BEFORE THE CORPORATION COMMISSION

OF THE STATE OF KANSAS

IN THE MATTER OF THE APPLICATION	]	
OF KANSAS CITY POWER & LIGHT	]	
COMPANY TO MAKE CERTAIN	]	KCC Docket No. 15-KCPE-116-RTS
CHANGES IN ITS CHARGES FOR	]	
ELECTRIC SERVICE.	]	

DIRECT TESTIMONY OF

J. RANDALL WOOLRIDGE, PH.D.

RE: COST OF CAPITAL

ON BEHALF OF

THE CITIZENS' UTILITY RATEPAYER BOARD

MAY 11, 2015

KANSAS CITY POWER & LIGHT COMPANY
Docket No. 15-KCPE-116-RTS

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1	Q.	**PLEASE STATE YOUR FULL NAME, ADDRESS, AND OCCUPATION.**
2	A.	My name is J. Randall Woolridge, and my business address is 120 Haymaker Circle,
3		State College, PA 16801. I am a Professor of Finance and the Goldman, Sachs & Co.
4		and Frank P. Smeal Endowed University Fellow in Business Administration at the
5		University Park Campus of the Pennsylvania State University. I am also the Director
6		of the Smeal College Trading Room and President of the Nittany Lion Fund, LLC. A
7		summary of my educational background, research, and related business experience is
8		provided in Exhibit JRW-16, Appendix A.
9		
10	I.	<u>**SUBJECT OF TESTIMONY AND SUMMARY OF RECOMMENDATIONS**</u>
11		
12	Q.	**WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**
13	A.	I have been asked by the Citizens' Utility Ratepayer Board ("CURB") to provide an
14		opinion as to the overall fair rate of return or cost of capital for Kansas City Power &
15		Light Company ("KCPL" or "Company") and to evaluate KCPL's rate of return
16		testimony in this proceeding.
17		
18	Q.	**HOW IS YOUR TESTIMONY ORGANIZED?**
19	A.	First, I will review my cost of capital recommendation for KCPL, and review the
20		primary areas of contention between KCPL's rate of return position and CURB's rate of
21		return position. Second, I provide an assessment of capital costs in today's capital
22		markets. Third, I discuss my proxy group of electric utility companies for estimating the
23		cost of capital for KCPL. Fourth, I present my recommendations for the Company's

1   capital structure and debt cost rate. Fifth, I discuss the concept of the cost of equity

2   capital, and then estimate the equity cost rate for KCPL. Finally, I critique the

3   Company's rate of return analysis and testimony. I have a table of contents just after the

4   title page for a more detailed outline.

5 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS REGARDING THE**

6   **APPROPRIATE RATE OF RETURN FOR KCPL.**

7 A.   I initially show that interest rates and capital costs remain at historically low levels,

8   and forecasts of higher interest rates have proven to be incorrect. I used the

9   Company's proposed capital structure and senior capital cost rates. To estimate an

10   equity cost rate for KCPL, I have applied the Discounted Cash Flow Model ("DCF")

11   and the Capital Asset Pricing Model ("CAPM") to my proxy group of electric utility

12   ("Electric Proxy Group"). I have also used the proxy group developed by KCPL's

13   rate of return witness Mr. Hevert ("Hevert Proxy Group"). My recommendation is

14   that the appropriate equity cost rate for KCPL is 8.55%. Combined with my

15   recommended capitalization ratios and senior capital cost rate, my overall rate of

16   return or cost of capital for KCPL of 7.06% is summarized in Exhibit JRW-1.

17

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

19 A.   The Company has proposed a capital structure that includes 48.97% long-term debt,

20   0.55% preferred stock, and 50.48% common equity and long-term debt and preferred

21   stock cost rates of 5.55% and 4.29%. KCPL witness Mr. Robert B. Hevert

1   recommends a common equity cost rate 10.30%. KCPL's overall proposed rate of

2   return is 7.94%.

3

4 Q. **PLEASE INITIALLY SUMMARIZE THE REGULATORY GUIDELINES**

5   **ESTABLISHED FOR THE PURPOSE OF DETERMINING THE**

6   **APPROPRIATE ROE FOR A PUBLIC UTILITY.**

7 A. The United States Supreme Court established the guiding principles for establishing a

8   fair return on capital for regulated public utilities in two cases: (1) *Bluefield* and (2)

9   *Hope*.[1] In those cases, the Court recognized that the fair rate of return on equity

10   should be: (1) comparable to returns investors expect to earn on other investments of

11   similar risk; (2) sufficient to assure confidence in the company's financial integrity;

12   and (3) adequate to maintain and support the company's credit and to attract capital.

13

14 Q. **PLEASE SUMMARIZE THE PRIMARY ISSUES REGARDING RATE OF**

15   **RETURN IN THIS PROCEEDING.**

16 A. I have used the Company's proposed capital structure and senior capital cost rates. In

17   estimating a common equity cost rate, both Mr. Hevert and I have applied the DCF

18   and the CAPM approaches to a proxy group of publicly-held electric utility

19   companies. Mr. Hevert has also used a Risk Premium ("RP") approach. The primary

20   issues with respect to these three approaches are summarized below.

21

22

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[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"*).

1   **A.**   **DCF Approach**

2

3   **Q.**   **WHAT ARE THE ISSUES WITH MR. HEVERT'S APPLICATION OF THE**

4   **DCF APPROACH?**

5   **A.**   Mr. Hevert has used both constant-growth multi-stage growth versions of the DCF

6   model. There are three primary errors in Mr. Hevert's DCF analysis. First, he has

7   eliminated or given very little weight to fully 1/3 of his constant-growth DCF results

8   because he believes his mean-low DCF estimates are too low. Second, in both his

9   constant- and multi-stage growth DCF models, Mr. Hevert has relied excessively on

10   the overly-optimistic and upwardly-biased forecasted earnings per share ("EPS")

11   growth rates of Wall Street analysts and *Value Line*. Third, the projected Gross

12   Domestic Product ("GDP") growth rate of 5.61% in his multi-stage DCF model is

13   excessive, is not reflective of economic growth in the U.S., and is about 100 basis points

14   above projections of GDP growth. I have recomputed Mr. Hevert's multi-stage DCF

15   results using a more appropriate nominal GDP growth rate forecast and the indicated

16   equity cost rates are not that different from my DCF results.

17   In developing a DCF growth rate, I have reviewed thirteen growth rate

18   measures including historic and projected growth rate measures and have evaluated

19   growth in dividends, book value, and earnings per share.

20

21

22

23

1   **B.   CAPM Approach**

2

3   Q.   **WHAT ARE THE ISSUES WITH MR. HEVERT'S APPLICATION OF THE**

4   **CAPM APPROACH?**

5   A.   The CAPM approach requires an estimate of the risk-free interest rate, beta, and the

6   equity risk premium. The major area of disagreement involves the measurement and

7   magnitude of the market or equity risk premium. In short, Mr. Hevert's market risk

8   premium is excessive and does not reflect current market fundamentals. As I

9   highlight in my testimony, there are three procedures for estimating a market or

10   equity risk premium – historic returns, surveys, and expected return models. Mr.

11   Hevert uses projected market risk premiums of 10.47% and 10.58%. Mr. Hevert's

12   projected equity risk premiums use analysts' EPS growth rate projections to compute

13   an expected market return and market risk premium. These EPS growth rate

14   projections and the resulting expected market returns and risk premiums include

15   unrealistic assumptions regarding future economic and earnings growth and stock

16   returns.

17   I have used a CAPM equity risk premium of 5.50%, which: (1) factors in all

18   three approaches to estimating an equity premium; and (2) employs the results of

19   many studies of the equity risk premium. As I note, my market risk premium reflects

20   the market risk premiums: (1) determined in recent academic studies by leading

21   finance scholars; (2) employed by leading investment banks and management

22   consulting firms; and (3) found in surveys of companies, financial forecasters,

23   financial analysts, and corporate CFOs.

1   **C.**   **Risk Premium Approach**

2

3 **Q.**   **WHAT ARE THE ISSUES WITH MR. HEVERT'S APPLICATION OF THE**

4   **RISK PREMIUM ("RP") CAPM APPROACH?**

5 **A.**   Mr. Hevert also estimates an equity cost rate using the RP model. His risk premium

6   is based on the historical relationship between the yields on long-term Treasury yields

7   and authorized returns on equity ("ROEs") for electric utility companies. There are

8   several issues with this approach. First and foremost, this approach is a gauge of

9   commission behavior and not investor behavior. Capital costs are determined in the

10   market place through the financial decisions of investors and are reflected in such

11   fundamental factors as dividend yields, expected growth rates, interest rates, and

12   investors' assessment of the risk and expected return of different investments.

13   Regulatory commissions evaluate capital market data in setting authorized ROEs, but

14   also take into account other utility- and rate case-specific information in setting

15   ROEs. As such, Mr. Hevert's RP approach and results reflects other factors used by

16   utility commissions in authorizing ROEs in addition to capital costs. This may

17   especially be true when the authorized ROE data includes the results of rate cases that

18   are settled and not fully litigated. Second, the methodology produces an inflated

19   measure of the risk premium because the approach uses historic authorized ROEs and

20   Treasury yields, and the resulting risk premium is applied to projected Treasury yields.

21   Finally, the risk premium is inflated as a measure of investor's required risk premium

22   since electric utility companies have been selling at a market-to-book ratio in excess

23   of 1.0. This indicates that the authorized rates of return have been greater than the

1   return that investors require.

2   Q.   **HOW DO MR. HEVERT'S RP ESTIMATES COMPARE TO THE ACTUAL**

3   **STATE-LEVEL AUTHORIZED ROES?**

4   A.   His RP equity cost rate estimates of 10.03%, 10.17%, and 10.76% overstate actual

5   state-level authorized ROEs for electric utilities.   The authorized ROEs for electric

6   utility companies have decreased in recent years. These authorized ROEs declined

7   from 10.01% in 2012, to 9.8% in 2013, to 9.76% in 2014, according to Regulatory

8   Research Associates.[2]

9

10   **D.**   *Hope* **and** *Bluefield* **Standards**

11

12   Q.   **DO YOU BELIEVE THAT YOUR 8.55% MEETS** *HOPE* **AND** *BLUEFIELD*

13   **STANDARDS?**

14   A.   Yes. I provide evidence that my ROE recommendation of 8.55% is adequate to meet

15   *Hope* and *Bluefield* standards.   I show that my ROE recommendation is above

16   KCPL's earned ROE in recent years of 8.43%.   Given KCPL's earned ROE, the

17   Company has been able to raise capital and has seen its credit ratings raised by

18   Moody's.   In addition, I highlight a recent Moody's publication that states, despite

19   authorized and earned ROEs below 10%, the credit quality of electric and gas

20   companies has not been impaired and, in fact, has improved and utilities are raising

21   about $50 billion per year in capital.   A major positive factor in the improved credit

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

1		quality of utilities are the cost and investment recovery mechanisms that are now
2		included in rates.
3		
4	Q.	**IN ADDITION, PLEASE DISCUSS YOUR RECOMMENDATION IN LIGHT**
5		**OF THE STATE-LEVEL AUTHORIZED ROES?**
6	A.	Whereas my recommendation in this proceeding is below the average state-level
7		authorized ROEs, my recommended ROE reflects the historically low capital cost
8		rates in the markets. In my opinion, the ROEs authorized by state utility commissions
9		have lagged behind capital market cost rates. And I believe that this has been
10		particularly true in recent years as some commissions have been reluctant to authorize
11		ROEs below 10%. However, the <u>trend</u> has clearly been towards lower ROEs, and the
12		<u>norm</u> now is below 10%. Hence, I believe that my recommended ROE reflects our
13		historically low capital cost rates, and these low capital cost rates are finally being
14		recognized by state utility commissions.
15		
16		**E. Summary of Differences in Positions**
17	Q.	**PLEASE SUMMARIZE THE PRIMARY DIFFERENCES IN POSITIONS**
18		**REGARDING THE COMPANY'S COST OF CAPITAL.**
19	A.	In the end, the most significant areas of disagreement in measuring KCPL's cost of
20		capital are: (1) Mr. Hevert's DCF equity cost rate estimates, and in particular, (a) the
21		low-weight he gives his low-end constant-growth DCF results, (b) his excessive
22		reliance on the long-term EPS growth rates of Wall Street analysts and *Value Line* in
23		developing a DCF growth rate, and (c) his employment of an unrealistic projected

1		GDP growth rate in his multi-stage DCF model; (2) the projected interest rates and
2		market or equity risk premium in the RP and CAPM approaches; and (3) his inclusion
3		of a flotation cost adjustment in his equity cost rate.
4		

II.   CAPITAL COSTS IN TODAY'S MARKETS

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

8   A.   Long-term capital cost rates for U.S. corporations are a function of the required

9   returns on risk-free securities plus a risk premium. The risk-free rate of interest is the

10   yield on long-term U.S. Treasury bonds. The yields on 10-year U.S. Treasury bonds

11   from 1953 to the present are provided on Panel A of Exhibit JRW-2. These yields

12   peaked in the early 1980s and have generally declined since that time. These yields

13   fell to below 3.0% in 2008 as a result of the financial crisis. From 2008 until 2011,

14   these rates fluctuated between 2.5% and 3.5%. In 2012, the yields on 10-year

15   Treasuries declined from 2.5% to 1.5% as the Federal Reserve initiated its

16   Quantitative Easing III ("QEIII") program to support a low interest rate environment.

17   These yields increased from mid-2012 to about 3.0% as of December of 2013 on

18   speculation of a tapering of the Federal Reserve's QEIII policy. Since that time, the

19   ten-year Treasury yield declined and bottomed out at 1.7% in January of 2015. These

20   yields have increased in 2015, and now are about 2.15%.

21   Panel B on Exhibit JRW-2 shows the differences in yields between ten-year

22   Treasuries and Moody's Baa-rated bonds since the year 2000. This differential

23   primarily reflects the additional risk premium required by bond investors for the risk

1	associated with investing in corporate bonds as opposed to obligations of the U.S.
2	Treasury. The difference also reflects, to some degree, yield curve changes over
3	time. The Baa rating is the lowest of the investment grade bond ratings for corporate
4	bonds. The yield differential hovered in the 2.0% to 3.5% range until 2005, declined
5	to 1.5% until late 2007, and then increased significantly in response to the financial
6	crisis. This differential peaked at 6.0% at the height of the financial crisis in early
7	2009 due to tightening in credit markets, which increased corporate bond yields, and
8	the "flight to quality," which decreased Treasury yields. The differential subsequently
9	declined, and has been in the 2.5% to 3.5% range over the past four years.
10	The risk premium is the return premium required by investors to purchase
11	riskier securities. The risk premium required by investors to buy corporate bonds is
12	observable based on yield differentials in the markets. The market risk premium is
13	the return premium required to purchase stocks as opposed to bonds. The market or
14	equity risk premium is not readily observable in the markets (like bond risk
15	premiums) since expected stock market returns are not readily observable. As a
16	result, equity risk premiums must be estimated using market data. There are
17	alternative methodologies to estimate the equity risk premium, and these alternative
18	approaches and equity risk premium results are subject to much debate. One way to
19	estimate the equity risk premium is to compare the mean returns on bonds and stocks
20	over long historical periods. Measured in this manner, the equity risk premium has
21	been in the 5% to 7% range.[3] However, studies by leading academics indicate that
22	the forward-looking equity risk premium is actually in the 4.0% to 6.0% range.

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

1		These lower equity risk premium results are in line with the findings of equity risk
2		premium surveys of CFOs, academics, analysts, companies, and financial forecasters.
3		
4	Q.	**PLEASE DISCUSS INTEREST RATES ON LONG-TERM UTILITY BONDS.**
5	A.	Panel A of Exhibit JRW-3 provides the yields on A-rated public utility bonds. These
6		yields peaked in November 2008 at 7.75% and henceforth declined significantly.
7		These yields declined to below 4.0% in mid-2013, and then increased with interest
8		rates in general to the 4.85% range as of late 2013. They have since declined to about
9		4.0%.
10		Panel B of Exhibit JRW-3 provides the yield spreads between long-term A-
11		rated public utility bonds relative to the yields on 20-year U.S. Treasury bonds.
12		These yield spreads increased dramatically in the third quarter of 2008 during the
13		peak of the financial crisis and have decreased significantly since that time. For
14		example, the yield spreads between 20-year U.S. Treasury bonds and A-rated utility
15		bonds peaked at 3.4% in November 2008, declined to about 1.5% in the summer of
16		2012, and have remained in that range.
17		
18	Q.	**PLEASE PROVIDE MORE DETAILS ABOUT THE FEDERAL RESERVE'S**
19		**QEIII POLICY AND INTEREST RATES.**
20	A.	On September 13, 2012, the Federal Reserve released its policy statement relating to
21		QEIII. In its statement, the Federal Reserve announced that it intended to expand and
22		extend its purchasing of long-term securities to about $85 billion per month.[4] The

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[4] Board of Governors of the Federal Reserve System, *Statement Regarding Transactions in Agency Mortgage-*

1   Federal Open Market Committee ("FOMC") also indicated that it intended to keep

2   the target for the federal funds rate between 0 to 1/4 percent through at least mid-

3   2015. In subsequent meetings over the next year, the Federal Reserve reiterated the

4   continuation of its bond buying program and tied future monetary policy moves to

5   unemployment rates and the level of interest rates.[5]

6   During 2013, the speculation in the markets was that the Federal Reserve's

7   bond buying program would be tapered or scaled back. This speculation was fueled

8   by more positive economic data on jobs and the economy. The speculation led to an

9   increase in interest rates, with the ten-year Treasury yield increasing to about 3.0% as

10   of December 2013. Due to continuing positive economic data, the Federal Reserve

11   did decide to reduce its purchases of mortgage-backed securities and Treasuries by $5

12   billion per month beginning in January of 2014.[6]

13
14   Q.   **PLEASE DISCUSS THE FEDERAL RESERVE'S ACTIONS IN 2014 AND**

15   **2015.**

16   A.   The January 29, 2014, FOMC meeting was historic as Janet Yellen took over from

17   Ben Bernanke as Fed Chairman. In subsequent monthly meetings during 2014, the

18   FOMC noted that it saw improvement in the economy and the housing and labor

19   markets and it continued to taper its bond buying program. In its October 28-29

20   meeting, the FOMC put an end to its bond buying program primarily due to

21   improving economic conditions and, in particular, the better employment market.[7]

Backed Securities and Treasury Securities (Sept. 13, 2012).

[5] Board of Governors of the Federal Reserve System, *FOMC Statement* (Dec. 12, 2012).

[6] *Ibid.*

[7] Board of Governors of the Federal Reserve System, *FOMC Statement* (Nov. 19, 2014).

1   The announcement was expected, and speculation grew as to when the Federal

2   Reserve would change course in its "highly accommodative" monetary policy and

3   move to increase short-term interest rates. This speculation continued through the end

4   of 2014 and into 2015 as the economy continued to advance and the unemployment

5   rate has declined to 5.5%. With the improvement in the economy and the labor and

6   housing markets, the FOMC focused on the sluggish pace of inflation. In the press

7   releases following the monthly 2015 FOMC meetings, as well as in Federal Reserve

8   Chairman's Yellen subsequent Semi-annual Monetary Policy Report and Testimony

9   to Congress on February 24th and 25th, the markets focused on one key word in

10   regarding monetary policy– 'patient.' In its March 18 statement, the FOMC omitted

11   the word 'patient' with respect to the normalization of monetary policy, and

12   suggested that its target range for federal funds, and therefore short-term interest

13   rates, would only be increased once the outlook for the labor market and price

14   increases improved.[8] In its policy press release on April 29th, the FOMC provided

15   more insights into the eventual lifting of short-term interest rates:[9]

16   To support continued progress toward maximum employment and
17   price stability, the Committee today reaffirmed its view that the
18   current 0 to 1/4 percent target range for the federal funds rate
19   remains appropriate. In determining how long to maintain this target
20   range, the Committee will assess progress--both realized and
21   expected--toward its objectives of maximum employment and 2
22   percent inflation. This assessment will take into account a wide
23   range of information, including measures of labor market conditions,
24   indicators of inflation pressures and inflation expectations, and
25   readings on financial and international developments. The
26   Committee anticipates that it will be appropriate to raise the target
27   range for the federal funds rate when it has seen further improvement

[8] Board of Governors of the Federal Reserve System, *FOMC Statement* (March 18, 2015).
[9] Board of Governors of the Federal Reserve System, *FOMC Statement* (April 29, 2015).

1		in the labor market and is reasonably confident that inflation will
2		move back to its 2 percent objective over the medium term.
3		

4   **Q.**   **HOW HAS THE YIELD ON TEN-YEAR TREASURY BONDS REACTED TO**

5   **THE FEDERAL RESERVE'S MONETARY POLICY ACTIONS?**

6   **A.**   The yield on the ten-year Treasury note was 3.0% as of January 2, 2014. This yield

7   trended down during 2014, and bottomed out at 1.7% in January of 2015. This yield

8   subsequently increased to over 2.1% in February, fell back to around 2.0% after the

9   FOMC's March statement. In the past month, the ten-year Treasury yield has

10   increased to 2.15%.[10]

11

12 **Q.**   **MR. HEVERT PROVIDES AN ASSESSMENT OF THE CAPITAL MARKET**

13   **ENVIRONMENT AND SUGGESTS THAT CHANGES IN FEDERAL**

14   **RESERVE POLICY COULD LEAD TO HIGHER INTERST RATES AND**

15   **CAPITAL COSTS. PLEASE RESPOND.**

16 **A.**   Whereas Mr. Hevert appears to acknowledge that interest rates and capital costs are at

17   historically low levels, he suggests that upcoming changes in Federal Reserve's

18   monetary policy could lead to higher interest rates and capital costs. I have a

19   different view. I believe that bond and stock investors today take into account

20   expected changes in the economy and Federal Reserve monetary policy and therefore

21   these factors are incorporated into the drivers of capital costs – primarily interest

22   rates, risk premiums, dividends, stock prices and expectations of future growth.

23   Investors would not be buying bonds at their current yields or stocks at current prices

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

1   if they believed an increase in interest rates and capital costs is imminent. If such a

2   change is imminent, it would result in a decrease in bond prices (due to higher interest

3   rates) and stock prices (due to an increase in the dividend yield requirement). This

4   would produce negative returns, and investors would not be buying stocks and bonds

5   at their current levels with negative return expectations.

6

7 Q. **PLEASE HIGHLIGHT FORMER FEDERAL RESERVE CHAIRMAN MR.**

8   **BEN BERANKE'S TAKE ON THE LOW INTEREST RATES IN THE U.S.**

9 A. Ben Bernanke, former Federal Reserve Chairman, addressed the issue of the

10   continuing low interest rates recently on his weekly Brookings Blog. Bernanke

11   indicated that he focus should be on real and not nominal interest rates and noted that,

12   in the long term, these rates are not determined by the Federal Reserve:[11]

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

28

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[11] Ben 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

1   Bernanke also addressed the issue about whether low-interest rates are a short-

2   term aberration or a long-term trend:[12]

> 3   Low interest rates are not a short-term aberration, but part of a long-
> 4   term trend. As the figure below shows, ten-year government bond
> 5   yields in the United States were relatively low in the 1960s, rose to
> 6   a peak above 15 percent in 1981, and have been declining ever
> 7   since. That pattern is partly explained by the rise and fall of
> 8   inflation, also shown in the figure. All else equal, investors demand
> 9   higher yields when inflation is high to compensate them for the
> 10   declining purchasing power of the dollars with which they expect to
> 11   be repaid. But yields on inflation-protected bonds are also very low
> 12   today; the real or inflation-adjusted return on lending to the U.S.
> 13   government for five years is currently about minus 0.1 percent.

14
15
16

Figure 1
Interest Rates and Inflation
1960-Present

Source: Federal Reserve Board, BLS.

BROOKINGS

17
18
19

20 **Q.**   **WHAT ARE YOUR OBSERVATIONS REGARDING THE OUTLOOK FOR**

21   **INTEREST RATES AND CAPITAL COSTS?**

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

23   First, the economy has been growing for over four years, and, as noted above,

24   the Federal Reserve continues to see continuing strength in the economy. The labor

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[12] *Ibid.*

1	market has improved better than expected, with unemployment now down to 5.5%.
2	Second, interest rates remain at historically low levels and are likely to remain
3	low. There are two factors driving the continued lower interest rates: (1) as noted by
4	the FOMC, inflationary expectations in the U.S. remain very low and are below the
5	FOMC's target of 2.0%; and (2) global economic growth – including Europe and
6	Asia – remains stagnant. As a result, while the yields on ten-year U.S. Treasury
7	bonds are low by historic standards, these yields are well above the government bond
8	yields in Germany, Japan, and the United Kingdom. Thus, U.S. Treasuries offer an
9	attractive yield relative to those of other major governments around the world,
10	thereby attracting capital to the U.S. and keeping U.S. interest rates down.
11	Third, reflective of the economic conditions and earnings growth and low
12	interest rates, the stock market is near an all-time high. The S&P 500 provided a
13	return of 32% in 2013 and added another fourteen percent in 2014.
14	Finally, with the end of the Fed's QEIII program, there have been forecasts of
15	higher interest rates for some time. However, these forecasts have proven to be
16	wrong. In fact, all the economists in Bloomberg's interest rate survey forecasted
17	interest rates would increase in 2014, and 100% of economists were wrong.
18	According to the *Market Watch* article:[13]

> 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.

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

1   As a final note on this issue, these consensus forecasts of economists that

2   interest rates are going higher seem to be continually wrong. In fact, in 2014,

3   *Bloomberg* reported that the Federal Reserve Bank of New York has stopped using

4   the interest rate estimates of professional forecasters in the Bank's interest rate model

5   due to the unreliability of those forecasters' interest rate forecasts.[14]

6

7 Q. **PLEASE SUMMARIZE YOUR THOUGHTS ON THE STATE OF THE**

8   **MARKETS AND CAPITAL COSTS.**

9 A. Overall, the economy and capital markets have recovered and are looking to the

10   future, and, with low interest rates and high stock prices, capital costs continue to be

11   at historically low levels.

12

13   **III.   PROXY GROUP SELECTION**

14

15 Q. **PLEASE DESCRIBE YOUR APPROACH TO DEVELOPING A FAIR RATE**

16   **OF RETURN RECOMMENDATION FOR THE COMPANY.**

17 A. To develop a fair rate of return recommendation for the Company, I have evaluated

18   the return requirements of investors on the common stock of a proxy group of

19   publicly-held electric utility companies. I have also employed the group developed

20   by Mr. Hevert.

21

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[14] 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.

1 **Q.   PLEASE DESCRIBE YOUR PROXY GROUP OF COMPANIES.**

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

3   1.   At least 50% of revenues from regulated electric operations as reported by

4 *AUS Utilities Report*;

5   2.   Listed as an Electric Utility by *Value Line Investment Survey* and listed as an

6 Electric Utility or Combination Electric & Gas Utility in *AUS Utilities Report*;

7   3.   An investment-grade corporate credit and bond rating;

8   4.   Has paid a cash dividend for the past six months, with no cuts or omissions;

9   5.   Not involved in an acquisition of another utility, and not the target of an

10 acquisition, in the past six months; and

11   6.   Analysts' long-term EPS growth rate forecasts available from Yahoo, Reuters,

12 and/or Zack's.

13   The Electric Proxy Group includes twenty-nine companies. Summary

14 financial statistics for the proxy group are listed in Exhibit JRW-4.[15] The median

15 operating revenues and net plant among members of the Electric Proxy Group are

16 $3,491.6 million and $11,074.6 million, respectively. The group receives 82% of its

17 revenues from regulated electric operations, has a BBB+ credit rating from Standard

18 & Poor's, a current common equity ratio of 47.3%, and an earned return on common

19 equity of 9.6%.

20

21

---

[15] 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.

1   **Q.   PLEASE DESCRIBE THE HEVERT PROXY GROUP.**

2   A.   Mr. Hevert's group is smaller and includes only eleven electric utilities.[16] Although I

3   believe that my group provides a more comprehensive sample to estimate an equity

4   cost rate for the Company, I will also include the Hevert Proxy Group in my analysis.

5   Summary financial statistics for Mr. Hevert's proxy group is provided in

6   Panel B of page 1 of Exhibit JRW-4. The median operating revenues and net plant

7   for the Hevert Proxy Group are $2,601.7 million and $8,162.9 million, respectively.

8   The group receives 94% of its revenues from regulated electric operations, has a

9   BBB+/BBB bond rating from S&P, a current common equity ratio of 48.7%, and a

10   current earned return on common equity of 9.4%.

11

12   **Q.   HOW DOES THE INVESTMENT RISK OF THE COMPANY COMPARE TO**

13   **THAT OF YOUR ELECTRIC PROXY GROUP AND THE HEVERT PROXY**

14   **GROUP?**

15   A.   I believe that bond ratings provide a good assessment of the investment risk of a

16   company. Exhibit JRW-4 shows for S&P and Moody's issuer credit ratings for

17   KCPL and the companies in the two proxy groups. KCPL's issuer credit rating is

18   BBB+ according to S&P and Baa1 according to Moody's. These are very similar to

19   the averages for the two groups. Therefore, I believe that these two groups are

20   similar in risk and provide reasonable proxies to estimate the equity cost rate for

21   KCPL.

22

---

[16]His group initially included thirteen utilities, but NextEra is acquiring Hawaiian Electric and so they are excluded from the group. Also, Northeast Utilities has changed its name to Eversource Energy.

1		IV. CAPITAL STRUCTURE RATIOS AND DEBT COST RATES

1   **IV.   CAPITAL STRUCTURE RATIOS AND DEBT COST RATES**

2

3   **Q.**   **WHAT IS KCPL'S PROPOSED CAPITAL STRUCTURE AND SENIOR**

4   **CAPITAL COST RATES FOR RATEMAKING PURPOSES?**

5   A.   KCPL has proposed a capital structure that includes 48.97% long-term debt, 0.55%

6   preferred stock, and 50.48% common equity and long-term debt and preferred stock

7   cost rates of 5.55% and 4.29%.

8   **Q.**   **DO YOU PLAN TO USE THE COMPANY'S PROPOSED CAPITAL**

9   **STRUCTURE?**

10   A.   Yes.

11

12   **Q.**   **ARE YOU ALSO ADOPTING KCPL'S RECOMMENDED SENIOR CAPITAL**

13   **COST RATE?**

14   A.   Yes. I will use KCPL's recommended long-term debt and preferred stock cost rates

15   of 5.55% and 4.29%.

16

17   **V.   THE COST OF COMMON EQUITY CAPITAL**

18

19   **A.   Overview**

20   **Q.**   **WHY MUST AN OVERALL COST OF CAPITAL OR FAIR RATE OF**

21   **RETURN BE ESTABLISHED FOR A PUBLIC UTILITY?**

1   A.   In a competitive industry, the return on a firm's common equity capital is determined

2   through the competitive market for its goods and services. Due to the capital

3   requirements needed to provide utility services and the economic benefit to society

4   from avoiding duplication of these services, some public utilities are monopolies.

5   Because of the lack of competition and the essential nature of their services, it is not

6   appropriate to permit monopoly utilities to set their own prices. Thus, regulation

7   seeks to establish prices that are fair to consumers and, at the same time, sufficient to

8   meet the operating and capital costs of the utility (i.e., provide an adequate return on

9   capital to attract investors).

10

11   Q.   **PLEASE PROVIDE AN OVERVIEW OF THE COST OF CAPITAL IN THE**

12   **CONTEXT OF THE THEORY OF THE FIRM.**

13   A.   The total cost of operating a business includes the cost of capital. The cost of

14   common equity capital is the expected return on a firm's common stock that the

15   marginal investor would deem sufficient to compensate for risk and the time value of

16   money. In equilibrium, the expected and required rates of return on a company's

17   common stock are equal.

18   Normative economic models of a company or firm, developed under very

19   restrictive assumptions, provide insight into the relationship between firm

20   performance or profitability, capital costs, and the value of the firm. Under the

21   economist's ideal model of perfect competition, where entry and exit are costless,

22   products are undifferentiated, and there are increasing marginal costs of production,

23   firms produce up to the point where price equals marginal cost. Over time, a long-run

1	equilibrium is established where price equals average cost, including the firm's
2	capital costs. In equilibrium, total revenues equal total costs, and because capital
3	costs represent investors' required return on the firm's capital, actual returns equal
4	required returns, and the market value must equal the book value of the firm's
5	securities.
6	In the real world, firms can achieve competitive advantage due to product
7	market imperfections. Most notably, companies can gain competitive advantage
8	through product differentiation (adding real or perceived value to products) and by
9	achieving economies of scale (decreasing marginal costs of production). Competitive
10	advantage allows firms to price products above average cost and thereby earn
11	accounting profits greater than those required to cover capital costs. When these
12	profits are in excess of that required by investors, or when a firm earns a return on
13	equity in excess of its cost of equity, investors respond by valuing the firm's equity in
14	excess of its book value.
15	James M. McTaggart, founder of the international management consulting
16	firm Marakon Associates, described this essential relationship between the return on
17	equity, the cost of equity, and the market-to-book ratio in the following manner:[17]
18	Fundamentally, the value of a company is determined by the
19	cash flow it generates over time for its owners, and the minimum
20	acceptable rate of return required by capital investors. This "cost of
21	equity capital" is used to discount the expected equity cash flow,
22	converting it to a present value. The cash flow is, in turn, produced
23	by the interaction of a company's return on equity and the annual
24	rate of equity growth. High return on equity (ROE) companies in
25	low-growth markets, such as Kellogg, are prodigious generators of
26	cash flow, while low ROE companies in high-growth markets, such

---

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

| 1 | | as Texas Instruments, barely generate enough cash flow to finance |
| 2 | | growth. |

3   A company's ROE over time, relative to its cost of equity,
4   also determines whether it is worth more or less than its book value.
5   If its ROE is consistently greater than the cost of equity capital (the
6   investor's minimum acceptable return), the business is
7   economically profitable and its market value will exceed book
8   value. If, however, the business earns an ROE consistently less
9   than its cost of equity, it is economically unprofitable and its market
10   value will be less than book value.

11   As such, the relationship between a firm's return on equity, cost of equity, and

12   market-to-book ratio is relatively straightforward. A firm that earns a return on

13   equity above its cost of equity will see its common stock sell at a price above its book

14   value. Conversely, a firm that earns a return on equity below its cost of equity will

15   see its common stock sell at a price below its book value.

16

17   **Q.**   **PLEASE PROVIDE ADDITIONAL INSIGHTS INTO THE RELATIONSHIP**

18   **BETWEEN RETURN ON EQUITY (ROE) AND MARKET-TO-BOOK**

19   **RATIOS.**

20   **A.**   This relationship is discussed in a classic Harvard Business School case study entitled

21   "Note on Value Drivers." On page 2 of that case study, the author describes the

22   relationship very succinctly:[18]

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

28

---

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

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

5   To assess the relationship by industry, as suggested above, I performed a

6   regression study between estimated ROE and market-to-book ratios using natural gas

7   distribution, electric utility, and water utility companies. I used all companies in

8   these three industries that are covered by *Value Line* and have estimated ROE and

9   market-to-book ratio data. The results are presented in Panels A-C of Exhibit JRW-6.

10   The average R-squares for the electric, gas, and water companies are 0.78, 0.63, and

11   0.49, respectively.[19] This demonstrates the strong positive relationship between

12   ROEs and market-to-book ratios for public utilities.

13

14   **Q.**   **WHAT ECONOMIC FACTORS HAVE AFFECTED THE COST OF EQUITY**

15   **CAPITAL FOR PUBLIC UTILITIES?**

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

17   decade.

18   Page 1 shows the yields on long-term A-rated rated public utility bonds.

19   These yields decreased from 2000 until 2003, and then hovered in the 5.50%-6.50%

20   range from mid-2003 until mid-2008. These yields spiked up to the 7.75% range with

21   the onset of the financial crisis, and remained high and volatile until early 2009.

---

[19] 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.

1   These yields declined to about 4.0% in the last half of 2012, increased to almost 5.0%

2   in late 2013, and have declined to below 4.0% in 2015.

3   Page 2 provides the dividend yields for the electric utilities over the past

4   decade. The dividend yields for this group have declined from the year 2000 to 2007,

5   increased to 5.2% in 2009, and have since declined to 3.80% in 2014.

6   Average earned returns on common equity and market-to-book ratios for the

7   Electric Proxy Group are on page 3 of Exhibit JRW-7. For the group, earned returns

8   on common equity have declined gradually since the year 2000 and have been in the

9   9.50% range in recent years. The average market-to-book ratios for this group

10   peaked at 1.68X in 2007, declined to 1.07X in 2009, and have increased since that

11   time. As of 2014, the average market-to-book for the group was 1.50X.

12

13 Q. **WHAT FACTORS DETERMINE INVESTORS' EXPECTED OR REQUIRED**

14   **RATE OF RETURN ON EQUITY?**

15 A. The expected or required rate of return on common stock is a function of market-wide

16   as well as company-specific factors. The most important market factor is the time

17   value of money as indicated by the level of interest rates in the economy. Common

18   stock investor requirements generally increase and decrease with like changes in

19   interest rates. The perceived risk of a firm is the predominant factor that influences

20   investor return requirements on a company-specific basis. A firm's investment risk is

21   often separated into business and financial risk. Business risk encompasses all factors

22   that affect a firm's operating revenues and expenses. Financial risk results from

23   incurring fixed obligations in the form of debt in financing its assets.

| 1 | Q. | HOW DOES THE INVESTMENT RISK OF UTILITIES COMPARE WITH |

1   Q.   **HOW DOES THE INVESTMENT RISK OF UTILITIES COMPARE WITH**

2   **THAT OF OTHER INDUSTRIES?**

3   A.   Due to the essential nature of their service as well as their regulated status, public

4   utilities are exposed to a lesser degree of business risk than other, non-regulated

5   businesses. The relatively low level of business risk allows public utilities to meet

6   much of their capital requirements through borrowing in the financial markets,

7   thereby incurring greater than average financial risk. Nonetheless, the overall

8   investment risk of public utilities is below most other industries.

9   Exhibit JRW-8 provides an assessment of investment risk for 97 industries as

10   measured by beta, which according to modern capital market theory, is the only

11   relevant measure of investment risk. These betas come from the *Value Line*

12   *Investment Survey*. The study shows that the investment risk of utilities is very low.

13   The average betas for electric, water, and gas utility companies are 0.74, 0.74, and

14   0.80, respectively. As such, the cost of equity for utilities is among the lowest of all

15   industries in the U.S.

16

17 Q.   **HOW CAN THE EXPECTED OR REQUIRED RATE OF RETURN ON**

18   **COMMON EQUITY CAPITAL BE DETERMINED?**

19 A.   The costs of debt and preferred stock are normally based on historical or book values

20   and can be determined with a great degree of accuracy. The cost of common equity

21   capital, however, cannot be determined precisely and must instead be estimated from

22   market data and informed judgment. This return to the stockholder should be

1   commensurate with returns on investments in other enterprises having comparable

2   risks.

3   According to valuation principles, the present value of an asset equals the

4   discounted value of its expected future cash flows. Investors discount these expected

5   cash flows at their required rate of return that, as noted above, reflects the time value

6   of money and the perceived riskiness of the expected future cash flows. As such, the

7   cost of common equity is the rate at which investors discount expected cash flows

8   associated with common stock ownership.

9   Models have been developed to ascertain the cost of common equity capital

10   for a firm. Each model, however, has been developed using restrictive economic

11   assumptions. Consequently, judgment is required in selecting appropriate financial

12   valuation models to estimate a firm's cost of common equity capital, in determining

13   the data inputs for these models, and in interpreting the models' results. All of these

14   decisions must take into consideration the firm involved as well as current conditions

15   in the economy and the financial markets.

16

17 Q. HOW DO YOU PLAN TO ESTIMATE THE COST OF EQUITY CAPITAL

18   FOR THE COMPANY?

19 A. I rely primarily on the discounted cash flow ("DCF") model to estimate the cost of

20   equity capital. Given the investment valuation process and the relative stability of the

21   utility business, I believe that the DCF model provides the best measure of equity cost

22   rates for public utilities. It is my experience that this Commission has traditionally

23   relied on the DCF model. I have also performed a capital asset pricing model

1   ("CAPM") study; however, I give these results less weight because I believe that risk

2   premium studies, of which the CAPM is one form, provide a less reliable indication

3   of equity cost rates for public utilities.

4

5   **B.   DCF Analysis**

6
7   **Q.   PLEASE DESCRIBE THE THEORY BEHIND THE TRADITIONAL DCF**

8   **MODEL.**

9   A.   According to the DCF model, the current stock price is equal to the discounted value

10   of all future dividends that investors expect to receive from investment in the firm.

11   As such, stockholders' returns ultimately result from current as well as future

12   dividends. As owners of a corporation, common stockholders are entitled to a *pro*

13   *rata* share of the firm's earnings. The DCF model presumes that earnings that are not

14   paid out in the form of dividends are reinvested in the firm so as to provide for future

15   growth in earnings and dividends. The rate at which investors discount future

16   dividends, which reflects the timing and riskiness of the expected cash flows, is

17   interpreted as the market's expected or required return on the common stock.

18   Therefore, this discount rate represents the cost of common equity. Algebraically, the

19   DCF model can be expressed as:

20
21
22
$$P = \frac{D_1}{(1+k)^1} + \frac{D_2}{(1+k)^2} + \dots \frac{D_n}{(1+k)^n}$$
23
24   where P is the current stock price, D_n is the dividend in year n, and k is the cost of

25   common equity.

1   Q.   **IS THE DCF MODEL CONSISTENT WITH VALUATION TECHNIQUES**

2   **EMPLOYED BY INVESTMENT FIRMS?**

3   A.   Yes. Virtually all investment firms use some form of the DCF model as a valuation

4   technique. One common application for investment firms is called the three-stage

5   DCF or dividend discount model ("DDM"). The stages in a three-stage DCF model

6   are presented in Exhibit JRW-9, Page 1 of 2. This model presumes that a company's

7   dividend payout progresses initially through a growth stage, then proceeds through a

8   transition stage, and finally assumes a maturity (or steady-state) stage. The dividend-

9   payment stage of a firm depends on the profitability of its internal investments which,

10   in turn, is largely a function of the life cycle of the product or service.

11   1.   Growth stage: Characterized by rapidly expanding sales, high profit

12   margins, and an abnormally high growth in earnings per share. Because of

13   highly profitable expected investment opportunities, the payout ratio is low.

14   Competitors are attracted by the unusually high earnings, leading to a decline

15   in the growth rate.

16   2.   Transition stage: In later years, increased competition reduces profit

17   margins and earnings growth slows. With fewer new investment

18   opportunities, the company begins to pay out a larger percentage of earnings.

19   3.   Maturity (steady-state) stage: Eventually, the company reaches a

20   position where its new investment opportunities offer, on average, only

21   slightly attractive ROEs. At that time, its earnings growth rate, payout ratio,

22   and ROE stabilize for the remainder of its life. The constant-growth DCF

23   model is appropriate when a firm is in the maturity stage of the life cycle.

1

2   In using this model to estimate a firm's cost of equity capital, dividends are

3   projected into the future using the different growth rates in the alternative stages, and

4   then the equity cost rate is the discount rate that equates the present value of the

5   future dividends to the current stock price.

6

7 Q. **HOW DO YOU ESTIMATE STOCKHOLDERS' EXPECTED OR REQUIRED**

8   **RATE OF RETURN USING THE DCF MODEL?**

9 A. Under certain assumptions, including a constant and infinite expected growth rate,

10   and constant dividend/earnings and price/earnings ratios, the DCF model can be

11   simplified to the following:

12
13                    $$P \quad = \quad \frac{D_1}{k - g}$$
14
15
16   where D_1 represents the expected dividend over the coming year and g is the expected

17   growth rate of dividends. This is known as the constant-growth version of the DCF

18   model. To use the constant-growth DCF model to estimate a firm's cost of equity,

19   one solves for k in the above expression to obtain the following:

20
21                    $$k \quad = \quad \frac{D_1}{P} \quad + \quad g$$
22
23

24 Q. **IN YOUR OPINION, IS THE CONSTANT-GROWTH DCF MODEL**

25   **APPROPRIATE FOR PUBLIC UTILITIES?**

26 A. Yes. The economics of the public utility business indicate that the industry is in the

27   steady-state or constant-growth stage of a three-stage DCF. The economics include

1		the relative stability of the utility business, the maturity of the demand for public
2		utility services, and the regulated status of public utilities (especially the fact that their
3		returns on investment are effectively set through the ratemaking process). The DCF
4		valuation procedure for companies in this stage is the constant-growth DCF. In the
5		constant-growth version of the DCF model, the current dividend payment and stock
6		price are directly observable. However, the primary problem and controversy in
7		applying the DCF model to estimate equity cost rates entails estimating investors'
8		expected dividend growth rate.
9		
10	Q.	WHAT FACTORS SHOULD ONE CONSIDER WHEN APPLYING THE DCF
11		METHODOLOGY?
12	A.	One should be sensitive to several factors when using the DCF model to estimate a
13		firm's cost of equity capital. In general, one must recognize the assumptions under
14		which the DCF model was developed in estimating its components (the dividend
15		yield and the expected growth rate). The dividend yield can be measured precisely at
16		any point in time; however, it tends to vary somewhat over time. Estimation of
17		expected growth is considerably more difficult. One must consider recent firm
18		performance, in conjunction with current economic developments and other
19		information available to investors, to accurately estimate investors' expectations.
20		
21	Q.	WHAT DIVIDEND YIELDS HAVE YOU REVIEWED?
22	A.	I have calculated the dividend yields for the companies in the proxy group using the
23		current annual dividend and the 30-day, 90-day, and 180-day average stock prices.

1		These dividend yields are provided on in Panel A of page 2 of Exhibit JRW-10. For
2		the Electric Proxy Group, the median dividend yields using the 30-day, 90-day, and
3		180-day average stock prices range from 3.5% to 3.7%. Given this range, I use
4		3.60% as the dividend yield for the Electric Proxy Group. For the Hevert Proxy
5		Group, provided in Panel B of page 2 of Exhibit JRW-10, the mean and median
6		dividend yields range from 3.5% to 3.8% using the 30-day, 90-day, and 180-day
7		average stock prices. Given this range, I am using a dividend yield of 3.7% for the
8		Hevert Proxy Group.
9	Q.	**PLEASE DISCUSS THE APPROPRIATE ADJUSTMENT TO THE SPOT**
10		**DIVIDEND YIELD.**
11	A.	According to the traditional DCF model, the dividend yield term relates to the
12		dividend yield over the coming period. As indicated by Professor Myron Gordon,
13		who is commonly associated with the development of the DCF model for popular use,
14		this is obtained by: (1) multiplying the expected dividend over the coming quarter by
15		4, and (2) dividing this dividend by the current stock price to determine the
16		appropriate dividend yield for a firm that pays dividends on a quarterly basis.[20]
17		In applying the DCF model, some analysts adjust the current dividend for
18		growth over the coming year as opposed to the coming quarter. This can be
19		complicated, because firms tend to announce changes in dividends at different times
20		during the year. As such, the dividend yield computed based on presumed growth
21		over the coming quarter as opposed to the coming year can be quite different.

---

[20] *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).

1 Consequently, it is common for analysts to adjust the dividend yield by some fraction

2 of the long-term expected growth rate.

3

4 Q. **GIVEN THIS DISCUSSION, WHAT ADJUSTMENT FACTOR DO YOU USE**

5 **FOR YOUR DIVIDEND YIELD?**

6 A. I adjust the dividend yield by one-half (1/2) of the expected growth so as to reflect

7 growth over the coming year. This is the approach employed by the Federal Energy

8 Regulatory Commission ("FERC").[21] The DCF equity cost rate ("K") is computed

9 as:

10
11 $$K = [(D/P) * (1 + 0.5g)] + g$$
12

13 Q. **PLEASE DISCUSS THE GROWTH RATE COMPONENT OF THE DCF**

14 **MODEL.**

15 A. There is much debate as to the proper methodology to employ in estimating the

16 growth component of the DCF model. By definition, this component is investors'

17 expectation of the long-term dividend growth rate. Presumably, investors use some

18 combination of historical and/or projected growth rates for earnings and dividends per

19 share and for internal or book value growth to assess long-term potential.

20

21

22

---

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

1   Q.   **WHAT GROWTH DATA HAVE YOU REVIEWED FOR THE PROXY**

2   **GROUPS?**

3   A.   I have analyzed a number of measures of growth for companies in the proxy groups.

4   I reviewed *Value Line's* historical and projected growth rate estimates for earnings

5   per share ("EPS"), dividends per share ("DPS"), and book value per share ("BVPS").

6   In addition, I utilized the average EPS growth rate forecasts of Wall Street analysts as

7   provided by Yahoo, Reuters and Zacks.   These services solicit five-year earnings

8   growth rate projections from securities analysts and compile and publish the means

9   and medians of these forecasts.   Finally, I also assessed prospective growth as

10   measured by prospective earnings retention rates and earned returns on common

11   equity.

12

13   Q.   **PLEASE   DISCUSS   HISTORICAL   GROWTH   IN   EARNINGS   AND**

14   **DIVIDENDS AS WELL AS INTERNAL GROWTH.**

15   A.   Historical growth rates for EPS, DPS, and BVPS are readily available to investors

16   and are presumably an important ingredient in forming expectations concerning

17   future growth.   However, one must use historical growth numbers as measures of

18   investors' expectations with caution.   In some cases, past growth may not reflect

19   future growth potential.   Also, employing a single growth rate number (for example,

20   for five or ten years) is unlikely to accurately measure investors' expectations, due to

21   the sensitivity of a single growth rate figure to fluctuations in individual firm

22   performance as well as overall economic fluctuations (i.e., business cycles).

23   However, one must appraise the context in which the growth rate is being employed.

1   According to the conventional DCF model, the expected return on a security is equal

2   to the sum of the dividend yield and the expected long-term growth in dividends.

3   Therefore, to best estimate the cost of common equity capital using the conventional

4   DCF model, one must look to long-term growth rate expectations.

5   Internally generated growth is a function of the percentage of earnings

6   retained within the firm (the earnings retention rate) and the rate of return earned on

7   those earnings (the return on equity). The internal growth rate is computed as the

8   retention rate times the return on equity. Internal growth is significant in determining

9   long-run earnings and, therefore, dividends. Investors recognize the importance of

10 internally generated growth and pay premiums for stocks of companies that retain

11 earnings and earn high returns on internal investments.

12

13 **Q.   PLEASE DISCUSS THE SERVICES THAT PROVIDE ANALYSTS' EPS**

14 **FORECASTS.**

15 A.   Analysts' EPS forecasts for companies are collected and published by a number of

16 different investment information services, including Institutional Brokers Estimate

17 System ("I/B/E/S"), Bloomberg, FactSet, Zacks, First Call and Reuters, among others.

18 Thompson Reuters publishes analysts' EPS forecasts under different product names,

19 including I/B/E/S, First Call, and Reuters. Bloomberg, FactSet, and Zacks publish their

20 own set of analysts' EPS forecasts for companies. These services do not reveal: (1) the

21 analysts who are solicited for forecasts; or (2) the identity of the analysts who actually

22 provide the EPS forecasts that are used in the compilations published by the services.

23 I/B/E/S, Bloomberg, FactSet, and First Call are fee-based services. These services

1	usually provide detailed reports and other data in addition to analysts' EPS forecasts.
2	Thompson Reuters and Zacks do provide limited EPS forecasts data free-of-charge on
3	the internet. Yahoo finance (http://finance.yahoo.com) lists Thompson Reuters as the
4	source of its summary EPS forecasts. The Reuters website (www.reuters.com) also
5	publishes EPS forecasts from Thompson Reuters, but with more detail. Zacks
6	(www.zacks.com) publishes its summary forecasts on its website. Zack's estimates are
7	also available on other websites, such as msn.money (http://money.msn.com).
8	
9	Q. **PLEASE PROVIDE AN EXAMPLE OF THESE EPS FORECASTS.**
10	A. The following example provides the EPS forecasts compiled by Reuters for Alliant
11	Energy Corp. (stock symbol "LNT"). The figures are provided on page 2 of Exhibit
12	JRW-9. The top line shows that one analyst has provided EPS estimates for the
13	quarter ending June 30, 2015. The mean, high and low estimates are $0.57, $0.60,
14	and $0.52, respectively. The second line shows the quarterly EPS estimates for the
15	quarter ending September 30, 2015 of $1.66 (mean), $1.84 (high), and $1.40 (low).
16	Lines three and four show the annual EPS estimates for the fiscal year ending
17	December 2015 ($3.62 (mean), $3.68 (high), and $3.56 (low)) and for the fiscal year
18	ending December 2016 ($3.82 (mean), $3.90 (high), and $3.74 (low)). The quarterly
19	and annual EPS forecasts in lines 1-4 are expressed in dollars and cents. As in the
20	LNT case shown here, it is common for more analysts to provide estimates of annual
21	EPS as opposed to quarterly EPS. The bottom line shows the projected long-term
22	EPS growth rate, which is expressed as a percentage. For LNT, two analysts have

1   provided a long-term EPS growth rate forecast, with mean, high, and low growth

2   rates of 5.40%, 6.00%, and 4.80%.

3

4 Q. **WHICH OF THESE EPS FORECASTS IS USED IN DEVELOPING A DCF**

5   **GROWTH RATE?**

6 A. The DCF growth rate is the long-term projected growth rate in EPS, DPS, and BVPS.

7   Therefore, in developing an equity cost rate using the DCF model, the projected long-

8   term growth rate is the projection used in the DCF model.

9

10 Q. **WHY DO YOU NOT RELY EXCLUSIVELY ON THE EPS FORECASTS OF**

11   **WALL STREET ANALYSTS IN ARRIVING AT A DCF GROWTH RATE FOR**

12   **THE PROXY GROUP?**

13 A. There are several issues with using the EPS growth rate forecasts of Wall Street

14   analysts as DCF growth rates. First, the appropriate growth rate in the DCF model is

15   the dividend growth rate, not the earnings growth rate. Nonetheless, over the very

16   long term, dividend and earnings will have to grow at a similar growth rate.

17   Therefore, consideration must be given to other indicators of growth, including

18   prospective dividend growth, internal growth, as well as projected earnings growth.

19   Second, a recent study by Lacina, Lee, and Xu (2011) has shown that analysts' long-

20   term earnings growth rate forecasts are not more accurate at forecasting future

21   earnings than naïve random walk forecasts of future earnings.[22] Employing data over

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[22] 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.

1   a twenty-year period, these authors demonstrate that using the most recent year's EPS

2   figure to forecast EPS in the next 3-5 years proved to be just as accurate as using the

3   EPS estimates from analysts' long-term earnings growth rate forecasts. In the

4   authors' opinion, these results indicate that analysts' long-term earnings growth rate

5   forecasts should be used with caution as inputs for valuation and cost of capital

6   purposes. Finally, and most significantly, it is well known that the long-term EPS

7   growth rate forecasts of Wall Street securities analysts are overly optimistic and

8   upwardly biased. This has been demonstrated in a number of academic studies over

9   the years. This issue is discussed at length in Appendix B of this testimony. Hence,

10   using these growth rates as a DCF growth rate will provide an overstated equity cost

11   rate. On this issue, a study by Easton and Sommers (2007) found that optimism in

12   analysts' growth rate forecasts leads to an upward bias in estimates of the cost of

13   equity capital of almost 3.0 percentage points.[23]

14

15   Q.   **IS IT YOUR OPINION THAT STOCK PRICES REFLECT THE UPWARD**

16   **BIAS IN THE EPS GROWTH RATE FORECASTS?**

17   A.   Yes, I do believe that investors are well aware of the bias in analysts' EPS growth

18   rate forecasts, and therefore stock prices reflect the upward bias.

19

20   Q.   **HOW DOES THAT AFFECT THE USE OF THESE FORECASTS IN A DCF**

21   **EQUITY COST RATE STUDY?**

22   A.   According to the DCF model, the equity cost rate is a function of the dividend yield and

---

[23] 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).

1		expected growth rate. Because stock prices reflect the bias, it would affect the dividend
2		yield. In addition, the DCF growth rate needs to be adjusted downward from the
3		projected EPS growth rate to reflect the upward bias.
4		
5	Q.	**PLEASE DISCUSS THE HISTORICAL GROWTH OF THE COMPANIES IN**
6		**THE PROXY GROUPS, AS PROVIDED BY** *VALUE LINE.*
7	A.	Page 3 of Exhibit JRW-10 provides the 5- and 10-year historical growth rates for
8		EPS, DPS, and BVPS for the companies in the two proxy groups, as published in the
9		*Value Line Investment Survey.* The median historical growth measures for EPS, DPS,
10		and BVPS for the Electric Proxy Group, as provided in Panel A, range from 2.5% to
11		4.8%, with an average of 3.6%. For the Hevert Proxy Group, as shown in Panel B of
12		page 3 of Exhibit JRW-10, the historical growth measures in EPS, DPS, and BVPS,
13		as measured by the medians, range from 1.0% to 4.5%, with an average of 2.9%.
14		
15	Q.	**PLEASE SUMMARIZE** *VALUE LINE'S* **PROJECTED GROWTH RATES**
16		**FOR THE COMPANIES IN THE PROXY GROUPS.**
17	A.	*Value Line's* projections of EPS, DPS, and BVPS growth for the companies in the
18		proxy groups are shown on page 4 of Exhibit JRW-10. As stated above, due to the
19		presence of outliers, the medians are used in the analysis. For the Electric Proxy
20		Group, as shown in Panel A of page 4 of Exhibit JRW-10, the medians range from
21		4.0% to 5.5%, with an average of 4.7%. For the Hevert Proxy Group, as shown in
22		Panel B of page 4 of Exhibit JRW-10, the medians range from 3.5% to 5.0%, with an
23		average of 4.2%.

1   Also provided on page 4 of Exhibit JRW-10 are the prospective sustainable

2   growth rates for the companies in the two proxy groups as measured by *Value Line*'s

3   average projected retention rate and return on shareholders' equity. As noted above,

4   sustainable growth is a significant and a primary driver of long-run earnings growth.

5   For the Electric Proxy Group and the Hevert Proxy Group, the median prospective

6   sustainable growth rates are 4.0% and 4.1%, respectively.

7

8   Q.   **PLEASE ASSESS GROWTH FOR THE PROXY GROUPS AS MEASURED**

9   **BY ANALYSTS' FORECASTS OF EXPECTED 5-YEAR EPS GROWTH.**

10   A.   Yahoo, Zacks, and Reuters collect, summarize, and publish Wall Street analysts'

11   long-term EPS growth rate forecasts for the companies in the proxy groups. These

12   forecasts are provided for the companies in the proxy groups on page 5 of Exhibit

13   JRW-10. I have reported both the mean and median growth rates for the two groups.

14   Since there is considerable overlap in analyst coverage between the three services, and

15   not all of the companies have forecasts from the different services, I have averaged the

16   expected five-year EPS growth rates from the three services for each company to arrive

17   at an expected EPS growth rate for each company. The mean/median of analysts'

18   projected EPS growth rates for the Electric and Hevert Proxy Groups are 4.7%/4.6%

19   and 4.9%/4.2%, respectively.[24]

20

21

22

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[24] 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.

1   Q.   **PLEASE SUMMARIZE YOUR ANALYSIS OF THE HISTORICAL AND**

2   **PROSPECTIVE GROWTH OF THE PROXY GROUPS.**

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

4   proxy groups.

5   The historical growth rate indicators for my Electric Proxy Group imply a

6   baseline growth rate of 3.6%. The average of the projected EPS, DPS, and BVPS

7   growth rates from *Value Line* is 4.7%, and *Value Line*'s projected sustainable growth

8   rate is 4.7%. The high end of the range for the Electric Proxy Group are the projected

9   EPS growth rates of Wall Street analysts, which are 4.7% and 4.6% as measured by

10   the mean and median growth rates. The overall range for the projected growth rate

11   indicators is 3.6% to 4.7%. Giving primary weight to the projected EPS growth rate

12   of Wall Street analysis, I will use 4.70% as the DCF growth rate for the Electric

13   Proxy Group. This growth rate figure is clearly in the upper end of the range of

14   historic and projected growth rates for the Electric Proxy Group.

15   The historical growth rate indicators for the Hevert Proxy Group indicate a

16   growth rate of 2.9%. *Value Line*'s average projected EPS, DPS, and BVPS growth

17   rate for the group is 4.2%, and *Value Line*'s projected sustainable growth rate is 3.9%.

18   The mean/median projected EPS growth rates of Wall Street analysts for the group

19   are 4.9% and 4.2%. The range for the projected growth rate indicators is 2.9% to

20   4.9%. Giving primary weight to the projected EPS growth rate of Wall Street

21   analysis, I believe that a growth rate of 4.75% is appropriate for the Hevert Proxy

22   Group. As is the case for the Electric Proxy Group, this growth rate figure is clearly

1   in the upper end of the range of historic and projected growth rates for the Hevert

2   Proxy Group.

3 Q. **BASED ON THE ABOVE ANALYSIS, WHAT ARE YOUR INDICATED**

4   **COMMON EQUITY COST RATES FROM THE DCF MODEL FOR THE**

5   **GROUP?**

6 A. My DCF-derived equity cost rates for the groups are summarized on page 1 of

7   Exhibit JRW-10 and in the table below.

	Dividend Yield	1 + ½ Growth Adjustment	DCF Growth Rate	Equity Cost Rate
Electric Proxy Group	**3.60%**	**1.02350**	**4.70%**	**8.40%**
Hevert Proxy Group	**3.70%**	**1.02375**	**4.75%**	**8.55%**

8

9   The result for my Electric Proxy Group is the 3.60% dividend yield, times the

10   one and one-half growth adjustment of 1.02350, plus the DCF growth rate of 4.70%,

11   which results in an equity cost rate of 8.40%. The result for the Hevert Proxy Group

12   includes a dividend yield of 3.70%, times the one and one-half growth adjustment of

13   1.02375, plus the DCF growth rate of 4.75%, which results in an equity cost rate of

14   8.55%.

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1   C.   **Capital Asset Pricing Model**

2

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

4   A.   The CAPM is a risk premium approach to gauging a firm's cost of equity capital.

5   According to the risk premium approach, the cost of equity is the sum of the interest

6   rate on a risk-free bond (R_f) and a risk premium (RP), as in the following:

7

$$k \quad = \quad R_f \quad + \quad RP$$

8

9   The yield on long-term U.S. Treasury securities is normally used as R_f. Risk

10   premiums are measured in different ways. The CAPM is a theory of the risk and

11   expected returns of common stocks. In the CAPM, two types of risk are associated

12   with a stock: firm-specific risk or unsystematic risk, and market or systematic risk,

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

14   bearing is systematic risk.

15   According to the CAPM, the expected return on a company's stock, which is

16   also the equity cost rate (K), is equal to:

17

$$K = (R_f) + \beta * [E(R_m) - (R_f)]$$

18

19   Where:
20   • K represents the estimated rate of return on the stock;
21   • $E(R_m)$ represents the expected return on the overall stock market. Frequently,
22   the 'market' refers to the S&P 500;
23   • (R_f) represents the risk-free rate of interest;
24   • $[E(R_m) - (R_f)]$ represents the expected equity or market risk premium—the
25   excess return that an investor expects to receive above the risk-free rate for
26   investing in risky stocks; and
27   •   *Beta*—(β) is a measure of the systematic risk of an asset.
28

1   To estimate the required return or cost of equity using the CAPM requires

2   three inputs: the risk-free rate of interest (R_f), the beta $(ß)$, and the expected equity or

3   market risk premium $[E(R_m) - (R_f)]$. R_f is the easiest of the inputs to measure – it is

4   represented by the yield on long-term U.S. Treasury bonds. $ß$, the measure of

5   systematic risk, is a little more difficult to measure because there are different

6   opinions about what adjustments, if any, should be made to historical betas due to

7   their tendency to regress to 1.0 over time. And finally, an even more difficult input to

8   measure is the expected equity or market risk premium $(E(R_m) - (R_f))$. I will discuss

9   each of these inputs below.

10

11   **Q.**   **PLEASE DISCUSS EXHIBIT JRW-11.**

12   A.   Exhibit JRW-11 provides the summary results for my CAPM study. Page 1 shows

13   the results, and the following pages contain the supporting data.

14

15   **Q.**   **PLEASE DISCUSS THE RISK-FREE INTEREST RATE.**

16   A.   The yield on long-term U.S. Treasury bonds has usually been viewed as the risk-free

17   rate of interest in the CAPM. The yield on long-term U.S. Treasury bonds, in turn,

18   has been considered to be the yield on U.S. Treasury bonds with 30-year maturities.

19

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

21   A.   As shown on page 2 of Exhibit JRW-11, the yield on 30-year U.S. Treasury bonds has

22   been in the 2.5% to 4.0% range over the 2013–2015 time period. These rates are

1	currently in low end of this range. Given the recent range of yields and the possibility
2	of higher interest rates, I use 4.0% as the risk-free rate, or R_f, in my CAPM.
3	
4	**Q.** **WHAT BETAS ARE YOU EMPLOYING IN YOUR CAPM?**
5	**A.** Beta (ß) is a measure of the systematic risk of a stock. The market, usually taken to
6	be the S&P 500, has a beta of 1.0. The beta of a stock with the same price movement
7	as the market also has a beta of 1.0. A stock whose price movement is greater than
8	that of the market, such as a technology stock, is riskier than the market and has a
9	beta greater than 1.0. A stock with below average price movement, such as that of a
10	regulated public utility, is less risky than the market and has a beta less than 1.0.
11	Estimating a stock's beta involves running a linear regression of a stock's return on
12	the market return.
13	As shown on page 3 of Exhibit JRW-11, the slope of the regression line is the
14	stock's ß. A steeper line indicates that the stock is more sensitive to the return on the
15	overall market. This means that the stock has a higher ß and greater-than-average
16	market risk. A less steep line indicates a lower ß and less market risk.
17	Several online investment information services, such as Yahoo and Reuters,
18	provide estimates of stock betas. Usually these services report different betas for the
19	same stock. The differences are usually due to: (1) the time period over which ß is
20	measured; and (2) any adjustments that are made to reflect the fact that betas tend to
21	regress to 1.0 over time. In estimating an equity cost rate for the proxy group, I am
22	using the betas for the companies as provided in the *Value Line Investment Survey*.

1   As shown on page 3 of Exhibit JRW-11, the median betas for the companies in the

2   Electric and Hevert Proxy Groups are both 0.75.

3

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

5   A. The MRP is equal to the expected return on the stock market (e.g., the expected return

6   on the S&P 500, $E(R_m)$ minus the risk-free rate of interest (R_f)). The MRP is the

7   difference in the expected total return between investing in equities and investing in

8   "safe" fixed-income assets, such as long-term government bonds. However, while

9   the MRP is easy to define conceptually, it is difficult to measure because it requires

10   an estimate of the expected return on the market - $E(R_m)$. As is discussed below, there

11   are different ways to measure $E(R_m)$, and studies have come up with significantly

12   different magnitudes for $E(R_m)$. Merton Miller, 1990 Nobel Prize winner in

13   economics, summarized the issue in this way: "I still remember the teasing we

14   financial economists, Harry Markowitz, William Sharpe, and I, had to put up with

15   from the physicists and chemists in Stockholm when we conceded that the basic unit

16   of our research, the expected rate of return, was not actually observable. I tried to

17   tease back by reminding them of their neutrino – a particle with no mass whose

18   presence was inferred only as a missing residual from the interactions of other

19   particles. But that was eight years ago. In the meantime, the neutrino has been

20   detected."[25]

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

47

1   Q.   **PLEASE DISCUSS THE ALTERNATIVE APPROACHES TO ESTIMATING**

2   **THE MRP.**

3   A.   Page 4 of Exhibit JRW-11 highlights the primary approaches to, and issues in,

4   estimating the expected MRP. The traditional way to measure the MRP was to use

5   the difference between historical average stock and bond returns. In this case,

6   historical stock and bond returns, also called ex post returns, were used as the

7   measures of the market's expected return (known as the ex ante or forward-looking

8   expected return). This type of historical evaluation of stock and bond returns is often

9   called the "Ibbotson approach" after Professor Roger Ibbotson, who popularized this

10   method of using historical financial market returns as measures of expected returns.

11   Most historical assessments of the equity risk premium suggest an equity risk

12   premium range of 5% to 7% above the rate on long-term U.S. Treasury bonds.

13   However, this can be a problem because: (1) ex post returns are not the same as ex

14   ante expectations; (2) market risk premiums can change over time, increasing when

15   investors become more risk-averse and decreasing when investors become less risk-

16   averse; and (3) market conditions can change such that ex post historical returns are

17   poor estimates of ex ante expectations.

18   The use of historical returns as market expectations has been criticized in

19   numerous academic studies as discussed later in my testimony. The general theme of

20   these studies is that the large equity risk premium discovered in historical stock and

21   bond returns cannot be justified by the fundamental data. These studies, which fall

22   under the category "Ex Ante Models and Market Data," compute ex ante expected

23   returns using market data to arrive at an expected equity risk premium. These studies

1   have also been called "Puzzle Research" after the famous study by Mehra and

2   Prescott in which the authors first questioned the magnitude of historical equity risk

3   premiums relative to fundamentals.[26]

4   In addition, there are a number of surveys of financial professionals regarding

5   the MRP. There also have been several published surveys of academics on the equity

6   risk premium. *CFO Magazine* conducts a quarterly survey of CFOs, which includes

7   questions regarding their views on the current expected returns on stocks and bonds.

8   Usually, over 500 CFOs participate in the survey.[27] Questions regarding expected

9   stock and bond returns are also included in the Federal Reserve Bank of

10   Philadelphia's annual survey of financial forecasters, which is published as the *Survey*

11   *of Professional Forecasters.*[28] This survey of professional economists has been

12   published for almost fifty years. In addition, Pablo Fernandez conducts occasional

13   surveys of financial analysts and companies regarding the equity risk premiums they

14   use in their investment and financial decision-making.[29]

15

16

17

18

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[26] Rajnish Mehra & Edward C. Prescott, The Equity Premium: A Puzzle, *Journal of Monetary Economics,* 145 (1985).

[27]*See* DUKE/CFO MAGAZINE GLOBAL BUSINESS OUTLOOK SURVEY, www.cfosurvey.org (March, 2015).

[28] 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.

[29] Pablo Fernandez, Pablo Linares and Isabel Fernandez Acín, "Market Risk Premium used for 88 countries in 2014: a survey with 8,228 answers," June 20, 2014.

1 Q. **PLEASE PROVIDE A SUMMARY OF THE MRP STUDIES.**

2 A. Derrig and Orr (2003), Fernandez (2007), and Song (2007) have completed the most

3 comprehensive reviews to date of the research on the MRP.[30] Derrig and Orr's study

4 evaluated the various approaches to estimating MRPs, as well as the issues with the

5 alternative approaches and summarized the findings of the published research on the

6 MRP. Fernandez examined four alternative measures of the MRP – historical,

7 expected, required, and implied. He also reviewed the major studies of the MRP and

8 presented the summary MRP results. Song provides an annotated bibliography and

9 highlights the alternative approaches to estimating the MRP.

10 Page 5 of Exhibit JRW-11 provides a summary of the results of the primary

11 risk premium studies reviewed by Derrig and Orr, Fernandez, and Song, as well as

12 other more recent studies of the MRP. In developing page 5 of Exhibit JRW-11, I

13 have categorized the studies as discussed on page 4 of Exhibit JRW-11. I have also

14 included the results of the "Building Blocks" approach to estimating the equity risk

15 premium, including a study I performed, which is presented in Appendix C of this

16 testimony. The Building Blocks approach is a hybrid approach employing elements

17 of both historical and *ex ante* models.

18

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

20 A. Page 5 of JRW-11 provides a summary of the results of the MRP studies that I have

21 reviewed. These include the results of: (1) the various studies of the historical risk

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[30] *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).

1		premium, (2) *ex ante* MRP studies, (3) MRP surveys of CFOs, financial forecasters,
2		analysts, companies and academics, and (4) the Building Block approach to the MRP.
3		There are results reported for over thirty studies, and the median MRP is 4.69%.
4		
5	Q.	**PLEASE HIGHLIGHT THE RESULTS OF THE MORE RECENT RISK**
6		**PREMIUM STUDIES AND SURVEYS.**
7	A.	The studies cited on page 5 of Exhibit JRW-11 include every MRP study and survey I
8		could identify that was published over the past decade and that provided an MRP
9		estimate. Most of these studies were published prior to the financial crisis of 2007-
10		2009. In addition, some of these studies were published in the early 2000s at the
11		market peak. It should be noted that many of these studies (as indicated) used data
12		over long periods of time (as long as fifty years of data) and so were not estimating an
13		MRP as of a specific point in time (e.g., the year 2001). To assess the effect of the
14		earlier studies on the MRP, I have reconstructed page 5 of Exhibit JRW-11 on page 6
15		of Exhibit JRW-11; however, I have eliminated all studies dated before January 2,
16		2010. The median for this subset of studies is 5.17%.
17		
18	Q.	**GIVEN THESE RESULTS, WHAT MRP ARE YOU USING IN YOUR CAPM?**
19	A.	Much of the data indicates that the market risk premium is in the 4.0% to 6.0% range.
20		Several recent studies (such as Damodaran, American Appraisers, the CFO Survey,
21		and my supply-side model), have suggested an increase in the market risk premium.
22		Therefore, I will use 5.5%, which is in the upper end of the range, as the market or
23		MRP.

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

2   CFOS?

3   A.   Yes.   In the March 2015 CFO survey conducted by *CFO Magazine* and Duke

4   University, the expected 10-year MRP was 5.2%.

5

6   Q.   IS YOUR *EX ANTE* MRP CONSISTENT WITH THE MRPS OF

7   PROFESSIONAL FORECASTERS?

8   A.   The financial forecasters in the previously referenced Federal Reserve Bank of

9   Philadelphia survey projected both stock and bond returns.   In the February 2015

10   survey, the median long-term expected stock and bond returns were 5.79% and

11   3.91%, respectively. This provides an *ex ante* MRP of 1.88% (5.79%-3.91%).

12

13   Q.   IS YOUR *EX ANTE* MRP CONSISTENT WITH THE MRPS OF FINANCIAL

14   ANALYSTS AND COMPANIES?

15   A.   Yes. Pablo Fernandez recently published the results of a 2015 survey of academics,

16   financial analysts, and companies.[31] This survey included over 4,000 responses. The

17   median MRP employed by U.S. analysts and companies was 5.5%.

18

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

20   A.   The results of my CAPM study for the proxy groups are summarized on page 1 of

21   Exhibit JRW-11 and in the table below.

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[31] Pablo Fernandez, Pablo Linares and Isabel Fernandez Acín, "Market Risk Premium used for 88 countries in 2014: a survey with 8,228 answers," June 20, 2014.

$$K = (R_f) + ß * [E(R_m) - (R_f)]$$

	Risk-Free Rate	Beta	Equity Risk Premium	Equity Cost Rate
Electric Proxy Group	4.0%	0.75	5.5%	8.1%
Hevert Proxy Group	4.0%	0.75	5.5%	8.1%

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 Hevert 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.

D.   Equity Cost Rate Summary

Q.   PLEASE SUMMARIZE YOUR EQUITY COST RATE STUDY.

A.   My DCF analyses for the Electric and Hevert Proxy Groups indicate equity cost rates of 8.40% and 8.55%, respectively. My CAPM analyses for the Electric and Hevert Proxy Groups indicate equity cost rates of 8.1 and 8.1%%.

	DCF	CAPM
Electric Proxy Group	8.40%	8.10%
Hevert Proxy Group	8.55%	8.10%

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 Hevert Proxy Group is in the 8.10% to 8.55% range. However, since I rely primarily on the DCF model, I am using the upper end of the

1		range as the equity cost rate. Therefore, I conclude that the appropriate equity cost
2		rate for the groups is 8.55%.

3 **Q. ARE YOU RECOMMENDING 8.55% AS AN EQUITY COST RATE FOR**

4 **KCPL?**

5 A. Yes. As previously discussed, KCPL's S&P and Moody's long-term credit ratings

6   suggest that the company's risk is in line with the proxy groups.

7 .

8

9 **Q. PLEASE INDICATE WHY AN 8.55% RETURN IS APPROPRIATE FOR THE**

10 **COMPANY AT THIS TIME.**

11 A. There are a number of reasons why an 8.55% return on equity is appropriate and fair

12   for the Company in this case:

13   1. As shown in Exhibit JRW-8, the electric utility industry is one of the lowest

14 risk industries in the U.S. as measured by beta. As such, the cost of equity capital for

15 this industry is amongst the lowest in the U.S., according to the CAPM.

16   2. As shown in Exhibits JRW-2 and JRW-3, capital costs for utilities, as

17 indicated by long-term bond yields, are still at historically low levels. In addition,

18 given low inflationary expectations and slow global economic growth, interest rates

19 are likely to remain at low levels for some time.

20   3. As previously indicated, the authorized ROEs for electric utilities have

21 gradually decreased in recent years. These authorized ROEs have declined from

22 10.01% in 2012, to 9.8% in 2013, 9.76% in 2014, and 9.67% in the first quarter of

1		2015 according to Regulatory Research Associates. In my opinion, these authorized
2		ROEs have lagged behind capital market cost rates. This has been especially true in
3		recent years as some state commissions have been reluctant to authorize ROEs below
4		10%. However, the <u>trend</u> has been lower towards lower ROEs, and the <u>norm</u> now is
5		below ten percent. Hence, I believe that my recommended ROE reflects our present
6		historically low capital cost rates, and these low capital cost rates are finally being
7		recognized by state utility commissions.
8		
9	Q.	**DO YOU BELIEVE THAT YOUR 8.55% MEETS *HOPE* AND *BLUEFIELD***
10		**STANDARDS?**
11	A.	Yes. As previously noted, according to the *Hope* and *Bluefield* decisions, returns on
12		capital should be: (1) comparable to returns investors expect to earn on other
13		investments of similar risk; (2) sufficient to assure confidence in the company's
14		financial integrity; and (3) adequate to maintain and support the company's credit and
15		to attract capital. KCPL's average earned ROE over the past five years (2010-2013)
16		is 8.43%.[32] Also, KCPL has been able to raise capital. The Company issued $300
17		million in senior unsecured, 10-year bonds on March 14, 2013 at 3.15%.[33] In
18		addition, KCPL's Moody's long-term issuer rating was upgraded from Baa2 to Baa1
19		on January 31, 2014. Therefore, since: (1) my recommended ROE is above the
20		Company's recently earned ROE; (2) the Company has been able to raise capital; and
21		(3) the Company's bond ratings have been upgraded, I do believe that my ROE
22		recommendation meets the criteria established in the *Hope* and *Bluefield* decisions.

---

[32] KCPL response to CURB-8.
[33] See Schedule RBH-10.

1   Q.   **PLEASE DISCUSS YOUR RECOMMENDATION IN LIGHT OF A RECENT**

2   **MOODY'S PUBLICATION.**

3   A.   Moody's recently published an article on utility ROEs and credit quality. In the

4   article, Moody's recognizes that authorized ROEs for electric and gas companies are

5   declining due to lower interest rates. [34]

6   The credit profiles of US regulated utilities will remain intact over
7   the next few years despite our expectation that regulators will
8   continue to trim the sector's profitability by lowering its authorized
9   returns on equity (ROE). Persistently low interest rates and a
10   comprehensive suite of cost recovery mechanisms ensure a low
11   business risk profile for utilities, prompting regulators to scrutinize
12   their profitability, which is defined as the ratio of net income to
13   book equity. We view cash flow measures as a more important
14   rating driver than authorized ROEs, and we note that regulators can
15   lower authorized ROEs without hurting cash flow, for instance by
16   targeting depreciation, or through special rate structures.
17

18   Moody's indicates that with the lower authorized ROEs, electric and gas companies

19   are earning ROEs of 9.0% to 10.0%, but this is not impairing their credit profiles and

20   is not deterring them from raising records amount of capital.   With respect to

21   authorized ROEs, Moody's recognizes that utilities and regulatory commission are

22   having trouble justifying higher ROEs in the face of lower interest rates and cost

23   recovery mechanisms.[35]

24   Robust cost recovery mechanisms will help ensure that US
25   regulated utilities' credit quality remains intact over the next few
26   years. As a result, falling authorized ROEs are not a material credit
27   driver at this time, but rather reflect regulators' struggle to justify
28   the cost of capital gap between the industry's authorized ROEs and
29   persistently low interest rates. We also see utilities struggling to

---

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

1		defend this gap, while at the same time recovering the vast majority
2		of their costs and investments through a variety of rate mechanisms.
3		

4   Overall, this article provides direct evidence that lower ROEs are not hurting the

5   financial integrity of utilities or their ability to attract capital.

6

7 **Q.** **DOES THE COMPANY HAVE IN PLACE THE TYPES OF COST**

8   **RECOVERY MECHANISMS NOTED IN THE MOODY'S PUBLICATIN?**

9 **A.** Yes. KCPL witness Mr. Ives provides a list of existing and proposed riders and

10   trackers for KCPL.   These include the Transmission Delivery Charge Rider,

11   Environmental Cost Recovery Rider, Vegetation Management, and the Critical

12   Infrastructure Protection/Cybersecurity Tracer. In addition, KCPL has an Energy cost

13   Adjustment for fuel cost recovery and Pension Tracker. The riders and trackers

14   provide for more timely recovery of expenses and investments and are the types of

15   mechanisms cited by Moody's in its report.

16

17   **VI.**   **CRITIQUE OF KCPL'S RATE OF RETURN TESTIMONY**

18

19 **Q.** **PLEASE SUMMARIZE MR. HEVERT'S RATE OF RETURN**

20   **RECOMMENDATION FOR KCPL.**

21 **A.** The Company has proposed a capital structure that includes 48.97% long-term debt,

22   0.55% preferred stock, and 50.48% common equity.   Mr. Hevert recommends a

23   common equity cost rate 10.30%.

24

1 Q.   **WHAT ISSUES DO YOU HAVE WITH THE COMPANY'S COST OF**

2   **CAPITAL POSITION?**

3 A.   The primary areas of disagreement in measuring KCPL's cost of equity capital. The

4   issues are: (1) Mr. Hevert's DCF equity cost rate estimates, and in particular, (a) the

5   low-weight he gives his low-end constant-growth DCF results, (b) his excessive

6   reliance on the long-term EPS growth rates of Wall Street analysts and *Value Line* in

7   developing a DCF growth rate, and (c) his employment of an unrealistic projected

8   GDP growth rate in his multi-stage DCF model; (2) the projected interest rates and

9   market or equity risk premium in the RP and CAPM approaches; and (3) his inclusion

10   of a flotation cost adjustment in his equity cost rate.

11

12 Q.   **PLEASE REVIEW MR. HEVERT'S EQUITY COST RATE APPROACHES**

13   **AND RESULTS.**

14 A.   Mr. Hevert uses his thirteen-company electric utility proxy group and employs DCF,

15   CAPM, and RP equity cost rate approaches. Mr. Hevert's equity cost rate estimates for

16   KCPL are summarized in Exhibit JRW-13. Based on these figures, he concludes that

17   the appropriate equity cost rate for the Company is 10.30%.

18

19   **A.   DCF Approach**

20

21 Q.   **PLEASE SUMMARIZE MR. HEVERT'S DCF ESTIMATES.**

22 A.   On pages 16-30 of his testimony and in Exhibits KCPL-RBH-1 – RBH-3, Mr. Hevert

23   develops an equity cost rate by applying the DCF model to the Hevert Proxy Group.

1		Mr. Hevert's DCF results are summarized in Panel A of Exhibit JRW-13. He uses
2		constant-growth and multistage growth DCF models. Mr. Hevert uses three dividend
3		yield measures (30, 90, and 180 days) in his DCF models. In his constant-growth
4		DCF models, Mr. Hevert has relied on the forecasted EPS growth rates of Zacks, First
5		Call, and *Value Line* and a retention growth rate measure. His multi-stage DCF model
6		uses analysts' EPS growth rate forecasts as a short-term growth rate and his
7		projection of GDP growth as the long-term growth rate. For all three models, he
8		reports Mean Low, Mean, and Mean High results
9		
10	Q.	**WHAT ARE THE ERRORS IN MR. HEVERT'S DCF ANALYSES?**
11	A.	The primary issues in Mr. Hevert's DCF analyses are: (1) Very little weight given to
12		low-end DCF results - he has given very little weight to his low-end results for his
13		constant- growth DCF model application; (2) The use of the EPS growth rate forecasts
14		of Wall Street analysts and *Value Line* - the growth rates in his DCF models include the
15		overly optimistic and upwardly-biased EPS growth rate estimates of Wall Street analysts
16		and *Value Line;* and (3) Mr. Hevert's criticisms of DCF results due to higher valuation
17		multiples; (4) The projected GDP growth rate in the multi-stage DCF model - the
18		projected GDP growth rate of 5.61% in his multi-stage DCF model is excessive, is not
19		reflective of economic growth in the U.S., and is about 100 basis points above
20		projections of GDP growth; and (5) the inclusion of a flotation cost adjustment in his
21		DCF equity cost rate calculation.
22		
23		
24		

1   **1. Little Weight Given to Low-End DCF Results**
2
3
4   Q.   **PLEASE ADDRESS MR. HEVERT'S LOW-END OF DCF RESULTS.**

5   A.   Mr. Hevert's low-end, constant- growth DCF equity cost rate results, which range from

6   8.32% to 8.57%, appear to be giving very little weight in arriving at his equity cost rate

7   recommendation. By giving little weight to his low-end results, and not also discounting

8   his high-end results, Mr. Hevert biases his DCF equity cost rate study and reports a

9   higher DCF equity cost rate than the data indicate.

10

11   **2. Analysts EPS Growth Rates**

12

13 Q.   **PLEASE DISCUSS MR. HEVERT'S USE OF THE PROJECTED EPS**

14   **GROWTH RATES OF WALL STREET ANALYSTS AND *VALUE LINE* IN HIS**

15   **DCF MODELS.**

16 A.   In his two DCF models, Mr. Hevert's DCF growth rate relies excessively on the

17   projected EPS growth rate forecasts of investment analysts as compiled by Zacks,

18   First Call, and *Value Line*.

19

20 Q.   **WHY IS IT ERRONEOUS TO RELY EXCLUSIVELY ON THE EPS**

21   **FORECASTS OF WALL STREET ANALYSTS IN ARRIVING AT A DCF**

22   **GROWTH RATE?**

23 A.   There are several issues with using the EPS growth rate forecasts of Wall Street

24   analysts and *Value Line* as DCF growth rates. First, the appropriate growth rate in the

1   DCF model is the dividend growth rate, not the earnings growth rate. Therefore, in

2   my opinion, consideration must be given to other indicators of growth, including

3   prospective dividend growth, internal growth, as well as projected earnings growth.

4   Second, and most significantly, it is well-known that the long-term EPS growth rate

5   forecasts of Wall Street securities analysts are overly optimistic and upwardly biased.

6   This has been demonstrated in a number of academic studies over the years. In

7   addition, I demonstrate that *Value Line*'s EPS growth rate forecasts are consistently

8   too high. Hence, using these growth rates as a DCF growth rate will provide an

9   overstated equity cost rate. As previously noted, a study by Easton and Sommers

10   (2007) found that optimism in analysts' growth rate forecasts leads to an upward bias

11   in estimates of the cost of equity capital of almost 3.0 percentage points.[36] These

12   issues are addressed in more detail in Appendix B.

13

14   **3. Criticisms of DCF Results Due to Higher Valuation Multiples**
15
16
17 Q. **AT PAGE 24 OF HIS TESTIMONY, MR. HEVERT DISCOUNTS HIS WEIGHT**

18   **GIVEN TO THE CONSTANT-GROWTH DCF MODEL RESULTS DUE TO**

19   **THE HIGH CURRENT UTILITY PREMIUM P/E RATIO. PLEASE**

20   **RESPOND.**

21 A. Mr. Hevert indicates that the constant-growth DCF model results should not be given

22   "undue weight" because utility P/E ratios have increased. He uses this to justify the

23   considerations of the results of other equity cost rate models. However, the previously-

---

[36] 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.

1   cited Moody's article addresses the higher valuation issue, and indicates that the cost

2   recovery mechanisms have reduced the risk of the utility industry which has led to

3   higher P/E multiples.[37]

> 4   As utilities increasingly secure more up-front assurance for cost
> 5   recovery in their rate proceedings, we think regulators will
> 6   increasingly view the sector as less risky. The combination of low
> 7   capital costs, high equity market valuation multiples (which are
> 8   better than or on par with the broader market despite the regulated
> 9   utilities' low risk profile), and a transparent assurance of cost
> 10   recovery tend to support the case for lower authorized returns,
> 11   although because utilities will argue they should rise, or at least stay
> 12   unchanged.

13
14
15
16   **4. Multi-Stage DCF Analysis**

17

18 Q.   **PLEASE DISCUSS MR. HEVERT'S MULTI-STAGE DCF ANALYSIS.**

19 A.   Mr. Hevert employs a multi-stage DCF model and uses a long-term nominal GDP

20   growth rate of 5.61%. The 5.61% GDP growth rate is based on (1) a real GDP

21   growth rate of 3.27% which is calculated over the 1929-2013 time period and (2) an

22   inflation rate of 2.27%.

23
24
25 Q.   **WHAT ARE THE ERRORS WITH MR. HEVERT'S MULTI-STAGE DCF**

26   **ANALYSIS.**

27 A.   There are two major errors in this analysis. First, Mr. Hevert has not provided any

28   theoretical or empirical support that long-term GDP growth is a reasonable proxy for the

29   expected growth rate of the companies in his proxy group. Five-year and ten-year

---

[37] *Ibid.* P. 3.

1	historic measures of growth for earnings and dividends for electric utility companies, as
2	shown on page 3 of Exhibit JRW-10, suggest growth that is more than 100 basis points
3	below Mr. Hevert's 5.61% GDP growth rate. Mr. Hevert has provided no evidence as to
4	why investors would rely on his estimate of long-term GDP growth as the appropriate
5	growth rate for electric utility companies.
6	The second error is the magnitude of Mr. Hevert's long-term GDP growth rate
7	estimate of 5.61%. On page 1 of Exhibit JRW-14 of my testimony, I provide an
8	analysis of GDP growth since 1960. Since 1960, nominal GDP has grown at a
9	compounded rate of 6.63%. Whereas GDP has grown at a compounded rate of 6.63%
10	since 1960, economic growth in the U.S. has slowed considerably in recent decades.
11	Page 2 of Exhibit JRW-14 provides the nominal annual GDP growth rates over the
12	1961 to 2014 time period. Nominal GDP growth grew from 6.0 percent to over 12
13	percent from the 1960s to the early 1980s due in large part to inflation and higher
14	prices. With the exception of an uptick during the mid-2000s, annual nominal GDP
15	growth rates have declined to the 3.5 to 4.0 percent range over the past five years.
16	The components of nominal GDP growth are real GDP growth and inflation.
17	Page 3 of Exhibit JRW-14 shows annual real GDP growth rate over the 1961 to 2014
18	time period. Real GDP growth has gradually declined from the 5.0 to 6.0 percent
19	range in the 1960s to the 2.0 to 3.0 percent during the most recent five year period.
20	The second component of nominal GDP growth is inflation. Page 4 of Exhibit JRW-
21	14 shows inflation as measured by the annual growth rate in the Consumer Price
22	Index (CPI) over the 1961 to 2014 time period. The large increase in prices from the
23	late 1960s to the early 1980s is readily evident. Equally evident is the rapid decline

1   in inflation during the 1980s as inflation declined from above 10 percent to about 4

2   percent. Since that time inflation has gradually declined and has been in the 2.0

3   percent range or below over the past five years.

4   The graphs on pages 2, 3, and 4 of Exhibit JRW-14 provide very clear

5   evidence of the decline in nominal GDP as well as its components, real GDP and

6   inflation, in recent decades. To gauge the magnitude of the decline in nominal GDP

7   growth, Table 1 provides the compounded GDP growth rates for 10-, 20-, 30-, 40- and

8   50- years.   Whereas the 50-year compounded GDP growth rate is 6.63 percent, there

9   has been a monotonic and significant decline in nominal GDP growth over subsequent

10   10-year intervals.   These figures clearly suggest that nominal GDP growth in recent

11   decades has slowed and that a figure in the range of 4.0% to 5.0% is more appropriate

12   today for the U.S. economy. Mr. Hevert's long-term GDP growth rate of 5.64 percent is

13   clearly inflated.

14   **Table 1**
15   **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%

16
17
18 Q. **ARE THE LOWER GDP GROWTH RATES OF RECENT DECADES**

19   **CONSISTENT WITH THE FORECASTS OF GDP GROWTH?**

20 A. Yes. A lower range is also consistent with long-term GDP forecasts. There are several

21   forecasts of annual GDP growth that are available from economists and government

22   agencies. These are listed on page 5 of Exhibit JRW-14. The mean 10-year nominal

1	GDP growth forecast (as of February 2015) by economists in the recent *Survey of*
2	*Professional Forecasters* is 4.7%. The Energy Information Administration ("EIA"), in
3	its projections used in preparing *Annual Energy Outlook,* forecasts long-term GDP
4	growth of 4.5% for the period 2012-2040.[38] The Congressional Budget Office
5	("CBO"), in its forecasts for the period 2015 to 2025, projects a nominal GDP growth
6	rate of 4.8%.[39] Finally, the Social Security Administration ("SSA"), in its Annual
7	OASDI Report, provides a projection of nominal GDP from 2014-2090.[40] The
8	projected growth GDP growth rate over this period is 4.5 percent. Overall, these
9	projections of nominal GDP growth over extended future time periods provide very
10	direct evidence that Mr. Hevert's long-term GDP growth rate of 5.64 percent is
11	overstated by more than 100 basis points.
12	
13	**Q.** **DOES MR. HEVERT PROVIDE ANY REASONS WHY HE HAS IGNORED**
14	**THE WELL-KNOWN LONG-TERM REAL GDP FORECASTS OF THE**
15	**CBO, SSA, AND EIA?**
16	**A.** No.
17	
18	**Q.** **WHAT IS IRONIC ABOUT MR. HEVERT BASING HIS REAL GDP**
19	**FORECAST ON HISTORIC DATA AND IGNORING THE WELL-KNOWN**
20	**LONG-TERM GDP FORECASTS OF THE CBO AND EIA?**

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[38]Energy Information Administration, *Annual Energy Outlook,* http://www.cbo.gov/publication/49973.
[39]Congressional   Budget   Office,   *2015   Outlook   for   the   Budget   and   the   Economy.*
http://www.cbo.gov/publication/49973.
[40] 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

1   A.   In developing a DCF growth rate for his constant-growth DCF analysis, Mr. Hevert has

2   totally ignored <u>historic</u> EPS, DPS, and BVPS data and relied solely on the long-term

3   EPS growth rate <u>projections</u> of Wall Street analysts and *Value Line.* However, in

4   developing a terminal DCF growth rate for his multi-stage growth DCF analysis, Mr.

5   Hevert has totally ignored the well-known long-term real GDP growth rate <u>forecasts</u> of

6   the CBO and EIA and relied solely on <u>historic</u> data going back to 1929.

7

8   Q.   **HAS THIS COMMISSION PROVIDED ANY GUIDANCE ON THAT IT**

9   **BELIEVES IS AN APPROPRIATE PROJECTED GROWTH RATE FOR**

10   **NOMINAL GDP ("NGDP")?**

11 A.   Yes. In the 2014 Atmos Order, this Commission rejected the Company's projected

12   nGDP growth rate of 6.33% and determined the projected nGDP growth rate of Staff

13   Witness Gatewood, which was 4.46% to be more credible and consistent with prior

14   Commission Orders.[41] The results of the GDP analyses above clearly support Mr.

15   Gatewood's 4.46%.

16

17 Q.   **WHAT ARE THE RESULTS OF MR. HEVERT'S MULTI-STAGE DCF**

18   **ANALYSIS USING A MORE REASONABLE NGDP FORECAST?**

19 A.   On page 2 of Exhibit JRW-13 I show the summary multi-stage DCF results for Mr.

20   Hevert's proxy group using his methodology but using a nGDP growth rate of 4.39%.

21   The mean multi-stage DCF results indicate equity cost rates of 8.66%, 8.90%, and

22   8.95% using 30-, 90-, and 180- day average stock prices for dividend yields.

---

[41] *KCC Docket 14-ATMG-320-RTS, Order dated September 4, 2014 at para.48.*

1   Q.   **WHY DID YOU USE A NGDP GROWTH RATE FORECAST OF 4.39%?**

2   A.   The 4.39% nGDP growth rate forecast was used by the Federal Energy Regulatory

3   Commission ("FERC") Opinion No. 531 as a long-term growth rate forecast in its two-

4   stage DCF model. The 4.39% represents the average nGDP forecast from EIA, Social

5   Security Administration, and IHS Global Insight. [42]

6

7   Q.   **WHAT DO YOUR CONCLUDE FROM YOUR ANALYSIS?**

8   A.   Using a more reasonable nGDP growth rate forecast in Mr. Hevert's multi-stage DCF

9   model, and using Mr. Hevert's proxy group, indicates that my equity cost rate

10   recommendation is close to his multi-stage DCF analysis, once an more appropriate

11   nGDP forecast is employed.

12

13   **5. Flotation Cost Adjustment**

14

15   Q.   **PLEASE DISCUSS MR. HEVERT'S ADJUSTMENT FOR FLOTATION**

16   **COSTS.**

17   A.   Mr. Hevert makes an upward adjustment of 0.12% to the equity cost rate to account

18   for flotation costs. This adjustment factor is erroneous for several reasons. First, he

19   has not identified any test-year flotation costs for the Company. Therefore, KCPL is

20   requesting annual revenues in the form of a higher return on equity for flotation costs

21   that have not been identified.

---

[42] Federal Energy Regulatory Commission, Opinion No. 531, 147 FERC ¶ 61,234, June 19, 2014.

1	Second, it is commonly argued that a flotation cost adjustment (such as that
2	used by the Company) is necessary to prevent the dilution of the existing
3	shareholders. In this case, Mr. Hevert justifies a flotation cost adjustment by referring
4	to bonds and the manner in which issuance costs are recovered by including the
5	amortization of bond flotation costs in annual financing costs. This is incorrect for
6	several reasons:
7	(1) If an equity flotation cost adjustment is similar to a debt flotation cost
8	adjustment, the fact that the market-to-book ratios for electric utility companies are
9	over 1.5X actually suggests that there should be a flotation cost reduction (and not an
10	increase) to the equity cost rate. This is because when (a) a bond is issued at a price
11	in excess of face or book value, and (b) the difference between market price and the
12	book value is greater than the flotation or issuance costs, the cost of that debt is lower
13	than the coupon rate of the debt. The amount by which market values of electric
14	utility companies are in excess of book values is much greater than flotation costs.
15	Hence, if common stock flotation costs were exactly like bond flotation costs, and
16	one was making an explicit flotation cost adjustment to the cost of common equity,
17	the adjustment would be downward;
18	(2) If a flotation cost adjustment is needed to prevent dilution of existing
19	stockholders' investment, then the reduction of the book value of stockholder
20	investment associated with flotation costs can occur only when a company's stock is
21	selling at a market price at/or below its book value. As noted above, electric utility
22	companies are selling at market prices well in excess of book value. Hence, when

| 1 | new shares are sold, existing shareholders realize an increase in the book value per |
| 2 | share of their investment, not a decrease; |

3   (3)   Flotation costs consist primarily of the underwriting spread or fee and

4   not out-of-pocket expenses. On a per-share basis, the underwriting spread is the

5   difference between the price the investment banker receives from investors and the

6   price the investment banker pays to the company. Therefore, these are not expenses

7   that must be recovered through the regulatory process. Furthermore, the underwriting

8   spread is known to the investors who are buying the new issue of stock, and who are

9   well aware of the difference between the price they are paying to buy the stock and

10   the price that the Company is receiving. The offering price they pay is what matters

11   when investors decide to buy a stock based on its expected return and risk prospects.

12   Therefore, the company is not entitled to an adjustment to the allowed return to

13   account for those costs; and

14   (4)   Flotation costs, in the form of the underwriting spread, are a form of a

15   transaction cost in the market. They represent the difference between the price paid

16   by investors and the amount received by the issuing company. Whereas the Company

17   believes that it should be compensated for these transaction costs, it has not accounted

18   for other market transaction costs in determining its cost of equity. Most notably,

19   brokerage fees that investors pay when they buy shares in the open market are another

20   market transaction cost. Brokerage fees increase the effective stock price paid by

21   investors to buy shares. If the Company had included these brokerage fees or

22   transaction costs in its DCF analysis, the higher effective stock prices paid for stocks

23   would lead to lower dividend yields and equity cost rates. This would result in a

1   downward adjustment to their DCF equity cost rate.

2

3   **B.   CAPM Approach**

4

5   Q. **PLEASE DISCUSS MR. HEVERT'S CAPM.**

6   A. On pages 30-34 of his testimony and Exhibits KCPL-RBH-4 – RBH-6, Mr. Hevert

7   estimates an equity cost rate by applying a CAPM model to his proxy group. The

8   CAPM approach requires an estimate of the risk-free interest rate, beta, and the equity

9   risk premium. Mr. Hevert uses two different measures of the 30-Year Treasury bond

10   yield (a current rate of 3.03% and a near-term projected rate of 3.68%), two different

11   Betas (an average Bloomberg Beta of 0.783 and an average *Value Line* Beta of 0.74),

12   and two market risk premium measures (a Bloomberg, DCF-derived market risk

13   premium of 10.47% and *Value Line* derived market risk premium of 10.58%). Based

14   on these figures, he finds a CAPM equity cost rate range from 10.77% to 11.97%. Mr.

15   Hevert's CAPM results are summarized in Panel B of page 1 of Exhibit JRW-13.

16

17 Q. **WHAT ARE THE ERRORS IN MR. HEVERT'S CAPM ANALYSES?**

18 A. The primary errors in Mr. Hevert's CAPM analyses are the market premiums of 10.47%

19   and 10.58%.

20

21

22

23

1   **1. Market Risk Premiums**

2

3   Q.   **PLEASE ASSESS MR. HEVERT'S MARKET RISK PREMIUMS DERIVED**

4   **FROM APPLYING THE DCF MODEL TO THE S&P 500 AND VALUE LINE**

5   **INVESTMENT SURVEY.**

6   A.   For his Bloomberg and *Value Line* market risk premiums, Mr. Hevert computes

7   market risk premiums of 10.47% and 10.58% by: (1) calculating an expected market

8   return by applying the DCF model to the S&P 500; and (2) subtracting the current 30-

9   year Treasury bond yield. Mr. Hevert's estimated expected market returns from these

10   approaches of 13.50% (using Bloomberg long-term EPS growth rate estimates) and of

11   13.62% (using *Value Line* long-term EPS growth rate estimates), are not realistic. He

12   uses (1) a dividend yield of 1.85% and an expected DCF growth rate of 11.65% for

13   Bloomberg and (2) a dividend yield of 1.78% and an expected DCF growth rate of

14   11.84% for *Value Line.* The primary error is that the expected DCF growth rate is

15   the projected 5-year EPS growth rate from Wall Street analysts as reported by these

16   two services. As explained below, this produces an overstated expected market return

17   and equity risk premium.

18

19   Q.   **WHAT EVIDENCE CAN YOU PROVIDE THAT MR. HEVERT'S GROWTH**

20   **RATES ARE ERRONEOUS?**

21   A.   Mr. Hevert's expected long-term EPS growth rates of 11.65% for Bloomberg and

22   11.84% for *Value Line* represent the forecasted 5-year EPS growth rates of Wall

23   Street analysts. The error with this approach is that the EPS growth rate forecasts of

1   Wall Street securities analysts are overly optimistic and upwardly biased. This is

2   detailed at length in Appendix B of this testimony.

3

4 Q. **ARE EPS GROWTH RATES OF 11.65% AND 11.84% CONSISTENT WITH**

5   **THE HISTORIC AND PROJECTED GROWTH IN EARNINGS AND THE**

6   **ECONOMY?**

7 A. No. Long-term EPS growth rates of 11.65% and 11.84% are not consistent with

8   historic or projected economic and earnings growth in the U.S for several reasons: (1)

9   long-term growth in EPS is far below Mr. Hevert's projected EPS growth rates; (2)

10   more recent trends in GDP growth, as well as projections of GDP growth, suggest

11   slower long-term economic and earnings growth in the future; and (3) over time, EPS

12   growth tends to lag behind GDP growth.

13   The long-term economic, earnings, and dividend growth rate in the U.S. has

14   only been in the 5% to 7% range. I performed a study of the growth in nominal GDP,

15   S&P 500 stock price appreciation, and S&P 500 EPS and DPS growth since 1960.

16   The results are provided on page 1 of Exhibit JRW-14, and a summary is provided in

17   Table 2 below.

18   **Table 2**
19   **GDP, S&P 500 Stock Price, EPS, and DPS Growth**
20   **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%

21

1   The results are presented graphically on page 6 of Exhibit JRW-14. In sum,

2   the historical long-run growth rates for GDP, S&P EPS, and S&P DPS are in the 5%

3   to 7% range.

4

5   Q. DO MORE RECENT DATA SUGGEST THAT U.S. ECONOMIC GROWTH

6   IS FASTER OR SLOWER THAN THE LONG-TERM DATA?

7   A. As previously discussed and presented in Table 1, the more recent trend suggests lower

8   future economic growth than the long-term historic GDP growth. The historic GDP

9   growth rates for 10-, 20-, 30-, 40- and 50- years clearly suggest that nominal GDP

10   growth in recent decades has slowed to the 4.0% to 5.0% area. By comparison, Mr.

11   Hevert's long-run growth rate projections of 11.65% and 11.84% are vastly

12   overstated. These estimates suggest that companies in the U.S. would be expected to:

13   (1) increase their growth rate of EPS by almost 100% in the future and (2) maintain

14   that growth indefinitely in an economy that is expected to grow at about one-half of

15   his projected growth rates.

16

17 Q. WHAT LEVEL OF GDP GROWTH IS FORECASTED BY ECONOMISTS AND

18   VARIOUS GOVERNMENT AGENCIES?

19 A. As previously discussed, there are several forecasts of annual GDP growth that are

20   available from economists and government agencies. These are listed in page 5 of

21   Exhibit JRW-14. These are listed on page 5 of Exhibit JRW-14. The mean 10-year

22   nominal GDP growth forecast (as of February 2015) by economists in the recent *Survey*

23   *of Professional Forecasters* is 4.7%. EIA, in its projections used in preparing *Annual*

1	*Energy Outlook,* forecasts long-term GDP growth of 4.5% for the period 2012-
2	2040.[43] The CBO forecasts a nominal GDP growth rate of 4.8% for the period 2015
3	to 2025. And the SSA forecasted GDP growth rate is 4.5% for the time period 2014-
4	2090. The average of these projected GDP growth rates is 4.5%.
5	
6	**Q.** **WHY IS GDP GROWTH RELEVANT IN YOUR DISCUSSION OF MR.**
7	**HEVERT'S USE OF THE LONG-TERM EPS GROWTH RATES IN**
8	**DEVELOPING A MARKET RISK PREMIUM FOR HIS CAPM?**
9	**A.** Because, as indicated in recent research, the long-term earnings growth rates of
10	companies are limited to the growth rate in GDP.
11	
12	**Q.** **PLEASE HIGHLIGHT THE RESEARCH ON THE LINK BETWEEN**
13	**ECONOMIC AND EARNINGS GROWTH AND EQUITY RETURNS.**
14	**A.** Brad Cornell of the California Institute of Technology recently published a study on
15	GDP growth, earnings growth, and equity returns. He finds that long-term EPS
16	growth in the U.S. is directly related to GDP growth, with GDP growth providing an
17	upward limit on EPS growth. In addition, he finds that long-term stock returns are
18	determined by long-term earnings growth. He concludes with the following
19	observations:[44]

20		The long-run performance of equity investments is
21		fundamentally linked to growth in earnings. Earnings growth,
22		in turn, depends on growth in real GDP. This article
23		demonstrates that both theoretical research and empirical

---

[43]Energy Information Administration, *Annual Energy Outlook,* http://www.cbo.gov/publication/49973.

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

1		research in development economics suggest relatively strict
2		limits on future growth. In particular, real GDP growth in
3		excess of 3 percent in the long run is highly unlikely in the
4		developed world. In light of ongoing dilution in earnings per
5		share, this finding implies that investors should anticipate
6		real returns on U.S. common stocks to average no more than
7		about 4–5 percent in real terms.
8		

9   Given current inflation in the 2% to 3% range, the results imply nominal

10   expected stock market returns in the 7% to 8% range. As such, Mr. Hevert's

11   projected earnings growth rates and implied expected stock market returns and equity

12   risk premiums are not indicative of the realities of the U.S. economy and stock

13   market. As such, his expected CAPM equity cost rate is significantly overstated.

14

15 **Q.**   **PLEASE PROVIDE A SUMMARY ASSESSMENT OF MR. HEVERT'S**

16   **PROJECTED EQUITY RISK PREMIUM DERIVED FROM EXPECTED**

17   **MARKET RETURNS.**

18 **A.**   Mr. Hevert's market risk premium derived from his DCF application to the S&P 500

19   is inflated due to errors and bias in his study. Investment banks, consulting firms, and

20   CFOs use the equity risk premium concept every day in making financing, investment,

21   and valuation decisions. On this issue, the opinions of CFOs and financial forecasters

22   are especially relevant. CFOs deal with capital markets on an ongoing basis since they

23   must continually assess and evaluate capital costs for their companies. They are well

24   aware of the historical stock and bond return studies of Ibbotson. The CFOs in the

25   March 2015 *CFO Magazine* – Duke University Survey of about 500 CFOs shows an

26   expected return on the S&P 500 of 7.4% over the next ten years. In addition, the

1		financial forecasters in the February 2015 Federal Reserve Bank of Philadelphia
2		survey expect an annual market return of 5.79% over the next ten years. As such,
3		with a more realistic equity or market risk premium, the appropriate equity cost rate
4		for a public utility should be in the 8.0% to 9.0% range and not in the 10.0% to 11.0%
5		range.

6 **C.   Risk Premium Approach**

7

8 **Q.   PLEASE REVIEW MR. HEVERT'S RP ANALYSIS.**

9 A.   On pages 34-37 of his testimony and in Exhibit KCPL-RBH-7, Mr. Hevert estimates an

10   equity cost rate using a RP model. Mr. Hevert develops an equity cost rate by: (1)

11   regressing the authorized returns on equity for electric utility companies from the

12   January 1, 1980 to November 28, 2014 time period on the thirty-year Treasury Yield;

13   and (2) adding the appropriate risk premium established in (1) to three different thirty-

14   year Treasury yields: (a) a current yield of 3.03%, a near-term projected yield of 3.68%,

15   and a long-term projected yield of 5.45%. Mr. Hevert's RP results are provided in

16   Panel C of page 1 of Exhibit JRW-13. He reports RP equity cost rates ranging from

17   10.24% to 10.92%.

18

19 **Q.   WHAT ARE THE ERRORS IN MR. HEVERT'S RP ANALYSIS?**

20 A.   The two issues are: (1) the long-term projected 30-Year Treasury yield of 5.45%; and

21   (2) primarily, the excessive risk premium.

22

23

1   **1. Projected Long-Term Treasury Yield of 5.45%**

2

3 **Q.   WHAT IS THE ISSUE WITH THE PROJECTED LONG-TERM TREASURY**

4   **RATE OF 5.45%?**

5 **A.**   This figure is about 250 basis points above the current 30-year Treasury rate. This figure

6   is simply not reasonable.

7

8   **2. Risk Premium**

9

10 **Q.   WHAT ARE THE ISSUES WITH MR. HEVERT'S RISK PREMIUM?**

11 **A.**   There are several problems with this approach. The methodology produces an inflated

12   measure of the risk premium because the approach uses historic authorized ROEs and

13   Treasury yields, and the resulting risk premium is applied to projected Treasury Yields.

14   Since Treasury yields are always forecasted to increase, the resulting risk premium

15   would be smaller if done correctly, which would be to use projected Treasury yields in

16   the analysis rather than historic Treasury yields.

17   .   In addition, Mr. Hevert's RP approach is a gauge of *commission* behavior and

18   not *investor* behavior. Capital costs are determined in the market place through the

19   financial decisions of investors and are reflected in such fundamental factors as

20   dividend yields, expected growth rates, interest rates, and investors' assessment of the

21   risk and expected return of different investments. Regulatory commissions evaluate

22   capital market data in setting authorized ROEs, but also take into account other

23   utility- and rate case-specific information in setting ROEs. As such, Mr. Hevert's

1		approach and results reflect other factors such as capital structure, credit ratings and
2		other risk measures, service territory, capital expenditures, energy supply issues, rate
3		design, investment and expense trackers, and other factors used by utility
4		commissions in determining an appropriate ROE in addition to capital costs. This
5		may especially true when the authorized ROE data includes the results of rate cases
6		that are settled and not fully litigated.
7		
8	Q.	**WHAT OTHER ISSUE DO YOU HAVE WITH THE RATE CASE DATA**
9		**USED IN MR. HEVERT'S RISK PREMIUM ANALYSIS?**
10	A.	There are a number of rate case ROEs used by Mr. Hevert that involve settlements.
11		These settlements should not be considered precedent setting as any settlement
12		involves a number of tradeoffs that may not be apparent from just looking at the
13		reported ROE. Regulatory Research Associates' Regulatory Focus publication, the
14		source of Mr. Hevert's data, acknowledges this fact with respect to settlements:

> 15 Footnote (B): Order followed stipulation or settlement by the parties.
> 16 Decision particulars not necessarily precedent-setting or specifically adopted
> 17 by the regulatory body.
> 18 Source: Regulatory Research Associates, Regulatory Focus, *Major Rate Case*
> 19 *Decisions, January – December 2014*, dated January 15, 2015, p. 9.
> 20

21	Q	**DOES THIS CONCLUDE YOUR TESTIMONY?**
22	A.	Yes, it does.
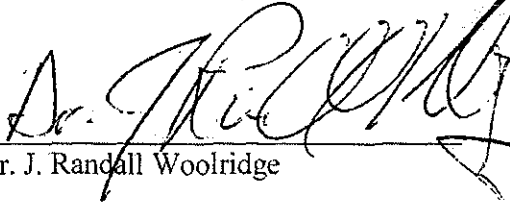
VERIFICATION
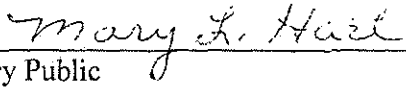
COMMONWEALTH OF PENNSYLVANIA   )

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 May, 2015.

Notary Public

My Commission expires: 2017
August 26, 2017
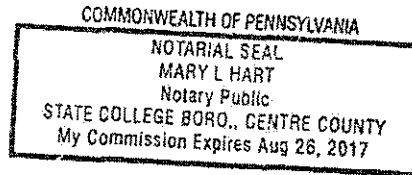
Appendix A
Educational Background, Research, and Related Business Experience
J. Randall Woolridge

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.

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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

1   Most of the attention given to the accuracy of analysts' EPS forecasts comes

2   from media coverage of companies' quarterly earnings announcements. When

3   companies' announced earnings beat Wall Street's EPS estimates ("a positive

4   surprise"), their stock prices usually go up. When a company's EPS figure misses or

5   is below Wall Street's forecasted EPS ("a negative surprise"), their stock price

6   usually declines, sometimes precipitously so. Wall Street's estimate is the

7   consensus forecast for quarterly EPS made by analysts who follow the stock as of

8   the announcement date. And so Wall Street's so-called "estimate" is analysts'

9   consensus quarterly EPS forecast made in the days leading up to the EPS

10   announcement.

11   In recent years, it has become more common for companies to beat Wall

12   Street's quarterly EPS estimate. A *Wall Street Journal* article summarized the results

13   for the first quarter of 2012: "While this "positive surprise ratio" of 70% is above

14   the 20 year average of 58% and also higher than last quarter's tally, it is just

15   middling since the current bull market began in 2009. In the past decade, the ratio

16   only dipped below 60% during the financial crisis. Look before 2002, though, and

17   70% would have been literally off the chart. From 1993 through 2001, about half

18   of companies had positive surprises."[1]   Figure 1 below provides the record for

19   companies beating Wall Street's EPS estimate on an annual basis over the past

20   twenty-five years.

21
22

---

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

1
2
3
4

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

5
6
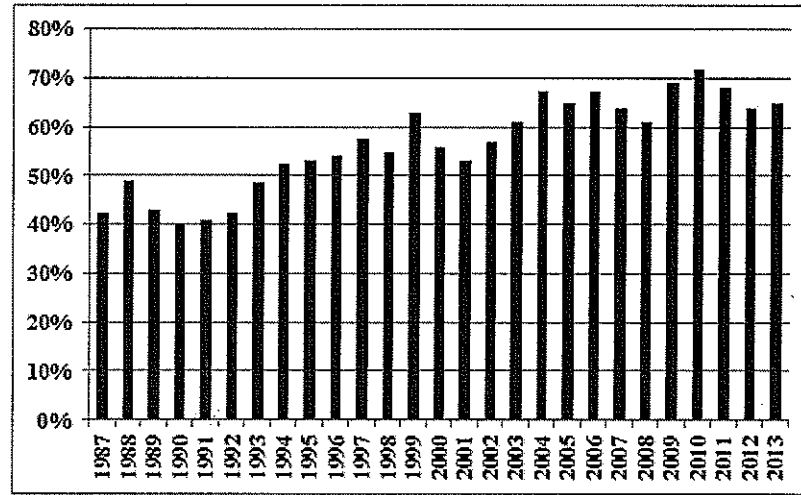
7   A.   **RESEARCH ON THE ACCURACY OF ANALYSTS'**
8   **NEAR-TERM EPS ESTIMATES**
9

10   There is a long history of studies that evaluate how well analysts forecast

11   near-term EPS estimates and long-term EPS growth rates. Most of these studies

12   have evaluated the accuracy of earnings forecasts for the current quarter or year.

13   Many of the early studies indicated that analysts make overly optimistic EPS

14   earnings forecasts for quarter-to-quarter EPS (Stickel (1990); Brown (1997);

15   Chopra (1998)).[2]   More recent studies have shown that the optimistic bias tends

16   to be larger for longer-term forecasts and smaller for forecasts made nearer to the

17   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).

1   upward bias in earnings growth rates declines in the quarters leading up to the

2   earnings announcement date.[3] They call this result the "walk-down to beatable

3   analyst forecasts." They hypothesize that the walk-down might be driven by the

4   "earning-guidance game," in which analysts give optimistic forecasts at the start

5   of a fiscal year, then revise their estimates downwards until the firm can beat the

6   forecasts at the earnings announcement date.

7   However, two regulatory developments over the past decade have

8   potentially impacted analysts' EPS growth rate estimates. First, Regulation Fair

9   Disclosure ("Reg FD") was introduced by the Securities and Exchange

10   Commission ("SEC") in October of 2000. Reg FD prohibits private

11   communication between analysts and management so as to level the information

12   playing field in the markets. With Reg FD, analysts are less dependent on gaining

13   access to management to obtain information and, therefore, are not as likely to

14   make optimistic forecasts to gain access to management. Second, the conflict of

15   interest within investment firms with investment banking and analyst operations

16   was addressed in the Global Analysts Research Settlements ("GARS"). GARS,

17   as agreed upon on April 23, 2003, between the SEC, NASD, NYSE and ten of the

18   largest U.S. investment firms, includes a number of regulations that were

19   introduced to prevent investment bankers from pressuring analysts to provide

20   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).

1   The previously cited *Wall Street Journal* article acknowledged the impact of

2   the new regulatory rules in explaining the recent results:[4] "What changed? One

3   potential reason is the tightening of rules governing analyst contacts with

4   management. Analysts now must rely on publicly available guidance or, gasp,

5   figure things out by themselves. That puts companies, with an incentive to set the

6   bar low so that earnings are received positively, in the driver's seat. While that

7   makes managers look good short-term, there is no lasting benefit for buy-and-hold

8   investors."

9   These comments on the impact of regulatory developments on the

10   accuracy of short-term EPS estimates were addressed in a study by Hovakimian

11   and Saenyasiri (2010).[5] The authors investigate analysts' forecasts of annual

12   earnings for the following time periods: (1) the time prior to Reg FD (1984-2000);

13   (2) the time period after Reg FD but prior to GARS (2000-2002);[6] and (3) the

14   time period after GARS (2002-2006). For the pre-Reg FD period, Hovakimian

15   and Saenyasiri find that analysts generally make overly optimistic forecasts of

16   annual earnings. The forecast bias is higher for early forecasts and steadily

17   declines in the months leading up to the earnings announcement. The results are

18   similar for the time period after Reg FD but prior to GARS. However, the bias is

19   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.

1   For the time period after GARS, the average forecasts declined significantly, but a

2   positive bias remains. In sum, Hovakimian and Saenyasiri find that: (1) analysts

3   make overly optimistic short-term forecasts of annual earnings; (2) Reg FD had

4   no effect on this bias; and (3) GARS did result in a significant reduction in the

5   bias, but analysts' short-term forecasts of annual earnings still have a small

6   positive bias.

7   **B.   RESEARCH ON THE ACCURACY OF ANALYSTS'**
8   **LONG-TERM EPS GROWTH RATE FORECASTS**
9
10   There have been very few studies regarding the accuracy of analysts' long-

11 term EPS growth rate forecasts. Cragg and Malkiel (1968) studied analysts' long-

12 term EPS growth rate forecasts made in 1962 and 1963 by five brokerage houses

13 for 185 firms. They concluded that analysts' long-term earnings growth forecasts

14 are on the whole no more accurate than naive forecasts based on past earnings

15 growth.   Harris (1999) evaluated the accuracy of analysts' long-term EPS

16 forecasts over the 1982-1997 time period using a sample of 7,002 firm-year

17 observations.[7] He concluded the following: (1) the accuracy of analysts' long-

18 term EPS forecasts is very low; (2) a superior long-run method to forecast long-

19 term EPS growth is to assume that all companies will have an earnings growth

20 rate equal to historic GDP growth; and (3) analysts' long-term EPS forecasts are

21 significantly upwardly biased, with forecasted earnings growth exceeding actual

22 earnings growth by seven percent per annum. Subsequent studies by DeChow, P.,

23 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).

1   conclude that analysts' long-term EPS growth rate forecasts are overly optimistic

2   and upwardly biased.[8] The Chan, Karceski, and Lakonishok (2003) study

3   evaluated the accuracy of analysts' long-term EPS growth rate forecasts over the

4   1982-98 time period. They reported a median IBES growth forecast of 14.5%,

5   versus a median realized five-year growth rate of about 9%. They also found the

6   IBES forecasts of EPS beyond two years are not accurate. They concluded the

7   following: "Over long horizons, however, there is little forecastability in earnings,

8   and analysts' estimates tend to be overly optimistic."

9   Lacina, Lee, and Xu (2011) evaluated the accuracy of analysts' long-term

10   earnings growth rate forecasts over the 1983-2003 time period.[9] The study

11   included 27,081 firm year observations, and compared the accuracy of analysts'

12   EPS forecasts to those produced by two naïve forecasting models: (1) a random

13   walk model ("RW") where the long-term EPS (t+5) is simply equal to last year's

14   EPS figure (t-1); and (2) a RW model with drift ("RWGDP"), where the drift or

15   growth rate is GDP growth for period t-1. In this model, long-term EPS (t+5) is

16   simply equal to last year's EPS figure (t-1) times (1 + GDP growth (t-1)). The

17   authors conclude that using the RW model to forecast EPS in the next 3-5 years

18   proved to be just as accurate as using the EPS estimates from analysts' long-term

19   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

1   than the pure RW model, and that both models perform as well as analysts in

2   forecasting long-term EPS. They also discover an optimistic bias in analysts'

3   long-term EPS forecasts. In the authors' opinion, these results indicate that

4   analysts' long-term earnings growth rate forecasts should be used with caution as

5   inputs for valuation and cost of capital purposes.

6   **C.   ISSUES REGARDING THE SUPERIORITY OF**
7   **ANALYSTS' EPS FORECASTS OVER HISTORIC AND**
8   **TIME-SERIES ESTIMATES OF LONG-TERM EPS GROWTH**
9

10   As highlighted by the classic study by Brown and Rozeff (1976) and the

11   other studies that followed, analysts' forecasts of quarterly earnings estimates are

12   superior to the estimates derived from historic and time-series analyses.[10] This is

13   often attributed to the information and timing advantage that analysts have over

14   historic and time-series analyses. These studies relate to analysts' forecasts of

15   quarterly and/or annual forecasts, and not to long-term EPS growth rate forecasts.

16   The previously cited studies by Harris (1999), Chan, Karceski, and Lakonishok

17   (2003), and Lacina, Lee, and Xu (2011) all conclude that analysts' forecasts are

18   no better than time-series models and historic growth rates in forecasting long-

19   term EPS. Harris (1999) and Lacina, Lee, and Xu (2011) concluded that historic

20   GDP growth was superior to analysts' forecasts for long run earnings growth.

21   These overall results are similar to the findings by Bradshaw, Drake, Myers, and

22   Myers (2009) that discovered that time-series estimates of annual earnings are

23   more accurate over longer horizons than analysts' forecasts of earnings. As the

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[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).

1   authors state, "These findings suggest an incomplete and misleading

2   generalization about the superiority of analysts' forecasts over even simple time-

3   series-based earnings forecasts."[11]

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

7   To evaluate the accuracy of analysts' EPS forecasts, I have compared

8   actual 3-5 year EPS growth rates with forecasted EPS growth rates on a quarterly

9   basis over the past 20 years for all companies covered by the I/B/E/S data base.

10   In Panel A of page 1 of Exhibit JRW-B1, I show the average analysts' forecasted

11   3-5 year EPS growth rate with the average actual 3-5 year EPS growth rate for the

12   past twenty years.

13   The following example shows how the results can be interpreted. For the

14   3-5 year period ending the first quarter of 1999, analysts had projected an EPS

15   growth rate of 15.13%, but companies only generated an average annual EPS

16   growth rate over the 3-5 years of 9.37%.   This projected EPS growth rate figure

17   represented the average projected growth rate for over 1,510 companies, with an

18   average of 4.88 analysts' forecasts per company.   For the entire twenty-year

19   period of the study, for each quarter there were on average 5.6 analysts' EPS

20   projections for 1,281 companies. Overall, my findings indicate that forecast errors

21   for long-term estimates are predominantly positive, which indicates an upward

22   bias in growth rate estimates.   The mean and median forecast errors over the

23   observation period are 143.06% and 75.08%, respectively. The forecasting errors

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[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.

1   are negative for only eleven of the eighty quarterly time periods: five consecutive

2   quarters starting at the end of 1995 and six consecutive quarters starting in 2006.

3   As shown in Panel A of page 1 of Exhibit JRW-B1, the quarters with negative

4   forecast errors were for the 3-5 year periods following earnings declines

5   associated with the 1991 and 2001 economic recessions in the U.S. Thus, there is

6   evidence of a persistent upward bias in long-term EPS growth forecasts.

7   The average 3-5 year EPS growth rate projections for all companies

8   provided in the I/B/E/S database on a quarterly basis from 1988 to 2008 are

9   shown in Panel B of page 1 of Exhibit JRW-B1. In this graph, no comparison to

10   actual EPS growth rates is made, and hence, there is no follow-up period.

11   Therefore, since companies are not lost from the sample due to a lack of follow-

12   up EPS data, these results are for a larger sample of firms. The average projected

13   growth rate increased to the 18.0% range in 2004, and has since decreased to

14   about 14.0%.

15   The upward bias in analysts' long-term EPS growth rate forecasts appears to

16   be known in the markets. Page 2 of Exhibit JRW-B1 provides an article published

17   in the *Wall Street Journal*, dated March 21, 2008, that discusses the upward bias in

18   analysts' EPS growth rate forecasts.[12] In addition, a recent *Bloomberg Businessweek*

19   article also highlighted the upward bias in analysts' EPS forecasts, citing a study by

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

1   McKinsey Associates. This article is provided on pages 3 and 4 of Exhibit JRW-B1.

2   The article concludes with the following:[13]

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

5
6   **E. REGULATORY DEVELOPMENTS AND THE ACCURACY**
7   **OF ANALYSTS' LONG-TERM EARNINGS GROWTH RATES FORECASTS**
8
9
10   Whereas Hovakimian and Saenyasiri evaluated the impact of regulations

11   on analysts' short-term EPS estimates, there is little research on the impact of Reg

12   FD and GARS on the long-term EPS forecasts of Wall Street analysts. My study

13   with Patrick Cusatis did find that the long-term EPS growth rate forecasts of

14   analysts did not decline significantly and have continued to be overly optimistic in

15   the post-Reg FD and GARS period.[14] Analysts' long-term EPS growth rate

16   forecasts before and after GARS are about two times the level of historic GDP

17   growth. These observations are supported by a *Wall Street Journal* article entitled

18   "Analysts Still Coming Up Rosy – Over-Optimism on Growth Rates is Rampant –

19   and the Estimates Help to Buoy the Market's Valuation." The following quote

20   provides insight into the continuing bias in analysts' forecasts:

21   Hope springs eternal, says Mark Donovan, who manages
22   Boston Partners Large Cap Value Fund. "You would have
23   thought that, given what happened in the last three years,
24   people would have given up the ghost. But in large measure
25   they have not.
26

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[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

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[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).

1   To evaluate whether analysts' EPS growth rate forecasts are upwardly

2 biased for utility companies, I conducted a study similar to the one described

3 above using a group of electric utility and gas distribution companies. The results

4 are shown on Panels A and B of page 5 of Exhibit JRW-B1. The projected EPS

5 growth rates for electric utilities have been in the 4% to 6% range over the last

6 twenty years, with the recent figures at approximately 5%. As shown, the

7 achieved EPS growth rates have been volatile and, on average, below the

8 projected growth rates. Over the entire period, the average quarterly 3-5 year

9 projected and actual EPS growth rates are 4.59% and 2.90%, respectively.

10   For gas distribution companies, the projected EPS growth rates have

11 declined from about 6% in the 1990s to about 5% in the 2000s. The achieved

12 EPS growth rates have been volatile. Over the entire period, the average quarterly

13 3-5 year projected and actual EPS growth rates are 5.15% and 4.53%,

14 respectively.

15   Overall, the upward bias in EPS growth rate projections for electric utility

16 and gas distribution companies is not as pronounced as it is for all companies.

17 Nonetheless, the results here are consistent with the results for companies in

18 general -- analysts' projected EPS growth rate forecasts are upwardly biased for

19 utility companies.

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

21   To assess *Value Line*'s earnings growth rate forecasts, I used the *Value*

22 *Line Investment Analyzer*. The results are summarized in Panel A of Page 6 of

23 Exhibit JRW-B1. I initially filtered the database and found that *Value Line* has 3-

1   5 year EPS growth rate forecasts for 2,333 firms. The average projected EPS

2   growth rate was 14.70%. This is high given that the average historical EPS

3   growth rate in the U.S. is about 7%. A major factor seems to be that *Value Line*

4   only predicts negative EPS growth for 43 companies. This is less than two

5   percent of the companies covered by *Value Line*. Given the ups and downs of

6   corporate earnings, this is unreasonable.

7   To put this figure in perspective, I screened the *Value Line* companies to

8   see what percent of companies covered by *Value Line* had experienced negative

9   EPS growth rates over the past five years. *Value Line* reported a five-year historic

10 growth rate for 2,219 companies. The results are shown in Panel B of page 6 of

11 Exhibit JRW-B1 and indicate that the average 5-year historic growth rate was

12 3.90%, and *Value Line* reported negative historic growth for 844 firms which

13 represents 38.0% of these companies.

14 These results indicate that *Value Line*'s EPS forecasts are excessive and

15 unrealistic. It appears that the analysts at *Value Line* are similar to their Wall

16 Street brethren in that they are reluctant to forecast negative earnings growth.

17

Appendix C
Building Blocks Equity Risk Premium

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%).

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[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.

1   The third column in the graph on page 1 of Exhibit JRW-C1 shows current

2   inputs to estimate an ex ante expected market return. These inputs include the

3   following:

4   CPI – To assess expected inflation, I have employed expectations of the short-

5   term and long-term inflation rate.   Long-term inflation forecasts are available in

6   the Federal Reserve Bank of Philadelphia's publication entitled *Survey of*

7   *Professional Forecasters*. While this survey is published quarterly, only the first

8   quarter survey includes long-term forecasts of gross domestic product ("GDP")

9   growth, inflation, and market returns. In the first quarter 2015 survey, published

10   on February 13, 2015, the median long-term (10-year) expected inflation rate as

11   measured by the CPI was 2.1% (see Panel A of page 2 of Exhibit JRW-C1).

12   The University of Michigan's Survey Research Center surveys consumers

13   on their short-term (one-year) inflation expectations on a monthly basis. As

14   shown on page 3 of Exhibit JRW-C1, the current short-term expected inflation

15   rate is 2.8%.

16   As a measure of expected inflation, I will use the average of the long-term

17   (2.1%) and short-term (2.8%) inflation rate measures, or 2.50%.

18

19   D/P – As shown on page 4 of Exhibit JRW-C1, the dividend yield on the S&P

20   500 has fluctuated from the approximate range of 1.0% to 3.5% from 2000-2014.

21   Ibbotson and Chen (2003) report that the long-term average dividend yield of the

1   S&P 500 is 4.3%.[3]   Dividend yields over the past two years have averaged about

2   2.0%. As of February 2015, the indicated S&P 500 dividend yield was 2.0%. I

3   will use this figure in my ex ante risk premium analysis.

4   RG – To measure expected real growth in earnings, I use the historical real

5   earnings growth rate S&P 500 and the expected real GDP growth rate. The S&P

6   500 was created in 1960 and includes 500 companies which come from ten

7   different sectors of the economy. On page 5 of Exhibit JRW-C1, real EPS growth

8   is computed using the CPI as a measure of inflation. The real growth figure over

9   1960-2014 period for the S&P 500 is 2.9%.

10   The second input for expected real earnings growth is expected real GDP

11   growth. The rationale is that over the long-term, corporate profits have averaged

12   5.50% of U.S. GDP.[4]   Expected real GDP growth, according to the Federal

13   Reserve Bank of Philadelphia's *Survey of Professional Forecasters,* is 2.51% (see

14   Panel B of page 2 of Exhibit JRW-C1, Mean =2.51%).

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

16   PEGAIN – PEGAIN is the repricing gain associated with an increase in the P/E

17   ratio.   It accounted for 1.3% of the 10.7% annual stock return in the 1926-2000

18   period.   In estimating an ex ante expected stock market return, one issue is

19   whether investors expect P/E ratios to increase from their current levels. The P/E

20   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.

C-3

1   JRW-C1. The run-up and eventual peak in P/Es in the year 2001 is very evident in

2   the chart. The average P/E declined until late 2006, and then increased to higher

3   high levels, primarily due to the decline in EPS as a result of the financial crisis

4   and the recession. As of February, 2015, the average P/E for the S&P 500 was

5   17.35X, which is above the historic average.[5] Since the current figure is above

6   the historic average, a PEGAIN would not be appropriate in estimating an ex ante

7   expected stock market return.

8   Expected Return from Building Blocks Approach - The current expected

9   market return is represented by the last column on the right in the graph entitled

10   "Decomposing Equity Market Returns: The Building Blocks Methodology" set

11   forth on page 1 of Exhibit JRW-C1. As shown, the expected market return of

12   7.25% is composed of 2.50% expected inflation, 2.0% dividend yield, and 2.75%

13   real earnings growth rate.

14   This expected return of 7.25% is consistent with other expected return

15   forecasts.

16   1.   In the first quarter 2015 *Survey of Financial Forecasters*, published on

17   February 13, 2015 by the Federal Reserve Bank of Philadelphia, the

18   mean long-term expected return on the S&P 500 was 5.79% (see Panel

19   D of page 2 of Exhibit JRW-C1).

20   2.   John Graham and Campbell Harvey of Duke University conduct a

21   quarterly survey of corporate CFOs. The survey is a joint project of

---

[5] www.standardandpoors.com.

1   Duke University and *CFO Magazine*. In the March, 2015 survey, the

2   mean expected return on the S&P 500 over the next ten years was

3   7.4%.[6]

4   **B.   THE BUILDING BLOCKS EQUITY RISK PREMIUM**

5

6   The current 30-year U.S. Treasury yield is about 2.50%. This ex ante

7   equity risk premium is simply the expected market return from the Building

8   Blocks methodology minus this risk-free rate:

9

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

11

12   This is only one estimate of the equity risk premium. As shown on page 6

13   of Exhibit JRW-11, I am also using the results of many other studies and surveys

14   to determine an equity risk premium for my CAPM.

---

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

Exhibit JRW-1
Kansas City Power & Light Company
Recommended Cost of Capital

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	48.97%	5.55%	2.72%
Preferred Stock	0.55%	4.29%	0.02%
Common Equity	50.48%	8.55%	4.32%
Total	100.00%		7.06%

Exhibit JRW-2

Panel A
Ten-Year Treasury Yields
1953-Present
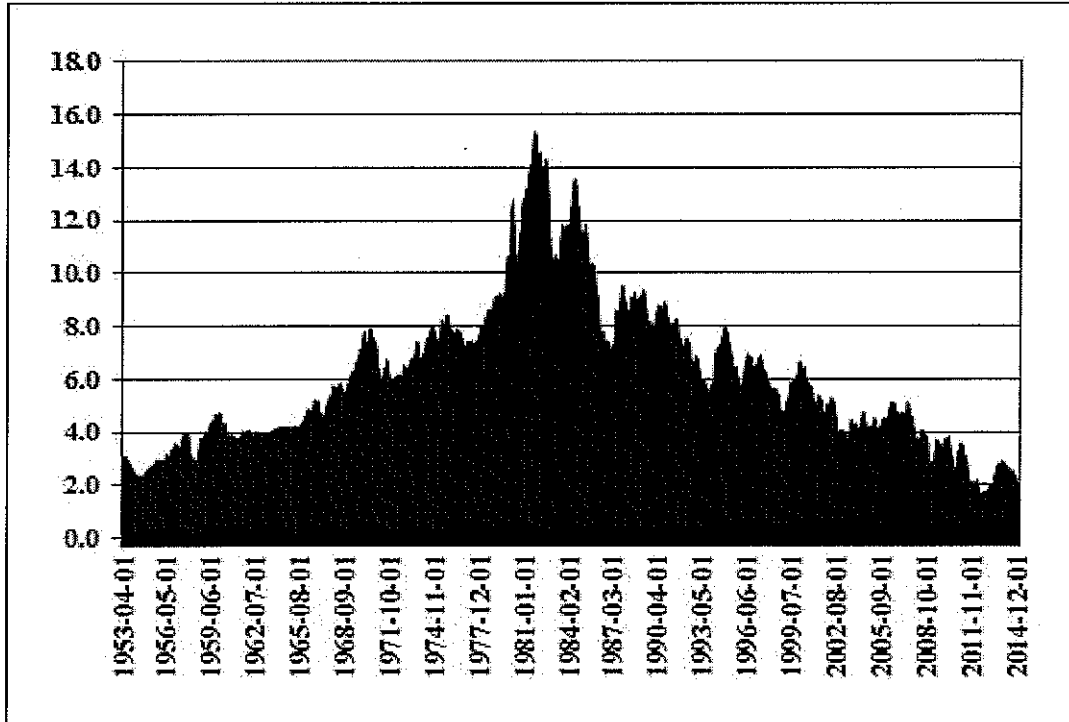
Panel B
Long-Term Moody's Baa Yields Minus Ten-Year Treasury Yields
2000-Present
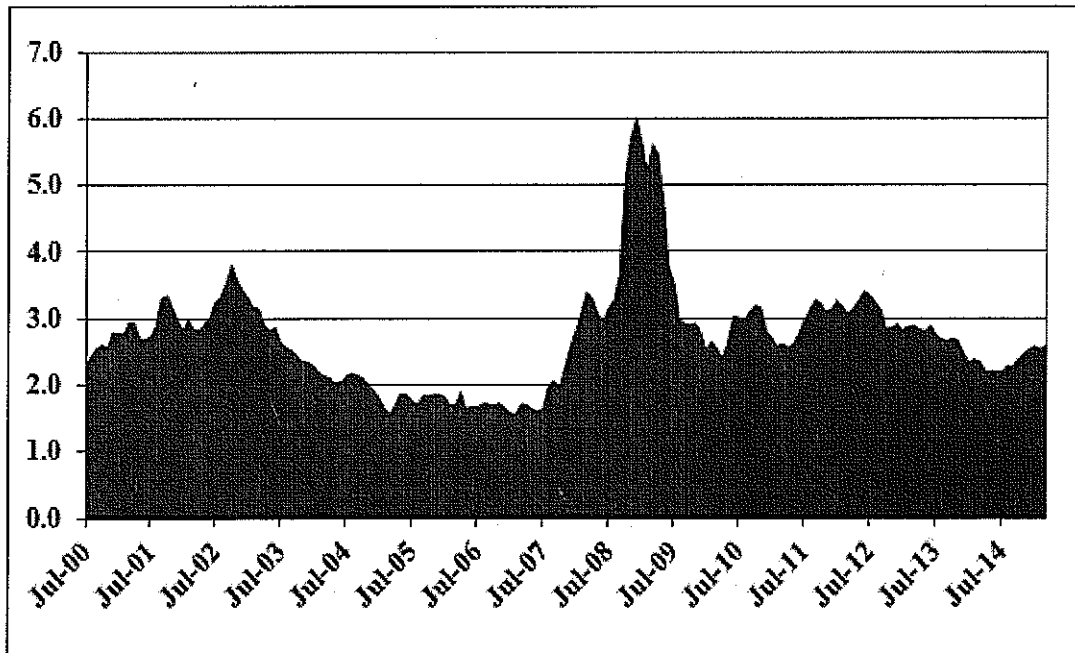
Source: Federal Reserve Bank of St. Louis, FRED Database.

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
Kansas City Power & Light Company
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)	1,114.1	89	0	3,121.5	2.3	BBB+	A3	3.9	MN, WI	52.6	8.9	1.53
Alliant Energy Corporation (NYSE-LNT)	3,350.3	81	15	8,938.4	6.7	A-	A3	10.0	WS,IA,IL,MN	46.8	10.8	1.85
Ameren Corporation (NYSE-AEE)	6,053.0	81	19	17,424.0	10.0	BBB+	Baa2	3.6	IL,MO	48.6	8.9	1.49
American Electric Power Co. (NYSE-AEP)	17,020.0	82	0	44,117.0	27.1	BBB	Baa1	3.7	10 States	45.6	9.9	1.61
Avista Corporation (NYSE-AVA)	1,516.9	68	35	3,620.0	2.0	BBB	Baa1	3.6	WA,ID,AK	48	13.8	1.38
Black Hills Corporation (NYSE-BKH)	1,393.6	49	44	3,239.4	2.2	BBB	Baa1	4.1	CO,SD,WY,MT,NE,IA,KS	46.0	9.6	1.57
CMS Energy Corporation (NYSE-CMS)	7,179.0	62	33	13,412.0	9.2	BBB+	Baa2	2.8	MI	29.3	13.4	2.51
Consolidated Edison, Inc. (NYSE-ED)	12,918.0	71	15	29,439.0	17.8	A-	A3	4.2	NY,PA	49.2	8.8	1.42
Dominion Resources, Inc. (NYSE-D)	12,436.0	60	3	36,270.0	40.34	A-	Baa2	4.1	VA,NC,OH,WV	30.5	11.3	3.49
Duke Energy Corporation (NYSE-DUK)	24,527.0	88	2	70,046.0	52.7	BBB+	A3	3.6	NC,SC,FL,OH,KY	49.0	4.6	1.29
Edison International (NYSE-EIX)	13,413.0	100	0	32,859.0	20.5	BBB+	A3	4.8	CA	43.8	15.4	1.87
El Paso Electric Company (NYSE-EE)	917.5	100	0	2,488.4	1.5	BBB	Baa1	2.7	TX,NM	45.8	9.5	1.48
Empire District Electric Co. (NYSE-EDE)	652.3	91	8	1,910.3	1.0	BBB	Baa1	3.4	KS,MO,OK,AR	48.0	8.8	1.33
Entergy Corporation (NYSE-ETR)	12,494.9	77	1	28,722.9	13.4	BBB	Baa3	3.2	LA,AR,MS,TX	41.3	9.5	1.33
Eversource Energy (NYSE-ES)	7,638.5	86	13	18,254.6	16.2	A-	Baa1	4.5	CT,NH,MA	51.1	8.0	1.63
FirstEnergy Corporation (ASE-FE)	15,056.0	66	0	35,783.0	14.6	BBB-	Baa3	2.4	OH,PA,NY,NJ,WV,MD	36.3	2.4	1.17
Great Plains Energy Incorporated (NYSE-GXP)	2,568.2	100	0	8,279.6	4.0	BBB+	Baa2	2.9	MO,KS	47.9	6.8	1.11
IDACORP, Inc. (NYSE-IDA)	1,282.5	100	0	3,833.5	3.0	BBB	Baa1	6.3	ID	54.2	10.2	1.55
MGE Energy, Inc. (NYSE-MGEE)	619.9	64	36	1,208.1	1.5	AA-	A1	7.5	WI	61.9	12.6	2.24
NorthWestern Corporation (NYSE-NWE)	1,204.9	68	27	3,758.0	2.6	BBB	A3	2.4	SD,MT,NE	43.0	9.6	1.78
OGE Energy Corp. (NYSE-OGE)	2,453.1	100	0	6,979.9	6.2	A-	A3	4.8	OK,AR	53.2	12.6	1.92
PG&E Corporation (NYSE-PCG)	17,090.0	80	20	43,941.0	24.7	BBB	Baa1	3.4	CA	49.7	9.5	1.57
Pinnacle West Capital Corp. (NYSE-PNW)	3,491.6	100	0	11,074.6	6.9	A-	Baa1	4.5	AZ	54.0	9.3	1.57
PNM Resources, Inc. (NYSE-PNM)	1,435.9	100	0	4,270.0	2.2	BBB	Baa3	2.4	NM,TX	44.3	6.8	1.28
Portland General Electric Company (NYSE-POR)	1,900.0	100	0	5,679.0	2.8	BBB	A3	2.8	OR	43.3	9.4	1.45
SCANA Corporation (NYSE-SCG)	4,952.0	53	20	12,232.0	7.5	BBB+	Baa3	3.6	SC,NC,GA	43.0	11.1	1.50
Southern Company (NYSE-SO)	18,467.0	94	0	54,868.0	39.9	A	Baa1	5.6	GA,AL,FL,MS	48.7	9.6	1.91
Westar Energy, Inc. (NYSE-WR)	2,601.7	100	0	8,162.9	4.9	BBB+	Baa1	2.8	KS	47.3	9.9	1.50
Xcel Energy Inc. (NYSE-XEL)	11,686.1	81	18	28,756.9	17.1	A-	A3	3.5	MN,WI,ND,SD,MI	44.4	10.3	1.67
Mean	7,152.9	82	11	18,713.4	12.4	BBB+	Baa1	4.0		46.4	9.7	1.65
Median	3,491.6	82	2	11,074.6	12.4	BBB+	Baa1	3.6		47.3	9.6	1.55

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

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
Great Plains Energy Incorporated (NYSE-GXP)	2,568.2	100	0	8,279.6	4.0	BBB+	Baa2	2.9	MO,KS	47.9	6.8	1.11
Kansas City Power & Light Company*	1,730.8	100	0	5,078.6	na	BBB+	Baa1	2.8	KS	45.0	7.4	na

* KCPL data from 2015 10-k.

Panel B
Hevert Proxy Group

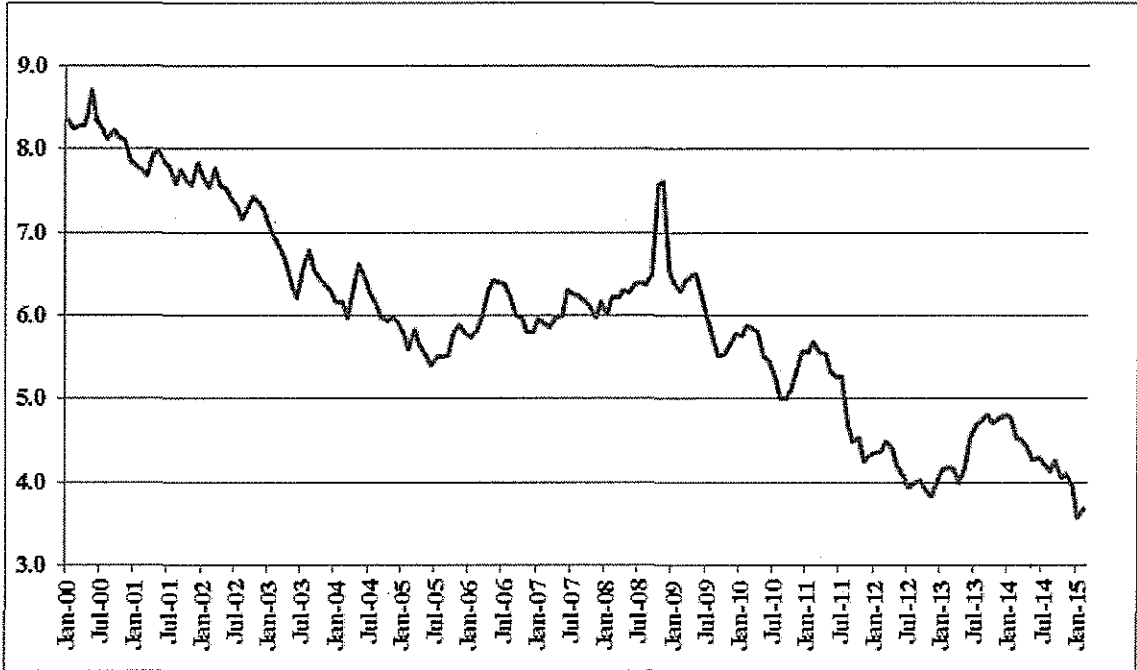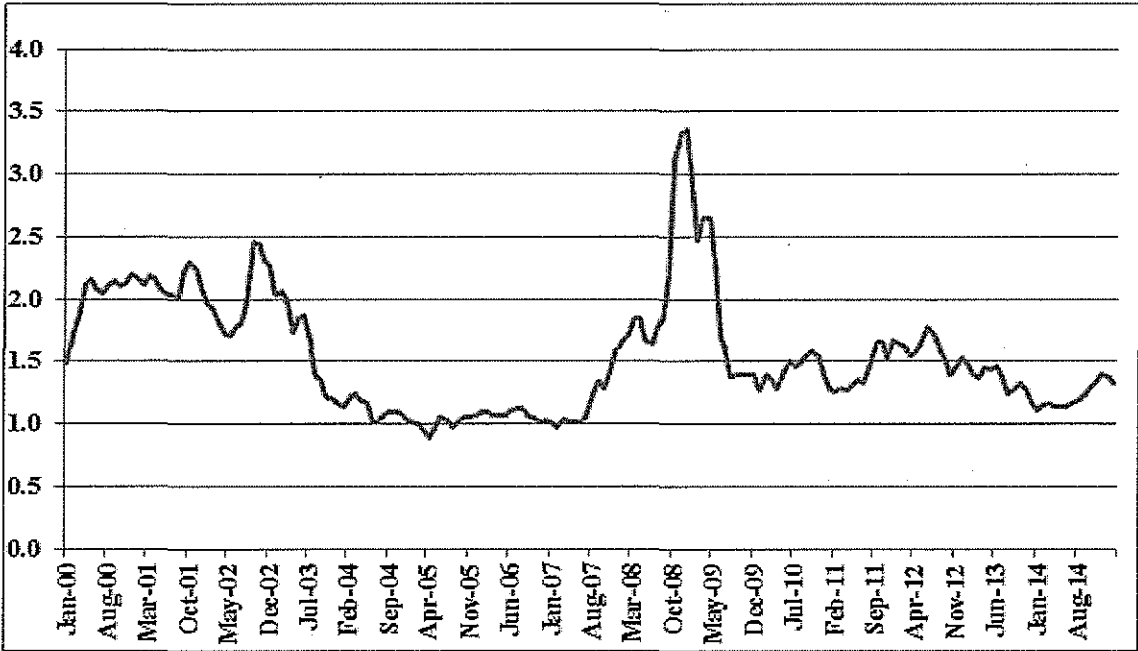| Company	Operating Revenue ($mil)	Percent Elec Revenue	Percent Gas Revenue	Net Plant ($mil)	Market Cap ($mil)	S&P Issuer Credit Rating	Moody's Long Term Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
American Electric Power Co. (NYSE-AEP)	17,020.0	82	0	44,117.0	27.1	BBB	Baa1	3.7	10 States	45.6	9.9	1.61
Duke Energy Corporation (NYSE-DUK)	24,527.0	88	2	70,046.0	52.7	BBB+	A3	3.6	NC,SC,FL,OH,KY	49.0	4.6	1.29
Empire District Electric Co. (NYSE-EDE)	652.3	91	8	1,910.3	1.0	BBB	Baa1	3.4	KS,MO,OK,AR	48.0	8.8	1.33
Eversource Energy (NYSE-ES)	7,638.5	86	13	18,254.6	16.2	A-	Baa1	4.5	CT,NH,MA	51.1	8.0	1.63
IDACORP, Inc. (NYSE-IDA)	1,282.5	100	0	3,833.5	3.0	BBB	Baa1	6.3	ID	54.2	10.2	1.55
Otter Tail Corporation (NDQ-OTTR)	950.7	43	0	1,248.7	1.2	BBB	Baa2	3.5	MN,ND,SD	51.2	11.0	2.11
Pinnacle West Capital Corp. (NYSE-PNW)	3,491.6	100	0	11,074.6	6.9	A-	Baa1	4.5	AZ	54.0	9.3	1.57
PNM Resources, Inc. (NYSE-PNM)	1,435.9	100	0	4,270.0	2.2	BBB	Baa3	2.4	NM,TX	44.3	6.8	1.28
Portland General Electric Company (NYSE-POR)	1,900.0	100	0	5,679.0	2.8	BBB	A3	2.8	OR	43.3	9.4	1.45
Southern Company (NYSE-SO)	18,467.0	94	0	54,868.0	39.9	A	Baa1	5.6	GA,AL,FL,MS	48.7	9.6	1.91
Westar Energy, Inc. (NYSE-WR)	2,601.7	100	0	8,162.9	4.9	BBB+	Baa1	2.8	KS	47.3	9.9	1.50
Mean	7,269.7	89	2	20,315.0	14.4	BBB+/BBB	Baa1	3.9		48.8	8.9	1.57
Median	2,601.7	94	0	8,162.9	4.9	BBB+/BBB	Baa1	3.6		48.7	9.4	1.55

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

Exhibit JRW-5
Kansas City Power & Light Company
Capital Structure Ratios and Debt Cost Rates

Panel A -Kansas City Power & Light Company's Proposed Capitalization Ratios and Del

Capital Source	Capitalization Ratio	Cost Rate
Short-Term Debt	0.00%	
Long-Term Debt	48.97%	5.55%
Preferred Stock	0.55%	4.29%
Common Equity	50.48%	
Total	100.00%	

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

Capital Source	Capitalization Ratio	Cost Rate
Long-Term Debt	48.97%	5.55%
Preferred Stock	0.55%	4.29%
Common Equity	50.48%	
Total	100.00%	

Exhibit JRW-6
Electric Utilities
Panel A

Market-to-Book
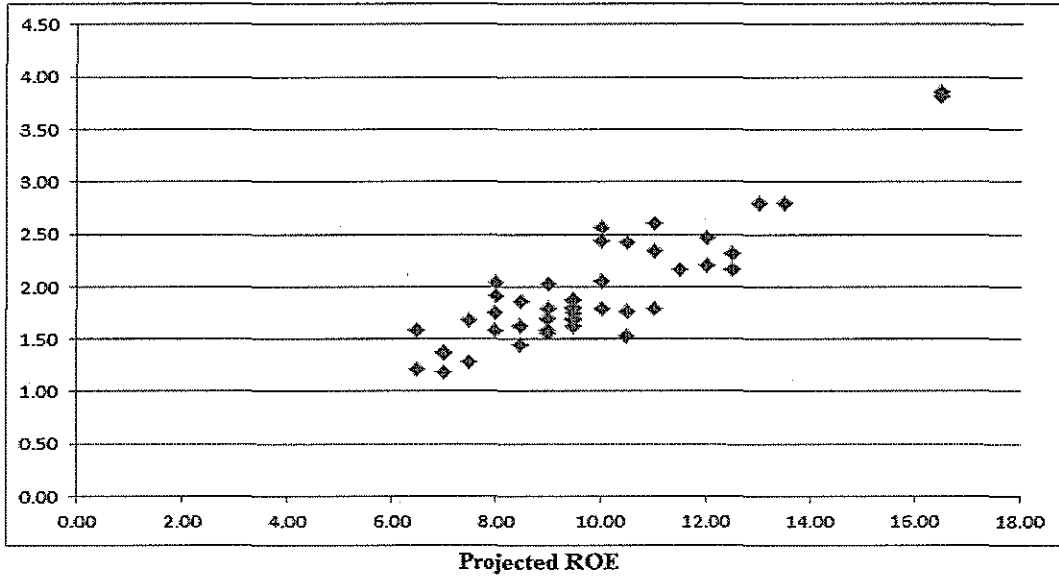
Value Line Investment Survey, 2015

R-Square = .78, N=46

Panel B
Gas Companies

Market-to-Book
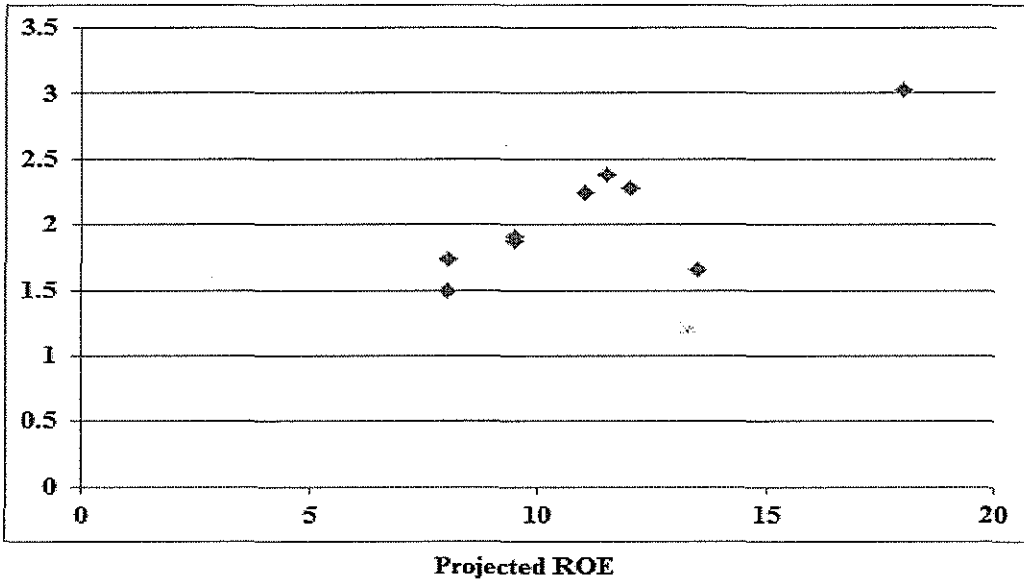
Value Line Investment Survey, 2015

R-Square = .63, N=9

Exhibit JRW-6
Water Companies
Panel C

Market-to-Book

Projected ROE
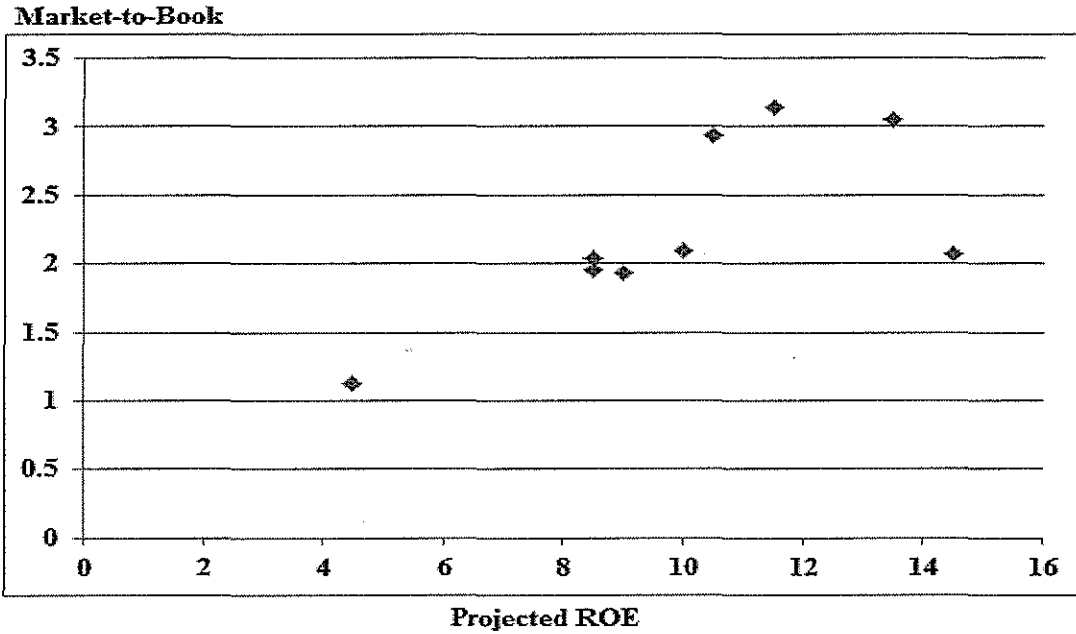
Value Line Investment Survey, 2015

R-Square = .49, N=9

Exhibit JRW-7
Long-Term 'A' Rated Public Utility Bonds
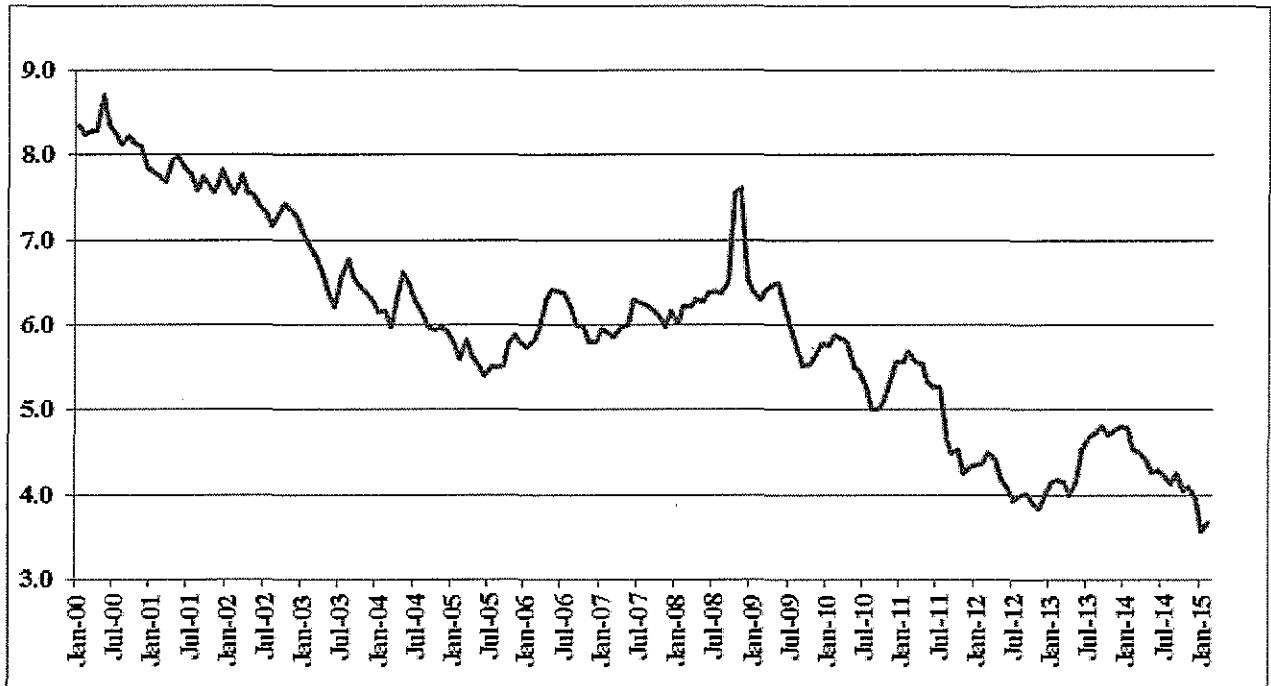
Data Source: Mergent Bond Record

Exhibit JRW-7

Electric Utility Average Dividend Yield
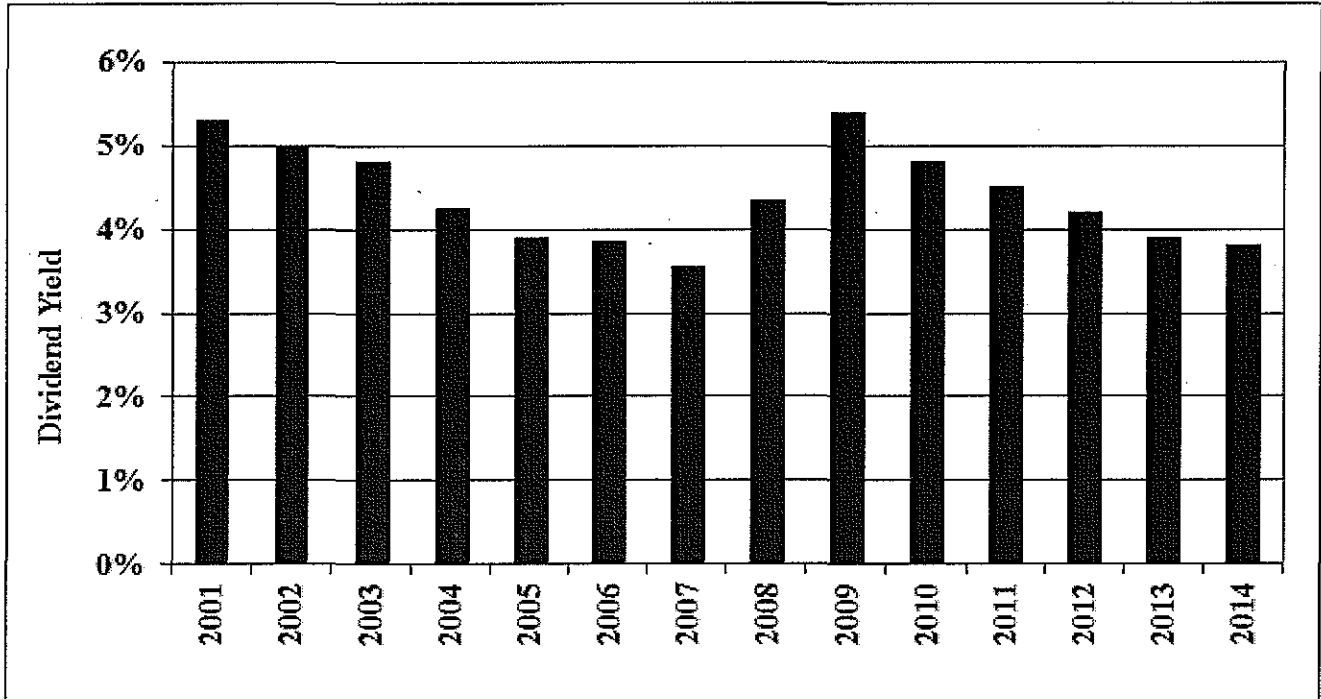
Data Source: *Value Line Investment Survey.*

Exhibit JRW-7

Electric Utility Average Return on Equity and Market-to-Book Ratios
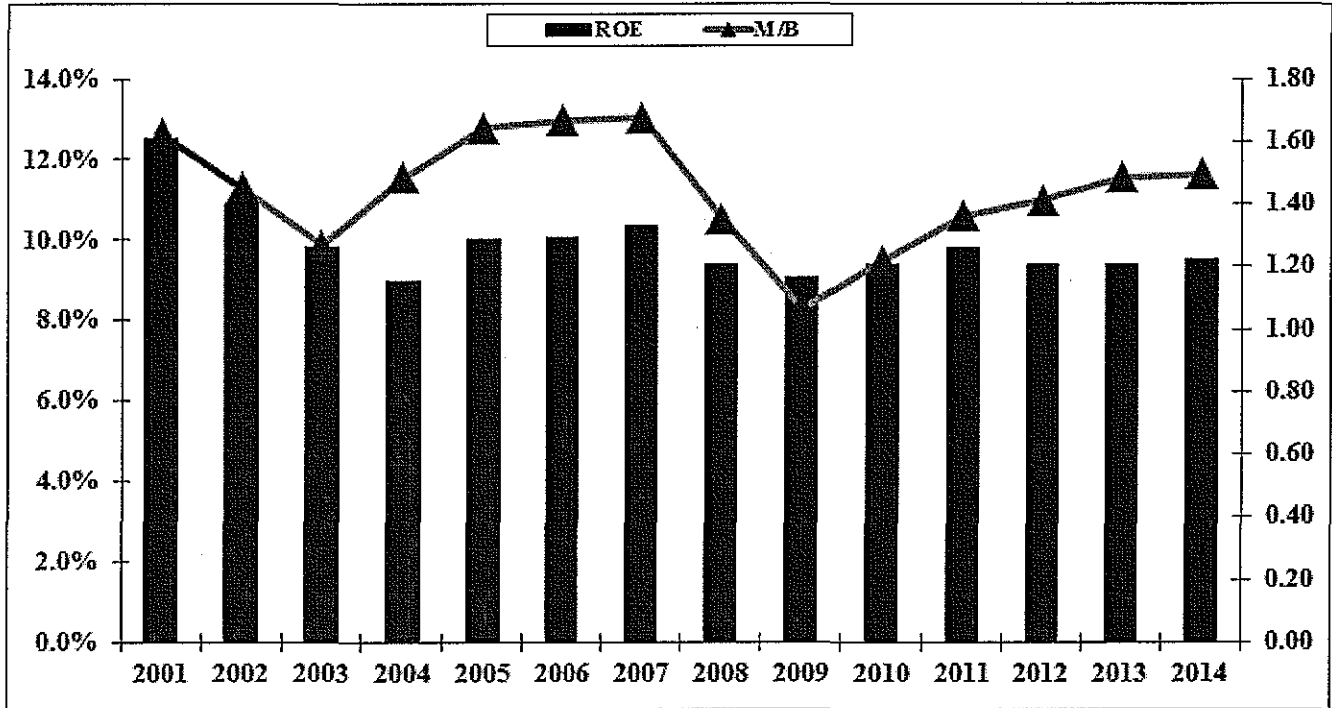
Data Source: *Value Line Investment Survey.*

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

Exhibit JRW-9
DCF Model
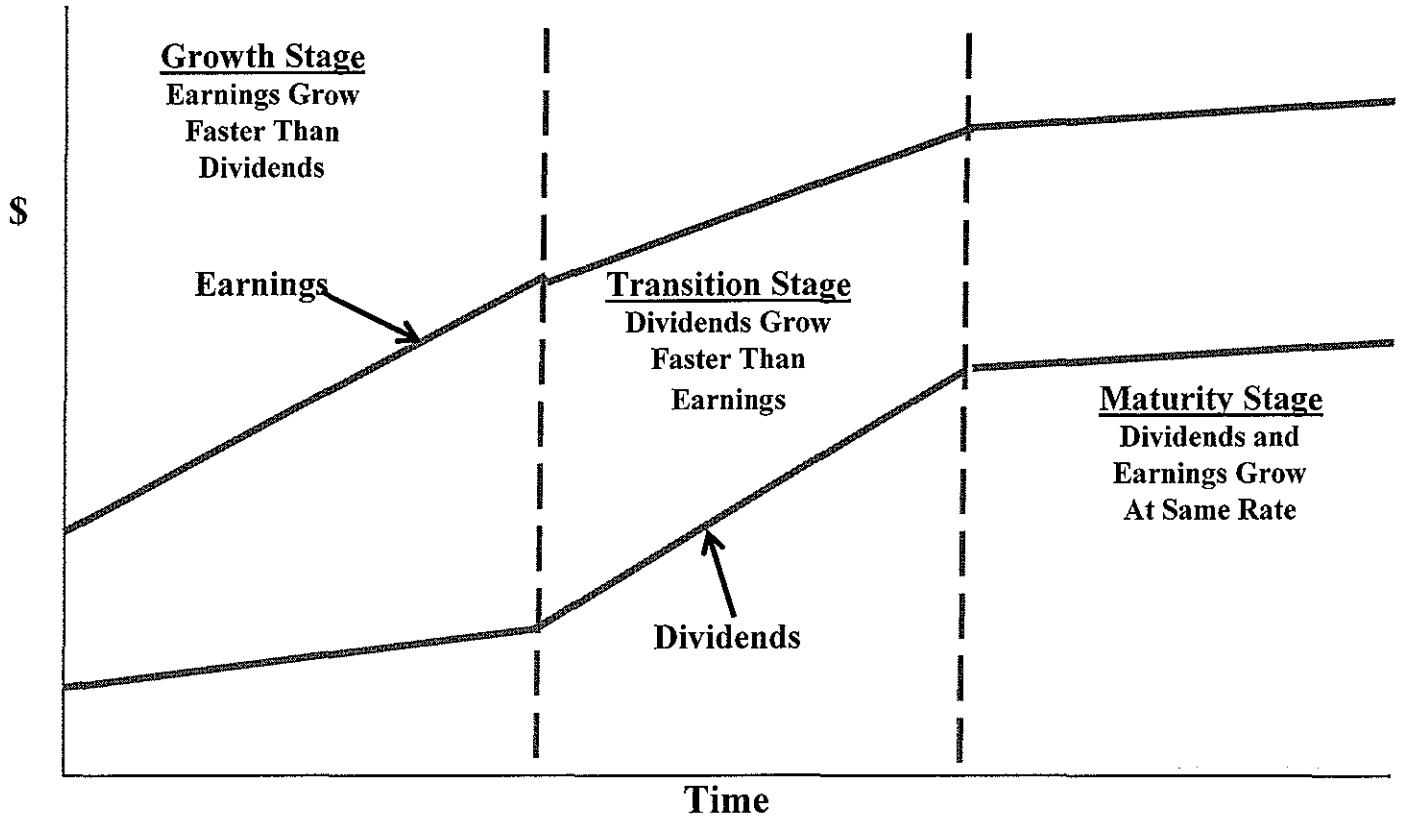
Source: William F. Sharpe, Gordon J. Alexander, and Jeffrey V. Bailey, Investments (Prentice-Hall, 1995), pp. 590-91.

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

Kansas City Power & Light Company
Discounted Cash Flow Analysis

Panel A
Electric Proxy Group

Dividend Yield*	3.60%
Adjustment Factor	1.0235
Adjusted Dividend Yield	3.7%
Growth Rate**	4.70%
Equity Cost Rate	8.40%

* Page 2 of Exhibit JRW-10
** Based on data provided on pages 3, 4, 5, and
   6 of Exhibit JRW-10

Panel B
Hevert Proxy Group

Dividend Yield*	3.70%
Adjustment Factor	1.02375
Adjusted Dividend Yield	3.8%
Growth Rate**	4.75%
Equity Cost Rate	8.55%

* Page 2 of Exhibit JRW-10
** Based on data provided on pages 3, 4, 5, and
   6 of Exhibit JRW-10

Exhibit JRW-10
Kansas City Power & Light Company
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	3.8%	3.7%	3.9%
Alliant Energy Corporation (NYSE-LNT)	$	2.20	3.5%	3.4%	3.6%
Ameren Corporation (NYSE-AEE)	$	1.64	3.9%	3.8%	3.9%
American Electric Power Co. (NYSE-AEP)	$	2.12	3.7%	3.6%	3.8%
Avista Corporation (NYSE-AVA)	$	1.32	3.9%	3.8%	3.9%
Black Hills Corporation (NYSE-BKH)	$	1.62	3.2%	3.2%	3.1%
CMS Energy Corporation (NYSE-CMS)	$	1.16	3.3%	3.3%	3.5%
Consolidated Edison, Inc. (NYSE-ED)	$	2.60	4.2%	4.0%	4.2%
Dominion Resources, Inc. (NYSE-D)	$	2.59	3.6%	3.5%	3.6%
Duke Energy Corporation (NYSE-DUK)	$	3.18	4.1%	3.9%	4.1%
Edison International (NYSE-EIX)	$	1.67	2.6%	2.6%	2.7%
El Paso Electric Company (NYSE-EE)	$	1.12	3.0%	2.9%	3.0%
Empire District Electric Co. (NYSE-EDE)	$	1.04	4.2%	3.8%	3.9%
Entergy Corporation (NYSE-ETR)	$	3.32	4.3%	4.0%	4.1%
Eversource Energy (NYSE-ES)	$	1.67	3.6%	3.5%	3.7%
FirstEnergy Corporation (ASE-FE)	$	1.44	4.1%	3.8%	4.0%
Great Plains Energy Incorporated (NYSE-GXP)	$	0.98	3.7%	3.6%	3.7%
IDACORP, Inc. (NYSE-IDA)	$	1.88	3.0%	2.9%	3.1%
MGE Energy, Inc. (NYSE-MGEE)	$	1.13	2.6%	2.5%	2.7%
Northwestern Corp. (NYSE-NWE)	$	1.92	3.6%	3.5%	3.7%
OGE Energy Corp. (NYSE-OGE)	$	1.00	3.1%	2.9%	2.8%
PG&E Corporation (NYSE-PCG)	$	1.82	3.4%	3.4%	3.6%
Pinnacle West Capital Corp. (NYSE-PNW)	$	2.38	3.7%	3.6%	3.9%
PNM Resources, Inc. (NYSE-PNM)	$	0.80	2.8%	2.8%	2.9%
Portland General Electric Company (NYSE-POR)	$	1.12	3.1%	3.0%	3.1%
SCANA Corporation (NYSE-SCG)	$	2.18	3.9%	3.7%	4.0%
Southern Company (NYSE-SO)	$	2.10	4.7%	4.4%	4.6%
Westar Energy, Inc. (NYSE-WR)	$	1.44	3.7%	3.6%	3.8%
Xcel Energy Inc. (NYSE-XEL)	$	1.28	3.7%	3.6%	3.8%
Mean			3.6%	3.5%	3.6%
Median			3.7%	3.6%	3.7%

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

Panel B
Hevert Proxy Group

Company	Annual Dividend		Dividend Yield 30 Day	Dividend Yield 90 Day	Dividend Yield 180 Day
American Electric Power Co. (NYSE-AEP)	$	2.12	3.7%	3.6%	3.8%
Duke Energy Corporation (NYSE-DUK)	$	3.18	4.1%	3.9%	4.1%
Empire District Electric Co. (NYSE-EDE)	$	1.04	4.2%	3.8%	3.9%
Eversource Energy (NYSE-ES)	$	1.67	3.6%	3.5%	3.7%
IDACORP, Inc. (NYSE-IDA)	$	1.88	3.0%	2.9%	3.1%
Otter Tail Corporation (NDQ-OTTR)	$	1.23	3.8%	3.9%	4.1%
Pinnacle West Capital Corp. (NYSE-PNW)	$	2.38	3.7%	3.6%	3.9%
PNM Resources, Inc. (NYSE-PNM)	$	0.80	2.8%	2.8%	2.9%
Portland General Electric Company (NYSE-POR)	$	1.12	3.1%	3.0%	3.1%
Southern Company (NYSE-SO)	$	2.10	4.7%	4.4%	4.6%
Westar Energy, Inc. (NYSE-WR)	$	1.44	3.7%	3.6%	3.8%
Mean			3.7%	3.5%	3.7%
Median			3.7%	3.6%	3.8%

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

Exhibit JRW-10

Kansas City Power & Light Company
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)	-2.5	-4.5	1.5	-4.0	-9.0	-2.0
American Electric Power Co. (NYSE-AEP)	0.5	-1.5	3.5	1.5	4.0	4.5
Avista Corporation (NYSE-AVA)	5.5	9.0	3.5	6.5	13.5	3.5
Black Hills Corporation (NYSE-BKH)	-3.0	2.5	3.5	2.0	1.5	2.0
CMS Energy Corporation (NYSE-CMS)			3.0	12.0	23.5	4.0
Consolidated Edison, Inc. (NYSE-ED)	2.0	1.0	4.0	3.0	1.0	4.0
Dominion Resources, Inc. (NYSE-D)	4.0	5.0	2.0	2.5	7.5	2.5
Duke Energy Corporation (NYSE-DUK)				4.5	11.5	0.5
Edison International (NYSE-EIX)	7.5		8.5	2.5	2.5	3.0
El Paso Electric Company (NYSE-EE)	11.0		8.0	8.5		8.0
Empire District Electric Co. (NYSE-EDE)	2.5	-2.5	1.5	5.0	-4.5	2.0
Entergy Corporation (NYSE-ETR)	6.0	9.0	4.0	1.5	5.0	5.0
Eversource Energy (NYSE-ES)	6.0	9.5	5.0	9.0	11.0	8.0
FirstEnergy Corporation (ASE-FE)		3.0	2.5	-11.0		2.0
Great Plains Energy Incorporated (NYSE-GXP)	-3.5	-6.5	5.0	-2.0	-12.5	3.5
IDACORP, Inc. (NYSE-IDA)	5.5	-2.5	4.5	10.0	3.0	5.5
MGE Energy, Inc. (NYSE-MGEE)	6.5	2.0	6.0	7.0	2.5	5.5
NorthWestern Corporation (NYSE-NWE)				10.0	3.0	3.5
OGE Energy Corp. (NYSE-OGE)	9.5	2.0	8.0	7.5	3.0	8.5
PG&E Corporation (NYSE-PCG)	9.5		11.0	-5.5	5.0	4.5
Pinnacle West Capital Corp. (NYSE-PNW)	1.5	3.5	2.0	4.0	2.5	1.0
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	4.5	2.0
SCANA Corporation (NYSE-SCG)	3.0	4.5	4.5	3.0	2.5	4.5
Southern Company (NYSE-SO)	4.0	3.5	5.5	3.5	4.0	5.5
Westar Energy, Inc. (NYSE-WR)	6.5	3.5	5.0	9.0	3.5	3.5
Xcel Energy Inc. (NYSE-XEL)	3.5	-0.5	2.5	5.5	3.5	4.5
Mean	4.1	2.1	4.4	3.9	3.5	3.7
Median	4.8	2.5	4.0	4.0	3.0	3.5

Data Source: *Value Line Investment Survey.*   Average of Median Figures = 3.6

Panel B
Hevert Proxy Group

Company	Value Line Historic Growth					
	Past 10 Years			Past 5 Years		
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
American Electric Power Co. (NYSE-AEP)	0.5	-1.5	3.5	1.5	4.0	4.5
Duke Energy Corporation (NYSE-DUK)				4.5	11.5	0.5
Empire District Electric Co. (NYSE-EDE)	2.5	-2.5	1.5	5.0	-4.5	2.0
Eversource Energy (NYSE-ES)	6.0	9.5	5.0	9.0	11.0	8.0
IDACORP, Inc. (NYSE-IDA)	5.5	-2.5	4.5	10.0	3.0	5.5
Otter Tail Corporation (NDQ-OTTR)	-2.0	1.0	1.0	2.0		-4.5
Pinnacle West Capital Corp. (NYSE-PNW)	1.5	3.5	2.0	4.0	2.5	1.0
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	4.5	2.0
Southern Company (NYSE-SO)	4.0	3.5	5.5	3.5	4.0	5.5
Westar Energy, Inc. (NYSE-WR)	6.5	3.5	5.0	9.0	3.5	3.5
Mean	2.4	1.7	3.3	5.4	3.4	2.5
Median	2.5	1.0	3.5	4.5	3.8	2.0

Data Source: *Value Line Investment Survey.*   Average of Median Figures = 2.9

Exhibit JRW-10

Kansas City Power & Light Company
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)	7.0	4.0	4.5	9.5%	39.0%	3.7%
Alliant Energy Corporation (NYSE-LNT)	6.0	4.5	4.0	12.0%	33.0%	4.0%
Ameren Corporation (NYSE-AEE)	5.0	2.0	2.0	9.5%	44.0%	4.2%
American Electric Power Co. (NYSE-AEP)	5.5	5.0	4.5	10.5%	39.0%	4.1%
Avista Corporation (NYSE-AVA)	5.5	4.5	4.0	8.5%	34.0%	2.9%
Black Hills Corporation (NYSE-BKH)	9.5	3.5	4.0	9.0%	43.0%	3.9%
CMS Energy Corporation (NYSE-CMS)	5.5	6.5	5.5	13.5%	38.0%	5.1%
Consolidated Edison, Inc. (NYSE-ED)	2.5	2.5	3.5	9.0%	36.0%	3.2%
Dominion Resources, Inc. (NYSE-D)	7.5	7.5	5.5	17.0%	38.0%	6.5%
Duke Energy Corporation (NYSE-DUK)	5.0	2.5	2.5	8.0%	35.0%	2.8%
Edison International (NYSE-EIX)	2.5	9.5	5.5	11.0%	47.0%	5.2%
El Paso Electric Company (NYSE-EE)	1.5	7.0	5.0	9.0%	47.0%	4.2%
Empire District Electric Co. (NYSE-EDE)	3.0	3.0	2.5	8.5%	32.0%	2.7%
Entergy Corporation (NYSE-ETR)	-0.5	2.0	3.5	9.0%	36.0%	3.2%
Eversource Energy (NYSE-ES)	8.0	7.0	4.5	9.5%	43.0%	4.1%
FirstEnergy Corporation (ASE-FE)	3.5	-3.5	3.0	8.0%	48.0%	3.8%
Great Plains Energy Incorporated (NYSE-GXP)	5.0	5.5	3.0	7.5%	38.0%	2.9%
IDACORP, Inc. (NYSE-IDA)	1.5	8.0	4.0	8.5%	42.0%	3.6%
MGE Energy, Inc. (NYSE-MGEE)	7.5	4.0	6.0	13.5%	59.0%	8.0%
NorthWestern Corporation (NYSE-NWE)	6.5	6.5	6.5	9.5%	40.0%	3.8%
OGE Energy Corp. (NYSE-OGE)	3.0	10.0	5.5	11.0%	32.0%	3.5%
PG&E Corporation (NYSE-PCG)	8.0	2.5	4.5	9.5%	42.0%	4.0%
Pinnacle West Capital Corp. (NYSE-PNW)	4.0	3.0	4.0	9.5%	35.0%	3.3%
PNM Resources, Inc. (NYSE-PNM)	11.0	12.0	3.5	9.5%	51.0%	4.8%
Portland General Electric Company (NYSE-POR)	5.0	4.5	4.0	9.0%	45.0%	4.1%
SCANA Corporation (NYSE-SCG)	6.0	3.0	5.5	10.5%	49.0%	5.1%
Southern Company (NYSE-SO)	4.0	3.5	3.0	13.5%	31.0%	4.2%
Westar Energy, Inc. (NYSE-WR)	6.0	3.0	5.0	9.5%	45.0%	4.3%
Xcel Energy Inc. (NYSE-XEL)	5.5	5.0	4.5	10.0%	41.0%	4.1%
Mean	5.2	4.8	4.2	10.1%	40.8%	4.1%
Median	5.5	4.5	4.0	9.5%	40.0%	4.0%
Average of Median Figures =		4.7				4.0%

Data Source: *Value Line Investment Survey.*

Panel B
Hevert 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
American Electric Power Co. (NYSE-AEP)	5.5	5.0	4.5	10.5%	39.0%	4.1%
Duke Energy Corporation (NYSE-DUK)	5.0	2.5	2.5	8.0%	35.0%	2.8%
Empire District Electric Co. (NYSE-EDE)	3.0	3.0	2.5	8.5%	32.0%	2.7%
Eversource Energy (NYSE-ES)	8.0	7.0	4.5	9.5%	43.0%	4.1%
IDACORP, Inc. (NYSE-IDA)	1.5	8.0	4.0	8.5%	42.0%	3.6%
Otter Tail Corporation (NDQ-OTTR)	10.0	1.5	3.5	13.0%	44.0%	5.7%
Pinnacle West Capital Corp. (NYSE-PNW)	4.0	3.0	4.0	9.5%	35.0%	3.3%
PNM Resources, Inc. (NYSE-PNM)	11.0	12.0	3.5	9.5%	51.0%	4.8%
Portland General Electric Company (NYSE-POR)	5.0	4.5	4.0	9.0%	45.0%	4.1%
Southern Company (NYSE-SO)	4.0	3.5	3.0	13.5%	31.0%	4.2%
Westar Energy, Inc. (NYSE-WR)	6.0	3.0	5.0	9.5%	45.0%	4.3%
Mean	5.7	4.8	3.7	9.9%	40.2%	4.0%
Median	5.0	3.5	4.0	9.5%	42.0%	4.1%
Average of Median Figures =		4.2				4.1%

Data Source: *Value Line Investment Survey.*

Exhibit JRW-10

Kansas City Power & Light Company
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)	6.0%	NA	NA	6.0%
Alliant Energy Corporation (NYSE-LNT)	5.4%	5.4%	5.3%	5.4%
Ameren Corporation (NYSE-AEE)	5.2%	5.2%	4.8%	5.1%
American Electric Power Co. (NYSE-AEP)	6.9%	6.9%	7.3%	7.0%
Avista Corporation (NYSE-AVA)	5.0%	NA	NA	5.0%
Black Hills Corporation (NYSE-BKH)	7.0%	NA	NA	7.0%
CMS Energy Corporation (NYSE-CMS)	6.7%	6.7%	6.5%	6.7%
Consolidated Edison, Inc. (NYSE-ED)	2.7%	2.7%	2.9%	2.8%
Dominion Resources, Inc. (NYSE-D)	5.8%	5.8%	6.0%	5.9%
Duke Energy Corporation (NYSE-DUK)	4.5%	4.5%	4.7%	4.6%
Edison International (NYSE-EIX)	3.5%	3.5%	5.2%	4.1%
El Paso Electric Company (NYSE-EE)	7.0%	NA	6.7%	6.9%
Empire District Electric Co. (NYSE-EDE)	3.0%	NA	3.0%	3.0%
Entergy Corporation (NYSE-ETR)	-1.3%	-1.3%	-2.9%	-1.8%
Eversource Energy (NYSE-ES)	6.3%	6.2%	6.4%	6.3%
FirstEnergy Corporation (ASE-FE)	-0.1%	-0.1%	NA	-0.1%
Great Plains Energy Incorporated (NYSE-GXP)	5.9%	5.9%	5.4%	5.7%
IDACORP, Inc. (NYSE-IDA)	3.0%	3.0%	3.0%	3.0%
MGE Energy (NDQ-MGEE)	4.0%	NA	NA	4.0%
NorthWestern Corporation (NYSE-NWE)	7.6%	7.6%	7.4%	7.5%
OGE Energy Corp. (NYSE-OGE)	4.0%	4.0%	5.0%	4.3%
PG&E Corporation (NYSE-PCG)	4.0%	3.9%	4.6%	4.2%
Pinnacle West Capital Corp. (NYSE-PNW)	4.2%	4.2%	4.0%	4.1%
PNM Resources, Inc. (NYSE-PNM)	9.9%	9.9%	8.9%	9.5%
Portland General Electric Company (NYSE-POR)	5.3%	5.3%	2.2%	4.2%
SCANA Corporation (NYSE-SCG)	4.3%	4.3%	4.2%	4.3%
Southern Company (NYSE-SO)	3.3%	3.3%	3.5%	3.4%
Westar Energy, Inc. (NYSE-WR)	3.1%	3.1%	3.5%	3.2%
Xcel Energy Inc. (NYSE-XEL)	4.6%	4.6%	5.9%	5.0%
Mean	4.7%	4.5%	4.7%	4.7%
Median	4.6%	4.5%	4.9%	4.6%

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

Panel B
Hevert Proxy Group

Company	Yahoo	Reuters	Zacks	Mean
American Electric Power Co. (NYSE-AEP)	6.9%	6.9%	7.3%	7.0%
Duke Energy Corporation (NYSE-DUK)	4.5%	4.5%	4.7%	4.6%
Empire District Electric Co. (NYSE-EDE)	3.0%	NA	3.0%	3.0%
Eversource Energy (NYSE-ES)	6.3%	6.2%	6.4%	6.3%
IDACORP, Inc. (NYSE-IDA)	3.0%	3.0%	3.0%	3.0%
Otter Tail Corporation (NDQ-OTTR)	6.0%	NA	NA	6.0%
Pinnacle West Capital Corp. (NYSE-PNW)	4.2%	4.2%	4.0%	4.1%
PNM Resources, Inc. (NYSE-PNM)	9.9%	9.9%	8.9%	9.5%
Portland General Electric Company (NYSE-POR)	5.3%	5.3%	2.2%	4.2%
Southern Company (NYSE-SO)	3.3%	3.3%	3.5%	3.4%
Westar Energy, Inc. (NYSE-WR)	3.1%	3.1%	3.5%	3.2%
Mean	5.0%	5.1%	4.7%	4.9%
Median	4.5%	4.5%	3.8%	4.2%

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

Exhibit JRW-10

Kansas City Power & Light Company
DCF Growth Rate Indicators

Electric and Hevert Proxy Groups
Summary Growth Rates

Growth Rate Indicator	Electric Proxy Group	Hevert Proxy Group
Historic *Value Line* Growth in EPS, DPS, and BVPS	3.6%	2.9%
Projected *Value Line* Growth in EPS, DPS, and BVPS	4.7%	4.2%
Sustainable Growth ROE * Retention Rate	4.0%	4.1%

Exhibit JRW-11

Kansas City Power & Light Company
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
Hevert 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

Exhibit JRW-11

Thirty-Year U.S. Treasury Yields
January 2006-Present
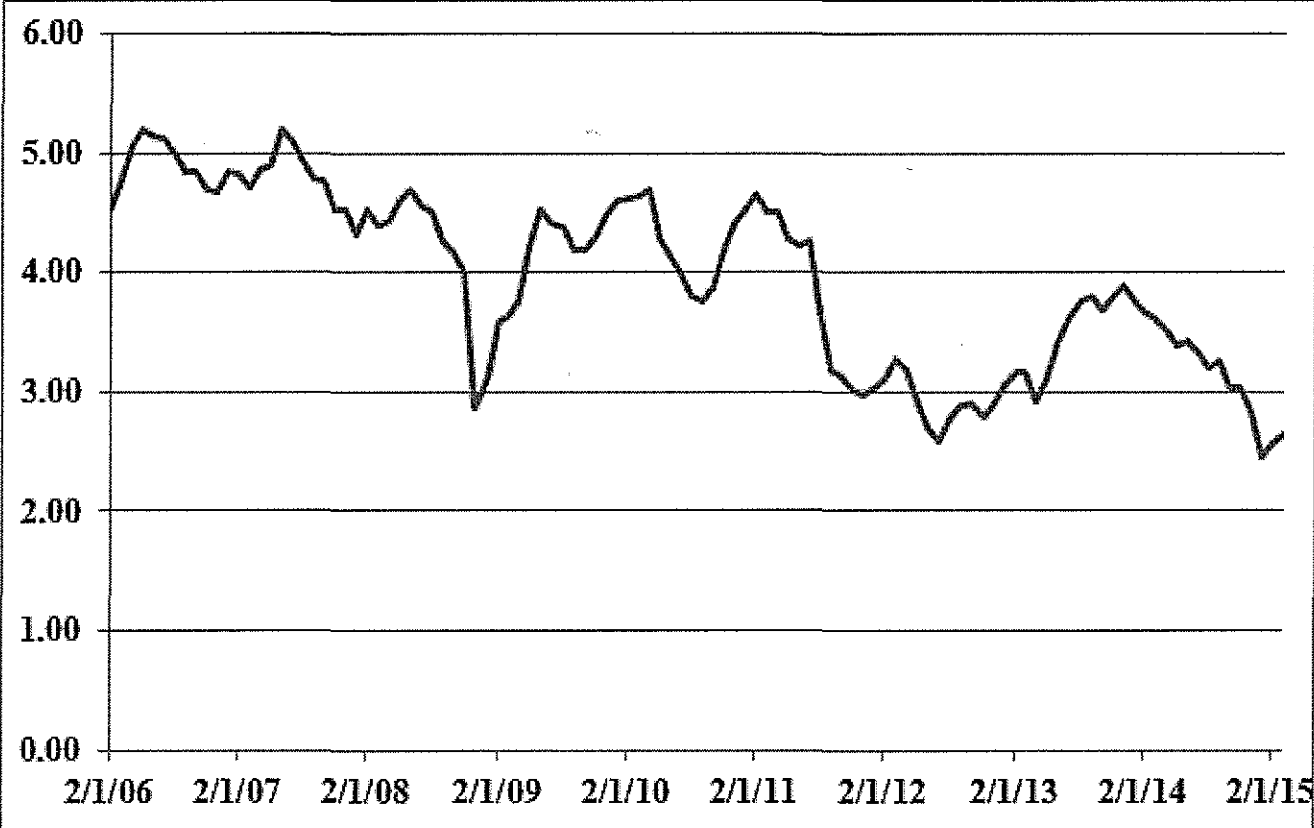
Source: Federal Reserve Bank of St. Louis, FRED Database.

Calculation of Beta
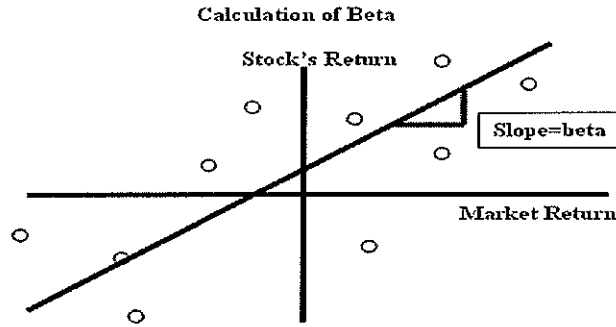
Panel A
Electric Proxy Group

Company Name	Beta
ALLETE, Inc. (NYSE-ALE)	0.80
Alliant Energy Corporation (NYSE-LNT)	0.80
Ameren Corporation (NYSE-AEE)	0.70
American Electric Power Co. (NYSE-AEP)	0.75
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
MGE Energy, Inc. (NYSE-MGEE)	0.70
NorthWestern Corporation (NYSE-NWE)	0.70
OGE Energy Corp. (NYSE-OGE)	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-POR)	0.80
SCANA Corporation (NYSE-SCG)	0.75
Southern Company (NYSE-SO)	0.55
Westar Energy, Inc. (NYSE-WR)	0.75
Xcel Energy Inc. (NYSE-XEL)	0.65
Mean	0.74
Median	0.75

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

Panel B
Hevert Proxy Group

Company Name	Beta
American Electric Power Co. (NYSE-AEP)	0.75
Duke Energy Corporation (NYSE-DUK)	0.60
Empire District Electric Co. (NYSE-EDE)	0.70
Eversource Energy (NYSE-ES)	0.75
IDACORP, Inc. (NYSE-IDA)	0.80
Otter Tail Corporation (NDQ-OTTR)	0.90
Pinnacle West Capital Corp. (NYSE-PNW)	0.70
PNM Resources, Inc. (NYSE-PNM)	0.85
Portland General Electric Company (NYSE-POR)	0.80
Southern Company (NYSE-SO)	0.55
Westar Energy, Inc. (NYSE-WR)	0.75
Mean	0.74
Median	0.75

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

Kansas City Power & Light Company
Capital Asset Pricing Model
Equity Risk Premium

Category	Study Authors	Publication Date	Time Period Of Study	Methodology	Return Measure	Range Low	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 (Puzzle 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	2014	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					5.86%	
	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 Forecastsers					1.88%	
	Duke - CFO Magazine Survey	2015	10-Year Projection	Approximately 350 CFOs					5.20%	
	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									5.29%
Building Block										
	Ibbotson and Chen	2014	Projection	Historical Supply Model (D/P & Earnings Growth)	Arithmetic			6.12%	5.10%	
					Geometric			4.08%		
	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										4.70%
Median										4.69%

Exhibit JRW-8

Kansas City Power & Light Company
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	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	2014	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					5.86%	
	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					5.20%	
	Fernandez - Academics, Analysts, and Companies	2015	Long-Term	Survey of Academics, Analysts, and Companies					5.50%	
	Median									5.20%
Building Block										
	Ibbotson and Chen	2014	Projection	Historical Supply Model (D/P & Earnings Growth)	Arithmetic			6.12%	5.10%	
					Geometric			4.08%		
	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										4.99%
Median										5.17%

Exhibit JRW-12

Kansas City Power & Light Company
Company's Proposed Cost of Capital

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	48.97%	5.55%	2.72%
Preferred Stock	0.55%	4.29%	0.02%
Common Equity	50.48%	10.30%	5.20%
Total	100.00%		7.94%

Kansas City Power & Light Company's ROE Results

Panel A
Summary of Mr. Hevert's DCF Results

Summary of Mr. Hevert's Constant Growth DCF Results

	Mean Low	Mean	Mean High
30-Day Average	8.32%	9.36%	10.34%
90-Day Average	8.52%	9.57%	10.55%
180-Day Average	8.57%	9.62%	10.60%

Summary of Mr. Hevert's Multi-Stage Growth DCF Results

	Mean Low	Mean	Mean High
30-Day Average	9.53%	9.79%	10.07%
90-Day Average	9.75%	10.02%	10.31%
180-Day Average	9.79%	10.07%	10.36%

Panel B
Summary of Mr. Hevert's CAPM Results

	Bloomberg Derived Market Risk Premium 10.47%	*Value Line* Derived Market Risk Premium 10.58%
Average Bloomberg Beta - 0.783		
Current 30-Year Treasury - 3.03%	11.23%	11.32%
Near-Term Projected 30-Year Treasury (3.68%)	11.88%	11.97%
Average Value Line Beta - 0.74		
Current 30-Year Treasury - 3.03%	10.77%	10.85%
Near-Term Projected 30-Year Treasury (3.68%)	11.42%	11.50%

Panel C
Summary of Mr. Hevert's Bond Yield RP Results

	Low	Mid	High
Long-Term Treasury Yield	3.03%	3.68%	5.45%
Risk Premium	7.21%	6.63%	5.47%
Bond Yield Risk Premium	10.24%	10.32%	10.92%

Kansas City Power & Light Company's ROE Results

Mr. Hevert's Multi-Stage Growth DCF Results Using FERC's 4.39% Long-Term GDP Growth Rate

	Mean Low	Mean	Mean High
30-Day Average	8.39%	8.66%	8.95%
90-Day Average	8.61%	8.90%	9.20%
180-Day Average	8.66%	8.95%	9.25%

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

Nominal GDP Growth Rates
Annual Growth Rates - 1961-2014
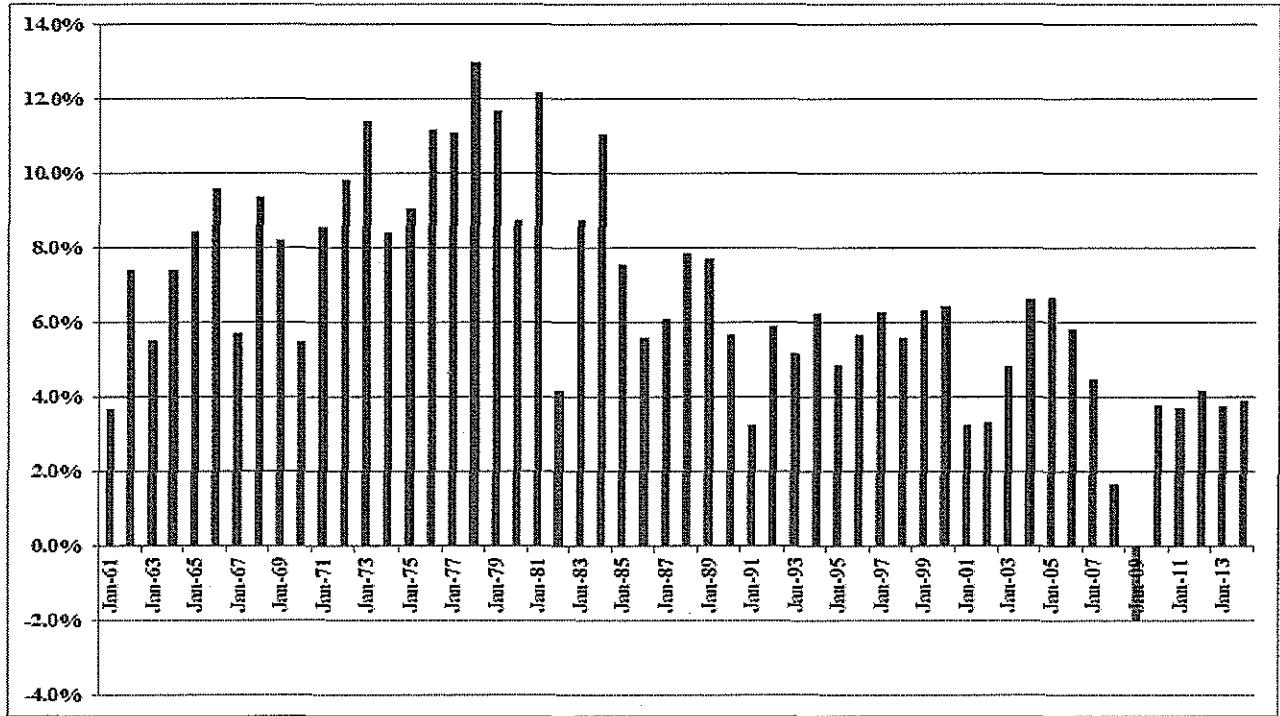
Data Sources: GDPA -http://research.stlouisfed.org/fred2/series/GDPA/downloaddata

Annual Real GDP Growth Rates
Rolling Five-Year Periods – 1961-2014
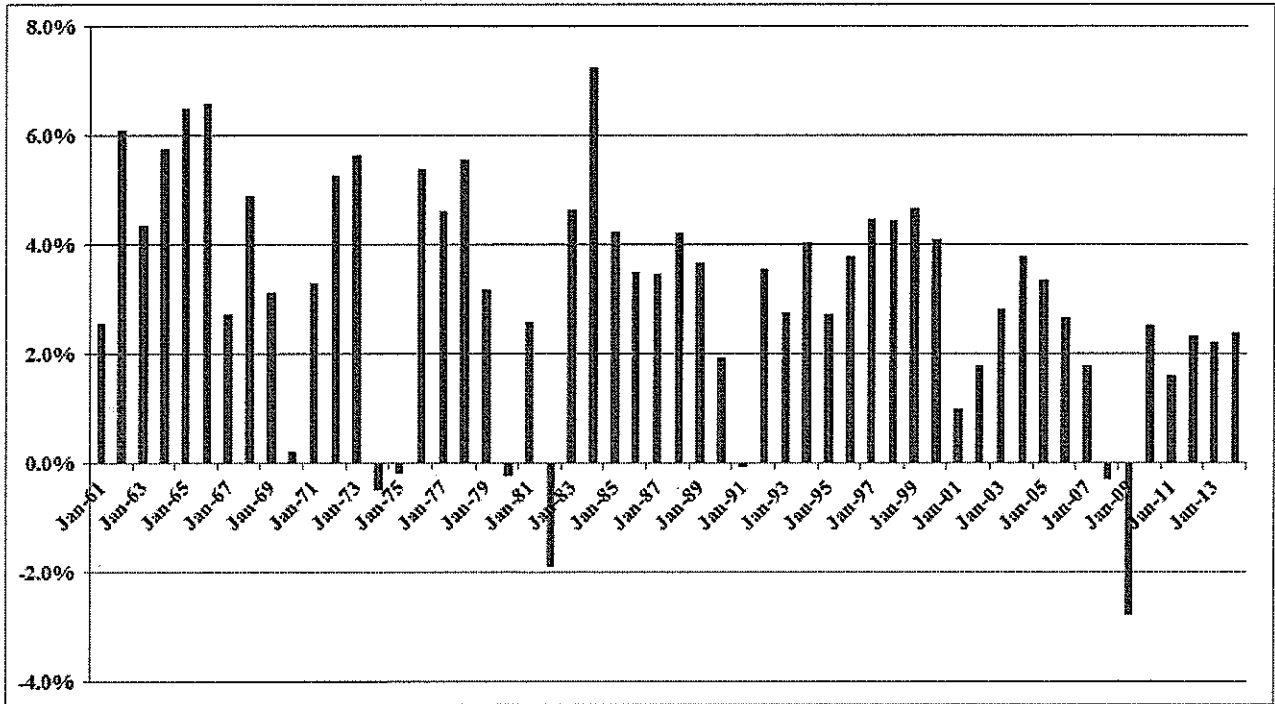
Annual Inflation Rates
1961-2014

Data Sources: CPIAUCSL -http://research.stlouisfed.org/fred2/series/CPIAUCSL/downloaddata
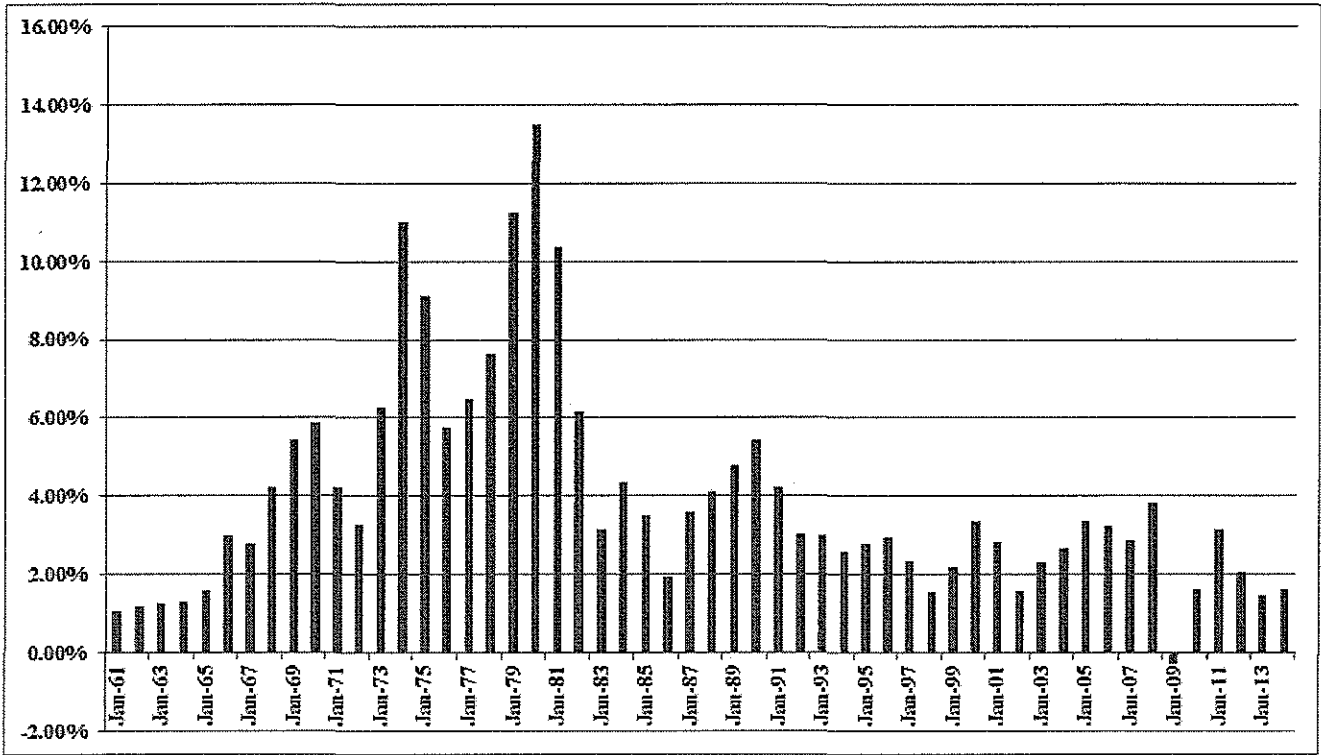
Projected GDP Growth Rates

	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

Long-Term Growth of GDP, S&P 500, S&P 500 EPS, and S&P 500 DPS
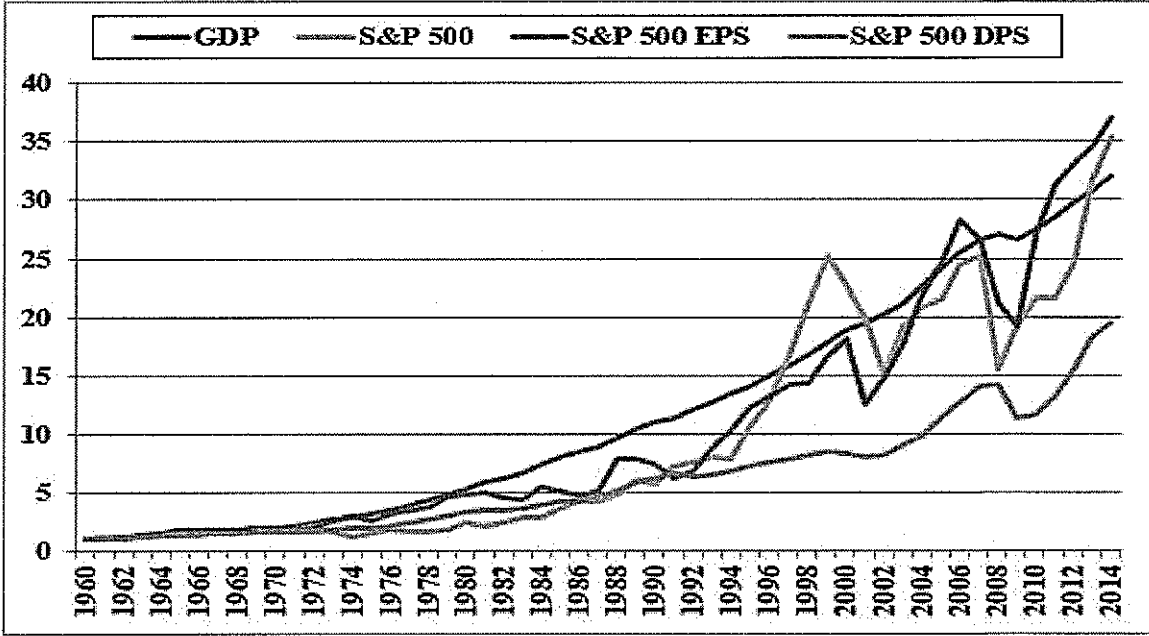
	GDP	S&P 500	S&P 500 EPS	S&P 500 DPS
Growth Rates	6.63%	6.83%	6.92%	5.65%

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

Mean Forecasted Versus Actual Long Term EPS Growth Rates

Legend:
— Mean Actual Long-Term EPS Growth Rate
— Mean Forecasted Long-Term EPS Growth Rate
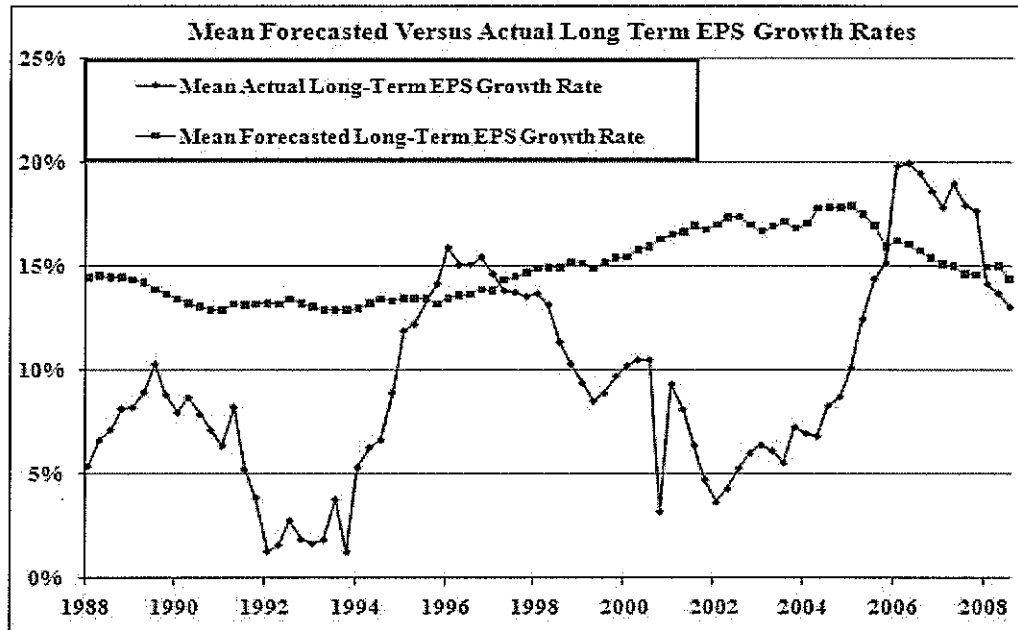
Panel B
Long-Term Forecasted EPS Growth Rates
1988-2007

Mean and Median Long-term EPS Forecast

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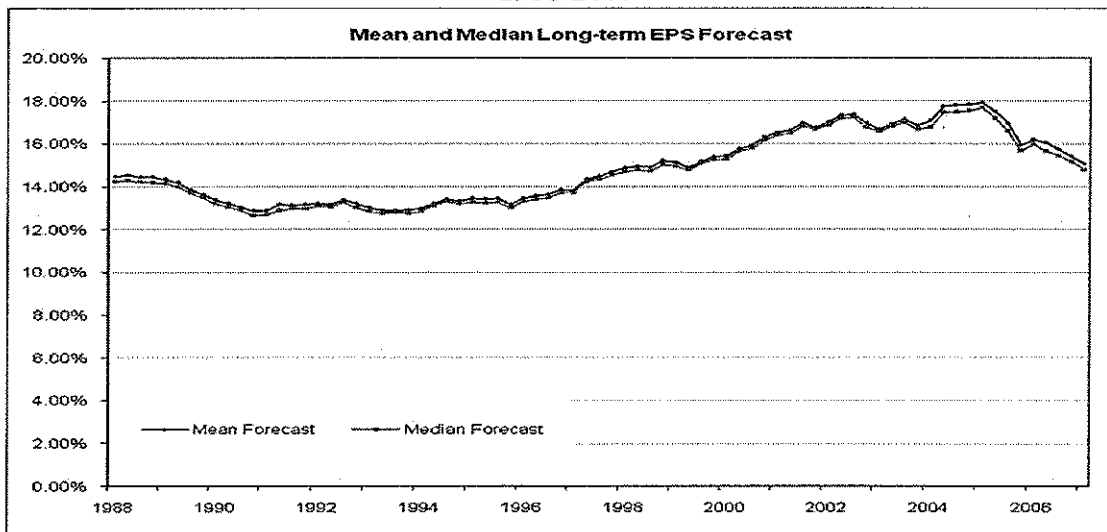
Source: Patrick J. Cusatis and J. Randall Woolridge, "The Accuracy of Analysts' Long-Term Earnings Per Share Growth Rate Forecasts," (July, 2008).

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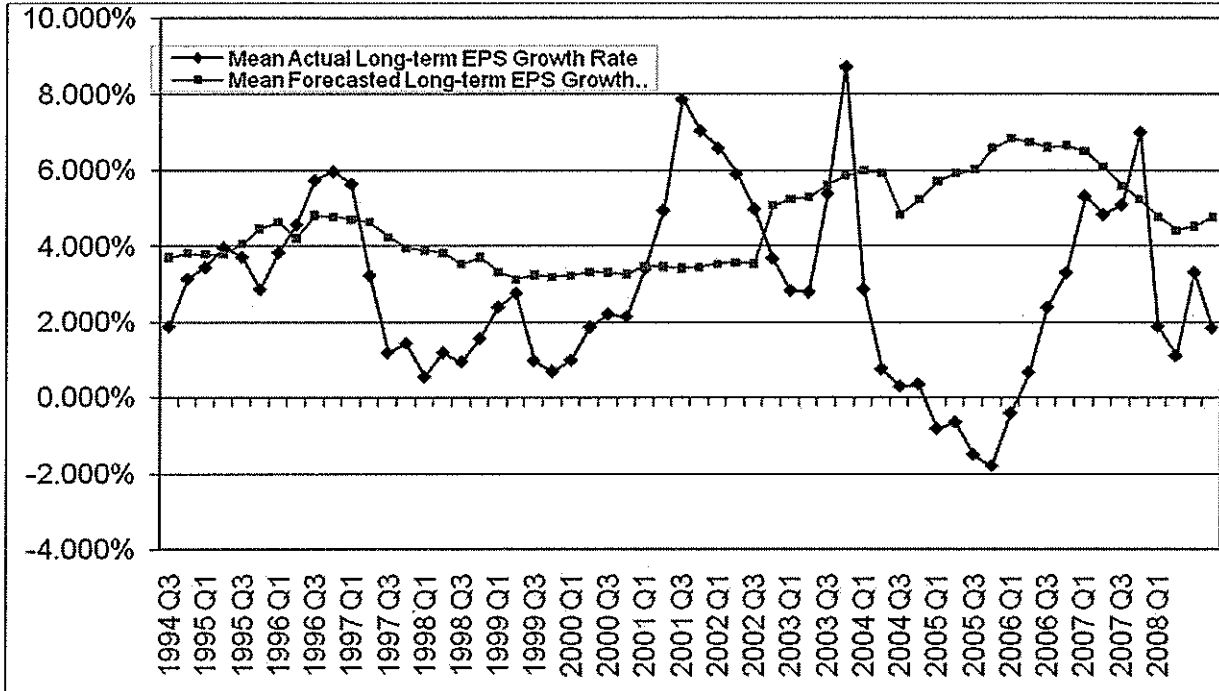
Bloomberg Businessweek Senior Writer Farzad covers Wall Street and international finance.

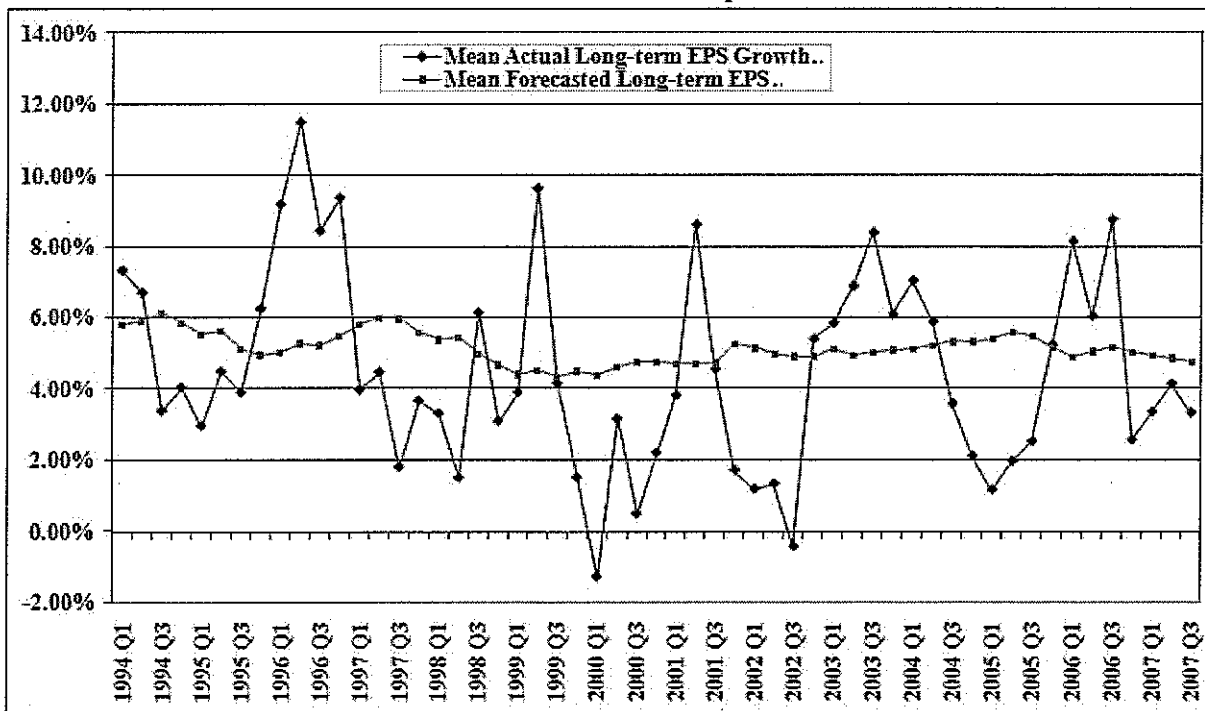**The Earnings Roller Coaster**
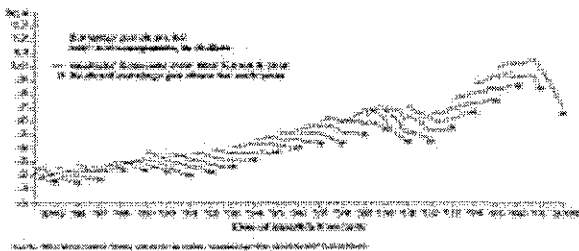
Panel A
Long-Term Forecasted Versus Actual EPS Growth Rates
Electric Utility Companies
1988-2008

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

Exhibit JRW-C1

Decomposing Equity Market Returns
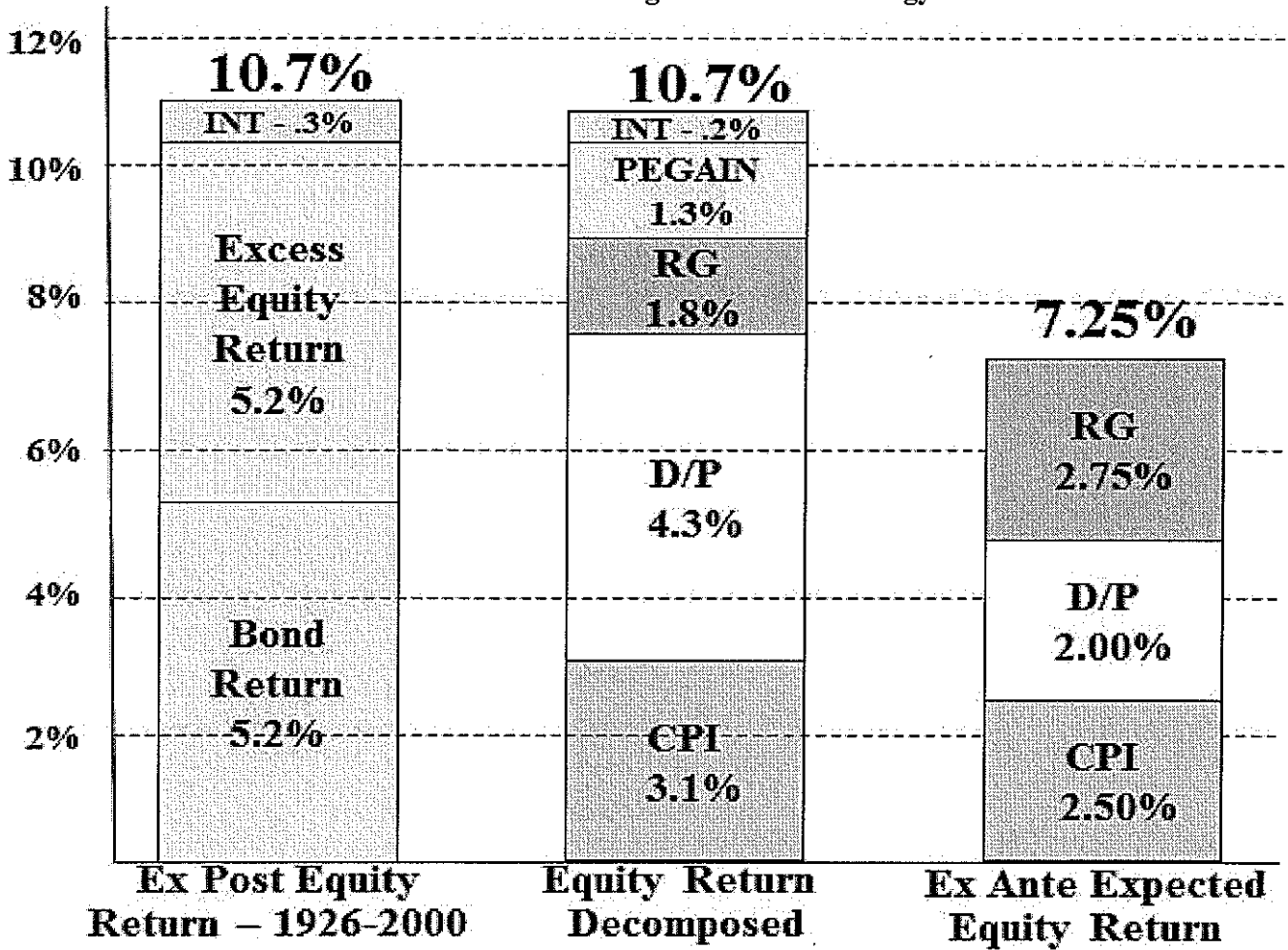**The Building Blocks Methodology**

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.
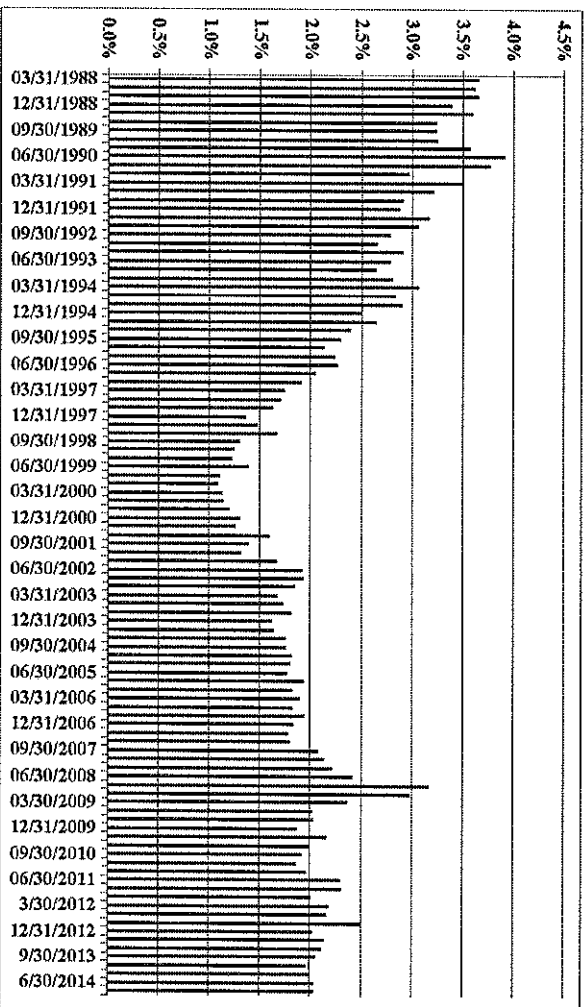
Exhibit JRW-C1

University of Michigan Survey Research Center
Expected Short-Term Inflation Rate
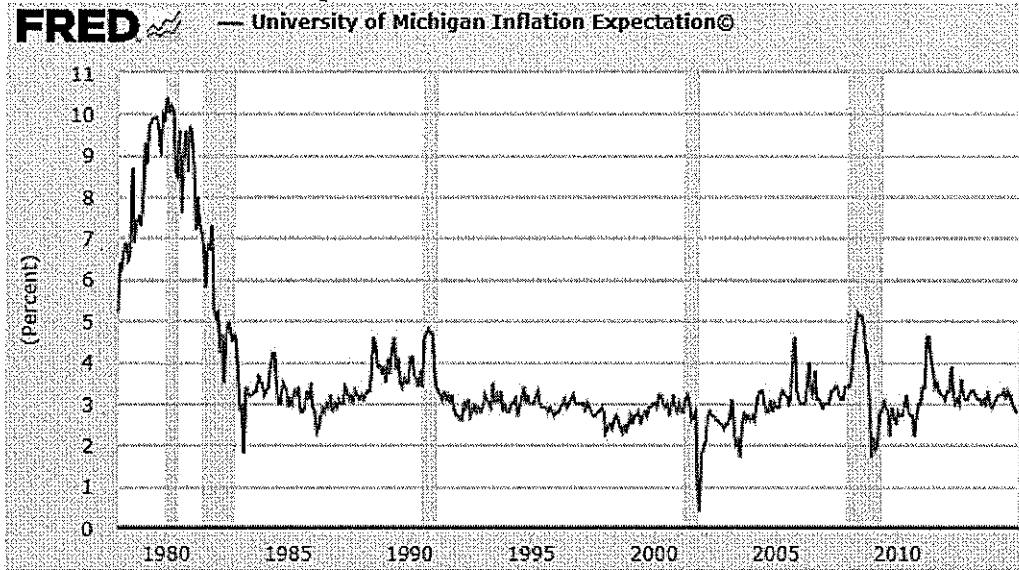
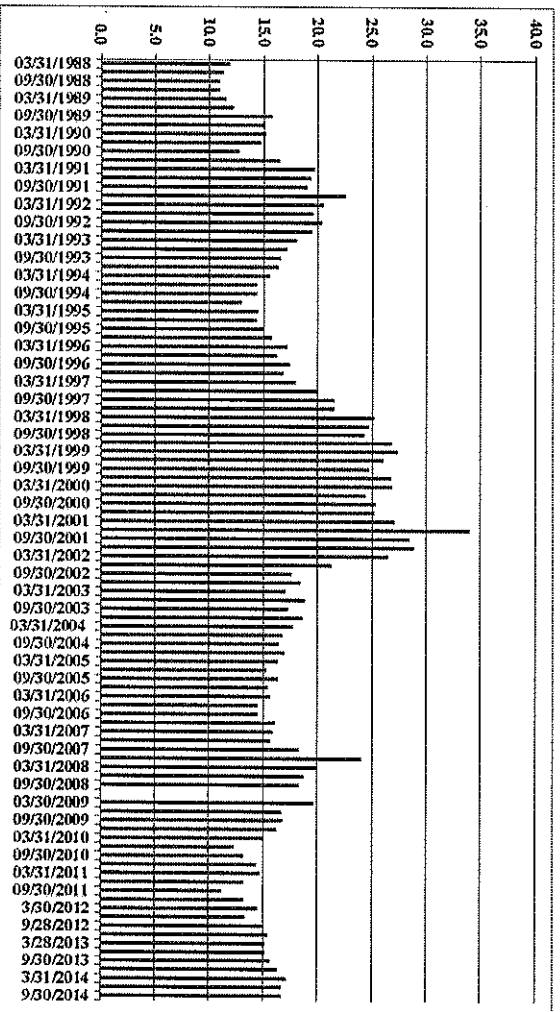Data Source: http://research.stlouisfed.org/fred2/series/MICH?cid=98

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%

CERTIFICATE OF SERVICE

15-KCPE-116-RTS

I, the undersigned, hereby certify that a true and correct copy of the above and foregoing document was served by electronic service on this 11th day of May, 2015, to the following parties:

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