean	Average
Historical Risk Premium										
	Ibbotson	2015	1928-2014	Historical Stock Returns - Bond Returns	Arithmetic				6.00%	
					Geometric				4.40%	
	Damodaran	2015	1928-2014	Historical Stock Returns - Bond Returns	Arithmetic				6.25%	
					Geometric				4.60%	
	Dimson, Marsh, Staunton	2015	1900-2014	Historical Stock Returns - Bond Returns	Arithmetic					
					Geometric				4.40%	
	Median									5.13%
Ex Ante Models (Puzzle Research)										
	Siegel - Rethink ERP	2011	Projection	Real Stock Returns and Components					5.50%	
	Duarte & Rosa - NY Fed	2013	Projection	Projections from 29 Models					5.40%	
	Duff & Phelps	2015	Projection	Normalized with 4.0% Long-Term Treasury Yield					5.00%	
	Mschchowski - VL - 2014	2014	Projection	Fundamentals - Expected Return Minus 10-Year Treasury Rate					5.50%	
	American Appraisal Quarterly ERP	2015	Projection	Fundamental Economic and Market Factors					6.00%	
	Damodaran	2015	Projection	Fundamentals - Implied from FCF to Equity Model					5.74%	
	Median									5.50%
Surveys										
	New York Fed	2013	Five-Year	Survey of Wall Street Firms					5.20%	
	Survey of Financial Forecasters	2015	10-Year Projection	About 20 Financial Forecastsers					1.88%	
	Duke - CFO Magazine Survey	2015	10-Year Projection	Approximately 350 CFOs					4.50%	
	Fernandez - Academics, Analysts, and Companies	2015	Long-Term	Survey of Academics, Analysts, and Companies					5.50%	
	Median									4.85%
Building Block										
	Ibbotson and Chen	2015	Projection	Historical Supply Model (D/P & Earnings Growth)	Arithmetic			6.22%	5.21%	
					Geometric			4.20%		
	Chen - Rethink ERP	2010	20-Year Projection	Combination Supply Model (Historic and Projection)	Geometric				4.00%	
	Ilmanen - Rethink ERP	2010	Projection	Current Supply Model (D/P & Earnings Growth)	Geometric				3.00%	
	Grinold, Kroner, Siegel - Rethink ERP	2011	Projection	Current Supply Model (D/P & Earnings Growth)	Arithmetic			4.63%	4.12%	
					Geometric			3.60%		
	Woolridge	2015	Projection	Current Supply Model (D/P & Earnings Growth)	Geometric				4.75%	
	Median									4.12%
Mean										4.90%
Median										4.99%

Exhibit JRW-12

Westar Energy
Company's Proposed Cost of Capital

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	46.55%	5.69%	2.65%
Common Equity	53.45%	10.00%	5.35%
Total	100.00%		7.99%

Westar Energy's ROE Results

Summary of Mr. Somma's Equity Cost Rate Analyses

	Low	Mean	Weight	Weighted Range	
DCF Results	9.47%	9.52%	50.00%	4.74%	4.76%
CAPM Results	10.86%	11.76%	25.00%	2.72%	2.94%
Risk Premium Results	10.33%	10.38%	25.00%	2.58%	2.60%
			Unadjusted ROE	10.03%	10.30%
			Issuance Costs	0.12%	0.12%
			Adjusted ROE	10.15%	10.42%

Exhibit JRW-13
Westar Energy
The Importance of Long-Term Expectations on Stock Prices
Somma Proxy Group

Company	Annual Dividend	D1	D2	D3	D4	D5	PV (D1-D5)	Stock Price	PV (D1-D5) / Stock Price
Westar Energy, Inc. (NYSE-WR)	$ 1.44	1.50	1.56	1.63	1.70	1.77	6.14	34.22	17.9%
ALLETE, Inc. (NYSE-ALE)	$ 2.02	2.14	2.27	2.41	2.55	2.70	9.05	46.96	19.3%
Alliant Energy Corporation (NYSE-LNT)	$ 2.20	2.32	2.45	2.58	2.72	2.87	9.71	57.55	16.9%
Ameren Corporation (NYSE-AEE)	$ 1.64	1.76	1.88	2.01	2.16	2.31	7.57	37.54	20.2%
Avista Corporation (NYSE-AVA)	$ 1.32	1.38	1.45	1.52	1.59	1.66	5.71	30.91	18.5%
Great Plains Energy Incorporated (NYSE-GXP)	$ 0.98	1.03	1.09	1.14	1.20	1.27	4.30	24.42	17.6%
IDACORP, Inc. (NYSE-IDA)	$ 1.88	1.93	1.98	2.04	2.10	2.15	7.70	56.61	13.6%
Northwestern Corp. (NYSE-NWE)	$ 1.92	2.05	2.19	2.34	2.50	2.68	8.81	49.49	17.8%
OGE Energy Corp. (NYSE-OGE)	$ 1.00	1.06	1.12	1.18	1.25	1.32	4.44	28.64	15.5%
Pinnacle West Capital Corp. (NYSE-PNW)	$ 2.38	2.57	2.78	3.01	3.26	3.52	11.31	56.71	19.9%
PNM Resources, Inc. (NYSE-PNM)	$ 0.80	0.84	0.87	0.91	0.95	1.00	3.44	24.9	13.8%
Portland General Electric Company (NYSE-POR)	$ 1.20	1.29	1.38	1.48	1.59	1.70	5.56	33.2	16.7%
TECO Energy (NYSE-TE)	$ 0.90	0.95	1.00	1.05	1.10	1.16	3.94	17.76	22.2%
								Average	17.7%

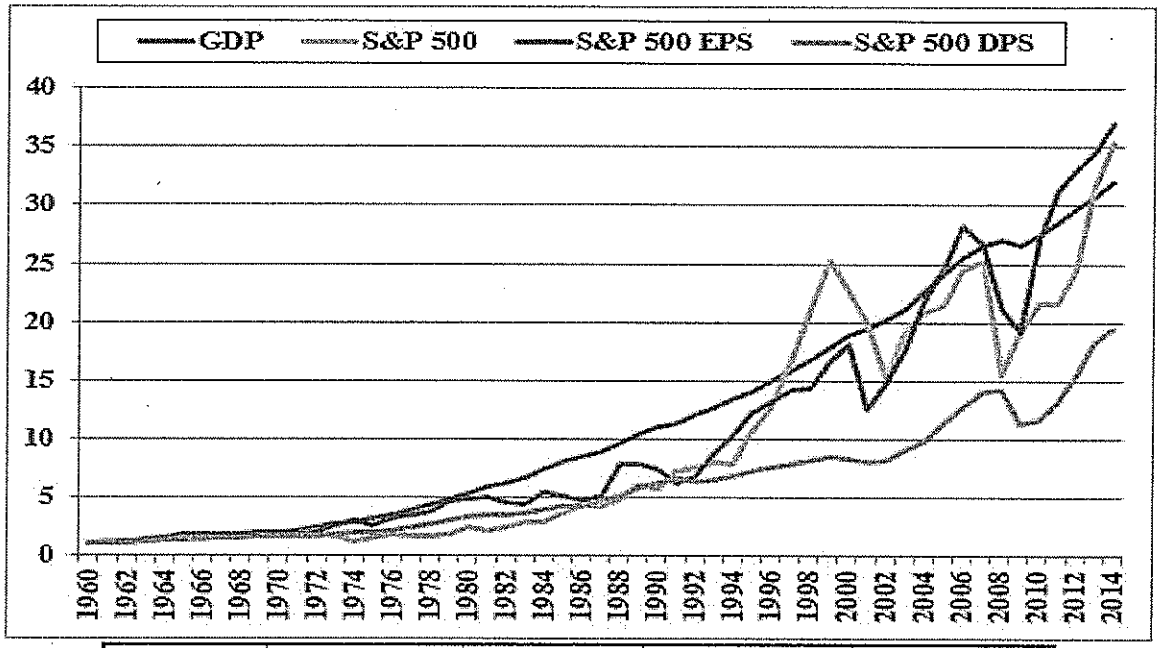
D1, D2, D3, D4, and D5 - Projected annual dividends, based on current annual dividend and projected to grow at Mr. Somma's growth rate
PV (D1-D5) - Present value of projected annual dividends for years 1-5, using Mr. Somma's 10% equity cost rate as a discount factor
Stock price as of June 26, 2015.
PV (D1-D5)/Stock Price - Percent of current stock price represented by the discounted value of annual dividends for years 1-5

Growth Rates
GDP, S&P 500 Price, EPS, and DPS

	GDP	S&P 500	Earnings	Dividends	
1960	543.3	58.11	3.10	1.98	
1961	563.3	71.55	3.37	2.04	
1962	605.1	63.10	3.67	2.15	
1963	638.6	75.02	4.13	2.35	
1964	685.8	84.75	4.76	2.58	
1965	743.7	92.43	5.30	2.83	
1966	815.1	80.33	5.41	2.88	
1967	861.7	96.47	5.46	2.98	
1968	942.5	103.86	5.72	3.04	
1969	1019.9	92.06	6.10	3.24	
1970	1075.9	92.15	5.51	3.19	
1971	1167.8	102.09	5.57	3.16	
1972	1282.4	118.05	6.17	3.19	
1973	1428.6	97.55	7.96	3.61	
1974	1548.8	68.56	9.35	3.72	
1975	1688.9	90.19	7.71	3.73	
1976	1877.6	107.46	9.75	4.22	
1977	2086.0	95.10	10.87	4.86	
1978	2356.6	96.11	11.64	5.18	
1979	2632.2	107.94	14.55	5.97	
1980	2862.5	135.76	14.99	6.44	
1981	3211.0	122.55	15.18	6.83	
1982	3345.0	140.64	13.82	6.93	
1983	3638.1	164.93	13.29	7.12	
1984	4040.7	167.24	16.84	7.83	
1985	4346.8	211.28	15.68	8.20	
1986	4590.1	242.17	14.43	8.19	
1987	4870.2	247.08	16.04	9.17	
1988	5252.6	277.72	24.12	10.22	
1989	5657.7	353.40	24.32	11.73	
1990	5979.6	330.22	22.65	12.35	
1991	6174.1	417.09	19.30	12.97	
1992	6539.3	435.71	20.87	12.64	
1993	6878.7	466.45	26.90	12.69	
1994	7308.8	459.27	31.75	13.36	
1995	7664.1	615.93	37.70	14.17	
1996	8100.2	740.74	40.63	14.89	
1997	8608.5	970.43	44.09	15.52	
1998	9089.2	1229.23	44.27	16.20	
1999	9660.6	1469.25	51.68	16.71	
2000	10284.8	1320.28	56.13	16.27	
2001	10621.8	1148.09	38.85	15.74	
2002	10977.5	879.82	46.04	16.08	
2003	11510.7	1111.91	54.69	17.88	
2004	12274.9	1211.92	67.68	19.41	
2005	13093.7	1248.29	76.45	22.38	
2006	13855.9	1418.30	87.72	25.05	
2007	14477.6	1468.36	82.54	27.73	
2008	14718.6	903.25	65.39	28.05	
2009	14418.7	1115.10	59.65	22.31	
2010	14964.4	1257.64	83.66	23.12	
2011	15517.9	1257.60	97.05	26.02	Average
2012	16163.2	1426.19	102.47	30.44	
2013	16768.1	1848.36	107.45	36.28	
2014	17420.7	2058.90	114.74	38.57	
Growth Rates	**6.63**	**6.83**	**6.92**	**5.65**	**6.51**

Data Sources: GDPA -http://research.stlouisfed.org/fred2/series/GDPA/downloaddata

Long-Term Growth of GDP, S&P 500, S&P 500 EPS, and S&P 500 DPS



	GDP	S&P 500	S&P 500 EPS	S&P 500 DPS
Growth Rates	6.63%	6.83%	6.92%	5.65%

Projected GDP Growth Rates

	Time Frame	Projected Nominal GDP Growth Rate
Congressional Budget Office	2015-2025	4.3%
Survey of Financial Forecasters	Ten Year	4.7%
Social Security Administration	2014-2090	4.5%
Energy Information Administration	2012-2040	4.5%

Sources:
http://www.cbo.gov/topics/budget/budget-and-economic-outlook
http://www.eia.gov/forecasts/aeo/tables_ref.cfm Table 20
http://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/2015/
http://www.ssa.gov/oact/tr/2014/X1_trLOT.html

CERTIFICATE OF SERVICE

15-WSEE-115-RTS

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