BEFORE THE
KANSAS CORPORATION COMMISSION

In the Matter of the Applications   )
of Westar Energy, Inc. and Kansas   )   Docket No. 05-WSEE-981-RTS
Gas and Electric Company for   )
Approval to Make Certain Changes   )
in their Charges for Electric Service.   )

DIRECT TESTIMONY AND EXHIBITS

OF

DR. J. RANDALL WOOLRIDGE

ON BEHALF OF
THE CITIZENS' UTILITY RATEPAYER BOARD

September 9, 2005

Direct Testimony of
Dr. J. Randall Woolridge

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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, State

3   College, PA 16801. I am a Professor of Finance and the Goldman, Sachs & Co. and Frank P.

4   Smeal Endowed University Fellow in Business Administration at the University Park Campus of

5   the Pennsylvania State University. I am also the Director of the Smeal College Trading Room and

6   the President of the Nittany Lion Fund, LLC. In addition, I am affiliated with the Columbia Group

7   Inc., a public utility consulting firm based in Georgetown, CT. A summary of my educational

8   background, research, and related business experience is provided in Appendix A.

9

10   **I. SUBJECT OF TESTIMONY AND**

11   **SUMMARY OF RECOMMENDATIONS**

12

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

14   A.   I have been asked by the Kansas Citizens Utility Ratepayer Board to provide an opinion as

15   to the overall fair rate of return or cost of capital for Westar Energy, Inc. ("Westar" or "Company")

16   and to evaluate Westar's rate of return testimony in this proceeding.

17   **Q.   PLEASE REVIEW YOUR COST OF CAPITAL RETURN FINDINGS.**

18   A.   I have independently arrived at a cost of capital for the Company. I have established an

19   equity cost rate of 8.75% for Westar by applying the Discounted Cash Flow ("DCF") and a Capital

20   Asset Pricing Model ("CAPM") approaches to two groups of electric utility companies as well as

1   Westar. Utilizing my equity cost rate, capital structure ratios, and senior capital cost rates, I am

2   recommending an overall fair rate of return for the Company of 7.3204%. This recommendation is

3   summarized in Exhibit_(JRW-1).

4   **Q.   PLEASE SUMMARIZE YOUR ASSESSMENT OF THE COMPANY'S RATE OF**

5   **RETURN POSITION.**

6   A.   The Company's rate of return testimony is offered by Dr. William E. Avera. The

7   Company's proposed rate of return is excessive due to an overstated equity cost rate. In addition, I

8   have updated the Company's long-term debt cost rate to reflect a 2005 refinancing. Dr. Avera's

9   11.5% equity cost rate is unreasonably high due to (1) the use of an inappropriate proxy group of

10   electric utility companies, (2) an upwardly-biased expected growth rate in his DCF equity cost rate,

11   (3) the use of forecasted interest rates that are well in excess of the current long-term market yields,

12   (4) excessive risk premium estimates in his various risk premium approaches, and (5) an

13   inappropriate flotation cost adjustment.

14   **Q.   PLEASE DISCUSS CAPITAL COSTS IN TODAY'S MARKETS.**

15   A.   Capital cost rates for U.S. corporations are currently at their lowest levels in more than

16   four decades. Corporate capital cost rates are determined by the level of interest rates and the risk

17   premium demanded by investors to buy the debt and equity capital of corporate issuers. The base

18   level of interest rates in the US economy is indicated by the rates on U.S. Treasury bonds. The

19   benchmark for long-term capital costs is the rate on ten-year Treasury bonds. The rates are

20   provided in the graph below from 1953 to the present. As indicated, prior to the secular decline

1   in rates that began in 2002, the 10-year Treasury had not been in the 4-5 percent range since the

2   1960s.

3   <div align="center">**Yields on Ten-Year Treasury Bonds**</div>

4   <div align="center">**1953-Present**</div>
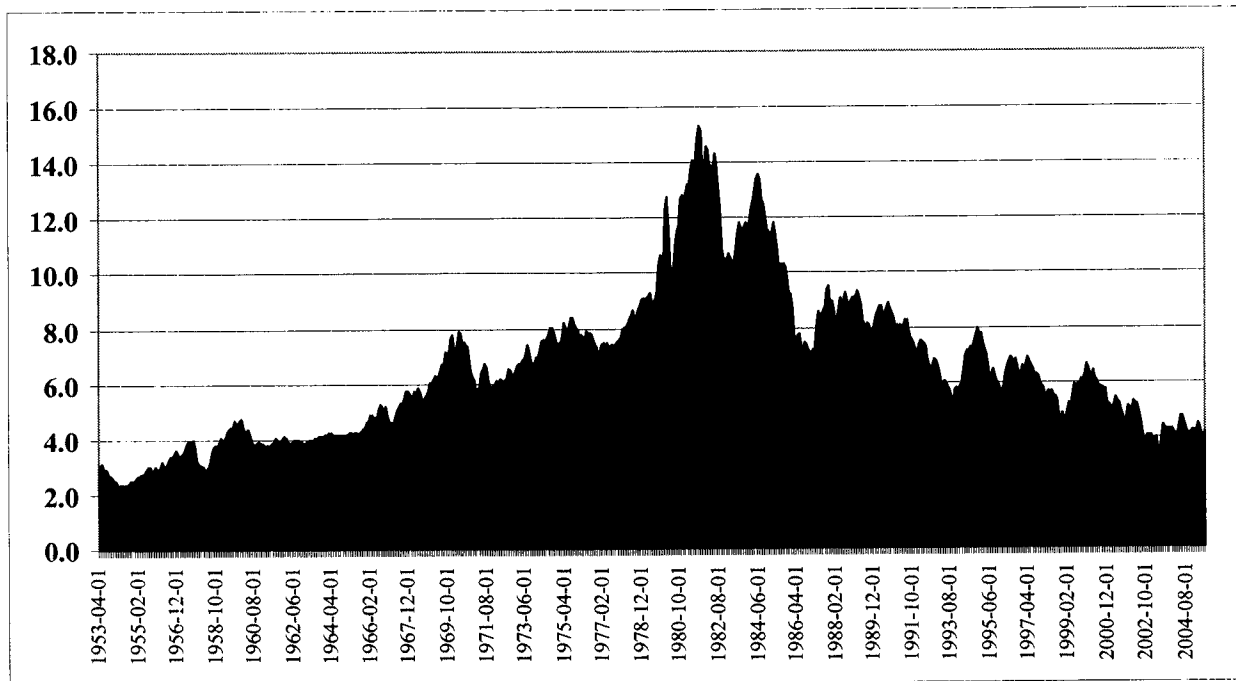
5
6   Source: http://research.stlouisfed.org/fred2/data/GS10.txt
7

8   The second base component of the corporate capital cost rates is the risk premium. The

9   risk premium is the return premium required by investors to purchase riskier securities. Risk

10   premiums for bonds are the yield differentials between different bond classes as rated by

11   agencies such as Moody's, and Standard and Poor's. The graph below provides the yield

12   differential between Baa-rate corporate bonds and 10-year Treasuries. This yield differential

13   peaked at 350 basis points (BPs) in 2002 and has declined significantly since that time. This

1   is an indication that the market price of risk has declined and therefore the risk premium has

2   declined in recent years.

Corporate Bond Yield Spreads
Baa-Rated Corporate Bond Yield Minus Ten-Year Treasury Bond Yield
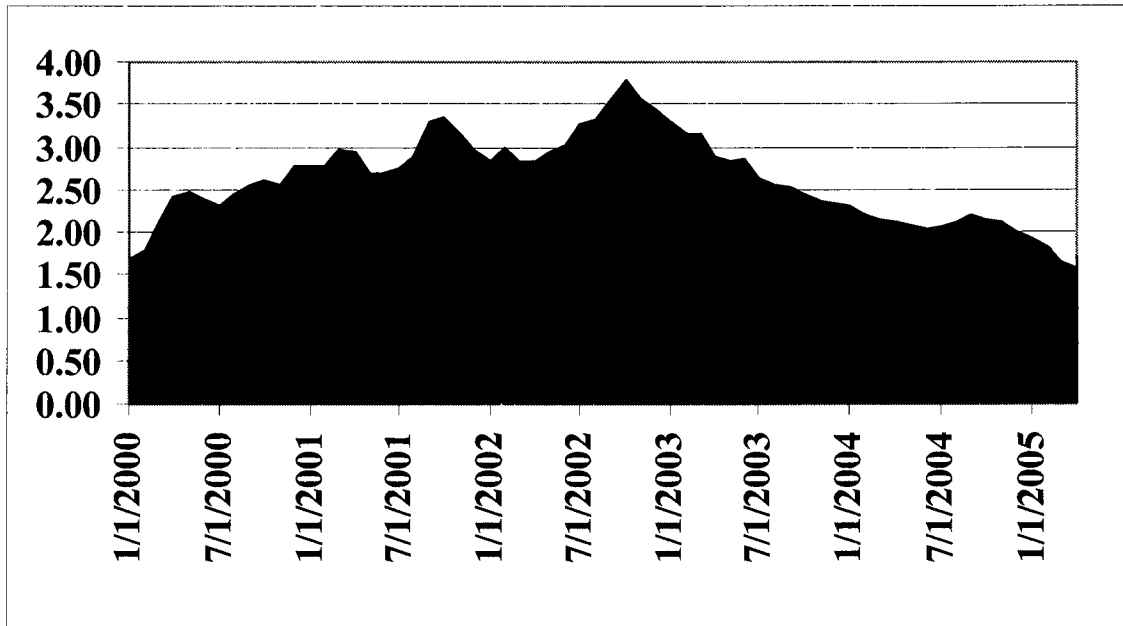
8   The equity risk premium is the return premium required to purchase stocks as

9   opposed to bonds. Since the equity risk premium is not readily observable in the markets

10   (as are bond risk premiums), and there are alternative approaches to estimating the equity

11   premium, it is the subject of much debate. One way to estimate the equity risk premium is

12   to compare the mean returns on bonds and stocks over long historic periods. Measured in

13   this manner, the equity risk premium has been in the 5-7 percent range. But recent studies

14   by leading academics indicate the forward-looking equity risk premium is in the 3-4 percent

1   range. These authors indicate that historic equity risk premiums are upwardly biased

2   measures of expected equity risk premiums. Jeremy Siegel, a Wharton finance professor

3   and author of the popular book *Stocks for the Long Term*, published a study entitled "The

4   Shrinking Equity Risk Premium."[1] He concludes:

5   The degree of the equity risk premium calculated from data
6   estimated from 1926 is unlikely to persist in the future. The real
7   return on fixed-income assets is likely to be significantly higher than
8   estimated on earlier data. This is confirmed by the yields available
9   on Treasury index-linked securities, which currently exceed 4%.
10   Furthermore, despite the acceleration in earnings growth, the return
11   on equities is likely to fall from its historical level due to the very
12   high level of equity prices relative to fundamentals.
13

14 Even Alan Greenspan, the Chairman of the Federal Reserve Board, indicated in an October

15 14, 1999, speech on financial risk that the fact that equity risk premiums have declined

16 during the past decade is "not in dispute." His assessment focused on the relationship

17 between information availability and equity risk premiums.

18   There can be little doubt that the dramatic improvements in
19   information technology in recent years have altered our approach to
20   risk. Some analysts perceive that information technology has
21   permanently lowered equity premiums and, hence, permanently
22   raised the prices of the collateral that underlies all financial assets.
23

24   The reason, of course, is that information is critical to the
25   evaluation of risk. The less that is known about the current state of
26   a market or a venture, the less the ability to project future outcomes
27   and, hence, the more those potential outcomes will be discounted.
28

29   The rise in the availability of real-time information has reduced the

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[1] Jeremy J. Siegel, "The Shrinking Equity Risk Premium," *The Journal of Portfolio Management* (Fall, 1999), p.15.

1	uncertainties and thereby lowered the variances that we employ to
2	guide portfolio decisions. At least part of the observed fall in
3	equity premiums in our economy and others over the past five
4	years does not appear to be the result of ephemeral changes in
5	perceptions. It is presumably the result of a permanent technology-
6	driven increase in information availability, which by definition
7	reduces uncertainty and therefore risk premiums. This decline is
8	most evident in equity risk premiums. It is less clear in the
9	corporate bond market, where relative supplies of corporate and
10	Treasury bonds and other factors we cannot easily identify have
11	outweighed the effects of more readily available information about
12	borrowers.[2]
13	

14   In sum, the relatively low interest rates in today's markets as well as the lower risk

15 premiums required by investors indicate that capital costs for U.S. companies are the lowest in

16 decades. In addition, the 2003 tax law further lowered capital cost rates for companies.

17 **Q. HOW DID THE *JOBS AND GROWTH TAX RELIEF RECONCILIATION ACT* of**

18 ***2003* REDUCE THE COST OF CAPITAL FOR COMPANIES?**

19 A. On May 28th of 2003, President Bush signed the *Jobs and Growth Tax Relief Reconciliation*

20 *Act of 2003*. The primary purpose of this legislation was to reduce taxes to enhance economic

21 growth. A primary component of the new tax law was a significant reduction in the taxation of

22 corporate dividends for individuals. Dividends have been described as "double-taxed." First,

23 corporations pay taxes on the income they earn before they pay dividends to investors, then

24 investors pay taxes on the dividends that they receive from corporations. One of the implications

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[2] Alan Greenspan, "Measuring Financial Risk in the Twenty-First Century," Office of the Comptroller of the Currency Conference, October 14, 1999.

1 of the double taxation of dividends is that, all else equal, it results in a higher cost of raising

2 capital for corporations. The tax legislation reduced the effect of double taxation of dividends by

3 lowering the tax rate on dividends from the 30 percent range (the average tax bracket for

4 individuals) to 15 percent.

5   Overall, the 2003 tax law reduced the pre-tax return requirements of investors, thereby

6 reducing corporations' cost of equity capital. This is because the reduction in the taxation of

7 dividends for individuals enhances their after-tax returns and thereby reduces their pre-tax

8 required returns. This reduction in pre-tax required returns (due to the lower tax on dividends)

9 effectively reduces the cost of equity capital for companies. The 2003 tax law also reduced the

10 tax rate on long-term capital gains from 20% to 15%. The magnitude of the reduction in

11 corporate equity cost rates is debatable, but my assessment indicates that it could be as large as

12 100 basis points. (See Exhibit_(JRW-2)).

13

14   **II. COMPARISON GROUP SELECTION**

15

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

17 **RETURN RECOMMENDATION FOR WESTAR.**

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

19 requirements of investors on two groups of publicly-held electric utility companies as well as

20 Westar Energy, Inc.

1   **Q.   PLEASE DESCRIBE YOUR TWO GROUPS OF ELECTRIC UTILITY**

2   **COMPANIES.**

3   A.   I am using two groups of electric utility companies. My primary group is a subset of the

4   group of eighteen companies employed by Westar Witness Dr. Avera. Dr. Avera's group includes

5   a number of electric companies that have significant unregulated as well as gas operations. I have

6   screened Dr. Avera's group to include only companies that receive at least 50% of revenues from

7   regulated electric utility service. I have also eliminated Cinergy since it is in the process of being

8   acquired by Duke Energy. The resulting group, which I call Group A, includes eight electric utility

9   companies. The second group of electric companies, which I call Group B, includes the eighteen

10 electric utility companies employed by Dr. Avera. I have also evaluated the return requirements of

11 investors on the stock of Westar.

12   Summary financial statistics for the two groups as well as Westar are provided on page 1 of

13 Exhibit_(JRW-3). Both groups are larger than Westar (in terms of average revenues and net plant),

14 and have slightly better average bond ratings and higher average interest coverage ratios. The

15 current average common equity ratios and returns on equity are 47% and 9.0% for Group A and

16 and 45% and 10.0% for Group B. These compare to 45% and 8.0% for Westar. On average, the

17 companies in Group A receive 78% of revenues for regulated electric services, compared to 51%

18 for Group B. Westar receives 100% of revenues from regulated electric utility service.

19

20

1   **III. LONG-TERM DEBT COST RATE AND CAPITAL STRUCTURE RATIOS**

2

3   **Q.   WHAT ARE THE COMPANY'S PROPOSED CAPITAL STRUCTURE RATIOS**

4   **AND SENIOR CAPITAL COST RATES?**

5   A.   The Company has proposed a capital structure based on a test year ended December 31,

6   2004.   the capital structure consists of 52.4125% long-term debt, 0.6887% preferred stock,

7   2.3083% post-1970 Investment Tax Credits (ITC), and 44.5905% common equity.   Mr. Greenwood

8   has proposed a long-term debt cost rate of 6.6240%.   This position is summarized on page 1 of

9   Exhibit_(JRW-4).

10   **Q.   ARE YOU ADOPTING THE COMPANY'S PROPOSED LONG-TERM DEBT**

11   **COST RATE?**

12   A.   Yes, but I am updating the long-term debt cost rate to reflect the June, 2005 refinancing of

13   the 7.875% first mortgage bonds.   Mr. Greenwood, in response to DR KCC 292, updated the long-

14   term debt cost rate to reflect the refinancing.   The updated cost rate, which I am employing, is

15   6.1409%.

16   **Q.   ARE YOU ADOPTING THE COMPANY'S PROPOSED CAPITAL STRUCTURE**

17   **RATIOS?**

18   A.   Yes.

19

20

1   Q.   PLEASE SUMMARIZE YOUR PROPOSED CAPITAL STRUCTURE RATIOS

2   AND SENIOR CAPITAL COST RATES.

3   A.   My recommended structure and senior capital cost rates which are shown below.

4
5
6   **Westar Energy, Inc.**
7   **Proposed Capital Structure and Senior Capital Cost Rates**

Source of Capital	Capitalization Ratio	Cost Rate
Long-Term Debt	52.4125%	6.1409%
Preferred Stock	0.6887%	4.5529%
Post-1970 ITC	2.3083%	7.4802%
Common Equity	44.5905%	

8

9   **IV. THE COST OF COMMON EQUITY CAPITAL**

10   **A. OVERVIEW**

11 Q.   WHY MUST AN OVERALL COST OF CAPITAL OR FAIR RATE OF RETURN

12 BE ESTABLISHED FOR A PUBLIC UTILITY?

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

14 through the competitive market for its goods and services. Due to the capital requirements needed

15 to provide utility services, however, and to the economic benefit to society from avoiding

16 duplication of these services, some public utilities are monopolies. It is not appropriate to permit

17 monopoly utilities to set their own prices because of the lack of competition and the essential nature

18 of the services. Thus, regulation seeks to establish prices which are fair to consumers and at the

19 same time are sufficient to meet the operating and capital costs of the utility, i.e., provide an

20 adequate return on capital to attract investors.

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

2 **CONTEXT OF THE THEORY OF THE FIRM.**

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

4 equity capital is the expected return on a firm's common stock that the marginal investor would

5 deem sufficient to compensate for risk and the time value of money. In equilibrium, the expected

6 and required rates of return on a company's common stock are equal.

7   Normative economic models of the firm, developed under very restrictive assumptions,

8 provide insight into the relationship between firm performance or profitability, capital costs, and the

9 value of the firm. Under the economist's ideal model of perfect competition, where entry and exit is

10 costless, products are undifferentiated, and there are increasing marginal costs of production, firms

11 produce up to the point where price equals marginal cost. Over time, a long-run equilibrium is

12 established where price equals average cost, including the firm's capital costs. In equilibrium, total

13 revenues equal total costs, and because capital costs represent investors' required return on the

14 firm's capital, actual returns equal required returns and the market value and the book value of the

15 firm's securities must be equal.

16   In the real world, firms can achieve competitive advantage due to product market

17 imperfections - most notably through product differentiation (adding real or perceived value to

18 products) and achieving economies of scale (decreasing marginal costs of production). Competitive

19 advantage allows firms to price products above average cost and thereby earn accounting profits

20 greater than those required to cover capital costs. When these profits are in excess of that required

1   by investors, or when a firm earns a return on equity in excess of its cost of equity, investors

2   respond by valuing the firm's equity in excess of its book value.

3   James M. McTaggart, founder of the international management consulting firm Marakon

4   Associates, has described this essential relationship between the return on equity, the cost of equity,

5   and the market-to-book ratio in the following manner:[3]

6   Fundamentally, the value of a company is determined by the cash flow it
7   generates over time for its owners, and the minimum acceptable rate of return
8   required by capital investors. This "cost of equity capital" is used to discount the
9   expected equity cash flow, converting it to a present value. The cash flow is, in turn,
10   produced by the interaction of a company's return on equity and the annual rate of
11   equity growth. High return on equity (ROE) companies in low-growth markets, such
12   as Kellogg, are prodigious generators of cash flow, while low ROE companies in
13   high-growth markets, such as Texas Instruments, barely generate enough cash flow
14   to finance growth.

16   A company's ROE over time, relative to its cost of equity, also determines
17   whether it is worth more or less than its book value. If its ROE is consistently
18   greater than the cost of equity capital (the investor's minimum acceptable return), the
19   business is economically profitable and its market value will exceed book value. If,
20   however, the business earns an ROE consistently less than its cost of equity, it is
21   economically unprofitable and its market value will be less than book value.

23   As such, the relationship between a firm's return on equity, cost of equity, and market-to-book ratio

24   is relatively straightforward. A firm which earns a return on equity above its cost of equity will see

25   its common stock sell at a price above its book value. Conversely, a firm which earns a return on

26   equity below its cost of equity will see its common stock sell at a price below its book value.

27

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[3]   James M. McTaggart, "The Ultimate Poison Pill: Closing the Value Gap," *Commentary* (Spring 1988), p. 2.

1 Q.   WHAT ECONOMIC FACTORS HAVE AFFECTED THE COST OF EQUITY

2 CAPITAL FOR PUBLIC UTILITIES?

3 A.   Exhibit_(JRW-5) provides indicators of public utility equity cost rates over the past decade.

4 Page 1 shows the yields on 10-year, 'A' rated public utility bonds. These yields peaked in the

5 1990s at 10%, and have generally declined since that time. In particular, over the past two years

6 they have declined from the seven percent range to the 4.5 to 5.0 percent range. Page 2 provides

7 the dividend yields for the fifteen utilities in the Dow Jones Utilities Average over the past decade.

8 These yields peaked in 1994 at 6.7%. Since that time they have declined and have remained in the

9 4.5-5.0 percent range in recent years.

10   Average earned returns on common equity and market-to-book ratios are given on page 3 of

11 Exhibit_(JRW-5). Over the past decade, earned returns on common equity have consistently been

12 in the 10.0 - 13.0 percent range. The low point was 10.3 % in 1997 and they have increased to 12.5

13 percent range as of the year 2003. Over the past decade, market-to-book ratios for this group

14 bottomed out at 128% in 1994 and they have increased to the 150-180 percent range in recent years.

15   The indicators in Exhibit_(JRW-5), coupled with the overall decrease in interest rates,

16 suggest that capital costs for the Dow Jones Utilities have decreased over the past decade.

17 Specifically for the equity cost rate, the significant increase in the market-to-book ratios, coupled

18 with only a much smaller increase in the average return on equity, suggests a substantial decline in

19 the overall equity cost rate.

20

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

2 **RATE OF RETURN ON EQUITY?**

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

4 well as company-specific, factors. The most important market factor is the time value of money as

5 indicated by the level of interest rates in the economy. Common stock investor requirements

6 generally increase and decrease with like changes in interest rates. The perceived risk of a firm is

7 the predominant factor that influences investor return requirements on a company-specific basis. A

8 firm's investment risk is often separated into business and financial risk. Business risk

9 encompasses all factors that affect a firm's operating revenues and expenses. Financial risk results

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

11 **Q.** **HOW DOES THE INVESTMENT RISK OF ELECTRIC UTILITY COMPANIES**

12 **COMPARE WITH THAT OF OTHER INDUSTRIES?**

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

14 are exposed to a lesser degree of business risk than other, non-regulated businesses. The relatively

15 low level of business risk allows public utilities to meet much of their capital requirements through

16 borrowing in the financial markets, thereby incurring greater than average financial risk.

17 Nonetheless, the overall investment risk of public utilities is below most other industries.

18 Exhibit_(JRW-6) provides an assessment of investment risk for 100 industries as measured by

19 beta, which according to modern capital market theory is the only relevant measure of investment

20 risk that need be of concern for investors. These betas come from the *Value Line Investment Survey*

1 and are compiled by Aswath Damodoran of New York University. They may be found on the

2 Internet at http://www.stern.nyu.edu/~adamodar/. The study shows that the investment risk of

3 public utilities is relatively low. The average beta for electric utilities is in the bottom third of the

4 100 industries in terms of beta. As such, the cost of equity for the electric utility industry is among

5 the lowest of all industries in the U.S.

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

7 **EQUITY CAPITAL BE DETERMINED?**

8 A. The costs of debt and preferred stock are normally based on historic or book values and can

9 be determined with a great degree of accuracy. The cost of common equity capital, however,

10 cannot be determined precisely and must instead be estimated from market data and informed

11 judgment. This return to the stockholder should be commensurate with returns on investments in

12 other enterprises having comparable risks.

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

14 of its expected future cash flows. Investors discount these expected cash flows at their required rate

15 of return that, as noted above, reflects the time value of money and the perceived riskiness of the

16 expected future cash flows. As such, the cost of common equity is the rate at which investors

17 discount expected cash flows associated with common stock ownership.

18 Models have been developed to ascertain the cost of common equity capital for a firm.

19 Each model, however, has been developed using restrictive economic assumptions. Consequently,

20 judgment is required in selecting appropriate financial valuation models to estimate a firm's cost of

1 common equity capital, in determining the data inputs for these models, and in interpreting the

2 models' results. All of these decisions must take into consideration the firm involved as well as

3 conditions in the economy and the financial markets.

4 **Q. HOW DO YOU PLAN TO ESTIMATE THE COST OF EQUITY CAPITAL FOR**

5 **THE COMPANY?**

6 A. I rely primarily on the Discounted Cash Flow ("DCF") model to estimate the cost of equity

7 capital. I believe that the DCF model provides the best measure of equity cost rates for public

8 utilities. I have also performed a Capital Asset Pricing Model (CAPM) study, but I give these

9 results less weight because I believe that risk premium studies, of which the CAPM is one form,

10 provide a less reliable indication of equity cost rates for public utilities.

11

12 **B. DISCOUNTED CASH FLOW ANALYSIS**

13

14 **Q. BRIEFLY DESCRIBE THE THEORY BEHIND THE TRADITIONAL DCF**

15 **MODEL.**

16 A. According to the discounted cash flow model, the current stock price is equal to the

17 discounted value of all future dividends that investors expect to receive from investment in the firm.

18 As such, stockholders' returns ultimately result from current as well as future dividends. As

19 owners of a corporation, common stockholders are entitled to a pro-rata share of the firm's earnings.

20 The DCF model presumes that earnings that are not paid out in the form of dividends are

1 reinvested in the firm so as to provide for future growth in earnings and dividends. The rate at

2 which investors discount future dividends, which reflects the timing and riskiness of the expected

3 cash flows, is interpreted as the market's expected or required return on the common stock.

4 Therefore this discount rate represents the cost of common equity. Algebraically, the DCF model

5 can be expressed as:

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

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

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

13 **EMPLOYED BY INVESTMENT FIRMS?**

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

15 technique. One common application for investment firms is called the three-stage DCF or dividend

16 discount model (DDM). The stages in a three-stage DCF model are discussed below. This model

17 presumes that a company's dividend payout progresses initially through a growth stage, then

18 proceeds through a transition stage, and finally assumes a steady state stage. The dividend payment

19 stage of a firm depends on the profitability of its internal investments, which, in turn, is largely a

20 function of the life cycle of the product or service. These stages are depicted in the graphic below

21 labeled the Three Stage DCF Model.[4]

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[4] This description comes from William F. Sharp, Gordon J. Alexander, and Jeffrey V. Bailey, *Investments* (Prentice-Hall, 1995), pp. 590-91.

1. **Growth stage**: Characterized by rapidly expanding sales, high profit margins, and abnormally high growth in earnings per share. Because of highly profitable expected investment opportunities, the payout ratio is low. Competitors are attracted by the unusually high earnings, leading to a decline in the growth rate.

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

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

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

Three-Stage DCF Model
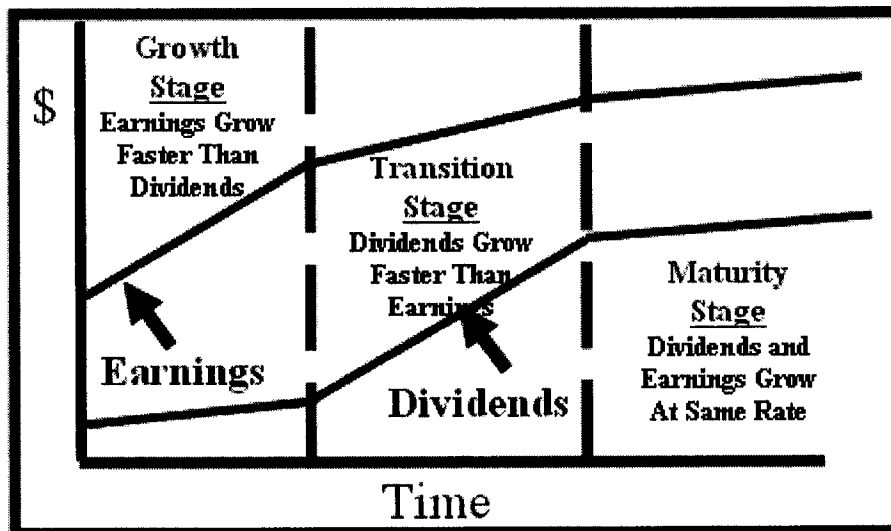
1 **Q.   HOW DO YOU ESTIMATE STOCKHOLDERS' EXPECTED OR REQUIRED**

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

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

4 constant dividend/earnings and price/earnings ratios, the DCF model can be simplified to the

5 following:

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

11 where D_1 represents the expected dividend over the coming year and g is the expected growth rate

12 of dividends. This is known as the constant-growth version of the DCF model. To use the

13 constant-growth DCF model to estimate a firm's cost of equity, one solves for k in the above

14 expression to obtain the following:

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

19   Given the regulated status of public utilities, and especially the fact that their returns on

20 investment are effectively set through the ratemaking process, the industry would be in the steady-

21 state stage of a three-stage DCF. The DCF valuation procedure for companies in this stage is the

22 constant-growth DCF. In the constant-growth version of the DCF model, the current dividend

23 payment and stock price are directly observable. Therefore, the primary problem and controversy

24 in applying the DCF model to estimate equity cost rates entails estimating investors' expected

1   dividend growth rate.

2   **Q.   WHAT FACTORS SHOULD ONE CONSIDER WHEN APPLYING THE DCF**

3   **METHODOLOGY?**

4   A.   One should be sensitive to several factors when using the DCF model to estimate a firm's

5   cost of equity capital. In general, one must recognize the assumptions under which the DCF model

6   was developed in estimating its components (the dividend yield and expected growth rate). The

7   dividend yield can be measured precisely at any point in time, but tends to vary somewhat over

8   time. Estimation of expected growth is considerably more difficult. One must consider recent firm

9   performance, in conjunction with current economic developments and other information available

10   to investors, to accurately estimate investors' expectations.

11   **Q.   PLEASE DISCUSS EXHIBIT_(JRW-7).**

12   A.   My DCF analysis is provided in Exhibit_(JRW-7). The DCF summary is on page 1 of

13   this Exhibit and the supporting data and analysis for the dividend yield and expected growth rate

14   are provided on the following pages.

15   **Q.   WHAT DIVIDEND YIELDS ARE YOU EMPLOYING IN YOUR DCF ANALYSIS**

16   **FOR YOUR TWO GROUPS OF ELECTRIC UTILITY COMPANIES AND WESTAR?**

17   A.   The dividend yields on the common stock for the companies in the two groups are

18   provided on page 2 of Exhibit_(JRW-7) for the six -month period ending August, 2005. Over

19   this period, the average monthly dividend yield for Groups A and B were 4.0% and 4.1%,

20   respectively. As of August, 2005, the average yield for both groups was 3.8%. For the DCF

1 dividend yields for the two groups, I use the average of the six month and August, 2005 dividend

2 yields. As such, the DCF dividend yield for Groups A and B are 3.90% and 3.95%, respectively.

3 The recent dividend yields for Westar have been quite similar to the two groups. The average of

4 the six month and August, 2005 dividend yields for Westar is 3.95%.

5 **Q.   PLEASE DISCUSS THE APPROPRIATE ADJUSTMENT TO THE SPOT**

6 **DIVIDEND YIELD.**

7 A.   According to the traditional DCF model, the dividend yield term relates to the dividend

8 yield over the coming period. As indicated by Professor Myron Gordon, who is commonly

9 associated with the development of the DCF model for popular use, this is obtained by (1)

10 multiplying the expected dividend over the coming quarter by 4, and (2) dividing this dividend by

11 the current stock price to determine the appropriate dividend yield for a firm, which pays dividends

12 on a quarterly basis.[5]

13   In applying the DCF model, some analysts adjust the current dividend for growth over the

14 coming year as opposed to the coming quarter. This can be complicated because firms tend to

15 announce changes in dividends at different times during the year. As such, the dividend yield

16 computed based on presumed growth over the coming quarter as opposed to the coming year can be

17 quite different. Consequently, it is common for analysts to adjust the dividend yield by some

18 fraction of the long-term expected growth rate.

19   The appropriate adjustment to the dividend yield is further complicated in the regulatory

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[5] *Petition for Modification of Prescribed Rate of Return*, Federal Communications Commission, Docket No. 79-05,

1 process when the overall cost of capital is applied to a projected or end-of-future-test-year rate base.

2 The net effect of this application is an overstatement of the equity cost rate estimate derived from

3 the DCF model. In the context of the constant-growth DCF model, both the adjusted dividend

4 yield and the growth component are overstated. Put simply, the overstatement results from

5 applying an equity cost rate computed using current market data to a future or test-year-end rate

6 base which includes growth associated with the retention of earnings during the year.

7 **Q.   GIVEN THIS DISCUSSION, WHAT ADJUSTMENT FACTOR WILL YOU USE**

8 **FOR YOUR DIVIDEND YIELD?**

9 A.   I will adjust the dividend yield by 1/2 the expected growth so as to reflect growth over the

10 coming year.

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

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

13 component of the DCF model. By definition, this component is investors' expectation of the long-

14 term dividend growth rate. Presumably, investors use some combination of historic and/or

15 projected growth rates for earnings and dividends per share and for internal or book value growth to

16 assess long-term potential.

17 **Q.   WHAT GROWTH DATA HAVE YOU REVIEWED FOR THE TWO GROUPS OF**

18 **ELECTRIC UTILITY COMPANIES AND WESTAR?**

19 A.   I have analyzed a number of measures of growth for the electric utility companies and

---

Direct Testimony of Myron J. Gordon and Lawrence I. Gould at 62 (April 1980).

1   Westar. I considered historic growth rates in earnings per share (EPS), dividends per share (DPS),

2   and book value per share (BVPS). I have reviewed *Value Line's* historic and projected growth rate

3   estimates for EPS, DPS, and BVPS. In addition, I have utilized the average EPS growth rate

4   forecasts of Wall Street analysts as provided by Zacks, Reuters, and First Call. These services

5   solicit 5-year earning growth rate projections for securities analysts and compile and publish the

6   averages of these forecasts on the Internet. Finally, I have also assessed prospective growth as

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

8   **Q.   PLEASE DISCUSS HISTORIC GROWTH IN EARNINGS AND DIVIDENDS AS**

9   **WELL AS INTERNAL GROWTH.**

10   A.   Historic growth rates for EPS, DPS, and BVPS are readily available to virtually all

11   investors and presumably an important ingredient in forming expectations concerning future

12   growth. However, one must use historic growth numbers as measures of investors' expectations

13   with caution. In some cases, past growth may not reflect future growth potential. Also, employing

14   a single growth rate number (for example, for five or ten years), is unlikely to accurately measure

15   investors' expectations due to the sensitivity of a single growth rate figure to fluctuations in

16   individual firm performance as well as overall economic fluctuations (i.e., business cycles).

17   However, one must appraise the context in which the growth rate is being employed. According to

18   the conventional DCF model, the expected return on a security is equal to the sum of the dividend

19   yield and the expected long-term growth in dividends. Therefore, to best estimate the cost of

20   common equity capital using the conventional DCF model, one must look to long-term growth rate

1   expectations.

2   Internally generated growth is a function of the percentage of earnings retained within the

3   firm (the earnings retention rate) and the rate of return earned on those earnings (the return on

4   equity). The internal growth rate is computed as the retention rate times the return on equity.

5   Internal growth is significant in determining long-run earnings and, therefore, dividends. Investors

6   recognize the importance of internally generated growth and pay premiums for stocks of companies

7   that retain earnings and earn high returns on internal investments.

8   **Q.   PLEASE SUMMARIZE YOUR ANALYSIS OF *VALUE LINE'S* HISTORIC AND**

9   **PROJECTED GROWTH RATES FOR THE TWO GROUPS OF ELECTRIC UTILITY**

10 **COMPANIES AND WESTAR.**

11 A.   Historic growth rates for the companies in the two groups, as published in the *Value Line*

12 *Investment Survey*, are provided in Panel I, page 3 of Exhibit_(JRW-7). Due to the presence of

13 outliers among the historic growth rate figures, both the mean and medians are used in the analysis.

14 Historic growth in EPS, DPS, and BVPS for the Group A, as measured by the means and medians,

15 ranges from -3.4% to 3.8%, with an average of 1.0%. Historic growth in EPS, DPS, and BVPS for

16 the Group B using the same metrics ranges from -2.0% to 2.5%, with an average of 1.5%. Given

17 Westar's recent past, historic growth is predominantly negative. Historic growth rate figures range

18 from -15.0% to 3.0%.

19   *Value Line's* projections of EPS, DPS, and BVPS growth for the two groups are shown in

20 Panel II. As above, due to the presence of outliers, both the mean and medians are used in the

1   analysis. For Groups A and B, the average of the means and medians of the projections are 3.1%

2   and 4.1%, respectively. The average of the projected growth rates for Westar is 3.9%

3   Also provided in Panel II is prospective internal growth for the groups as measured by

4   *Value Line*'s average projected retention rate and return on shareholders' equity. The average

5   prospective internal growth rate for Groups A and B are 4.1% and 4.5%, respectively. The

6   prospective internal growth rate for Westar is 3.2% based on a projected return on equity of 9.0%

7   and a projected earnings retention rate of 35%.

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

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

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

11   projected 5-year EPS growth rate forecasts for companies. These forecasts are provided for the

12   group of electric utility companies on page 4 of Exhibit_(JRW-7). Since there is considerable

13   overlap in analyst coverage between the three services, I have averaged the expected 5-year EPS

14   growth rates from the three services for each company to arrive at an expected EPS growth rate for

15   each company. For Groups A and B, the average of the projected 5-year EPS growth rates are 4.7%

16   and 5.1%, respectively. The average projected 5-year EPS growth rate for Westar is 3.5%.

17   **Q.   PLEASE SUMMARIZE YOUR ANALYSIS OF THE HISTORIC AND**

18   **PROSPECTIVE GROWTH OF THE ELECTRIC UTILITY COMPANIES.**

19   A.   The table below shows the summary DCF growth rate indicators for the two groups of

20   electric utility companies and Westar. For Groups A and B, the average of historic growth rate

1   measures in EPS, DPS, and BVPS are 1.0% and 1.5%. Projected growth for the two groups is

2   higher. For Groups A and B, the average of the *Value Line* projected growth rates are 3.1% and

3   4.1%, and the average prospective internal growth rates are 4.1% and 4.5%. The average of the

4   analysts' projected 5-year EPS growth rate forecasts for Groups A and B are 4.7% and 5.1%.

5

DCF Growth Rate Indicators

Growth Rate Indicator	Group A	Group B	Westar
Historic Value Line Growth in EPS, DPS, and BVPS	1.0%	1.5%	-7.1%
Projected Value Line Growth in EPS, DPS, and BVPS	3.1%	4.1%	3.9%
Internal Growth ROE * Retention rate	4.1%	4.5%	3.2%
Projected EPS Growth from First Call, Reuters, and Zacks	4.7%	5.1%	3.5%

6

7   The historic and projected growth rate figures consistently indicate that the prospective

8   growth of Group B is above that of Group A. Giving greater weight to the projected growth rate

9   figures, an expected DCF growth rate of 4.5% is appropriate for Group A, and an expected DCF

10   growth rate of 5.0% is appropriate for Group B. Given the figures, Westar's prospective growth

11   rate is below that of these two groups and would appear to be in the 3.5% range.

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

2   **COMMON EQUITY COST RATES FROM THE DCF MODEL FOR TWO GROUPS AND**

3   **WESTAR?**

4   A.   My DCF-derived equity cost rate for the two groups and Westar are:

5
6
7   DCF Equity Cost Rate (k) $= \dfrac{D}{P} + g$

8
9
10

	Dividend Yield	½ Growth Adjustment	DCF Growth Rate	Equity Cost Rate
Group A	3.90%	1.0225	4.5%	8.5%
Group B	3.95%	1.0250	5.0%	9.0%
Westar	3.95%	1.0175	3.5%	7.5%

11

12   These results are summarized on page 1 of Exhibit_(JRW-7).

13

14   **C. CAPITAL ASSET PRICING MODEL RESULTS**

15

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

17   A.   The CAPM is a more general risk premium approach to gauging a firm's cost of equity

18   capital. According to the risk premium approach, the cost of equity is the sum of the interest rate on

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

20                          $k = R_f + RP$

21   The yield on long-term Treasury securities is normally used as R_f. Risk premiums are measured in

1   different ways. The CAPM is a theory of the risk and expected returns of common stocks. In the

2   CAPM, two types of risk are associated with a stock: firm-specific risk or unsystematic risk; and

3   market or systematic risk, which is measured by a firm's beta. The only risk that investors

4   receive a return for bearing is systematic risk.

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

6   equity cost rate (K), is equal to:

7               $K = (R_f) + \beta_{ibm} * [E(R_m) - (R_f)]$

8   Where:
9

10   • K represents the estimated rate of return on the stock;
11   • $E(R_m)$ represents the expected return on the overall stock market. Frequently, the 'market'
12   refers to the S&P 500;
13   • (R_f) represents the risk-free rate of interest;
14   • $[E(R_m) - (R_f)]$ represents the expected equity or market risk premium—the excess return
15   that an investor expects to receive above the risk-free rate for investing in risky stocks;
16   and
17   • *Beta*—(β_i) is a measure of the systematic risk of an asset.
18   To estimate the required return or cost of equity using the CAPM requires three inputs:

19   the risk-free rate of interest (R_f), the beta (β_i), and the expected equity or market risk premium,

20    $[E(R_m) - (R_f)]$. R_f is the easiest of the inputs to measure – it is the yield on long-term Treasury

21   bonds. β_i, the measure of systematic risk, is a little more difficult to measure because there are

22   different opinions about what adjustments, if any, should be made to historic betas due to their

23   tendency to regress to 1.0 over time. And finally, an even more difficult input to measure is the

24   expected equity or market risk premium, $[E(R_m) - (R_f)]$. I will discuss each of these inputs, with

25   most of the discussion focusing on the expected equity risk premium.

1 **Q.   PLEASE DISCUSS EXHIBIT_(JRW-8).**

2 A.   Exhibit_(JRW-8) provides the summary results for my CAPM study. Page 1 gives the

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

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

5 A.   The yield on long-term Treasury bonds has usually been viewed as the risk-free rate of

6 interest in the CAPM. The yield on long-term Treasury bonds, in turn, has been considered to be

7 the yield on Treasury bonds with 30-year maturities. However, in recent years, the yield on 10-

8 year Treasury bonds has replaced the yield on 30-year Treasury bonds as the benchmark long-

9 term Treasury rate. The 10-year Treasury yields over the past five years are shown in the chart

10 below. These rates hit a 60-year low in the summer of 2003 at 3.33%. They increased with the

11 rebounding economy to 4.75% in June of last year, and have since remained in the 4.0-4.50

12 percent range.

13

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Ten-Year U.S. Treasury Yields
January 2000-August 2005

3
4   Source: http://www.federalreserve.gov/releases/h15/current/h15.pdf
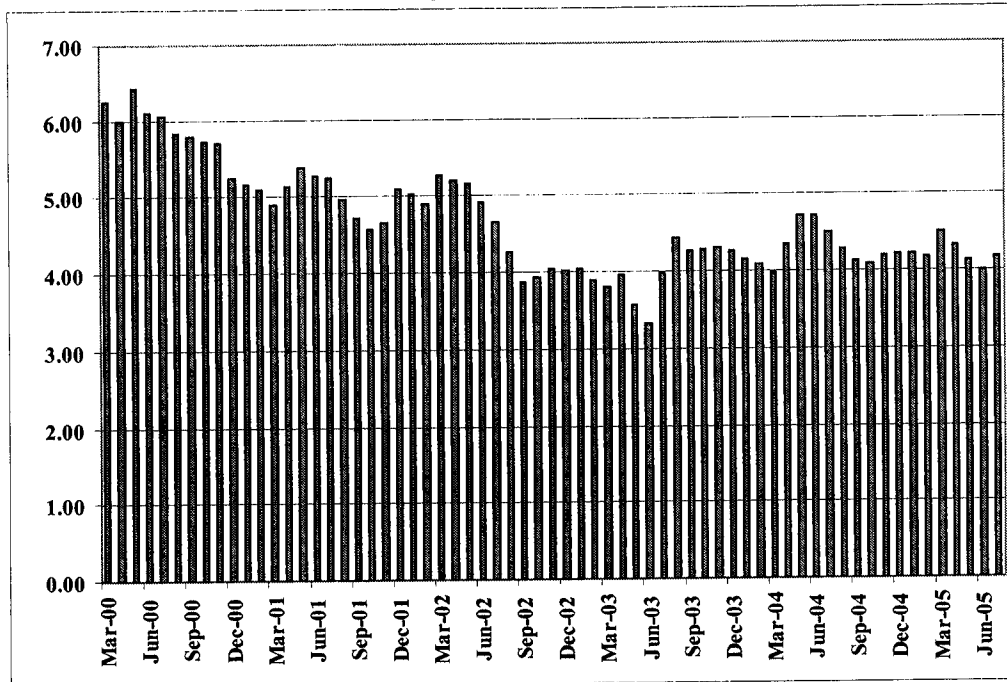
5

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

7 A.   With the growing budget deficit, the U.S. Treasury has decided to again begin issuing a

8 30-year bond. As such, the market may again begin to focus on its yield as the benchmark for

9 long-term capital costs in the U.S.

10   The table below shows Treasury yields as of September 6, 2005. The yield on the 10- and

11 30- year Treasuries were 4.06% and 4.31%, respectively. Given this recent range and recent

12 movement, as well as the potential for higher long-term rates, I will use 4.50% as the risk-free

13 rate, or R_f, in my CAPM.

14

1

2

U.S. Treasury Yields
September 6, 2005

U.S. TREASURIES

Bills

	COUPON	MATURITY DATE	CURRENT PRICE/YIELD	PRICE/YIELD CHANGE	TIME
3-Month	N.A.	12/01/2005	3.41/3.49	-0.01/.051	08:04
6-Month	N.A.	03/02/2006	3.56/3.67	-0.03/.057	08:02

Notes/Bonds

	COUPON	MATURITY DATE	CURRENT PRICE/YIELD	PRICE/YIELD CHANGE	TIME
2-Year	4.000	08/31/2007	100-12/3.79	-0-03/.057	08:08
3-Year	4.125	08/15/2008	100-26/3.82	-0-04/.048	08:08
5-Year	4.125	08/15/2010	101-03/3.88	-0-05/.036	08:08
10-Year	4.250	08/15/2015	101-16/4.06	-0-08/.030	08:08
30-Year	5.375	02/15/2031	116-09/4.31	-0-10/.019	08:08

3

4

5 **Q.   WHAT BETAS ARE YOU EMPLOYING IN YOUR CAPM?**

6 A.   Beta (ß) is a measure of the systematic risk of a stock. The market, usually taken to be

7 the S&P 500, has a beta of 1.0. The beta of a stock with the same price movement as the market

8 also has a beta of 1.0. A stock whose price movement is greater than that of the market, such as

9 a technology stock, is riskier than the market and has a beta greater than 1.0. A stock with below

10 average price movement, such as that of a regulated public utility, is less risky than the market

1 and has a beta less than 1.0. Estimating a stock's beta involves running a linear regression of a

2 stock's return on the market return as in the following:

Calculation of Beta
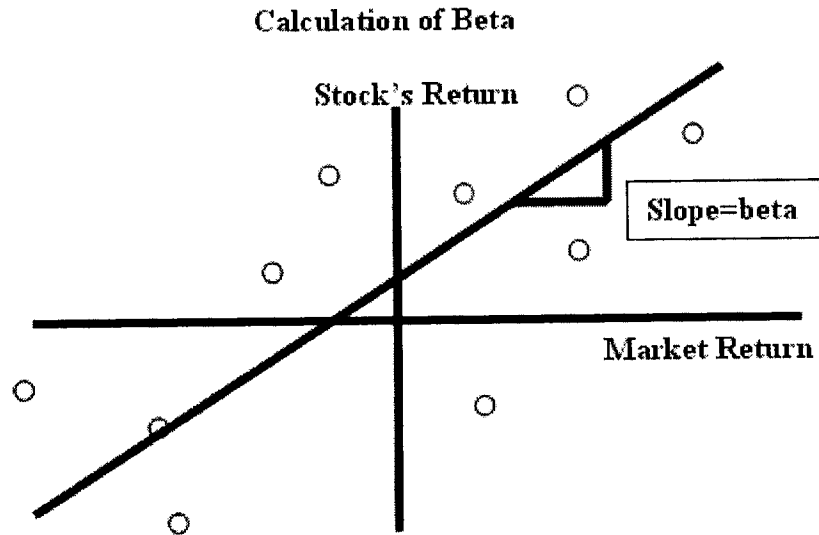
3

4 The slope of the regression line is the stock's ß. A steeper line indicates the stock is more

5 sensitive to the return on the overall market. This means that the stock has a higher ß and greater

6 than average market risk. A less steep line indicates a lower ß and less market risk.

7   Numerous online investment information services, such Yahoo and Reuters, provide

8 estimates of stock betas. Usually these services report different betas for the same stock. The

9 differences are usually due to (1) the time period over which the ß is measured and (2) any

10 adjustments that are made to reflect the fact that betas tend to regress to 1.0 over time. In

11 estimating an equity cost rate for the two groups of electric utility companies and Westar, I am

12 using the median betas for the companies as provided in the *Value Line Investment Survey*. As

13 shown on page 2 of Exhibit_(JRW-8), the median for both Groups A and B is 0.75. Westar's

1 beta is 0.85.

2 **Q. PLEASE DISCUSS THE OPPOSING VIEWS REGARDING THE EQUITY RISK**

3 **PREMIUM.**

4 A.   The equity or market risk premium—$[E(R_m) - R_f]$: is equal to the expected return on the

5 stock market (e.g., the expected return on the S&P 500 ($E(R_m)$)) minus the risk-free rate of interest

6 (R_f). The equity premium is the difference in the expected total return between investing in equities

7 and investing in "safe" fixed-income assets, such as long-term government bonds. However, while

8 the equity risk premium is easy to define conceptually, it is difficult to measure because it requires

9 an estimate of the expected return on the market.

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

11 **THE EQUITY RISK PREMIUM.**

12 A.   The table below highlights the primary approaches to, and issues in, estimating the

13 expected equity risk premium. The traditional way to measure the equity risk premium was to

14 use the difference between historic average stock and bond returns. In this case, historic stock

15 and bond returns, also called ex post returns, were used as the measures of the market's expected

16 return (known as the ex ante or forward-looking expected return). This type of historic

17 evaluation of stock and bond returns is often called the "Ibbotson approach" after Professor

18 Roger Ibbotson who popularized this method of using historic financial market returns as

19 measures of expected returns. Most historic assessments of the equity risk premium suggest an

20 equity risk premium of 5-7 percent above the rate on long-term Treasury bonds. However, this

1   can be a problem because (1) ex post returns are not the same as ex ante expectations, (2) market

2   risk premiums can change over time, increasing when investors become more risk-averse, and

3   decreasing when investors become less risk-averse, and (3) market conditions can change such

4   that ex post historic returns are poor estimates of ex ante expectations.

5

Risk Premium Approaches

	Historical Ex Post Excess Returns	Surveys	Ex Ante Models and Market Data
Means of Assessing the Equity-Bond Risk Premium	Historical average is a popular proxy for the ex ante premium – but likely to be misleading	Investor and expert surveys can provide direct estimates of prevailing expected returns/premiums	Current financial market prices (simple valuation ratios or DCF-based measures) can give most objective estimates of feasible ex ante equity-bond risk premium
Problems/Debated Issues	Time variation in required returns and systematic selection and other biases have boosted valuations over time, and have exaggerated realized excess equity returns compared with ex ante expected premiums	Limited survey histories and questions of survey representativeness. Surveys may tell more about hoped-for expected returns than about objective required premiums due to irrational biases such as extrapolation.	Assumptions needed for DCF inputs, notably the trend earnings growth rate, make even these models' outputs subjective. The range of views on the growth rate, as well as the debate on the relevant stock and bond yields, leads to a range of premium estimates.

6
7   Source: Antti Ilmanen, Expected Returns on Stocks and Bonds," *Journal of Portfolio Management*, (Winter 2003).
8

9   The use of historic returns as market expectations has been criticized in numerous academic

10   studies.[6] The general theme of these studies is that the large equity risk premium discovered in

11   historic stock and bond returns cannot be justified by the fundamental data. These studies, which

12   fall under the category "Ex Ante Models and Market Data," compute ex ante expected returns using

13   market data to arrive at an expected equity risk premium. These studies have also been called

---

[6] The problems with using ex post historic returns as measure of ex ante expectation will be discussed at length later

1   "Puzzle Research" after the famous study by Mehra and Prescott in which the authors first

2   questioned the magnitude of historic equity risk premiums relative to fundamentals.[7]

3   **Q.   PLEASE BRIEFLY SUMMARIZE SOME OF THE NEW ACADEMIC STUDIES**

4   **THAT DEVELOP EX ANTE EQUITY RISK PREMIUMS.**

5   A.   Two of the most prominent studies of ex ante expected equity risk premiums were by

6   Eugene Fama and Ken French (2002) and James Claus and Jacob Thomas (2001). The primary

7   debate in these studies revolves around two related issues: (1) the size of expected equity risk

8   premium, which is the return equity investors require above the yield on bonds; and (2) the fact that

9   estimates of the ex ante expected equity risk premium using fundamental firm data (earnings and

10   dividends) are much lower than estimates using historic stock and bond return data. Fama and

11   French (2002), two of the most preeminent scholars in finance, use dividend and earnings growth

12   models to estimate expected stock returns and ex ante expected equity risk premiums.[8] They

13   compare these results to actual stock returns over the period 1951-2000. Fama and French estimate

14   that the expected equity risk premium from DCF models using dividend and earnings growth to be

15   between 2.55% and 4.32%. These figures are much lower than the ex post historic equity risk

16   premium produced from the average stock and bond return over the same period, which is 7.40%.

17   Fama and French conclude that the ex ante equity risk premium estimates using DCF

18   models and fundamental data are superior to those using ex post historic stock returns for three

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in my testimony.
[7] Rahnish Mehra and Edward Prescott, "The Equity Premium: A Puzzle," *Journal of Monetary Economic* (1985).
[8] Eugene F. Fama and Kenneth R. French, "The Equity Premium," *The Journal of Finance*, April 2002. This paper may be downloaded from the Internet at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=236590.

1   reasons: (1) the estimates are more precise (a lower standard error); (2) the Sharpe ratio, which is

2   measured as the [(expected stock return – risk-free rate)/standard deviation], is constant over

3   time for the DCF models but more than doubles for the average stock-bond return model; and (3)

4   valuation theory specifies relationships between the market-to-book ratio, return on investment,

5   and cost of equity capital that favor estimates from fundamentals. They also conclude that the

6   high average stock returns over the past 50 years were the result of low expected returns and that

7   the average equity risk premium has been in the 3-4 percent range.

8   The study by Claus and Thomas of Columbia University provides direct support for the

9   findings of Fama and French.[9] These authors compute ex ante expected equity risk premiums over

10   the 1985-1998 period by (1) computing the discount rate that equates market values with the

11   present value of expected future cash flows, and (2) then subtracting the risk-free interest rate. The

12   expected cash flows are developed using analysts' earnings forecasts. The authors conclude that

13   over this period the ex ante expected equity risk premium is in the range of 3.0%. Claus and

14   Thomas note that, over this period, ex post historic stock returns overstate the ex ante expected

15   equity risk premium because as the expected equity risk premium has declined, stock prices have

16   risen. In other words, from a valuation perspective, the present value of expected future returns

17   increase when the required rate of return decreases. The higher stock prices have produced stock

18   returns that have exceeded investors' expectations and therefore ex post historic equity risk

19   premium estimates are biased upwards as measures of ex ante expected equity risk premiums.

---

[9] James Claus and Jacob Thomas, "Equity Risk Premia as Low as Three Percent? Empirical Evidence from Analysts'

1 **Q.   PLEASE PROVIDE A SUMMARY OF THE EX ANTE EQUITY RISK**

2 **PREMIUM STUDIES.**

3 A.   Richard Derrig and Elisha Orr (2003) recently completed the most comprehensive paper to

4 date which summarizes and assesses the many risk premium studies.[10] These authors reviewed the

5 various approaches to estimating the equity risk premium, and the overall results. Page 3 of

6 Exhibit_(JRW-8) provides a summary of the results of the primary risk premium studies reviewed

7 by Derrig and Orr. In developing page 3 of Exhibit_(JRW-8), I have (1) updated the results of

8 studies that have been updated by the various authors, (2) included the results several additional

9 studies and surveys, (3) included the results of the "Building Blocks" approach to estimating the

10 equity risk premium, including a study I performed which is presented below, and (4) omitted the

11 results of several studies with very high or low results.

12   On page 3, the risk premium studies listed under the 'Social Security' and 'Puzzle

13 Research' sections are primarily ex ante expected equity risk premium studies (as discussed above).

14 Most of these studies are performed by leading academic scholars in finance and economics. Also

15 provided are the results of studies by Ibbotson and Peng and myself which use the Building Blocks

16 approach.

17

18

Earnings Forecasts for Domestic and International Stock Market," *Journal of Finance*. (October 2001).

[10] Richard Derrig and Elisha Orr, "Equity Risk Premium: Expectations Great and Small," Working Paper (version 3.0), Automobile Insurers Bureau of Massachusetts, August 28, 2003.

1 **Q. PLEASE DISCUSS YOUR DEVEMOPMENT OF AN EX ANTE EXPECTED**

2 **EQUITY RISK PREMIUM COMPUTED USING THE BUILDING BLOCKS**

3 **METHODOLOGY.**

4 A.   Ibbotson and Chen (2002) evaluate the ex post historic mean stock and bond returns in

5 what is called the Building Blocks approach.[11] They use 75 years of data and relate the

6 compounded historic returns to the different fundamental variables employed by different

7 researchers in building ex ante expected equity risk premiums. Among the variables included

8 were inflation, real EPS and DPS growth, ROE and book value growth, and P/E ratios. By

9 relating the fundamental factors to the ex post historic returns, the methodology bridges the gap

10 between the ex post and ex ante equity risk premiums. Ilmanen (2003) illustrates this approach

11 using the geometric returns and five fundamental variables – inflation (CPI), dividend yield

12 (D/P), real earnings growth (RG), repricing gains (PEGAIN) and return interaction/reinvestment

13 (INT). [12] This is shown in the graph below. The first column breaks the 1926-2000 geometric

14 mean stock return of 10.7% into the different return components demanded by investors: the

15 historic Treasury bond return (5.2%), the excess equity return (5.2%), and a small interaction

16 term (0.3%). This 10.7% annual stock return over the 1926-2000 period can then be broken

17 down into the following fundamental elements: inflation (3.1%), dividend yield (4.3%), real

---

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

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

1 earnings growth (1.8%), repricing gains (1.3%) associated with higher P/E ratios, and a small

2 interaction term (0.2%).

3
4

Decomposing Equity Market Returns
The Building Blocks Methodology

10.7%	**10.7%**	**7.9%**
INT - .3%	INT - .2%	
	PEGAIN 1.3%	
Excess Equity Return 5.2%	RG 1.8%	RG 2.9%
	D/P 4.3%	D/P 2.1%
Bond Return 5.2%	CPI 3.1%	CPI 2.9%
Ex Post Equity Return – 1926-2000	**Equity Return Decomposed**	**Ex Ante Expected Equity Return**
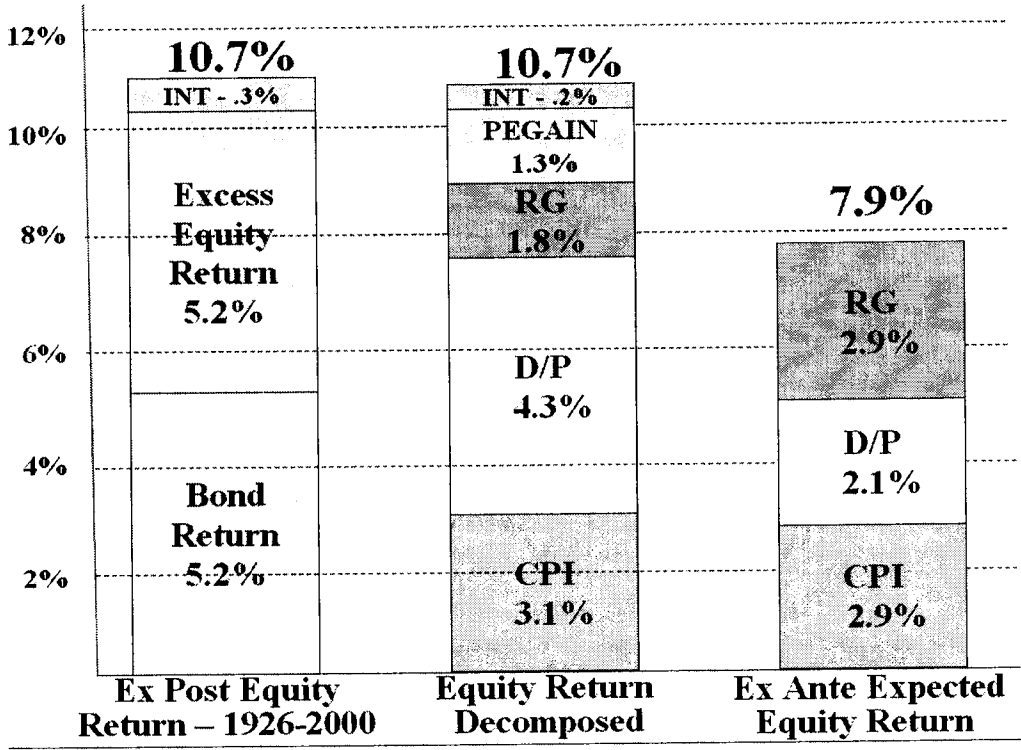
5
6

7 **Q.   HOW ARE YOU USING THIS METHODOLOGY TO DERIVE AN EX ANTE**

8 **EXPECTED EQUITY RISK PREMIUM?**

9 A.   The third column in the graph above shows current inputs to estimate an ex ante expected

10 market return. These inputs include the following:

11   CPI – To assess expected inflation, I have employed expectations of the short-term and

1   long-term inflation rate. The graph below shows the expected annual inflation rate according to

2   consumers, as measured by the CPI, over the coming year. This survey is published monthly by the

3   University of Michigan Survey Research Center. In the most recent report, expected one-year ahead

4   inflation rate was 3.3%.

5   **Expected Inflation Rate**

6   **University of Michigan Consumer Research**

7   (Data Source: http://research.stlouisfed.org/fred2/series/MICH/98)
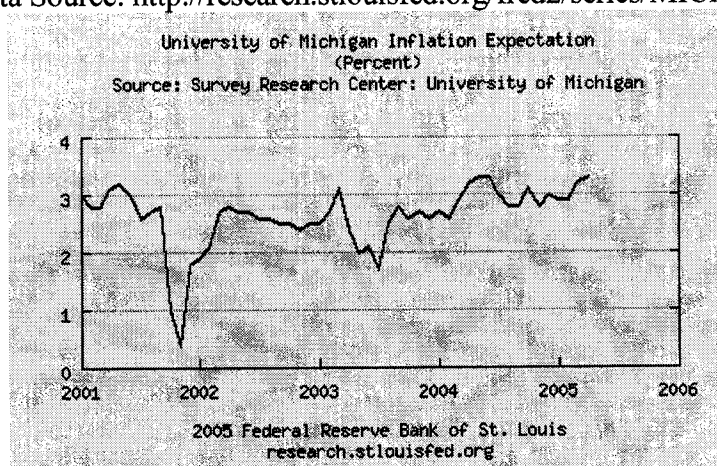
8
9
10   Longer term inflation forecasts are available in the Federal Reserve Bank of Philadelphia's

11   publication entitled *Survey of Professional Forecasters.*[13]   This survey of professional

12   economists has been published for almost 50 years. While this survey is published quarterly,

13   only the first quarter survey includes long-term forecasts of GDP growth, inflation, and market

14   returns. In the first quarter, 2005 survey, published on February 14, 2005, the median long-term

---

[13]Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters,* February 14, 2005. 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.

1   (10-term) expected inflation rate as measured by the CPI was 2.45% (see page 4 of

2   Exhibit_(JRW-8)).

3   Given these results, I will use the average of the University of Michigan and Philadelphia

4   Federal Reserve's surveys (3.30% and 2.45%), or 2.90%.

5   D/P – As shown in the graph below, the dividend yield on the S&P 500 has decreased

6   gradually over the past decade. Today, it is far below its norm of 4.3% over the 1926-2000 time

7   period. Whereas the S&P dividend yield bottomed out at less than 1.4% in 2000, it is currently

8   at 2.1% which I use in the ex ante risk premium analysis.

9   **S&P 500 Dividend Yield**

10   (Data Source: http://www.barra.com/Research/fund_charts.asp)

Dividend Yield
S&P 500
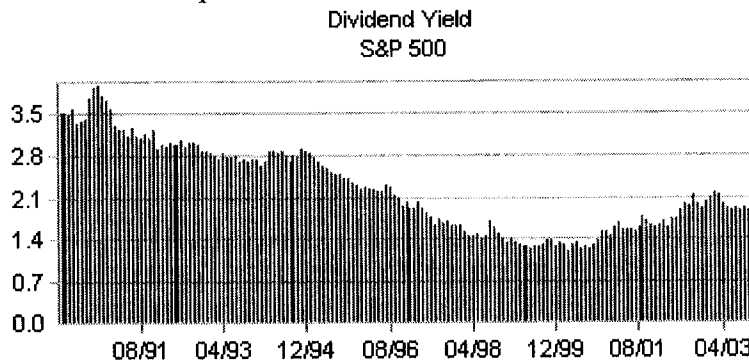
11
12
13   RG – To measure expected real growth in earnings, I use (1) the historic real earnings

14   growth rate for the S&P 500, and (2) expected real GDP growth. The S&P 500 was created in

15   1960. It includes 500 companies which come from ten different sectors of the economy. Over

16   the 1960-2003 period, nominal growth in EPS for the S&P 500 was 6.88%. On page 5 of

1   Exhibit_(JRW-8), real EPS growth is computed using the CPI as a measure of inflation. As

2   indicated by Ibbotson and Chen, real earnings growth over the 1926-2000 period was 1.8%. The

3   real growth figure over 1960-2003 period for the S&P 500 is 2.5%.

4   The second input for expected real earnings growth is expected real GDP growth. The

5   rationale is that over the long-term, corporate profits have averaged a relatively consistent 5.50%

6   of US GDP.[14] Real GDP growth, according to McKinsey, has averaged 3.5% over the past 80

7   years. Expected GDP growth, according to the Federal Reserve Bank of Philadelphia's *Survey of*

8   *Professional Forecasters,* is 3.3% (see page 4 of Exhibit_(JRW-8)).

9   Given these results, I will use the average of the historic S&P EPS real growth and the

10   historic real GDP growth (and as supported by the Philadelphia Federal Reserve survey of expected

11   GDP growth) (2.5% and 3.3%), or 2.9%, for real earnings growth.

12   PEGAIN – the repricing gains associated with increases in the P/E ratio accounted for 1.3%

13   of the 10.7% annual stock return in the 1926-2000 period. In estimating an ex ante expected stock

14   market return, one issue is whether investors expect P/E ratios to increase from their current levels.

15   The graph below shows the P/E ratios for the S&P 500 over the past 25 years. The run-up and

16   eventual peak in P/Es is most notable in the chart. The relatively low P/E ratios (in the range of 10)

17   over two decades ago are also quite notable. As of May, 2005 the P/E for the S&P 500, using the

18   trailing 12 months EPS, is in the range of 21.0 to 22.0 according to www.investor.reuters.com.

19   Given the current economic and capital markets environment, I do not believe that

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[14]Marc H. Goedhart, Timothy M. Koller, and Zane D. Williams, "The Real Cost of Equity," *McKinsey on Finance*

1 investors expect even higher P/E ratios. Therefore, a PEGAIN would not be appropriate in

2 estimating an ex ante expected stock market return. There are two primary reasons for this.

3 First, the average historic S&P 500 P/E ratio is 15 – thus the current P/E exceeds this figure by

4 almost 50%. Second, as previously noted, interest rates are at a cyclical low not seen in almost

5 50 years. This is a primary reason for the high current P/Es. Given the current market

6 environment with relatively high P/E ratios and low relative interest rate, investors are not likely

7 to expect to get stock market gains from lower interest rates and higher P/E ratios.

8 **S&P 500 P/E Ratios**
9 (Data Source: http://www.barra.com/Research/fund_charts.asp)

Price/Earnings (Incl Negative)
S&P 500
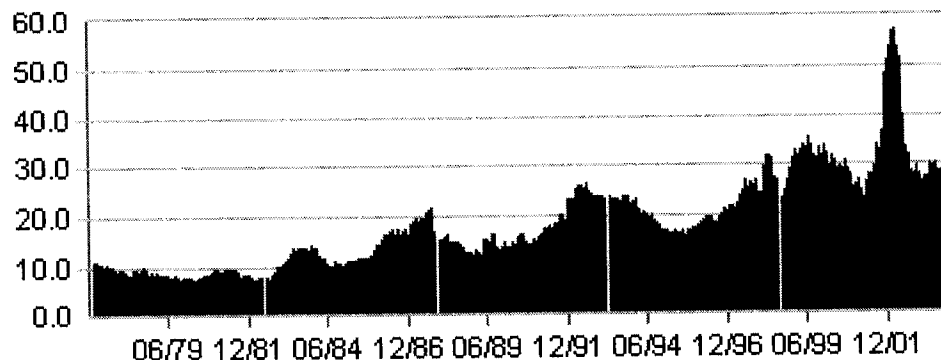
10
11

12 **Q. GIVEN THIS DISCUSSION, WHAT IS YOUR EX ANTE EXPECTED MARKET**

13 **RETURN AND EQUITY RISK PREMIUM USING THE "BUILDING BLOCKS**

14 **METHODOLOGY"?**

15 A. My expected market return is represented by the last column on the right in the graph

(Autumn 2002), p.14. Available at http://www.corporatefinance.mckinsey.com/.

-44-

1   entitled "Decomposing Equity Market Returns: The Building Blocks Methodology" found earlier

2   in my testimony. As shown on page 36, my expected market return is 7.90% which is composed

3   of 2.90% expected inflation, 2.10% dividend yield, and 2.90% real earnings growth rate.

Expected Inflation	Dividend Yield	Real Earnings Growth Rate	Expected Market Return
2.90%	2.10%	2.90%	7.9%

4

5   **Q.   GIVEN THAT THE HISTORIC COMPOUNDED ANNUAL MARKET RETURN**

6   **IS IN EXCESS OF 10%, WHY DO YOU BELIEVE THAT YOUR EXPECTED MARKET**

7   **RETURN OF 7.90% IS REASONABLE?**

8   A.   As discussed above in the development of the expected market return, stock prices are

9   relatively high at the present time in relation to earnings and dividends and interest rates are

10   relatively low. Hence, it is unlikely that investors are going to experience high stock market

11   returns due to higher P/E ratios and/or lower interest rates. In addition, as shown in the

12   decomposition of equity market returns, whereas the dividend portion of the return was

13   historically 4.3%, the current dividend yield is only 2.1%. Due to these reasons, lower market

14   returns are expected for the future.

15   **Q.   IS YOUR EXPECTED MARKET RETURN OF 7.90% CONSISTENT WITH THE**

16   **FORECASTS OF MARKET PROFESSIONALS?**

17   A.   Yes. The only survey of market professionals dealing with forecasts of stock market

1 returns is published by the previously-referenced Federal Reserve Bank of Philadelphia. In the

2 first quarter, 2005 survey, published on February 14, 2005, the median long-term expected return

3 on the S&P 500 was 7.00 (see page 4 of Exhibit_(JRW-8)). This is clearly consistent with my

4 expected market return of 7.90%.

5 **Q.   GIVEN THIS EXPECTED MARKET RETURN, WHAT IS YOUR EX ANTE**

6 **EQUITY RISK PREMIUM USING THE BUILDING BLOCKS METHODOLOGY?**

7 A.   As shown above, the current 30-year treasury yield is 4.31%. My ex ante equity risk

8 premium is simply the expected market return from the Building Blocks methodology minus this

9 risk-free rate:

10   Ex Ante Equity Risk Premium   =   7.90% - 4.31%   = 3.59%

11 **Q.   GIVEN THIS DISCUSSION, HOW ARE YOU MEASURING AN EXPECTED**

12 **EQUITY RISK PREMIUM IN THIS PROCEEDING?**

13 A.   As discussed above, page 3 of Exhibit_(JRW-8) provides a summary of the results of a

14 variety of the equity risk premium studies. These include the results of (1) the study of historic risk

15 premiums as provided by Ibbotson, (2) ex ante equity risk premium studies (studies commissioned

16 by the Social Security Administration as well as those labeled 'Puzzle Research'), (3) equity risk

17 premium surveys of CFOs, Financial Forecasters, as well as academics, (4) Building Block

18 approaches to the equity risk premium, and (5) other miscellaneous studies. The overall average

19 equity risk premium of these studies is 4.18%, which I will use as the equity risk premium in my

1   CAPM study.

2   **Q.   IS YOUR EX ANTE EQUITY RISK PREMIUM CONSISTENT WITH THE**

3   **EQUITY RISK PREMIUMS OF LEADING INVESTMENT FIRMS?**

4   A.   Yes.   One of the first studies in this area was by Stephen Einhorn, one of Wall Street's

5   leading investment strategists.[15] His study showed that the market or equity risk premium had

6   declined to the 2.0 to 3.0 percent range by the early 1990s. Among the evidence he provided in

7   support of a lower equity risk premium is the inverse relationship between real interest rates

8   (observed interest rates minus inflation) and stock prices. He noted that the decline in the market

9   risk premium has led to a significant change in the relationship between interest rates and stock

10   prices. One implication of this development was that stock prices had increased higher than would

11   be suggested by the historic relationship between valuation levels and interest rates.

12   The equity risk premiums of some of the other leading investment firms today support the

13   result of the academic studies. An article in *The Economist* indicated that some other firms like J.P.

14   Morgan are estimating an equity risk premium for an average risk stock in the 2.0 to 3.0 percent

15   range above the interest rate on U.S. Treasury Bonds.[16]

16

17

18

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[15] Steven G. Einhorn, "The Perplexing Issue of Valuation: Will the Real Value Please Stand Up?" *Financial Analysts Journal* (July-August 1990), pp. 11-16.

[16] For example, see "Welcome to Bull Country," *The Economist* (July 18, 1998), pp. 21-3, and "Choosing the Right

1 **Q. IS YOUR EX ANTE EQUITY RISK PREMIUM CONSISTENT WITH THE**

2 **EQUITY RISK PREMIUMS USED BY CORPORATE CHIEF FINANCIAL OFFICERS**

3 **(CFOs)?**

4 A.   Yes. John Graham and Campbell Harvey of Duke University surveyed CFOs to ascertain

5 their ex ante equity risk premium. In Graham and Harvey's 2003 survey, the average ex ante 10-

6 year equity risk premium of the CFOs was 3.8%.[17]

7 **Q. IS YOUR EX ANTE EQUITY RISK PREMIUM CONSISTENT WITH THE EX**

8 **ANTE EQUITY RISK PREMIUMS OF PROFESSIONAL FORECASTERS?**

9 A.   Yes. The financial forecasters in the previously-referenced Federal Reserve Bank of

10 Philadelphia survey project both stock and bond returns. As shown on page 4 of Exhibit_(JRW-

11 8)), the median long-term expected stock and bond returns were 7.00% and 5.00%, respectively.

12 This provides an ex ante equity risk premium of 2.00%.

13 **Q. IS YOUR EX ANTE EQUITY RISK PREMIUM CONSISTENT WITH THE**

14 **EQUITY RISK PREMIUMS USED BY THE LEADING CONSULTING FIRMS?**

15 A.   Yes. McKinsey & Co. is widely recognized as the leading management consulting firm in

16 the world. They recently published a study entitled "The Real Cost of Equity" in which they

17 developed an ex ante equity risk premium for the US. In reference to the decline in the equity risk

18 premium, as well as what is the appropriate equity risk premium to employ for corporate valuation

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Mixture," *The Economist* (February 27, 1999), pp. 71-2.
[17]John R. Graham and Campbell Harvey, "Expectations of Equity Risk Premia, Volatility, and Asymmetry," Duke

1 purposes, the McKinsey authors concluded the following:

2   We attribute this decline not to equities becoming less risky (the
3   inflation-adjusted cost of equity has not changed) but to investors
4   demanding higher returns in real terms on government bonds after
5   the inflation shocks of the late 1970s and early 1980s. We believe
6   that using an equity risk premium of 3.5 to 4 percent in the current
7   environment better reflects the true long-term opportunity cost of
8   equity capital and hence will yield more accurate valuations for
9   companies.[18]

10

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

12 A.   The results of my CAPM study for the two groups of electric utility companies as well as

13 Westar are provided below:

14 $$K = (R_f) + \beta_{ibm} * [E(R_m) - (R_f)]$$
15

	Risk-Free Rate	Beta	Equity Risk Premium	Equity Cost Rate
Group A	4.50%	0.75	4.18%	7.6%
Group B	4.50%	0.75	4.18%	7.6%
Westar Energy, Inc.	4.50%	0.85	4.18%	8.1%

16

17

18

19

20

21

University Working Paper, 2003.
[18]Marc H. Goedhart, Timothy M. Koller, and Zane D. Williams, "The Real Cost of Equity," *McKinsey on Finance*

D. EQUITY COST RATE SUMMARY

1

2 **Q.   PLEASE SUMMARIZE YOUR EQUITY COST RATE STUDY.**

3 A.   The results for my DCF and CAPM analyses for the two groups of electric utility

4 companies and Westar are indicated below:

5

	DCF	CAPM
Group A	8.5%	7.6%
Group B	9.0%	7.6%
Westar Energy, Inc.	7.5%	8.1%

6

7 **Q.   GIVEN THESE RESULTS, WHAT EQUITY COST RATE RECOMMENDATION**

8 **ARE YOU MAKING FOR WESTAR?**

9 A.   Giving these results, I conclude that the equity cost rate for the two groups of electric

10 utilities and Westar is in the 8.0-9.0 percent range. Given Westar's slightly lower bond rating and

11 higher beta, an equity cost rate in the upper half of the range is appropriate. As such, I will use an

12 equity cost rate of 8.75% for Westar.

13 **Q.   ISN'T YOUR RECOMMENDED RETURN LOW BY HISTORIC STANDARDS?**

14 A.   Yes it is, and appropriately so. My recommended rate of return is low by historic standards

15 for three reasons. First, as discussed above, current capital costs are very low by historic standards,

16 with interest rates at a cyclical low not seen since the 1960s. Second, the 2003 tax law, which

17 reduces the tax rates on dividend income and capital gains, lowers the pre-tax return required by

---

(Autumn 2002), p.15. Available at http://www.corporatefinance.mckinsey.com/.

1 investors. And third, as discussed below, the equity or market risk premium has declined.

2 **Q.   FINALLY, PLEASE DISCUSS THIS RECOMMENDATION IN LIGHT OF**

3 **RECENT YIELDS ON 'A' RATED PUBLIC UTILITY BONDS.**

4 A.   In recent months the yields on long-term public utility bonds have been in the 5.25 percent

5 range. My equity return recommendation of 8.75% may appear to be too low given these yields.

6 However, as previously noted, my recommendation must be viewed in the context of the significant

7 decline in the market or equity risk premium. As a result, the return premium that equity investors

8 require over bond yields is much lower than today. This decline was previously reviewed in my

9 discussion of capital costs in today's markets. In addition, it will be examined in more depth in my

10 critique of Dr. Avera's testimony.

11 **Q.   HOW DO YOU TEST THE REASONABLENESS OF YOUR 8.75%**

12 **RECOMMENDATION?**

13 A.   To test the reasonableness of my 8.75% recommendation, I examine the relationship

14 between the return on common equity and the market-to-book ratios for the group of electric utility

15 companies.

16 **Q.   WHAT DO THE RETURNS ON COMMON EQUITY AND MARKET-TO-BOOK**

17 **RATIOS FOR THE GROUPS OF ELECTRIC UTILITIES INDICATE ABOUT THE**

18 **REASONABLENESS OF YOUR 8.75% RECOMMENDATION?**

19 A.   Exhibit_(JRW-3) and Exhibit_(JRW-7) provides financial performance and market

20 valuation statistics for the two groups of electric utility companies and Westar. The current and

1   projected returns on equity and market-to-book ratios for the two groups and Westar are

2   summarized below:

	Current ROE	Projected ROE	Market-to-Book Ratio
Group A	9.6%	10.8%	184
Group B	10.1%	11.0%	189
Westar Energy, Inc.	8.0%	9.0%	149

3   Source: Exhibit_(JRW-3) and page 3 of Exhibit_(JRW-7)

4   These results clearly indicate that, on average, these companies and Westar are earning and are

5   expected to earn returns on equity above their equity cost rates. As such, this observation provides

6   evidence that my recommended equity cost rate of 8.75% is reasonable and fully consistent with

7   the financial performance and market valuation of the groups of electric utility companies and

8   Westar.

9   <u>**V. CRITIQUE OF WESTAR'S RATE OF RETURN TESTIMONY**</u>
10

11 **Q.   PLEASE   SUMMARIZE   WESTAR'S   OVERALL   RATE   OF   RETURN**

12 **RECOMMENDATION.**

13 A.   Westar's proposed rate of return is:

14   **Westar Energy, Inc.**
15   Proposed Cost of Capital

Source of Capital	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	52.4125%	6.624%	3.472%
Preferred Stock	0.6887%	4.5529%	0.031%
Post-1970 ITC	2.3083%	7.4802%	0.204%
Common Equity	44.5905%	11.500%	5.128%
Total			8.835%

16

1   **Q.**   **PLEASE EVALUATE THE COMPANY'S RATE OF RETURN POSITION.**

2   A.   The proposed rate of return is too high due to an overstated equity cost rate. In addition, I

3   have updated Westar's long-term debt cost rate to reflect a June, 2005 refinancing. Dr. Avera's

4   recommended return on common equity of 11.5% is unreasonably high due to (1) his use of a proxy

5   group of electric utility companies that have significant revenues from unregulated businesses and

6   gas operations, (2) an upwardly-biased expected growth rate in his DCF equity cost rate, (3) the use

7   of a forecasted interest rates that are well above current long-term market yields, (4) excessive risk

8   premium estimates in his various risk premium approaches, and (4) an inappropriate flotation cost

9   adjustment.

10   **Q.**   **WHAT ISSUES ARE YOU ADDRESSING IN YOUR REBUTTAL TESTIMONY?**

11   **A.**   My rebuttal focuses on Dr. Avera's equity cost rate approaches and results. I previously

12   discussed the long-term debt cost rate as well as his proxy group of electric utilities.

13

14   **Equity Cost Rate Approaches and Results**

15

16   **Q.**   **PLEASE REVIEW DR. AVERA'S EQUITY COST RATE APPROACHES.**

17   A.   Dr. Avera employs a DCF approach and various risk premium approaches, including

18   analyses of allowed returns and realized rates of returns as well as an application of the CAPM

19   using forward looking and historic equity risk premiums.

20

1 **Q. PLEASE SUMMARIZE DR. AVERA'S EQUITY COST RATE RESULTS.**

2 A.   Dr. Avera's equity cost rate estimates for Westar are summarized in the table below. Based

3 on these figures, he concludes that the appropriate equity cost rate for the group to be in the 10.8-

4 11.8 percent range. After incorporating flotation costs of 20 basis points into his analysis, Dr.

5 Avera concludes that the appropriate equity cost rate for Westar is in the 11.0-12.0 percent range,

6 with a point estimate of 11.5%.

7   <u>**Summary of Equity Cost Rate Approaches and Results**</u>
8
9

Approach	Period	Result
DCF		
	Current	9.5%
Risk Premium		
Authorized Returns	Current	10.8%
Authorized Returns	Rate Year	11.5%
Historic Returns	Current	9.9%
Historic Returns	Rate Year	11.1%
CAPM - Forward Looking	Current	12.0%
CAPM - Forward Looking	Rate Year	12.1%
CAPM – Historic	Current	10.5%
CAPM – Historic	Rate Year	11.3%

16 **Q. WHAT ARE THE PRIMARY ERRORS IN DR. AVERA'S ANALYSES.**

17 A.   Dr. Avera's recommended return on equity of 11.5% is unreasonably high due to (1) an

18 upwardly-biased expected growth rate in his DCF equity cost rate, (2) the use of forecasted interest

19 rates that are well in excess of the current long-term market yields, (3) excessive risk premium

20 estimates in his various risk premium approaches, and (4) an inappropriate flotation cost

21 adjustment.

1 Q. PLEASE   ADDRESS   DR.   AVERA'S   CONTENTION   THAT   WESTAR

2 REQUIRES A 20 BASIS POINT ADJUSTMENT TO THE OVERALL ROE FOR

3 EQUITY FLOTATION COSTS.

4 A.   Dr. Avera also argues that Westar deserves an extra 20 basis points for flotation costs.

5 Based on Westar's proposed rate base and rate of return, this adds about $2M in revenues

6 annually to account for flotation cost. Such an adjustment is totally unwarranted. Flotation costs

7 are one-time expenses which are incurred when a Company sells additional stock. They are not a

8 recurring annual item. Furthermore, Dr. Avera has not even indicated if Westar intends to sell

9 additional shares to investors. If so, the flotation costs should be accounted for and added to the

10 Company's rate request just like other expenses.

11 Q.   PLEASE SUMMARIZE DR. AVERA'S DCF ESTIMATES.

12 A.   On pages 40 to 54 of his testimony and in Exhibits WEA-1, WEA-2, and WEA-3, Dr.

13 Avera performs a DCF analysis using his electric utility proxy group The three models and their

14 results are summarized below.

15 **. DCF Results**
16 **Electric Company Proxy Group**

		DCF Inputs
Dividend Yield		4.3%
Growth		
Projected EPS Growth	5.3%	
Sustainable Growth	4.7%	
Average	5.0*	
Growth Rate Employed		5.2%
DCF Equity Cost Rate		**9.5%**

17

1 **Q. PLEASE ASSESS DR. AVERA'S DCF APPROACH.**

2 A.   There are four primary issues with Dr. Avera's DCF results: (1) he appears to have ignored

3 his DCF results in arriving at his recommended equity cost rate for Westar. His overall designated

4 range of 10.8-11.8 percent for the proxy group is well above the results of his DCF study; (2) his

5 growth rate of 5.2% is above the average of his projected EPS growth of 5.3% and his sustainable

6 growth of 4.7%; (3) he has placed heavy reliance on upwardly biased analysis' forecasts of EPS

7 growth; and (4) his sustainable growth figure is excessive and overstated.

8 **Q. PLEASE DISCUSS GROWTH AS INDICATED BY ANALYSTS' EPS GROWTH**

9 **RATE FORECASTS.**

10 A.   Dr. Avera has used the EPS growth rate forecasts of Wall Street analysts. He has ignored

11 other indicators of expected growth, especially historic growth. It seems highly unlikely that

12 investors today would rely exclusively on the forecasts of securities firms and analysts, and ignore

13 historic growth, in arriving at expected growth. In the academic world, the fact that the EPS

14 forecasts of securities' analysts are overly optimistic and biased upwards has been known for years.

15 **Q. PLEASE REVIEW THE BIAS IN ANALYSTS' GROWTH RATE FORECASTS.**

16 A.   Analysts' growth rate forecasts are collected and published by Zacks, First Call, I/B/E/S,

17 and Reuters. These services retrieve and compile EPS forecasts from Wall Street Analysts. These

18 analysts come from both the sell side (Merrill Lynch, Paine Webber) and the buy side (Prudential

19 Insurance, Fidelity).

20   The problem with using these forecasts to estimate a DCF growth rate is that the

1   objectivity of Wall Street research has been challenged, and many have argued that analysts' EPS

2   forecasts are overly optimistic and biased upwards. To evaluate the accuracy of analysts' EPS

3   forecasts, I have compared actual 3-5 year EPS growth rates with forecasted EPS growth rates on

4   a quarterly basis over the past 20 years for all companies covered by the I/B/E/S data base. In the

5   graph below, I show the average analysts' forecasted 3-5 year EPS growth rate with the average

6   actual 3-5 year EPS growth rate. Because of the necessary 3-5 year follow-up period to measure

7   actual growth, the analysis in this graph only (1) covers forecasted and actual EPS growth rates

8   through 1999, and (2) includes only companies that have 3-5 years of actual EPS data following

9   the forecast period. The following example shows how the results can be interpreted. As of the

10   first quarter of 1995, analysts were projecting an average 3-5-year annual EPS growth rate of

11   15.98%, but companies only generated an average annual EPS growth rate over the next 3-5

12   years of 8.14%. This 15.98% figure represented the average projected growth rate for 1,115

13   companies, with an average of 4.70 analysts' forecasts per company. The only periods when

14   firms met or exceeded analysts' EPS growth rate expectations were for six consecutive quarters

15   in 1991-92 following the one-year economic downturn at the turn of the decade.

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2

Analysts' Forecasted 3-5-Year Forecasted Versus Actual EPS Growth Rates
1984-1999
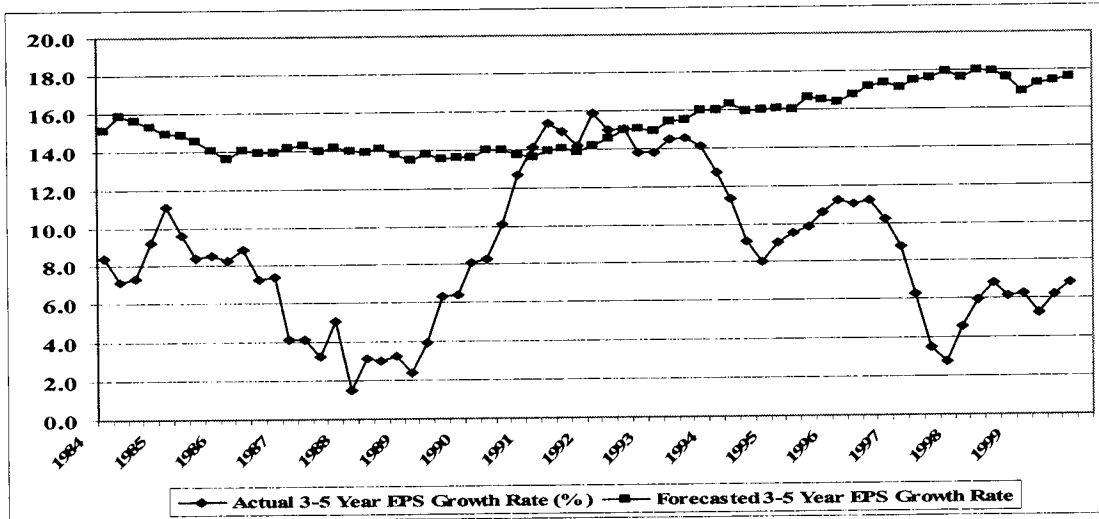
3

4   Source: J. Randall Woolridge.

5

6   Over the entire time period, Wall Street analysts have continually forecasted 3-5-year EPS

7   growth rates in the 14-18 percent range (mean = 15.32%), but these firms have only delivered an

8   average EPS growth rate of 8.75%.

9   The post-1999 period has seen the boom and then the bust in the stock market, an

10   economic recession, 9/11, and the Iraq war. Furthermore, and highly significant in the context of

11   this study, we have also had the Elliott Spitzer investigation of Wall Street firms and the

12   subsequent Global Securities Settlement in which nine major brokerage firms paid a fine of

13   $1.5B for their biased investment research.

14   To evaluate the impact of these events on analysts' forecasts, the graph below provides

15   the average 3-5-year EPS growth rate projections for all companies provided in the I/B/E/S

1 database on a quarterly basis from 1985 to 2004. In this graph, no comparison to actual EPS

2 growth rates is made and hence there is no follow-up period. Therefore, 3-5 year growth rate

3 forecasts are shown until 2004 and, since companies are not lost due to a lack of follow-up EPS

4 data, these results are for a larger sample of firms.[19] Analysts' forecasts for EPS growth were

5 higher for this larger sample of firms, with a more pronounced run-up and then decline around

6 the stock market peak in 2000. The average projected growth rate hovered in the 14.5%-17.5%

7 range until 1995, and then increased dramatically over the next five years to 23.3% in the fourth

8 quarter of the year 2000. Forecasted growth has since declined to the 15.0% range.

9 **Mean Analysts' 3-5-Year Forecasted EPS Growth Rates**
10 **1985-2004**
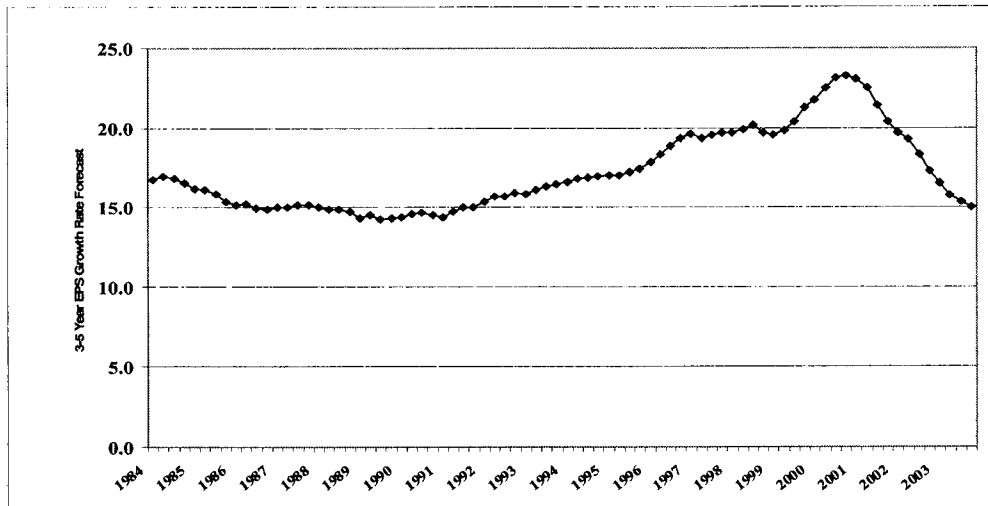
11
12 Source: J. Randall Woolridge.
13
14 While analysts' EPS growth rates forecasts have subsided since 2000, these results suggest

---

[19] The number of companies in the sample grows from 2,220 in 1984, peaks at 4,610 in 1998, and then declines to 3,351 in 2004. The number of analysts' forecasts per company averages between 3.75 to 5.10, with an overall mean of 4.37.

1   that, despite the Elliot Spitzer investigation and the Global Securities Settlement, analysts' EPS

2   forecasts are still upwardly biased. The actual 3-5 year EPS growth rate over time has been about

3   one half the projected 3-5 year growth rate forecast of 15.0%. Furthermore, as discussed above,

4   historic growth in GNP and corporate earnings has been in the 7% range. As such, an EPS growth

5   rate forecast of 15% does not reflect economic reality. This observation is support by a *Wall Street*

6   *Journal* article entitled "Analysts Still Coming Up Rosy – Over-Optimism on Growth Rates is

7   Rampant – and the Estimates Help to Buoy the Market's Valuation." The following quote provides

8   insight into the continuing bias in analysts' forecasts:

9
10
11
12
        Hope springs eternal, says Mark Donovan, who manages Boston Partners Large Cap Value Fund. 'You would have thought that, given what happened in the last three years, people would have given up the ghost. But in large measure they have not.'

13
14
15
16
17
        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.[20]

18

19 **Q.**   **ARE *VALUE LINE*'S GROWTH RATE FORECASTS SIMILARILY UPWARDLY**

20 **BIASED?**

21 A.   I am not aware of any studies that test for a bias in *Value Line*'s forecasts. However, it is

22   my experience that *Value Line*'s projected EPS and overall market return forecasts are inflated and

---

[20] 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*, (January 27, 2003), p. C1.

1 unrealistic. I believe that it is because *Value Line* rarely projects a decline in EPS and/or the

2 market, despite the fact that the economy and stock market go through cycles over time.

3 **Q. PLEASE DISCUSS THE ISSUE WITH DR. AVERA'S SUSTAINABLE GROWTH**

4 **ANALYSIS.**

5 A. Dr. Avera's sustainable growth rate analysis, as found in Exhibit WEA-3, indicates a

6 growth rate for the group of 4.7%. The primary error with his approach is that his sustainable

7 growth rate figure of 4.7% (column i in WEA-3) is higher than the average *Value Line*'s

8 projected annual change figure which is only 4.1% (the average for column c in WEA-3). This

9 suggests that his methodology is flawed in that it produces higher sustainable growth rates (using

10 *Value Line* data) than *Value Line* actually is forecasting.

11 **Q. PLEASE PROVIDE A SUMMARY OF DR. AVERA'S VARIOUS RISK PREMIUM**

12 **APPROACHES, INCLUDING THE CAPM.**

13 A. The tables below provide the results of Dr. Avera's applications of the risk premium

14 approach. Since the CAPM is simply a special form of the risk premium approach, I will critique

15 these approaches and results jointly. These tables provide the group of companies employed, the

16 individual inputs, and the overall results.

17 **Allowed Risk Premium Results**
18 **Electric Utility Companies**

	Electric Utility Companies Current	Electric Utility Companies 2006 Estimate
BBB PU Bond Rate	6.01%	7.2%
Allowed Return Premium	4.77 %	4.29 %
Allowed RP Equity Cost Rate	**10.8%**	**11.5%**

1

Historic Risk Premium Results
Moody's Electric Utility Stocks

	Moody's Electric Utility Stocks Current	Moody's Electric Utility Stocks 2006
BBB PU Bond Rate	6.01%	7.2%
Historic Return Premium	3.87%	3.87%
Hist Equity Cost Rate	9.9%	11.1%

CAPM Forward Results
Electric Utility Proxy Group

	Electric Utility Proxy Group Current	Electric Utility Proxy Group 2006
Risk-Free Rate	4.9%	5.7%
Average Beta	.78	.78
Market Risk Premium	9.0%	8.2%
Equity Cost Rate	12.0%	12.1%

CAPM Historic Results
Electric Utility Proxy Group

	Electric Utility Proxy Group Current	Electric Utility Proxy Group 2006
Risk-Free Rate	4.9%	5.7%
Average Beta	.78	.78
Market Risk Premium	7.2%	7.2%
Equity Cost Rate	10.5%	11.3%

Q.   HOW ARE YOU EVALUATING THESE APPROACHES?

A.   There are certain common elements to these approaches that I am initially discussing. Then I provide additional commentary on the individual approaches. The common elements include the base interest rate and the use of historic risk premiums.

1 **Q.   PLEASE DISCUSS THE BASE INTEREST RATE IN DR. AVERA'S VARIOUS**

2 **RISK PREMIUM APPROACHES.**

3 A.   Dr. Avera uses the 20-tear Treasury rate as well as the BBB public utility bond rate as the

4 base yield in his various risk premium approaches. These are summarized below. The 'Current'

5 column is the rate when he filed his testimony, the '2006' column is projected for 2006, and 'May

6 31, 2006' column is as of that date.

7

Base Interest Rate in Risk Premium Approaches

	Approach	Current	2006	Sept, 2006*
BBB Bond Rate	Auth. Returns Historic Ret.	6.01%	7.2%	5.20%
20-Year Treasury Rate	CAPM Forward CAPM Historic	4.9%	5.7%	4.25%

8 *** Source: Bloomberg**

9 **Q.   ARE THESE BASE YIELDS APPROPRIATE AT THIS TIME?**

10 A.   No. They are well in excess of today's interest rates. Contrary to many interest rate

11 forecasts, concerns over the direction of the economy have led to declines in interest rates in recent

12 months.   The 'September, 2006' column shows that the BBB public utility rate has declined to

13 5.20% and the 20-year Treasury rate has declined to 4.25%. Hence, his base yields and therefore

14 overall risk premium equity cost rates are grossly overstated.   Given the uncertainty over the

15 economy and interest rates, he should be employing the current public utility and Treasury yields.

16

17

1 **Q. PLEASE ADDRESS THE ISSUE INVOLVING THE USE OF HISTORIC STOCK**

2 **AND BOND RETURNS TO COMPUTE A FORWARD-LOOKING OR EX ANTE RISK**

3 **PREMIUM.**

4 A.   In his Realized Rate of Return (RRR) and 'CAPM Historic' approaches Dr. Avera has used

5 historic stock and bond returns to compute an expected market risk premium.   In his RRR

6 approach, he computes a risk premium as the difference between the returns on the Moody Electric

7 Utility stocks and the yield on 'A' rated Moody's bonds.   In his CAPM Historic approach, he

8 computes the equity risk premium as the historic arithmetic mean difference between stock and

9 bond returns over the 1926-2003 period bonds.   This historic evaluation of stock and bond returns

10 is often called the "Ibbotson approach" after Professor Roger Ibbotson who popularized this method

11 of assessing historic financial market returns

12   Using the historic relationship between stock and bond returns to measure an ex ante equity

13 risk premium is erroneous and, especially in this case, overstates the true market equity risk

14 premium. The equity risk premium is based on expectations of the future and when past market

15 conditions vary significantly from the present, historic data does not provide a realistic or accurate

16 barometer of expectations of the future.   At the present time, using historic returns to measure the

17 ex ante equity risk premium ignores current market conditions and masks the dramatic change in

18 the risk and return relationship between stocks and bonds.   This change suggests that the equity risk

19 premium has declined.

20

1 Q. PLEASE DISCUSS THE ERRORS IN USING HISTORIC STOCK AND BOND

2 RETURNS TO ESTIMATE AN EQUITY RISK PREMIUM.

3 A. There are a number of flaws in using historic returns over long time periods to estimate

4 expected equity risk premiums. These issues include:

5   (A) Biased historic bond returns;

6   (B) The arithmetic versus the geometric mean return;

7   (C) Unattainable and biased historic stock returns;

8   (D) Survivorship bias;

9   (E) The "Peso Problem;"

10   (F) Market conditions today are significantly different than the past; and

11   (G) Changes in risk and return in the markets.

12   These issues will be addressed in order.

13 **Biased Historic Bond Returns**

14 Q. HOW ARE HISTORIC BOND RETURNS BIASED?

15 A. An essential assumption of these studies is that over long periods of time investors'

16 expectations are realized. However, the experienced returns of bondholders in the past violate this

17 critical assumption. Historic bond returns are biased downward as a measure of expectancy

18 because of capital losses suffered by bondholders in the past. As such, risk premiums derived from

19 this data are biased upwards.

20

1   <u>The Arithmetic versus the Geometric Mean Return</u>

2   **Q.   PLEASE DISCUSS THE ISSUE RELATING TO THE USE OF THE**

3   **ARITHMETIC VERSUS THE GEOMETRIC MEAN RETURNS IN THE IBBOTSON**

4   **METHODOLOGY.**

5   A.   The measure of investment return has a significant effect on the interpretation of the risk

6   premium results. When analyzing a single security price series over time (i.e., a time series), the

7   best measure of investment performance is the geometric mean return. Using the arithmetic

8   mean overstates the return experienced by investors. In a study entitled "Risk and Return on

9   Equity: The Use and Misuse of Historical Estimates," Carleton and Lakonishok make the

10   following observation: "The geometric mean measures the changes in wealth over more than one

11   period on a buy and hold (with dividends invested) strategy."[21] Since Dr. Avera's study covers

12   more than one period (and he assumes that dividends are reinvested), he should be employing the

13   geometric mean and not the arithmetic mean.

14   **Q.   PLEASE PROVIDE AN EXAMPLE DEMONSTRATING THE PROBLEM WITH**

15   **USING THE ARITHMETIC MEAN RETURN.**

16   A.   To demonstrate the upward bias of the arithmetic mean, consider the following example.

17   Assume that you have a stock (that pays no dividend) that is selling for $100 today, increases to

18   $200 in one year, and then falls back to $100 in two years. The table below shows the prices and

---

[21] Willard T. Carleton and Josef Lakonishok, "Risk and Return on Equity: The Use and Misuse of Historical Estimates," *Financial Analysts Journal* (January-February, 1985), pp. 38-47.

1 returns.

Time Period	Stock Price	Annual Return
0	$100	
1	$200	100%
2	$100	-50%

2

3   The arithmetic mean return is simply (100% + (-50%))/2 = 25% per year. The geometric

4   mean return is $((2 * .50)^{(1/2)}) - 1 = 0\%$ per year. Therefore, the arithmetic mean return suggests that

5   your stock has appreciated at an annual rate of 25%, while the geometric mean return indicates an

6   annual return of 0%. Since after two years, your stock is still only worth $100, the geometric mean

7   return is the appropriate return measure. For this reason, when stock returns and earnings growth

8   rates are reported in the financial press, they are generally reported using the geometric mean. This

9   is because of the upward bias of the arithmetic mean. Therefore, Dr. Avera's arithmetic mean

10 return measures are biased and should be disregarded.

11 **Unattainable and Biased Historic Stock Returns**

12 **Q.   YOU NOTE THAT HISTORIC STOCK RETURNS ARE BIASED USING THE**

13 **IBBOTSON METHODOLOGY. PLEASE ELABORATE.**

14 A.   Returns developed using Ibbotson's methodology are computed on stock indexes and

15 therefore (1) cannot be reflective of expectations because these returns are unattainable to investors,

16 and (2) produce biased results. This methodology assumes (a) monthly portfolio rebalancing and

17 (b) reinvestment of interest and dividends. Monthly portfolio rebalancing presumes that investors

1 rebalance their portfolios at the end of each month in order to have an equal dollar amount invested

2 in each security at the beginning of each month. The assumption would obviously generate

3 extremely high transaction costs and, as such, these returns are unattainable to investors. In

4 addition, an academic study demonstrates that the monthly portfolio rebalancing assumption

5 produces biased estimates of stock returns.[22]

6   Transaction costs themselves provide another bias in historic versus expected returns. The

7 observed stock returns of the past were not the realized returns of investors due to the much higher

8 transaction costs of previous decades. These higher transaction costs are reflected through the

9 higher commissions on stock trades, and the lack of low cost mutual funds like index funds.

10 **Survivorship Bias**

11 **Q. HOW DOES SURVIVORSHIP BIAS AFFECT DR. AVERA'S HISTORIC**

12 **EQUITY RISK PREMIUM?**

13 A.   Using historic data to estimate an equity risk premium suffers from survivorship bias.

14 Survivorship bias results when using returns from indexes like the S&P 500. The S&P 500

15 includes only companies that have survived. The fact that returns of firms that did not perform so

16 well were dropped from these indexes is not reflected. Therefore these stock returns are upwardly

17 biased because they only reflect the returns from more successful companies.

18

---

[22] See Richard Roll, "On Computing Mean Returns and the Small Firm Premium," *Journal of Financial Economics* (1983), pp. 371-86.

1   **The "Peso Problem"**

2   **Q.   WHAT IS THE "PESO PROBLEM" AND HOW DOES IT AFFECT HISTORIC**

3   **RETURNS AND EQUITY RISK PREMIUMS?**

4   A.   Dr. Avera's use of historic return data also suffers from the so-called "peso problem." The

5   'peso problem' issue was first highlighted by the Nobel laureate, Milton Friedman, and gets its

6   name from conditions related to the Mexican peso market in the early 1970s. This issue involves

7   the fact that past stock market returns were higher than were expected at the time because despite

8   war, depression, and other social, political, and economic events, the US economy survived and did

9   not suffer hyperinflation, invasion, and the calamities of other countries. As such, highly

10   improbable events, which may or may not occur in the future, are factored into stock prices, leading

11   to seemingly low valuations. Higher than expected stock returns are then earned when these events

12   do not subsequently occur. Therefore, the 'peso problem' indicates that historic stock returns are

13   overstated as measures of expected returns.

14   **Market Conditions Today are Significantly Different than in the Past**

15   **Q.   FROM AN EQUITY RISK PREMIUM PERSPECTIVE, PLEASE DISCUSS HOW**

16   **MARKET CONDITIONS ARE DIFFERENT TODAY.**

17   A.   The equity risk premium is based on expectations of the future. When past market

18   conditions vary significantly from the present, historic data does not provide a realistic or

19   accurate barometer of expectations of the future. As noted previously, stock valuations (as

1   measured by P/E) are relatively high and interest rates are relatively low, on a historic basis.

2   Therefore, given the high stock prices and low interest rates, expected returns are likely to be

3   lower on a going forward basis.

4   **Changes in Risk and Return in the Markets**

5   **Q.   PLEASE DISCUSS THE NOTION THAT HISTORIC EQUITY RISK PREMIUM**

6   **STUDIES DO NOT REFLECT THE CHANGE IN RISK AND RETURN IN TODAY'S**

7   **FINANCIAL MARKETS.**

8   A.   The historic equity risk premium methodology is unrealistic in that it makes the explicit

9   assumption that risk premiums do not change over time based on market conditions such as

10   inflation, interest rates, and expected economic growth. Furthermore, using historic returns to

11   measure the equity risk premium masks the dramatic change in the risk and return relationship

12   between stocks and bonds. The nature of the change, as I will discuss below, is that bonds have

13   increased in risk relative to stocks. This change suggests that the equity risk premium has declined

14   in recent years.

15   Page 1 of Exhibit_(JRW-9) provides the yields on long-term U.S. Treasury bonds from

16   1926 to 2004. One very obvious observation from this graph is that interest rates increase

17   dramatically from the mid-1960s until the early 1980s, and since have returned to their 1960

18   levels. The annual market risk premiums for the 1926 to 2004 period are provided on page 2 of

19   Exhibit_(JRW-9). The annual market risk premium is defined as the return on common stock

20   minus the return on long-term Treasury Bonds. There is considerable variability in this series

1 and a clear decline in recent decades. The high was 54% in 1933 and the low was -38% in 1931.

2 Evidence of a change in the relative riskiness of bonds and stocks is provided on page 3 of

3 Exhibit_(JRW-9) which plots the standard deviation of monthly stock and bond returns since

4 1930. The plot shows that, whereas stock returns were much more volatile than bond returns

5 from the 1930s to the 1970s, bond returns became more variable than stock returns during the

6 1980s. In recent years stocks and bonds have become much more similar in terms of volatility,

7 but stocks are still a little more volatile. The decrease in the volatility of stocks relative to bonds

8 over time has been attributed to several stock related factors: the impact of technology on

9 productivity and the new economy; the role of information (see Federal Reserve Chairman

10 Greenspan's comments referred to earlier in this testimony) on the economy and markets; better

11 cost and risk management by businesses; and several bond related factors; deregulation of the

12 financial system; inflation fears and interest rates; and the increase in the use of debt financing.

13 Further evidence of the greater relative riskiness of bonds is shown on page 4 of Exhibit_(JRW-

14 9), which plots real interest rates (the nominal interest rate minus inflation) from 1926 to 2004.

15 Real rates have been well above historic norms during the past 10-15 years. These high real

16 interest rates reflect the fact that investors view bonds as riskier investments.

17 The net effect of the change in risk and return has been a significant decrease in the return

18 premium that stock investors require over bond yields. In short, the equity or market risk premium

19 has declined in recent years. This decline has been discovered in studies by leading academic

20 scholars and investment firms, and has been acknowledged by government regulators. As such,

1 using a historic equity risk premium analysis is simply outdated and not reflective of current

2 investor expectations and investment fundamentals.

3 **Q.   NOW TURN TO YOUR SPECIFIC COMMENTS ON DR. AVERA'S VARIOUS**

4 **RISK PREMIUM APPROACHES. PLEASE INITIALLY ASSESS DR. AVERA'S**

5 **EXAMINATION OF AUTHORIZED RETURNS ON EQUITY.**

6 A.   Dr. Avera provides his evaluation of allowed risk premiums on pages 57-61 of his

7 testimony and in Exhibit WEA-4. There are two major issues with this analysis: (1) his average

8 public utility bond yield of 6.01% current and 7.2% for 2006, and (2) his conclusion regarding the

9 appropriate risk premium from the study. The base yield was addressed above as a common issue

10 in his risk premium studies. On the second issue, Dr. Avera's approach involves circular reasoning

11 since the results of other electric rate cases are employed to derive a risk premium in this

12 proceeding. If such an approach is used in this and other jurisdictions, then no one will be testing to

13 evaluate whether the ROE recommendation is above or below investors' required rate of return.

14 Furthermore, Dr. Avera has not performed any analysis to examine whether the annual allowed

15 ROEs are above, equal to, or below investors' required return. As discussed above, if a firm's

16 return on equity is above (below) the return that investor's require, the market price of its stock will

17 be above (below) the book value of the stock. Since Dr. Avera has not evaluated the market-to-

18 book ratios for electric utilities involved in the annual rate cases, he cannot indicate whether these

19 allowed ROEs are above or below investors' requirements. As a general notion, however, since the

20 market-to-book ratios for electric utility companies have been in excess of 1.0 for some time, it

1 would indicate that the allowed ROE's are above equity cost rates.

2 **Q. PLEASE REVIEW DR. AVERA'S REALIZED RATE OF RETURN OR HISTORIC**

3 **RISK PREMIUM ANALYSIS.**

4 A.   On pages 60-61 of his testimony and in Exhibit WEA-5, Dr. Avera performs a realized rate

5 of return or a historic risk premium analysis using Moody's Electric Utility stocks and A-rated

6 bonds. There are two problems with his historic risk premium analysis: (1) his average public

7 utility bond yield of 6.01% current and 7.2% for 2006, and (2) the historic risk premium

8 methodology. These issues were addressed above as common issues in his risk premium studies.

9 **Q. PLEASE DISCUSS DR. AVERA'S USE OF THE CAPITAL ASSET PRICING**

10 **MODEL.**

11 A.   On pages 62 to 69 of his testimony and in Exhibits WEA-6 and WEA-7, Dr. Avera applies

12 the CAPM to his proxy group of electric utility companies. His CAPM-Historic uses the historic

13 stock-bond return difference as the equity risk premium and his CAPM-Forward approach uses a

14 forward looking equity risk premium. I have three concerns with Dr. Avera's CAPM analyses: (1)

15 his risk-free interest rates of 4.9% current and 5.7% for 2006, (2) the historic risk premium in his

16 CAPM-Historic approach, and (3) the expected risk premium in his CAPM-Forward approach.

17 The first two issues were addressed above as common issues in his risk premium studies. The third

18 is discussed below.

19

20

1 **Q.   PLEASE DISCUSS THE EXPECTED EQUITY RISK PREMIUM IN DR. AVERA'S**

2 **CAPM-FORWARD APPROACH.**

3 A.   Dr. Avera has computed an expected equity risk premium of 9.0% using the current risk-

4 free rate of 4.9% and an expected annual return for the S&P 500 of 13.9%.

5 **Q.   PLEASE SUMMARIZE DR. AVERA'S PROSPECTIVE MARKET RETURN OF**

6 **13.9%.**

7 A.   Dr. Avera computes an expected return of 13.9% for the S&P 500 using a dividend yield of

8 1.8% and an expected EPS growth rate of 12.1%. The growth rate represents the projected EPS

9 growth rates as provided by IBES for the stocks in the S&P 500.

10 **Q.   PLEASE EVALUATE THIS EXPECTED MARKET RETURN of 13.9%.**

11 A.   An expected annual market return of 13.9% is out of line with historic norms and is

12 inconsistent with current market conditions. The primary reason is that the expected growth rate of

13 12.1% is clearly excessive and inconsistent with economic and earnings growth in the U.S.

14   The average historic compounded return on large company stocks in the U.S. has been

15 10.4% according to the 2005 SBBI Yearbook. To suggest that investors are going to expect a return

16 that is 300 basis points above this is not logical.   This is especially so given current market

17 conditions. As discussed above, at the present time stock prices (relative to earnings and dividends)

18 are high while interest rates are historic lows. Major stock market upswings which produce above

19 average returns tend to occur when stock prices are low and interest rates are high. Thus, historic

20 norms and current market conditions do not suggest above average stock returns. Consistent with

1   this observation, the financial forecasters in the Federal Reserve Bank of Philadelphia survey

2   expect a market return of 7.00% over the next ten years.

3   **Q.   WHAT EVIDENCE CAN YOU PROVIDE THAT INDICATES DR. AVERA'S**

4   **GROWTH RATES IS EXCESSIVE?**

5   A.   Dr. Avera's expected EPS growth rate of 12.1% for the S&P 500 is based on analysts' EPS

6   growth rate forecasts, which I previously demonstrated are upwardly biased.   Reflecting this

7   upward bias, an expected EPS growth rate of 12.1% is grossly overstates historic economic and

8   earnings growth in the U.S. This is especially true when you consider that in a DCF framework, the

9   growth rate is for a long period of time. The long-term economic and earnings growth rate in the

10   U.S. has only been about 7%. Edward Yardeni, a well-known Wall Street economist, calls this the

11   "7% Solution" to growth in the U.S. The graph below comes from his analysis of GNP and profit

12   growth since 1960.

13   **The 7% Solution**
14   **Nominal GNP and Profit Growth since 1960**
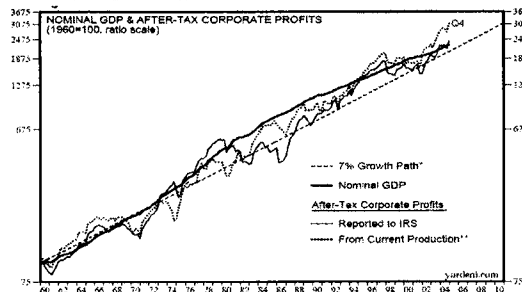
15
16   Source: Edward Yardeni, Strategists Handbook, Oak Associates, April 2005
17

18   As further evidence of the long-term growth rate in the U.S., I have performed a study of the

1 growth in nominal GNP, S&P 500 stock price appreciation, and S&P 500 EPS and DPS growth

2 since 1960. The results are provided on page 1 of Exhibit_(JRW-10) and a summary is given in the

3 table below.

4 **GNP, S&P 500 Stock Price, EPS, and DPS Growth**
5 **1960-Present**

Nominal GNP	7.22%
S&P 500 Stock Price Appreciation	7.15%
S&P 500 EPS	7.23%
S&P 500 DPS	5.32%
Average	6.73%

6

7 The results offer compelling evidence that a long-run growth rate of about 7% is appropriate for

8 companies in the U.S. Dr. Avera's long-run growth rate projections are clearly not realistic. His

9 estimates suggest that companies in the U.S. would be expected to (1) nearly double their growth

10 rate of EPS in the future, and (2) maintain that growth indefinitely in an economy that is expected

11 to growth at about one half his projected growth rates. Such a scenario lacks rational

12 **Q.   PLEASE SUMMARIZE YOUR ASSESSMENT OF DR. AVERA'S CAPM AND**

13 **RISK PREMIUM ANALYSES.**

14 A.   Dr. Avera's risk premium studies are flawed and exaggerate the required return and equity

15 cost rate for Westar. In general, he uses an inflated base yield or interest rate that is well in excess

16 of current market interest rates and his equity risk premium estimates are excessive and do not

17 reflect the realities of the economy and the stock and bond markets. Hence, Dr. Avera's risk

18 premium analyses are erroneous and should be disregarded in estimating Westar's equity cost rate.

19

1 **Q.   PLEASE SUMMARIZE DR. AVERA'S RISK PREMIUM STUDIES IN LIGHT OF**

2 **THE EVIDENCE ON RISK PREMIUMS IN TODAY'S MARKETS.**

3 A.   The primary issue in both his risk premium and CAPM analyses is the magnitude of the

4 equity or market risk premium. Dr. Avera's risk premium estimates should be ignored because

5 they are totally out of line with the equity risk premium estimates (1) discovered in recent academic

6 studies by leading finance scholars and (2) employed by leading investment banks, management

7 consulting firms, financial forecasters and corporate CFOs. In both his risk premium and CAPM

8 studies, a more realistic market risk premium is in the 2-4 percent range above Treasury yields.

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

10 A.   Yes it does.

VERIFICATION

STATE OF PENNSYLVANIA   )
)   ss:

COUNTY OF CENTRE   )

I, _J Randol Nulf_, of lawful age, being first duly sworn upon his oath states:

That he is a consultant for the Citizens' Utility Ratepayer Board; that he has read the above and foregoing Testimony, and, upon information and belief, states that the matters therein appearing are true and correct.

SUBSCRIBED AND SWORN to before me this 7th day of September 2005.

_____
Notary of Public

My Commission expires:

RUSSELL A COCHRAN
MY COMM. EXPIRES
JULY 16, 2008

1

1
2
3
4
5   **EDUCATIONAL BACKGROUND, RESEARCH,**
6   **AND RELATED BUSINESS EXPERIENCE**
7
8   **J. RANDALL WOOLRIDGE**
9
10   J. Randall Woolridge is a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed
11   Faculty Fellow in Business Administration in the College of Business Administration of the Pennsylvania State
12   University in University Park, PA. In addition, Professor Woolridge is Director of the Smeal College Trading Room
13   and President and CEO of the Nittany Lion Fund, LLC. He is also a Vice President of the Columbia Group, a public
14   utility consulting firm based in Georgetown, CT, and serves on the Investment Committee of ARIS Corporation, an asset
15   management firm based in State College, PA.
16
17   Professor Woolridge received a Bachelor of Arts degree in Economics from the University of North Carolina,
18   a Master of Business Administration degree from the Pennsylvania State University, and a Doctor of Philosophy degree
19   in Business Administration (major area-finance, minor area-statistics) from the University of Iowa. At Iowa he received
20   a Graduate Fellowship and was awarded membership in Beta Gamma Sigma, a national business honorary society. He
21   has taught Finance courses at the University of Iowa, Cornell College, and the University of Pittsburgh, as well as the
22   Pennsylvania State University. These courses include corporation finance, commercial and investment banking, and
23   investments at the undergraduate, graduate, and executive MBA levels.
24
25   Professor Woolridge's research has centered on the theoretical and empirical foundations of corporation
26   finance and financial markets and institutions. He has published over 25 articles in the best academic and professional
27   journals in the field, including the *Journal of Finance,* the *Journal of Financial Economics,* and the *Harvard Business*
28   *Review.* His research has been cited extensively in the business press. His work has been featured in the *New York*
29   *Times, Forbes, Fortune, The Economist, Financial World, Barron's, Wall Street Journal, Business Week, Washington*
30   *Post, Investors' Business Daily, Worth Magazine, USA Today,* and other publications. In addition, Dr. Woolridge has
31   appeared as a guest on CNN's *Money Line* and CNBC's *Morning Call* and *Business Today.*
32
33   The second edition of Professor Woolridge's popular stock valuation book, *The StreetSmart Guide to*
34   *Valuing a Stock* (McGraw-Hill, 2003), was recently released. He has also co-authored *Spinoffs and Equity Carve-*
35   *Outs: Achieving Faster Growth and Better Performance* (Financial Executives Research Foundation, 1999) as well
36   as a new textbook entitled *Modern Corporate Finance, Capital Markets, and Valuation* (Kendall Hunt, 2003). Dr.
37   Woolridge is a founder and a managing director of www.valuepro.net - a stock valuation website.
38
39   Professor Woolridge has also consulted with and prepared research reports for major corporations, financial
40   institutions, and investment banking firms, and government agencies. In addition, he has directed and participated in
41   over 500 university- and company- sponsored professional development programs for executives in 25 countries in
42   North and South America, Europe, Asia, and Africa.
43
44   Dr. Woolridge has prepared testimony and/or provided consultation services in the following cases:
45
46   **Pennsylvania:** Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in

the following cases before the Pennsylvania Public Utility Commission:
Bell Telephone Company (R-811819), Peoples Natural Gas Company (R-832315), Pennsylvania Power Company (R-832409), Western Pennsylvania Water Company (R-832381), Pennsylvania Power Company (R-842740), Pennsylvania Gas and Water Company (R-850178), Metropolitan Edison Company (R-860384), Pennsylvania Electric Company (R-860413), North Penn Gas Company (R-860535), Philadelphia Electric Company (R-870629), Western Pennsylvania Water Company (R-870825), York Water Company (R-870749), Pennsylvania-American Water Company (R-880916), Equitable Gas Company (R-880971), the Bloomsburg Water Co. (R-891494), Columbia Gas of Pennsylvania, Inc. (R-891468), Pennsylvania-American Water Company (R-90562), Breezewood Telephone Company (R-901666), York Water Company (R-901813), Columbia Gas of Pennsylvania, Inc. (R-901873), National Fuel Electric utility Company (R-911912), Pennsylvania-American Water Company (R-911909), Borough of Media Water Fund (R-912150), UGI Utilities, Inc. - Electric Utility Division (R-922195), Dauphin Consolidated Water Supply Company - General Waterworks of Pennsylvania, Inc, (R-932604), National Fuel Electric utility Company (R-932548), Commonwealth Telephone Company (I-920020), Conestoga Telephone and Telegraph Company (I-920015), Peoples Natural Gas Company (R-932866), Blue Mountain Consolidated Water Company (R-932873), National Fuel Gas Company (R-942991), UGI - Gas Division (R-953297), UGI - Electric Division (R-953534), Pennsylvania-American Water Company (R-973944), Pennsylvania-American Water Company (R-994638), Philadelphia Suburban Water Company (R-994868;R-994877;R-994878; R-9948790), Philadelphia Suburban Water Company (R-994868), Wellsboro Electric Company (R-00016356), Philadelphia Suburban Water Company (R-00016750), National Fuel Electric utility Company (R-00038168), Pennsylvania-American Water Company (R-00038304), York Water Company (R-00049165), Valley Energy Company (R-00049345), Wellsboro Electric Company (R-00049313), and National Fuel Electric utility Corporation (R-00049656).

New Jersey: Dr. Woolridge prepared testimony for the New Jersey Department of the Public Advocate, Division of Rate Counsel: New Jersey-American Water Company (R-91081399J), New Jersey-American Water Company (R-92090908J), and Environmental Disposal Corp (R-94070319).

Hawaii: Dr. Woolridge prepared testimony for the Hawaii Office of the Consumer Advocate: East Honolulu Community Services, Inc. (Docket No. 7718).

Delaware: Dr. Woolridge prepared testimony for the Delaware Division of Public Advocate: Artesian Water Company (R-00-649).

Ohio: Dr. Woolridge prepared testimony for the Ohio Office of Consumers' Council: SBC Ohio (Case No. 02-1280-TP-UNC R-00-649).

New York: Dr. Woolridge prepared testimony for the County of Nassau in New York State: Long Island Lighting Company (PSC Case No. 942354).

Connecticut: Dr. Woolridge prepared testimony for the Office of Consumer Counsel in Connecticut: United Illuminating (Docket No. 96-03-29) and Yankee Gas Company (Docket No. 04-06-01).

Kentucky: Dr. Woolridge prepared testimony for the Office of Attorney General in Kentucky: Kentucky-American Water Company (Case No. 2004-00103).

Washington, D.C.: Dr. Woolridge prepared testimony for the Office of the People's Counsel in the District of Columbia: Potomac Electric Power Company (Formal Case No. 939).

1	**Washington:** Dr. Woolridge consulted with trial staff of the Washington Utilities and Transportation Commission
2	on the following cases: Puget Energy Corp. (Docket Nos. UE-011570 and UG-011571); and Avista Corporation
3	(Docket No. UE-011514).
4	
5	**Kansas:** Dr. Woolridge prepared testimony on behalf of the Kansas Citizens' Utility Ratepayer Board Utilities in the
6	following cases: Western Resources Inc. (Docket No. 01-WSRE-949-GIE) and UtiliCorp (Docket No. 02-UTCG701-
7	CIG).
8	
9	**FERC:** Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in the
10	following cases before the Federal Energy Regulatory Commission: National Fuel Gas Supply Corporation (RP-92-73-
11	000) and Columbia Gulf Transmission Company (RP97-52-000).
12	
13	**Vermont:** Dr. Woolridge prepared testimony for the Department of Public Service in the Central Vermont Public
14	Service Case (Docket No. 6988).

Exhibit_(JRW-1)

Westar Energy Corp.

Cost of Capital and Fair Rate of Return

Capital Source	Capitalization Ratio (1)	Cost Rate (1)	Weighted Cost Rate
Long-Term Debt	52.4125%	6.1406%	3.2184%
Preferred Stock	0.6887%	4.5529%	0.0314%
Common Equity	44.5905%	8.7500%	3.9017%
Post-1970 ITCs	2.3083%	7.3204%	0.1690%
Total	100.0000%		7.3204%

**The Impact of the 2003 Tax Legislation
On the Cost of Equity Capital**

On May 28, 2003, President Bush signed the *Jobs and Growth Tax Relief Reconciliation Act of 2003*. The primary purpose of this legislation was to reduce taxes to enhance economic growth. A primary component of the new tax law was a significant reduction in the taxation of corporate dividends for individuals. Dividends have been described as "double-taxed." First, corporations pay taxes on the income they earn before they pay dividends to investors, then investors pay taxes on the dividends that they receive from corporations. One of the implications of the double taxation of dividends is that, all else equal, it results in a high cost of raising capital for corporations.

The new tax legislation reduces the double taxation of dividends by lowering the tax rate on dividends from the 30 percent range (the average tax bracket for individuals) to 15 percent. This reduction in the taxation of dividends for individuals enhances their after-tax returns and thereby reduces their pre-tax required returns. This reduction in pre-tax required returns (due to the lower tax on dividends) effectively reduces the cost of equity capital for companies. The new tax law also reduced the tax rate on long-term capital gains from 20% to 15%.

To demonstrate the effect of the new legislation, assume that a utility has a 10% expected return – 5.0% in dividends and 5.0% in capital gains. The new tax law reduces the double-taxation by reducing the tax rate on dividends from the 30 percent range (the marginal tax bracket for the average individual taxpayer) to 15 percent. The table

below illustrates the effect of the new tax law. Panel A shows that under the old tax law a 10.0% pre-tax return provided for a 7.5% after tax return. Panel B shows that under the new tax law, with tax rates of 15% on both dividends and capital gains, the 10% pre-tax return is worth 8.5% on an after-tax basis. In Panel C, I have held the after-tax return constant (at 7.5%) to illustrate the effect of the new tax law on required pre-tax returns. Assuming that the entire after-tax 1% return difference (7.5% to 8.5%) is attributed to the lower taxation of dividends, the 10.0% pre-tax return under the new law is now only 8.82%. In other words, to generate an after-tax return of 7.5%, the new tax law reduced the required pre-tax return from 10.0% to 8.82%.

The Impact of the New Tax Law on Pre- and After- Tax Returns

Panel A
Old Tax Law
10% Pre-Tax Return - 5% Dividend Yield & 5% Capital Gain
Tax Rates - Dividends 30% & Capital Gains 20%

	Pre-Tax Return	Tax Rate	After-Tax Return
Dividends	5.00%	30.00%	3.50%
Capital Gain	5.00%	20.00%	4.00%
Total	10.00%		7.50%

Panel B
New Tax Law
10% Pre-Tax Return - 5% Dividend Yield & 5% Capital Gain
Tax Rates - Dividends 15% & Capital Gains 15%

	Pre-Tax Return	Tax Rate	After-Tax Return
Dividends	5.00%	15.00%	4.25%
Capital Gain	5.00%	15.00%	4.25%
Total	10.00%		8.50%

Panel C
The Effect of the New Tax Law on Pre-Tax Returns
7.50% After-Tax Return - 3.25% Dividend Yield & 4.25% Capital Gain
Tax Rates - Dividends 15% & Capital Gains 15%

	Pre-Tax Return	Tax Rate	After-Tax Return
Dividends	3.82%	15.00%	3.25%
Capital Gain	5.00%	15.00%	4.25%
Total	8.82%		7.50%

Exhibit_(JRW-3)

Summary Financial Statistics

Group A

Eight Company Electric Utility Group

Company	S&P Bond Rating	Operating Revenue ($mil)	Percent Elec Revenue	Net Plant ($mil)	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio*	Return on Equity	Price/ Earnings Ratio	Market to Book Ratio
Alliant Energy	A-	3,014.8	72%	4,697.8	2.6	WI,IA,MN,IL	48%	5.8%	22.8	130
Ameren Corp.	A-	5,570.0	81%	13,332.0	4.6	MO,IL	49%	10.0%	19.2	186
American Electric Power	BBB	13,603.0	78%	22,599.0	3.6	11 states	41%	14.3%	12.6	173
Cleco Corporation	BBB+	734.4	100%	1,064.3	3.3	LA	47%	12.0%	18.0	203
Empire District	A-	327.8	93%	864.4	2.0	MO,KS,OK,AR	48%	5.3%	30.9	163
Entergy Corp.	BBB+	10,192.1	78%	18,778.1	3.6	AR,LA,MS,TX	41%	10.3%	19.9	206
MGE Energy Inc.	AA-	428.5	59%	620.7	4.3	WI	60%	9.2%	25.9	222
Wisconsin Energy	A-	3,464.2	61%	5,974.0	2.8	WI,MI	42%	5.2%	35.8	181
Average	A-/BBB+	4,666.9	78%	8,491.3	3.4		47%	9.0%	23.1	183
Median		3,239.5	78%	5,335.9	3.45		48%	9.6%	21.4	184
Westar Energy, Inc.	BBB	1,460.7	100%	3,914.7	2.1	KS,MO	45%	8.0%	19.1	149

Data Source: AUS *Utility Reports*, August, 2005, *Value Line Investment Survey*, 2005.

Group B

Eighteen Company Electric Utility Group

Company	S&P Bond Rating	Operating Revenue ($mil)	Percent Elec Revenue	Net Plant ($mil)	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio*	Return on Equity	Price/ Earnings Ratio	Market to Book Ratio
Alliant Energy	A-	3,014.8	72%	4,697.8	2.6	WI,IA,MN,IL	48%	5.8%	22.8	130
Ameren Corp.	A-	5,570.0	81%	13,332.0	4.6	MO,IL	49%	10.0%	19.2	186
American Electric Power	BBB	13,603.0	78%	22,599.0	3.6	11 states	41%	14.3%	12.6	173
Centerpoint Energy	BBB	9,287.6	17%	8,201.0	1.7	TX	47%	7.5%	15.1	370
CINergy Corp.	BBB-	4,743.5	77%	10,043.3	3.4	OH,KY,IN	47%	10.1%	20.5	199
Cleco Corporation	BBB+	734.4	100%	1,064.3	3.3	LA	47%	12.0%	18.0	203
DTE Energy	BBB+	7,365.0	18%	10,524.0	2.1	MI	40%	7.2%	21.0	150
Empire District	A-	327.8	93%	864.4	2.0	MO,KS,OK,AR	48%	5.3%	30.9	163
Entergy Corp.	BBB+	10,192.1	78%	18,778.1	3.6	AR,LA,MS,TX	41%	10.3%	19.9	206
Great Plains Energy	BBB	2,467.7	44%	2,718.1	4.1	MO,KS	46%	15.5%	14.4	210
MGE Energy Inc.	AA-	428.5	59%	620.7	4.3	WI	60%	9.2%	25.9	222
NiSource Inc.	BBB	6,876.3	16%	9,357.5	2.8	IN	44%	8.9%	15.7	134
OGE Energy Corp.	BBB+	5,165.7	30%	3,611.3	3.6	OK,AR	44%	12.1%	17.7	211
Otter Tail Corp.	BBB+	915.8	29%	683.0	4.4	MN,ND,SD	56%	11.2%	18.3	140
TXU Corp.	BBB-	9,209.0	24%	16,761.0	2.1	TX	5%	10.5%	22.9	146
Vectren Corp.	A-	1,721.6	22%	2,161.5	3.7	IN	47%	9.9%	19.9	194
Wisconsin Energy	A-	3,464.2	61%	5,974.0	2.8	WI,MI	42%	5.2%	35.8	181
WPS Resources	AA-	4,979.4	18%	2,061.0	6.1	WI	50%	15.4%	1.9	192
Average	BBB+	5,003.7	51%	7,447.3	3.4		45%	10.0%	19.6	189
Median		4,861.5	52%	5,335.9	3.5		47%	10.1%	19.6	189
Westar Energy, Inc.	BBB	1,460.7	100%	3,914.7	2.1	KS,MO	45%	8.0%	19.1	149

Data Source: AUS *Utility Reports*, August, 2005, *Value Line Investment Survey*, 2005.

Exhibit_(JRW-4)
# Westar Energy Corp.
Capital Structure Ratios and Senior Capital Cost Rates

Westar's PROPOSED RATE OF RETURN		Ratios	Cost Rates	Weighted Cost Rates
Long-Term Debt	891,417,753	52.4125%	6.624%	3.472%
Preferred Stock	11,713,459	0.6887%	4.553%	0.031%
Common Equity	758,383,568	44.5905%	11.500%	5.128%
Post-1970 ITCs	39,259,418	2.3083%	8.835%	0.204%
	1,700,774,198			8.835%

CURB's RECOMMENDED RATE OF RETURN

		Ratios	Cost Rates	Weighted Cost Rates
Long-Term Debt	891,417,753	52.4125%	6.1406%	3.2184%
Preferred Stock	11,713,459	0.6887%	4.5529%	0.0314%
Common Equity	758,383,568	44.5905%	8.7500%	3.9017%
Post-1970 ITCs	39,259,418	2.3083%	7.3204%	0.1690%
	1,700,774,198			7.3204%

Exhibit_(JRW-5)

Long-Term 'A' Rated Public Utility Bonds

33695 34001 34304 34608 34912 35217 35521 35827 36130 36434 36739 37043 37347 37653 37956 38264
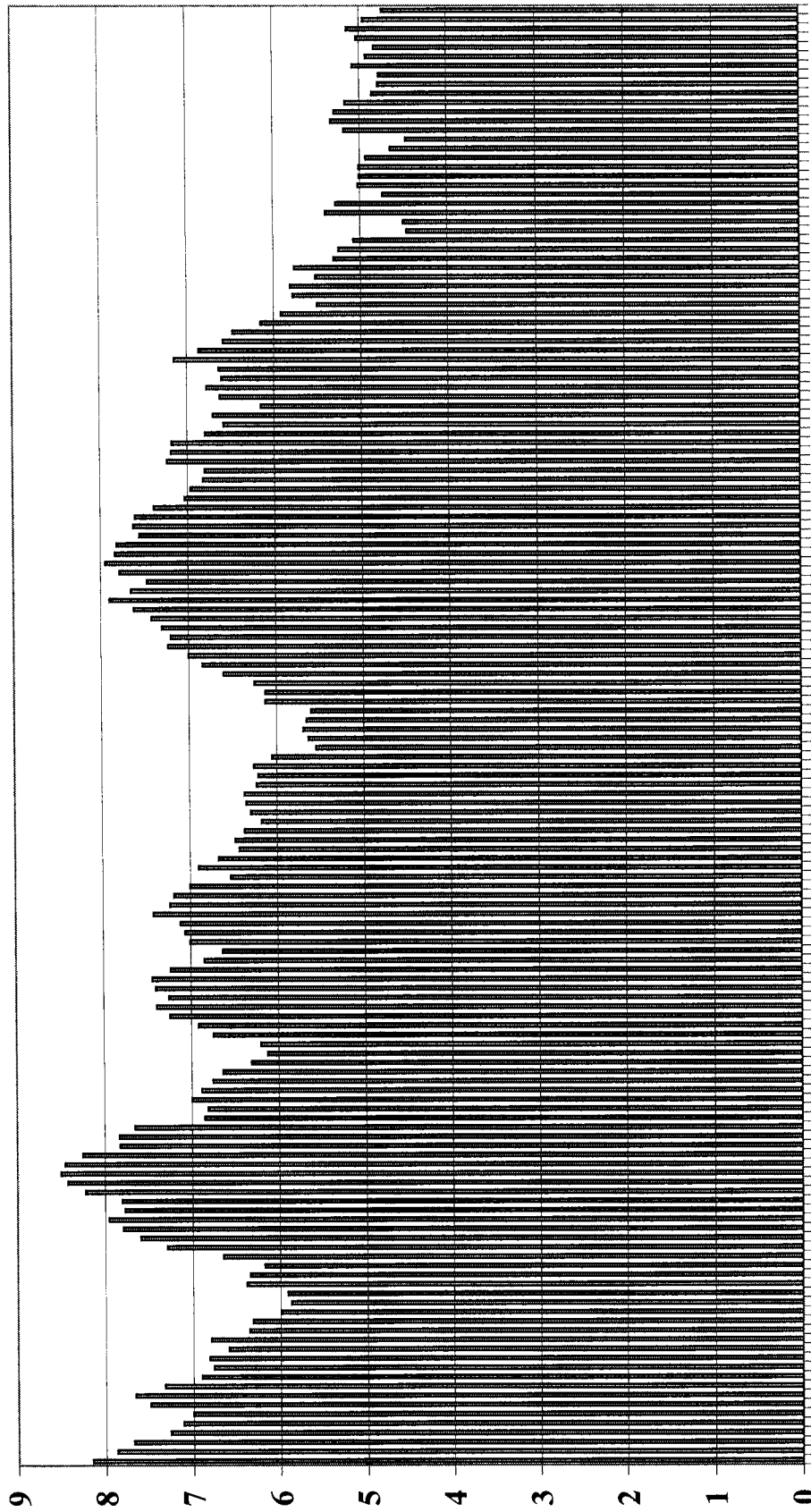
Data Source: Bloomberg (FMCI Function).

Exhibit_(JRW-5)

Dow Jones Utilities Dividend Yield

DJU Dividend Yield
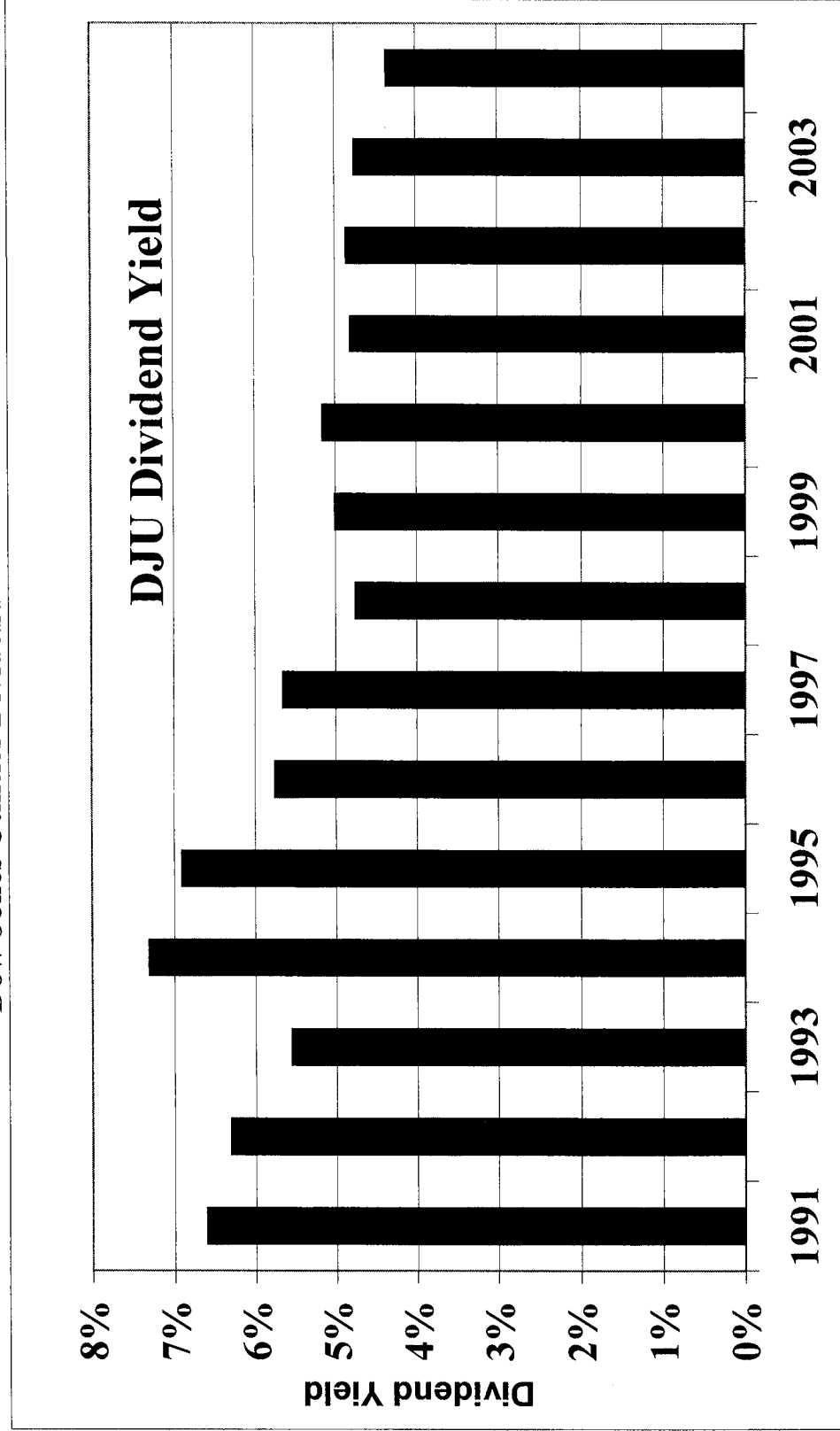
Data Source: Value Line Investment Survey

Exhibit_ (JRW-5)

Dow Jones Utilities - Market to Book and ROE

Data Source: Value Line Investment Survey

Exhibit_(JRW-6)

Industry Average Betas

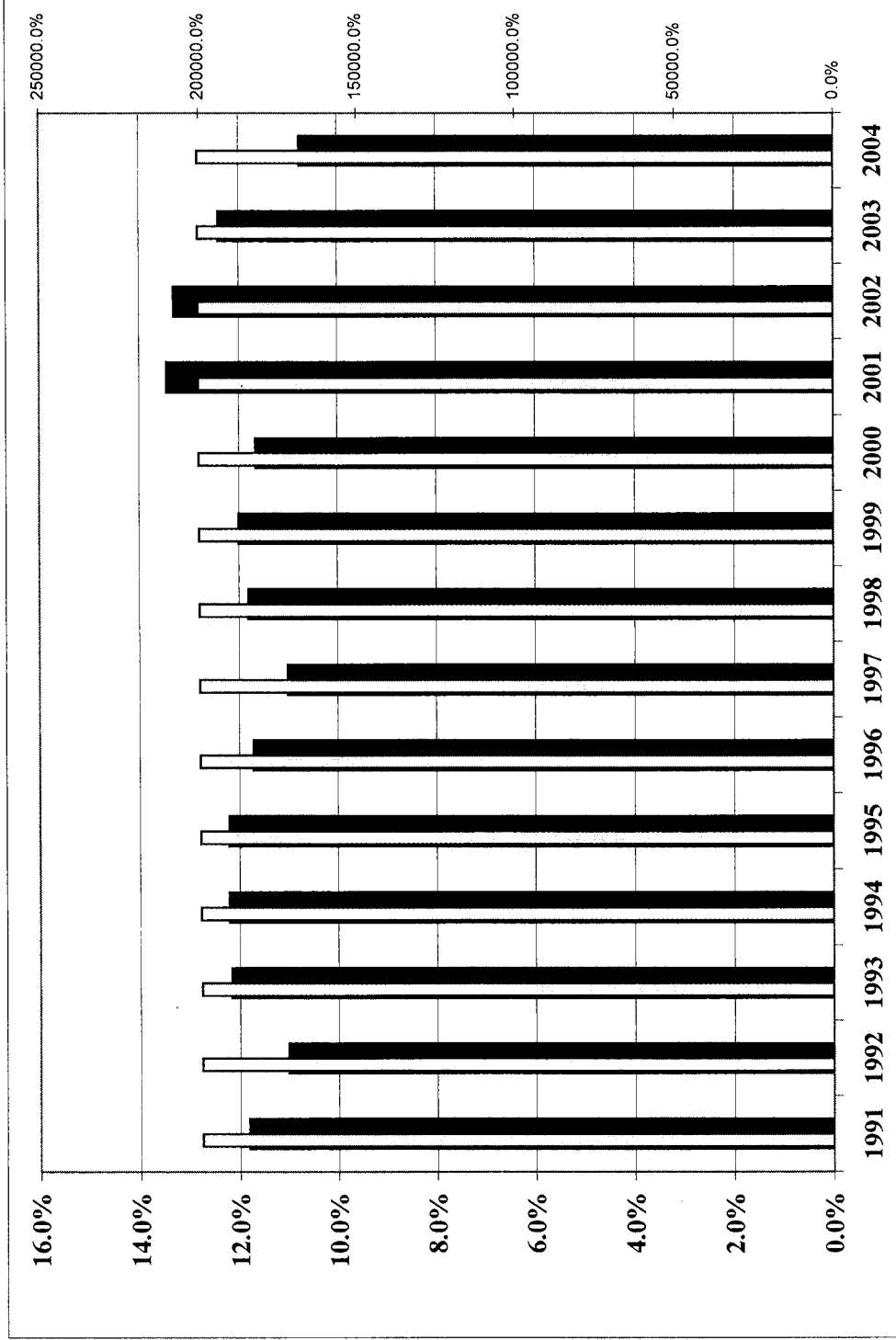| Industry Name	Number of Firms	Beta	Industry Name	Number of Firms	Beta	Industry Name	Number of Firms	Beta
E-Commerce	52	3.07	Manuf. Housing/RV	19	1.00	Machinery	133	0.77
Semiconductor	124	2.64	Metals & Mining (Div.)	76	0.99	Bank (Canadian)	7	0.77
Internet	297	2.63	Oilfield Svcs/Equip.	93	0.98	Home Appliance	16	0.76
Semiconductor Equip	16	2.51	Shoe	24	0.98	Apparel	65	0.76
Wireless Networking	66	2.38	Retail Store	49	0.97	Electric Util. (Central)	25	0.76
Telecom. Equipment	120	2.26	Office Equip/Supplies	28	0.94	Coal	11	0.76
Computers/Peripherals	143	2.06	Information Services	33	0.94	Diversified Co.	117	0.75
Computer Software/Svcs	389	1.90	Recreation	78	0.93	Insurance (Life)	43	0.75
Entertainment Tech	31	1.87	Chemical (Basic)	16	0.91	Publishing	43	0.74
Foreign Telecom.	21	1.76	Retail Automotive	14	0.90	Hotel/Gaming	77	0.74
Cable TV	21	1.75	Retail Building Supply	9	0.88	Household Products	30	0.74
Power	24	1.56	Paper/Forest Products	39	0.86	Building Materials	49	0.74
Precision Instrument	104	1.52	Medical Supplies	262	0.85	Toiletries/Cosmetics	23	0.72
Electronics	179	1.45	Homebuilding	34	0.85	Electric Utility (East)	31	0.72
Electrical Equipment	93	1.40	Utility (Foreign)	6	0.85	Bank (Midwest)	38	0.71
Entertainment	88	1.40	Petroleum (Integrated)	34	0.85	Environmental	85	0.69
Bank (Foreign)	5	1.36	Industrial Services	200	0.85	Restaurant	84	0.69
Air Transport	46	1.34	Natural Gas (Div.)	38	0.84	Maritime	28	0.67
Securities Brokerage	26	1.32	Newspaper	20	0.84	Railroad	18	0.67
Telecom. Services	137	1.32	Medical Services	195	0.82	Insurance (Prop/Cas.)	78	0.67
Biotechnology	90	1.30	Furn/Home Furnishings	38	0.82	Natural Gas (Distrib.)	30	0.65
Drug	305	1.30	Steel (General)	24	0.81	Investment Co.	21	0.64
Steel (Integrated)	14	1.26	Metal Fabricating	38	0.80	R.E.I.T.	135	0.63
Advertising	35	1.23	Packaging & Container	35	0.80	Food Wholesalers	20	0.63
Human Resources	28	1.14	Aerospace/Defense	67	0.80	Petroleum (Producing)	145	0.62
Foreign Electronics	12	1.12	Electric Utility (West)	16	0.79	Canadian Energy	11	0.62
Educational Services	38	1.10	Chemical (Specialty)	92	0.79	Water Utility	17	0.60
Investment Co.(Foreign)	17	1.08	Chemical (Diversified)	31	0.79	Tobacco	13	0.59
Auto & Truck	25	1.08	Cement & Aggregates	13	0.78	Food Processing	104	0.58
Auto Parts	60	1.06	Trucking	36	0.78	Beverage (Alcoholic)	22	0.58
Healthcare Information	32	1.06	Grocery	23	0.78	Bank	499	0.53
Tire & Rubber	14	1.02	Financial Svcs. (Div.)	233	0.78	Thrift	222	0.48
Retail (Special Lines)	175	1.01	Pharmacy Services	14	0.78	Beverage (Soft Drink)	17	0.41
						Precious Metals	61	0.41
						Market	**7091**	**1.00**

Data Source: http://www.stern.nyu.edu/~adamodar/

Exhibit_(JRW-7)

Westar Energy Corp.
DCF Equity Cost Rate

Group A
Eight Company Electric Utility Group

Dividend Yield*	3.90%
Adjustment Factor	1.0225
Adjusted Dividend Yield	3.99%
Growth Rate**	4.50%
Equity Cost Rate	8.5%

Group B
Eighteen Company Electric Utility Group

Dividend Yield*	3.95%
Adjustment Factor	1.025
Adjusted Dividend Yield	4.05%
Growth Rate**	5.00%
Equity Cost Rate	9.0%

Westar

Dividend Yield*	3.95%
Adjustment Factor	1.0175
Adjusted Dividend Yield	4.02%
Growth Rate**	3.50%
Equity Cost Rate	7.5%

* Page 2 of Exhibit_(JRW-7)
** Based on data provided on pages 3-4,
Exhibit_(JRW-7)

Exhibit_(JRW-7)

Westar Energy Corp.
Monthly Dividend Yields
March-August, 2005

Group A
Eight Company Electric Utility Group

Company	Mar	Apr	May	Jun	Jul	Aug	Mean
Alliant Energy	3.9%	3.9%	4.0%	3.8%	3.8%	3.7%	3.9%
Ameren Corp.	4.9%	4.9%	5.1%	4.7%	4.7%	4.6%	4.8%
American Electric Power	4.2%	4.2%	4.0%	3.9%	3.9%	3.6%	4.0%
Cleco Corporation	4.4%	4.4%	4.4%	4.4%	4.2%	4.1%	4.3%
Empire District	5.6%	5.6%	5.6%	5.6%	5.3%	5.3%	5.5%
Entergy Corp.	3.1%	3.1%	3.0%	3.0%	2.9%	2.8%	3.0%
MGE Energy Inc.	3.8%	3.8%	4.2%	3.9%	3.8%	3.7%	3.9%
Wisconsin Energy	2.5%	2.5%	2.5%	2.5%	2.4%	2.2%	2.4%
Average	4.1%	4.1%	4.1%	4.0%	3.9%	3.8%	4.0%

Westar Energy, Inc.	4.0%	4.0%	4.2%	4.1%	3.9%	3.9%	4.0%

Data Source: AUS *Utility Reports*, monthly issues.

Group B
Eighteen Company Electric Utility Group

Company	Mar	Apr	May	Jun	Jul	Aug	Mean
Alliant Energy	3.9%	3.9%	4.0%	3.8%	3.8%	3.7%	3.9%
Ameren Corp.	4.9%	4.9%	5.1%	4.7%	4.7%	4.6%	4.8%
American Electric Power	4.2%	4.2%	4.0%	3.9%	3.9%	3.6%	4.0%
Centerpoint Energy	3.3%	3.3%	3.4%	3.4%	2.4%	2.2%	3.0%
CINergy Corp.	4.7%	4.7%	4.9%	4.6%	4.4%	4.2%	4.6%
Cleco Corporation	4.4%	4.4%	4.4%	4.4%	4.2%	4.1%	4.3%
DTE Energy	4.7%	4.7%	4.6%	4.4%	4.4%	4.3%	4.5%
Empire District	5.6%	5.6%	5.6%	5.6%	5.3%	5.3%	5.5%
Entergy Corp.	3.1%	3.1%	3.0%	3.0%	2.9%	2.8%	3.0%
Great Plains Energy	5.4%	5.4%	5.6%	5.3%	5.2%	5.2%	5.4%
MGE Energy Inc.	3.8%	3.8%	4.2%	3.9%	3.8%	3.7%	3.9%
NiSource Inc.	4.1%	4.1%	4.1%	3.9%	3.7%	3.8%	4.0%
OGE Energy Corp.	5.1%	5.1%	5.0%	4.8%	4.6%	4.5%	4.9%
Otter Tail Corp.	4.4%	4.4%	4.5%	4.5%	4.1%	4.0%	4.3%
TXU Corp.	3.0%	3.0%	2.7%	2.9%	2.7%	2.7%	2.8%
Vectren Corp.	4.4%	4.4%	4.4%	3.8%	4.1%	4.1%	4.2%
Wisconsin Energy	2.5%	2.5%	2.5%	2.5%	2.4%	2.2%	2.4%
WPS Resources	4.3%	4.3%	4.3%	4.0%	3.9%	3.9%	4.1%
Average	4.2%	4.2%	4.2%	4.1%	3.9%	3.8%	4.1%

Westar Energy, Inc.	4.0%	4.0%	4.2%	4.1%	3.9%	3.9%	4.0%

Data Source: AUS *Utility Reports*, monthly issues.

Exhibit_(JRW-7)

Westar Energy Corp.
DCF Equity Cost Growth Rate Measures
Value Line Historic and Projected Rates

Panel I
Group A
Eight Company Electric Utility Group

Company	*Value Line* Historic Growth					
	Past 10 Years			Past 5 Years		
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
Alliant Energy	-3.5%	-3.5%	1.0%	-3.0%	-7.5%	-1.5%
Ameren Corp.		1.0%	2.5%	1.5%		4.0%
American Electric Power		-2.5%	-1.0%	-2.0%	-5.5%	-4.0%
Cleco Corporation	4.0%	2.5%	4.0%	4.0%	2.0%	4.0%
Empire District	-1.0%		2.0%	-3.5%		2.0%
Entergy Corp.	5.5%		3.5%	11.0%	1.5%	5.5%
MGE Energy Inc.	1.5%	1.0%	2.5%	4.0%	1.0%	5.0%
Wisconsin Energy	2.0%	-5.0%	2.5%	9.5%	-12.0%	3.5%
Mean	1.4%	-1.1%	2.1%	2.7%	-3.4%	2.3%
Median	1.8%	-0.8%	2.5%	2.8%	-2.3%	3.8%
Average of Mean and Median Figures =				1.0%		

Westar Energy, Inc.	-7.0%	-7.0%	-4.5%	3.0%	-15.0%	-13.0%
Mean	-7.3%	Average of Mean and Median Figures =			-7.1%	
Median	-7.0%					

Group B
Eighteen Company Electric Utility Group

Company	*Value Line* Historic Growth					
	Past 10 Years			Past 5 Years		
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
Alliant Energy	-3.5%	-3.5%	1.0%	-3.0%	-7.5%	-1.5%
Ameren Corp.		1.0%	2.5%	1.5%		4.0%
American Electric Power		-2.5%	-1.0%	-2.0%	-5.5%	-4.0%
Centerpoint Energy						
CINergy Corp.	2.0%	1.0%	2.0%	1.5%	0.5%	5.0%
Cleco Corporation	4.0%	2.5%	4.0%	4.0%	2.0%	4.0%
DTE Energy	-0.5%		3.0%			3.5%
Empire District	-1.0%		2.0%	-3.5%		2.0%
Entergy Corp.	5.5%		3.5%	11.0%	1.5%	5.5%
Great Plains Energy	4.0%	1.5%		7.0%		
MGE Energy Inc.	1.5%	1.0%	2.5%	4.0%	1.0%	5.0%
NiSource Inc.	4.0%	4.5%	7.5%	3.0%	1.5%	10.5%
OGE Energy Corp.	2.0%	n/a	2.0%	-2.5%	n/a	1.0%
Otter Tail Corp.	3.5%	2.5%	6.0%	3.5%	2.5%	7.0%
TXU Corp.	-6.0%	-9.5%	-8.5%	-13.0%	-13.0%	-16.0%
Vectren Corp.	n/a	n/a	n/a	1.0%	3.0%	3.5%
Wisconsin Energy	2.0%	-5.0%	2.5%	9.5%	-12.0%	3.5%
WPS Resources	3.0%	2.0%	4.0%	9.5%	2.0%	6.5%
Mean	1.5%	-0.4%	2.2%	2.0%	-2.0%	2.5%
Median	2.0%	1.0%	2.5%	2.3%	1.3%	3.8%
Average of Mean and Median Figures =				1.5%		

Panel II
Group A
Eight Company Electric Utility Group

Company	*Value Line* Projected Growth Est'd. '02-'04 to '08-'10			*Value Line* Internal Growth		
	Earnings	Dividends	Book Value	Return on Equity	Retention Rate	Internal Growth
Alliant Energy	2.0%	-1.0%	2.5%	7.0%	24.0%	1.7%
Ameren Corp.	2.0%	0.0%	4.0%	9.0%	20.0%	1.8%
American Electric Power	2.0%	-2.0%	5.0%	11.0%	46.0%	5.1%
Cleco Corporation	1.5%		3.5%	11.0%	39.0%	4.3%
Empire District	8.0%		2.0%	10.5%	26.0%	2.7%
Entergy Corp.	6.5%	11.0%	5.0%	11.0%	44.0%	4.8%
MGE Energy Inc.	6.0%	0.5%	7.0%	12.0%	37.0%	4.4%
Wisconsin Energy	4.0%	4.5%	6.5%	9.5%	61.0%	5.8%
Mean	4.0%	2.2%	4.4%	10.1%	37.1%	3.8%
Median	3.0%	0.3%	4.5%	10.8%	38.0%	4.4%
Average of Mean and Median Figures =		3.1%	Average of Mean and Median Figures =			4.1%

Westar Energy, Inc.	5.5%	2.5%	4.5%	9.0%	35.0%	3.15%
Average of Projected and Internal Growth			3.9%			

Group B
Eighteen Company Electric Utility Group

Company	*Value Line* Projected Growth Est'd. '02-'04 to '08-'10			*Value Line* Internal Growth		
	Earnings	Dividends	Book Value	Return on Equity	Retention Rate	Internal Growth
Alliant Energy	2.0%	-1.0%	2.5%	7.0%	24.0%	1.7%
Ameren Corp.	2.0%	0.0%	4.0%	9.0%	20.0%	1.8%
American Electric Power	2.0%	-2.0%	5.0%	11.0%	46.0%	5.1%
Centerpoint Energy				18.0%	29.0%	5.2%
CINergy Corp.	5.5%	2.0%	5.5%	11.0%	34.0%	3.7%
Cleco Corporation	1.5%		3.5%	11.0%	39.0%	4.3%
DTE Energy	8.5%	0.5%	5.5%	12.0%	57.0%	6.8%
Empire District	8.0%		2.0%	10.5%	26.0%	2.7%
Entergy Corp.	6.5%	11.0%	5.0%	11.0%	44.0%	4.8%
Great Plains Energy	-1.0%		6.0%	10.0%	21.0%	2.1%
MGE Energy Inc.	6.0%	0.5%	7.0%	12.0%	37.0%	4.4%
NiSource Inc.	2.5%	0.5%	3.5%	9.5%	44.0%	4.2%
OGE Energy Corp.	5.5%	3.0%	4.0%	13.0%	28.0%	3.6%
Otter Tail Corp.	3.5%	2.0%	5.5%	10.5%	37.0%	3.9%
TXU Corp.	31.0%	15.5%	13.5%	28.5%	64.0%	18.2%
Vectren Corp.	4.0%	3.5%	3.5%	11.5%	31.0%	3.6%
Wisconsin Energy	4.0%	4.5%	6.5%	9.5%	61.0%	5.8%
WPS Resources	4.0%	2.0%	5.5%	10.5%	40.0%	4.2%
Mean	5.6%	3.0%	5.2%	12.0%	37.9%	4.8%
Median	4.0%	2.0%	5.0%	11.0%	37.0%	4.2%
Average of Mean and Median Figures =		4.1%	Average of Mean and Median Figures =			4.5%

Data Source: *Value Line Investment Survey, July 1, 2005.*

Exhibit_(JRW-7)

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

Group A
Eight Company Electric Utility Group

Company	Yahoo First Call	Reuters	Zack's	Average
Alliant Energy	3.0%	3.8%	4.0%	3.6%
Ameren Corp.	3.0%	5.7%	4.9%	4.5%
American Electric Power	3.0%	3.5%	3.0%	3.2%
Cleco Corporation	3.5%	3.5%	4.0%	3.7%
Empire District	2.0%	2.5%	5.0%	3.2%
Entergy Corp.	7.0%	6.4%	6.8%	6.7%
MGE Energy Inc.	-	-		
Wisconsin Energy	8.0%	7.6%	7.6%	7.7%
Mean	4.2%	4.7%	5.0%	4.7%

	Yahoo First Call	Reuters	Zack's	Average
Westar Energy, Inc.	3.0%	3.5%	4.0%	3.5%

Group B
Eighteen Company Electric Utility Group

Company	Yahoo First Call	Reuters	Zack's	Average
Alliant Energy	3.0%	3.8%	4.0%	3.6%
Ameren Corp.	3.0%	5.7%	4.9%	4.5%
American Electric Power	3.0%	3.5%	3.0%	3.2%
Centerpoint Energy	9.0%	10.4%	7.8%	9.1%
CINergy Corp.	4.0%	4.8%	4.5%	4.4%
Cleco Corporation	3.5%	3.5%	4.0%	3.7%
DTE Energy	5.0%	5.0%	4.6%	4.9%
Empire District	2.0%	2.5%	5.0%	3.2%
Entergy Corp.	7.0%	6.4%	6.8%	6.7%
Great Plains Energy	5.2%	3.3%	3.0%	3.8%
MGE Energy Inc.	-	-		
NiSource Inc.	3.5%	3.6%	4.3%	3.8%
OGE Energy Corp.	3.0%	3.3%	3.0%	3.1%
Otter Tail Corp.	4.0%	4.3%	4.5%	4.3%
TXU Corp.	7.0%	13.8%	13.6%	11.5%
Vectren Corp.	4.0%	5.4%	4.7%	4.7%
Wisconsin Energy	8.0%	7.6%	7.6%	7.7%
WPS Resources	4.0%	4.0%	4.0%	4.0%
Mean	4.6%	5.3%	5.3%	5.1%

Data Sources: www.zacks.com, www.investor.reuters.com,
http://quote.yahoo.com, August, 2005.

Westar Energy Corp.
CAPM Equity Cost Rate

Eight Company Electric Utility Group

Risk-Free Interest Rate	4.50%
Beta**	0.75
Ex Ante Equity Risk Premium***	4.2%
CAPM Cost of Equity	7.6%

Eighteen Company Electric Utility Group

Risk-Free Interest Rate	4.50%
Beta**	0.75
Ex Ante Equity Risk Premium***	4.2%
CAPM Cost of Equity	7.6%

Westar Energy, Inc.

Risk-Free Interest Rate	4.50%
Beta**	0.85
Ex Ante Equity Risk Premium***	4.2%
CAPM Cost of Equity	8.1%

** See page 2 of Exhibit_(JRW-8)

*** See page 3 of Exhibit_(JRW-8)

Exhibit_(JRW-8)

Westar Energy Corp.
CAPM
Beta

Eight Company Electric Utility Group

Company	Beta
Alliant Energy	0.85
Ameren Corp.	0.75
American Electric Power	1.15
CINergy Corp.	0.85
Cleco Corporation	1.15
Empire District	0.70
Entergy Corp.	0.75
MGE Energy Inc.	0.65
Wisconsin Energy	0.70
Median	0.75

Westar Energy, Inc.	0.85

Eighteen Company Electric Utility Group

Company	Beta
Alliant Energy	0.85
Ameren Corp.	0.75
American Electric Power	1.15
Centerpoint Energy	0.60
CINergy Corp.	0.85
Cleco Corporation	1.15
DTE Energy	0.70
Empire District	0.70
Entergy Corp.	0.75
Great Plains Energy	0.95
MGE Energy Inc.	0.65
NiSource Inc.	0.80
OGE Energy Corp.	0.70
Otter Tail Corp.	0.55
TXU Corp.	1.00
Vectren Corp.	0.80
Wisconsin Energy	0.70
WPS Resources	0.75
Median	0.75

Data Source: *Value Line Investment Survey, July 1, 2005.*

Westar Energy Corp.
CAPM
Equity Risk Premium

Historic						
Ibbotson						
	Arithmetic			6.60%	5.80%	
	Geometric			5.00%		
AVERAGE						5.80%
Puzzle Research						
Fama French		2.55%	4.32%		3.44%	
Claus Thomas					3.00%	
Dimson, Marsh, and Staunton						
	Arithmetic	2.50%	4.00%	3.81%	4.35%	
	Geometric	3.50%	5.25%			
Jeremy Siegel	Geometric				2.50%	
Arnott and Bernstein					2.40%	
George Constaninides					6.90%	
Brad Cornell		3.50%	7.00%		5.25%	
AVERAGE						3.98%
Surveys						
Survey of Financial Forecasters					2.00%	
Graham and Harvey - CFOs					3.80%	
Welch - Academics		5.00%	5.50%		5.25%	
AVERAGE						3.68%
Social Security						
Office of Chief Actuary		4.00%	4.70%			
John Campbell		2.00%	3.50%			
Peter Diamond		3.00%	4.80%			
John Shoven		3.00%	3.50%			
AVERAGE						3.56%
Building Block						
Ibbotson and Peng						
	Arithmetic			6.00%	5.00%	
	Geometric			4.00%		
Woolridge					3.59%	
AVERAGE						4.30%
Other Studies						
McKinsey		3.50%	4.00%		3.75%	
AVERAGE						3.75%
OVERALL AVERAGE						**4.18%**

Sources:

Ibbotson Associates, SBBI Yearbook, 2005.

James Claus and Jacob Thomas, "Equity Risk Premia as Low as Three Percent? Empirical Evidence from Analysts' Earnings Forecasts for Domestic and International Stock Market," *Journal of Finance* . (October 2001).

Eugene F. Fama and Kenneth R. French, "The Equity Premium," *The Journal of Finance* , April 2002.

Elroy Dimson, Paul Marsh, and Mike Staunton, "New Evidence puts Risk Premium in Context," Corporate Finance (March 2003)

Ivo Welch, "The Equity Risk Premium Consensus Forecast Revisited," (September 2001). Cowles Foundation Discussion Paper No. 1325.

John R. Graham and Campbell Harvey, "Expectations of Equity Risk Premia, Volatility, and Asymmetry," Duke University Working Paper, 2003.

Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters,* February 14, 2005.

Marc H. Goedhart, Timothy M. Koller, and Zane D. Williams, "The Real Cost of Equity," *McKinsey on Finance* (Autumn 2002), p.14.

Roger Ibbotson and Peng Chen, "Long Run Returns: Participating in the Real Economy," *Financial Analysts Journal* , January 2003

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

LONG-TERM (10 YEAR) FORECASTS

SERIES: CPC INFLATION RATE	
STATISTIC	
MINIMUM	1.700
LOWER QUARTILE	2.300
MEDIAN	2.450
UPPER QUARTILE	2.550
MAXIMUM	4.500
MEAN	2.495
STD. DEV.	0.415
N	11
MISSING	1

SERIES: REAL GDP GROWTH RATE	
STATISTIC	
MINIMUM	2.100
LOWER QUARTILE	3.000
MEDIAN	3.100
UPPER QUARTILE	3.500
MAXIMUM	4.400
MEAN	3.255
STD. DEV.	0.448
N	11
MISSING	3

SERIES: PRODUCTIVITY GROWTH	
STATISTIC	
MINIMUM	1.000
LOWER QUARTILE	2.100
MEDIAN	2.400
UPPER QUARTILE	2.600
MAXIMUM	3.000
MEAN	2.451
STD. DEV.	0.541
N	12
MISSING	4

SERIES: STOCK RETURNS (S&P 500)	
STATISTIC	
MINIMUM	5.000
LOWER QUARTILE	6.400
MEDIAN	7.000
UPPER QUARTILE	8.250
MAXIMUM	12.500
MEAN	7.552
STD. DEV.	1.675
N	26
MISSING	13

SERIES: BOND RETURNS (10-YEAR)	
STATISTIC	
MINIMUM	4.000
LOWER QUARTILE	4.900
MEDIAN	5.000
UPPER QUARTILE	5.700
MAXIMUM	6.700
MEAN	5.132
STD. DEV.	0.585
N	11
MISSING	5

SERIES: BILL RETURNS (1-MONTH)	
STATISTIC	
MINIMUM	2.500
LOWER QUARTILE	3.300
MEDIAN	1.700
UPPER QUARTILE	4.100
MAXIMUM	5.000
MEAN	3.684
STD. DEV.	0.624
N	11
MISSING	5

Source: Philadelphia Federal Researve Bank, Survey of Professional Forecasters, February 14, 2005.
http://www.phil.frb.org/files/spf/spfq105.pdf

Westar Energy Corp.
CAPM
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	1.4		3.10		
1961	3.37	0.7	1.0070	3.35		
1962	3.67	1.3	1.0201	3.59		
1963	4.13	1.6	1.0364	3.99		
1964	4.76	1	1.0468	4.55		
1965	5.30	1.9	1.0667	4.97		
1966	5.41	3.5	1.1040	4.90		
1967	5.46	3	1.1371	4.80		
1968	5.72	4.7	1.1906	4.81		
1969	6.10	6.2	1.2644	4.83	10-Year	
1970	5.51	5.6	1.3352	4.13	2.9%	
1971	5.57	3.3	1.3792	4.04		
1972	6.17	3.4	1.4261	4.33		
1973	7.96	8.7	1.5502	5.13		
1974	9.35	12.3	1.7409	5.37		
1975	7.71	6.9	1.8610	4.14		
1976	9.75	4.9	1.9522	4.99		
1977	10.87	6.7	2.0830	5.22		
1978	11.64	9	2.2705	5.13		
1979	14.55	13.3	2.5724	5.66	10-Year	
1980	14.99	12.5	2.8940	5.18	2.3%	
1981	15.18	8.9	3.1516	4.82		
1982	13.82	3.8	3.2713	4.23		
1983	13.29	3.8	3.3956	3.91		
1984	16.84	3.9	3.5281	4.77		
1985	15.68	3.8	3.6621	4.28		
1986	14.43	1.1	3.7024	3.90		
1987	16.04	4.4	3.8653	4.15		
1988	22.77	4.4	4.0354	5.64		
1989	24.03	4.6	4.2210	5.69	10-Year	
1990	21.73	6.1	4.4785	4.85	-0.7%	
1991	19.10	3.1	4.6173	4.14		
1992	18.13	2.9	4.7512	3.81		
1993	19.82	2.7	4.8795	4.06		
1994	27.05	2.7	5.0113	5.40		
1995	35.35	2.5	5.1365	6.88		
1996	35.78	3.3	5.3061	6.74		
1997	39.56	1.7	5.3963	7.33		
1998	38.23	1.6	5.4826	6.97		
1999	45.17	2.7	5.6306	8.02	10-Year	
2000	52.00	3.4	5.8221	8.93	6.3%	
2001	44.23	1.6	5.9152	7.48		
2002	47.24	2.4	6.0572	7.80		
2003	54.15	1.9	6.1723	8.77		
Data Source: http://pages.stern.nyu.edu/~adamodar/			Real EPS Growth		2.45%	

LT US Treasury Yields (1926 - 2004)
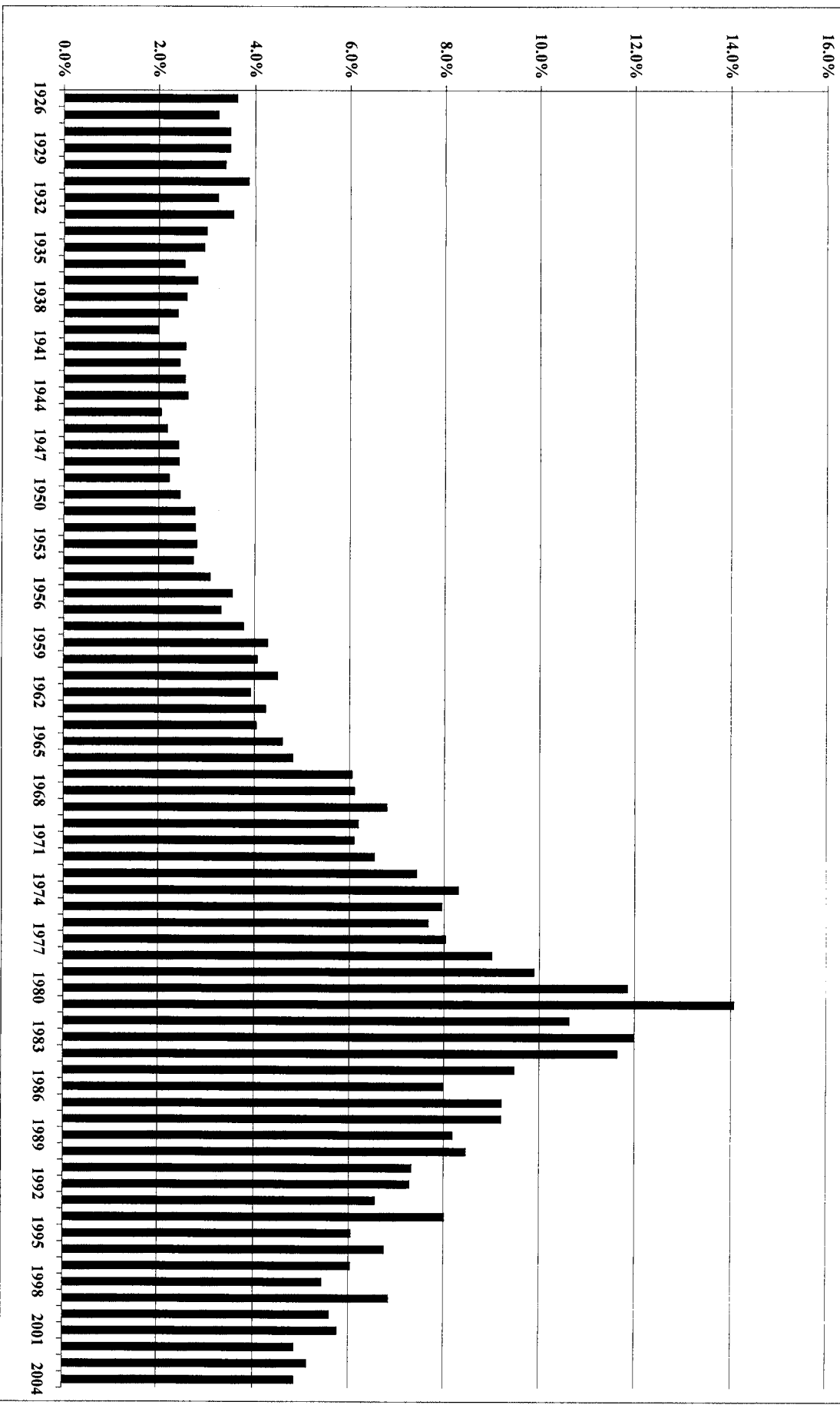
Data Source: Ibbotson Associates, SBBI Yearbook, 2005.
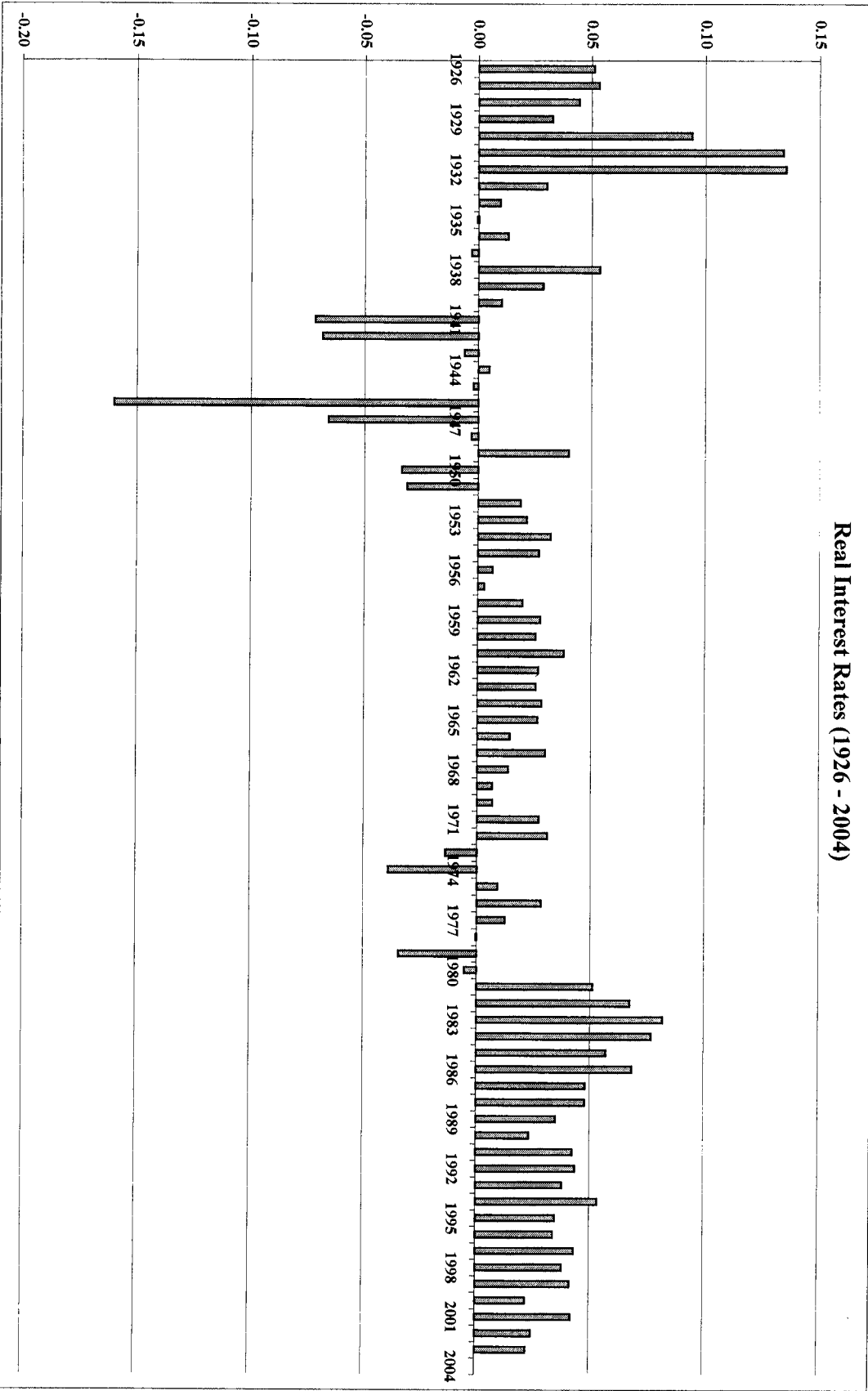
Market Risk Premium (1926 - 2004)
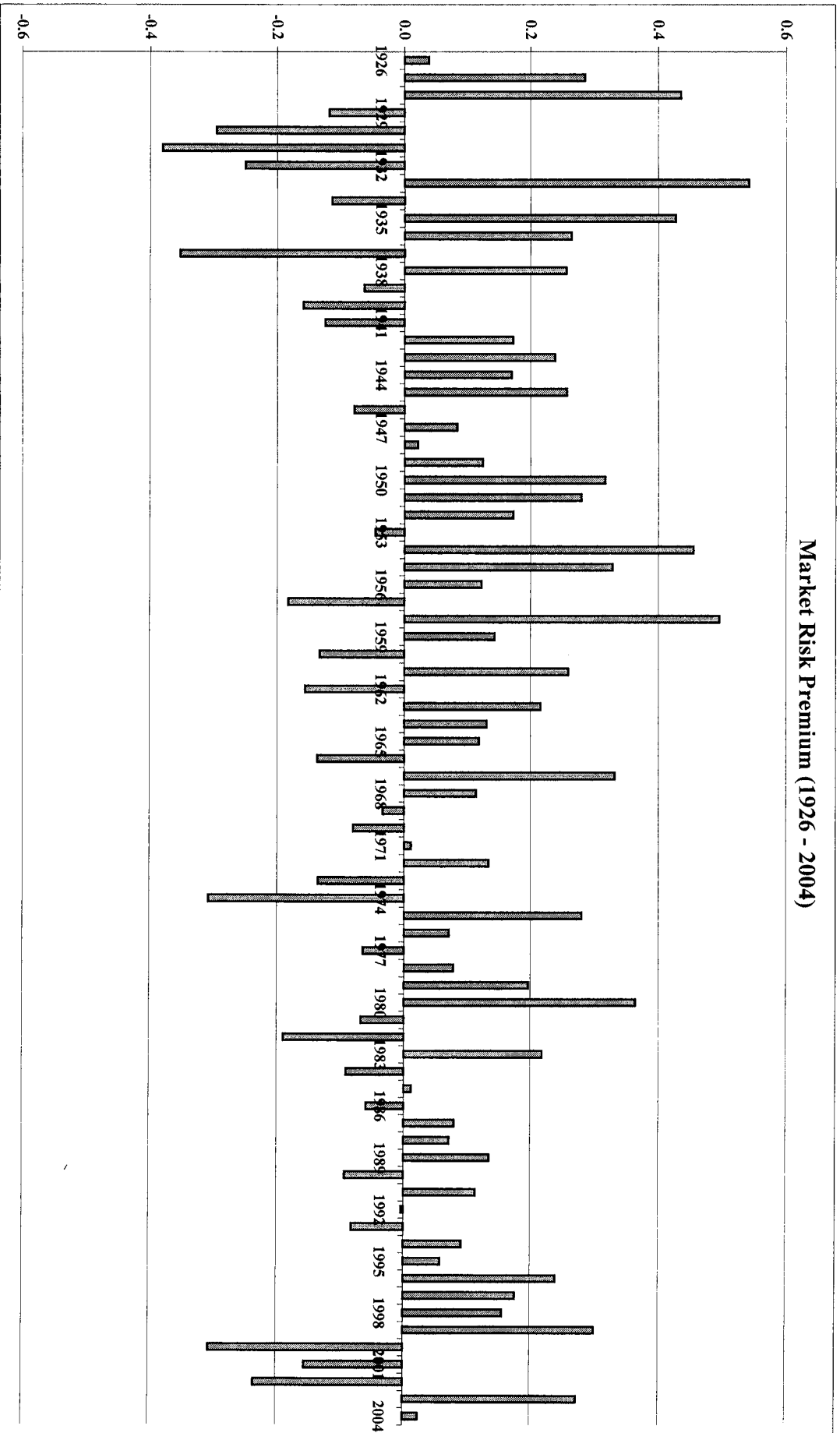
Data Source: Ibbotson Associates, SBBI Yearbook, 2005.

Stocks and Bonds Monthly Standard Deviations (1930 - 2004)
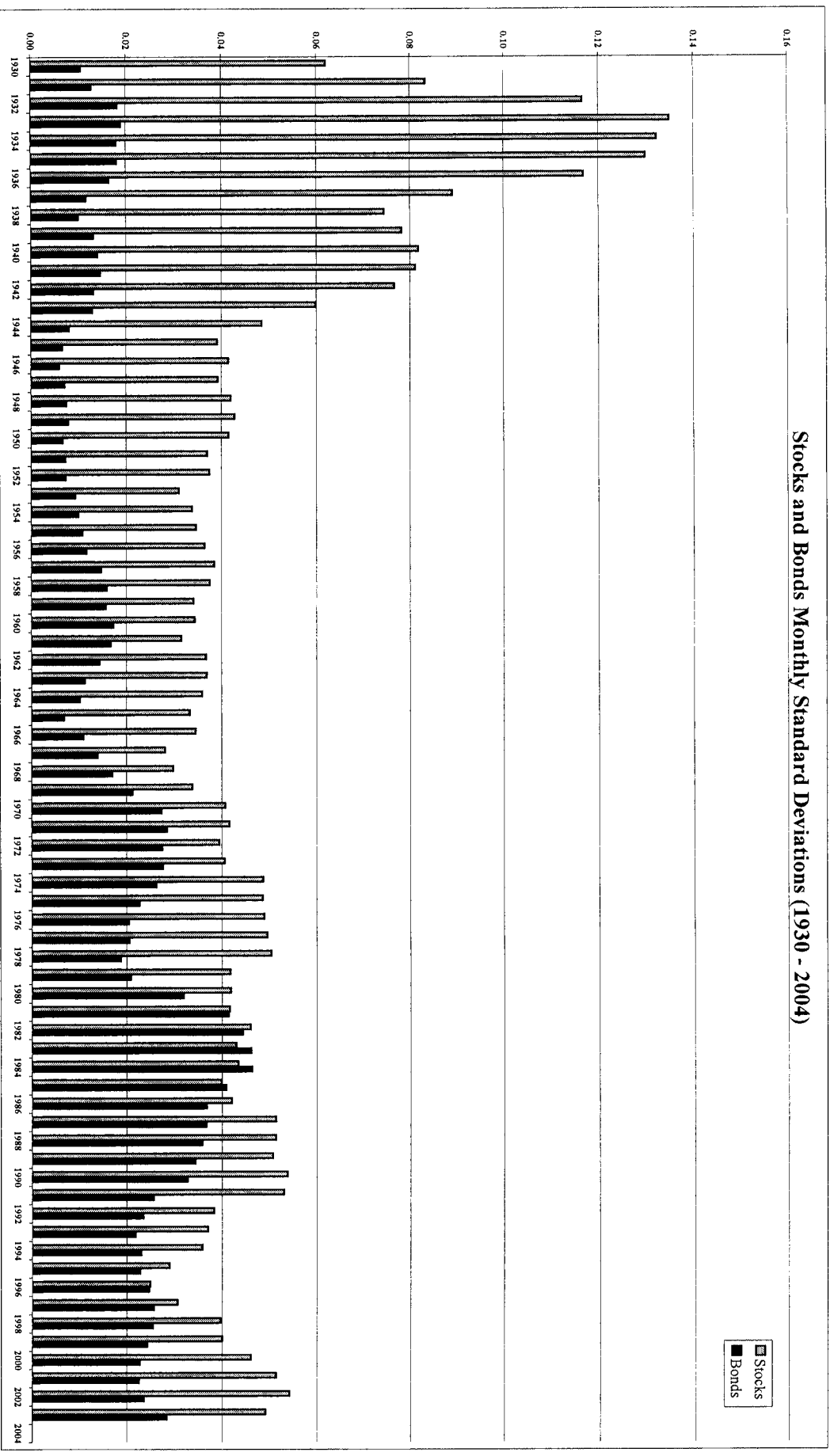
Data Source: Ibbotson Associates, SBBI Yearbook, 2005.

Real Interest Rates (1926 - 2004)

Data Source: Ibbotson Associates, SBBI Yearbook, 2005.

Exhibit_(JRW-10)
Rebuttal Exhibits
Growth rates
GNP, S&P 500 Price, EPS, and DPS

	GNP	S&P 500	Earnings	Dividends	
1960	529.8	58.11	3.10	1.98	
1961	531.5	71.55	3.37	2.04	
1962	579.6	63.1	3.67	2.15	
1963	606.9	75.02	4.13	2.35	
1964	654.6	84.75	4.76	2.58	
1965	701.1	92.43	5.30	2.83	
1966	775.8	80.33	5.41	2.88	
1967	823.2	96.47	5.46	2.98	
1968	885.7	103.86	5.72	3.04	
1969	967.3	92.06	6.10	3.24	
1970	1023.6	92.15	5.51	3.19	
1971	1105.8	102.09	5.57	3.16	
1972	1198.7	118.05	6.17	3.19	
1973	1346.2	97.55	7.96	3.61	
1974	1464.0	68.56	9.35	3.72	
1975	1581.4	90.19	7.71	3.73	
1976	1788.3	107.46	9.75	4.22	
1977	1960.1	95.1	10.87	4.86	
1978	2172.1	96.11	11.64	5.18	
1979	2490.1	107.94	14.55	5.97	
1980	2763.2	135.76	14.99	6.44	
1981	3084.1	122.55	15.18	6.83	
1982	3222.8	140.64	13.82	6.93	
1983	3416.9	164.93	13.29	7.12	
1984	3846.6	167.24	16.84	7.83	
1985	4145.8	211.28	15.68	8.20	
1986	4409.4	242.17	14.43	8.19	
1987	4628.2	247.08	16.04	9.17	
1988	4977.6	277.72	22.77	10.22	
1989	5390.9	353.4	24.03	11.73	
1990	5746.9	330.22	21.73	12.35	
1991	5926.3	417.09	19.10	12.97	
1992	6227.2	435.71	18.13	12.64	
1993	6580.0	466.45	19.82	12.69	
1994	6940.2	459.27	27.05	13.36	
1995	7335.8	615.93	35.35	14.17	
1996	7666.2	740.74	35.78	14.89	
1997	8142.6	970.43	39.56	15.52	
1998	8615.1	1229.23	38.23	16.20	
1999	9097.2	1469.25	45.17	16.71	
2000	9661.9	1320.28	52.00	16.27	
2001	10060.2	1148.09	44.23	15.74	
2002	10361.7	879.82	47.24	16.08	
2003	10781.3	1111.91	54.15	17.88	
2004	11546.1	1211.92	67.01	19.41	
2005	12225.0				Average
Growth	7.22%	7.15%	7.23%	5.32%	6.73%

Data Sources: GNP - http://research.stlouisfed.org/fred2/categories/106
S&P 500, EPS and DPS - http://pages.stern.nyu.edu/~adamodar/

CERTIFICATE OF SERVICE

05-WSEE-981-RTS

I, the undersigned, hereby certify that a true and correct copy of the above and foregoing document was placed in the United States mail, postage prepaid, or hand-delivered this 9th day of September, 2005, to the following:

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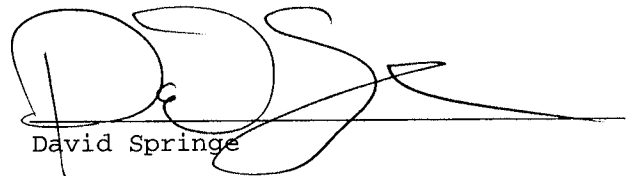# CERTIFICATE OF SERVICE

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