

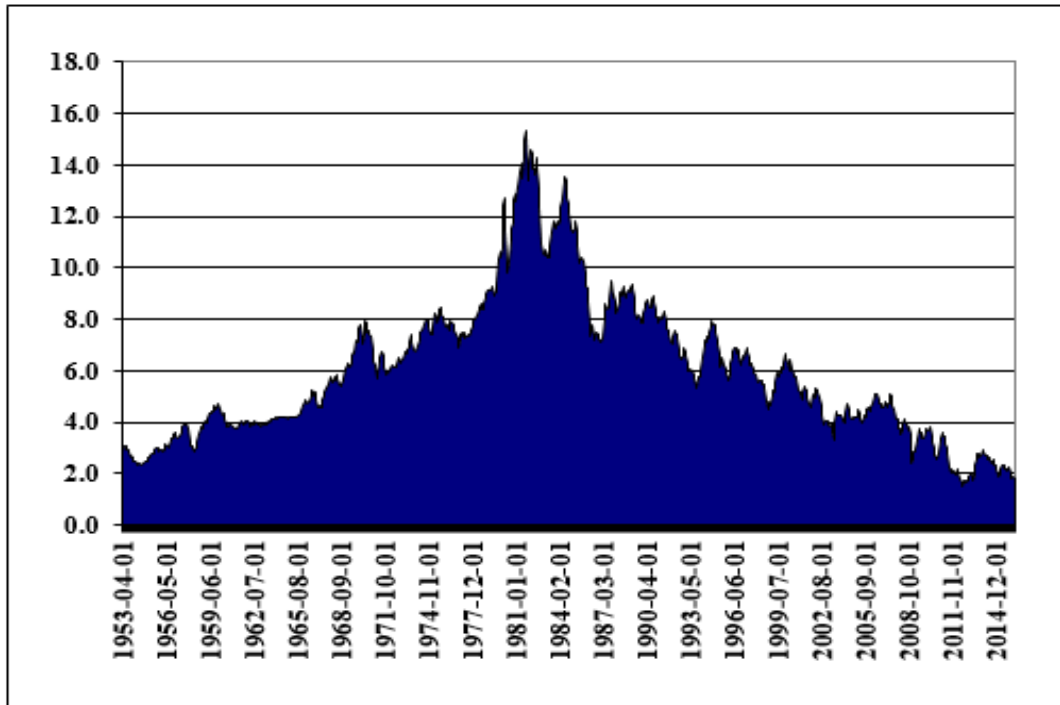
**Exhibit JRW-1**

**Kentucky-American Water Company  
Cost of Capital**

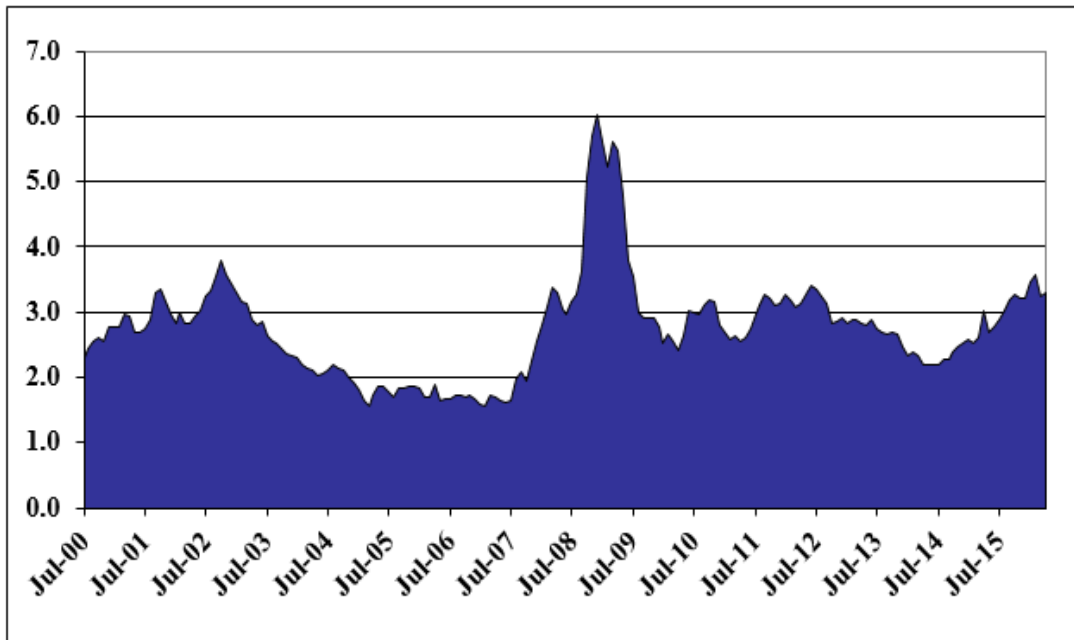
<b>Capital Source</b>	<b>Capitalization Ratio</b>	<b>Cost Rate</b>	<b>Weighted Cost Rate</b>
<b>Short-Term Debt</b>	<b>1.49%</b>	<b>1.00%</b>	<b>0.01%</b>
<b>Long-Term Debt</b>	<b>50.59%</b>	<b>6.02%</b>	<b>3.05%</b>
<b>Preferred Stock</b>	<b>0.56%</b>	<b>8.52%</b>	<b>0.05%</b>
<b>Common Equity</b>	<b>47.36%</b>	<b>8.50%</b>	<b>4.03%</b>
<b>Total Capital</b>	<b>100.00%</b>		<b>7.13%</b>

Exhibit JRW-2

Panel A  
Ten-Year Treasury Yields  
1953-Present



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



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

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



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



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

## Exhibit JRW-4

Kentucky-American Water Company  
Summary Financial Statistics

## Panel A

## Water Proxy Group

Company	Operating Revenue (\$mil)	Percent Water Revenue	Net Plant (\$mil)	S&P Bond Rating	Moody's Bond Rating	Primary Service Area	Common Equity Ratio*	Return on Equity	Market to Book Ratio
American States Water Co. (NYSE-AWR)	458.6	72	1,049.8	A+	A2	CA, AZ	56.8	12.4	3.05
American Water Works Co., Inc. (NYSE-AWK)	3,159.4	87	13,933.0	A	A3	30 States	43.5	9.6	2.47
Aqua America, Inc. (NYSE-WTR)	814.2	96	4,688.9	A+	NR	13 States	49.0	11.9	3.24
California Water Service Group (NYSE-CWT)	588.4	100	1,680.5	A+	NR	CA, WA, NM	53.8	7.1	1.92
Connecticut Water Service, Inc. (NDQ-CTWS)	97.9	100	529.0	A	NR	CT	53.9	10.5	2.14
Middlesex Water Company (NDQ-MSEX)	126.0	86	481.9	A	NR	NJ, DE	58.4	9.8	2.38
SJW Corporation (NYSE-SJW)	305.1	96	1,014.1	A	NR	CA, TX	47.8	10.2	1.91
York Water Company (NDQ-YORW)	47.1	100	261.4	A-	NR	PA	55.5	11.7	4.04
Mean	699.6	92.1	2954.8	A	NR		52.3	10.4	2.64
Median	381.9	96.0	1032.0	A	NR		53.9	10.4	2.43

Data Source: AUS Utility Reports, April, 2016; Primary Service Territory are from Value Line Investment Survey, 2016.

## Panel B

## Gas Proxy Group

Company	Operating Revenue (\$mil)	Percent Gas Revenue	Net Plant (\$mil)	S&P Bond Rating	Moody's Bond Rating	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
Atmos Energy Corporation (NYSE-ATO)	3,789.6	71	7,653.3	A-	A2	LA, KY, TX, MS, CO, KS, KY	50.4	10.1	2.25
Chesapeake Utilities Corporation (NYSE-CPK)	459.2	54	855.0	NR	NR	DE, MD, FL	51.9	12.5	2.44
Laclede Group, Inc. (NYSE-LG)	1,756.2	97	2,953.3	A-	A1	MO, AL	41.8	8.7	1.80
New Jersey Resources Corp. (NYSE-NJR)	2,354.1	31	2,196.1	A	Aa2	NJ	51.7	9.5	2.62
Northwest Natural Gas Co. (NYSE-NWN)	723.8	97	2,182.7	A+	A3	OR, WA	47.3	6.9	1.80
South Jersey Industries, Inc. (NYSE-SJI)	959.6	56	2,448.1	BBB+	A2	NJ	41.4	10.7	1.84
Southwest Gas Corporation (NYSE-SWX)	2,463.6	59	3,891.1	BBB+	A3	AZ, NV, CA	50.1	9.0	1.92
WGL Holdings, Inc. (NYSE-WGL)	2,524.0	49	3,746.6	A+	A3	DC, MD, VA	45.8	10.7	2.72
Mean	2,013.7	64	3,156.4	A-	A3		44.5	10.5	1.81
Median	2,191.2	59	2,619.5	A-	A3		47.9	10.2	1.61

Data Source: AUS Utility Reports, April, 2016; Primary Service Territory are from Value Line Investment Survey, 2016.

**Exhibit JRW-4**  
**Kentucky-American Water Company**  
*Value Line Risk Metrics*

**Panel A**  
**Water Proxy Group**

Company	Beta	Safety	Financial Strength	Earnings Predictability	Stock Price Stability
American States Water Co. (NYSE-AWR)	0.75	2	A	90	90
American Water Works Co., Inc. (NYSE-AWK)	0.70	3	B+	35	100
Aqua America, Inc. (NYSE-WTR)	0.75	2	A	95	95
California Water Service Group (NYSE-CWT)	0.75	3	B++	85	95
Connecticut Water Service, Inc. (NDQ-CTWS)	0.60	3	B+	85	90
Middlesex Water Company (NDQ-MSEX)	0.70	2	B++	80	95
SJW Corporation (NYSE-SJW)	0.75	3	B+	50	85
York Water Company (NDQ-YORW)	0.70	3	B++	95	90
<b>Mean</b>	<b>0.71</b>	<b>2.6</b>	<b>B++</b>	<b>77</b>	<b>93</b>

Data Source: *Value Line Investment Survey*, 2016.

**Panel B**  
**Gas Proxy Group**

Company	Beta	Safety	Financial Strength	Earnings Predictability	Stock Price Stability
Atmos Energy Corporation (NYSE-ATO)	0.80	1	A	95	95
Chesapeake Utilities Corporation (NYSE-CPK)	0.65	2	B++	95	85
Laclede Group, Inc. (NYSE-LG)	0.70	2	B++	80	100
New Jersey Resources Corp. (NYSE-NJR)	0.80	1	A+	60	85
Northwest Natural Gas Co. (NYSE-NWN)	0.65	1	A	95	100
South Jersey Industries, Inc. (NYSE-SJI)	0.85	2	A	80	90
Southwest Gas Corporation (NYSE-SWX)	0.80	3	B++	80	90
WGL Holdings, Inc. (NYSE-WGL)	0.80	1	A	75	90
<b>Mean</b>	<b>0.76</b>	<b>1.6</b>	<b>A</b>	<b>83</b>	<b>92</b>

Data Source: *Value Line Investment Survey*, 2016.

## Capital Structure Ratios and Senior Capital Cost Rates

## Exhibit JRW-5

## Kentucky-American Water Company

Capital Structure Ratios and Senior Capital Cost Rates

## Panel A - KAWC's Proposed Capitalization Ratios and Senior Capital Cost Rates

Capital Source	Capitalization Ratio	Cost Rates
Short-Term Debt	1.49%	1.37%
Long-Term Debt	50.59%	6.05%
Preferred Stock	0.56%	8.52%
Common Equity	47.36%	
Total Capital	100.00%	

## Panel B - AG's Proposed Capitalization Ratios and Senior Capital Cost Rates

Capital Source	Capitalization Ratio	Cost Rates
Short-Term Debt	1.49%	1.00%
Long-Term Debt	50.59%	6.02%
Preferred Stock	0.56%	8.52%
Common Equity	47.36%	
Total Capital	100.00%	

**Exhibit JRW-5**  
**Kentucky-American Water Company**  
**Capital Structure Ratios and Cost of Capital**

**Panel A - Short-Term Interest Rates**

Libor Rates (USD)	Latest	Wk ago	52-WEEK	
			High	Low
Libor Overnight	0.38270	0.37920	0.38310	0.11200
Libor 1 Week	0.40210	0.39700	0.40210	0.14400
Libor 1 Month	0.44115	0.43715	0.44185	0.18025
Libor 2 Month	0.52650	0.52075	0.52650	0.22375
Libor 3 Month	0.63485	0.62960	0.64195	0.27390
Libor 6 Month	0.90365	0.89415	0.91740	0.40490
Libor 1 Year	1.22470	1.20905	1.24470	0.69600

Source: [http://online.wsj.com/mdc/public/page/2\\_3020-libor.html](http://online.wsj.com/mdc/public/page/2_3020-libor.html)

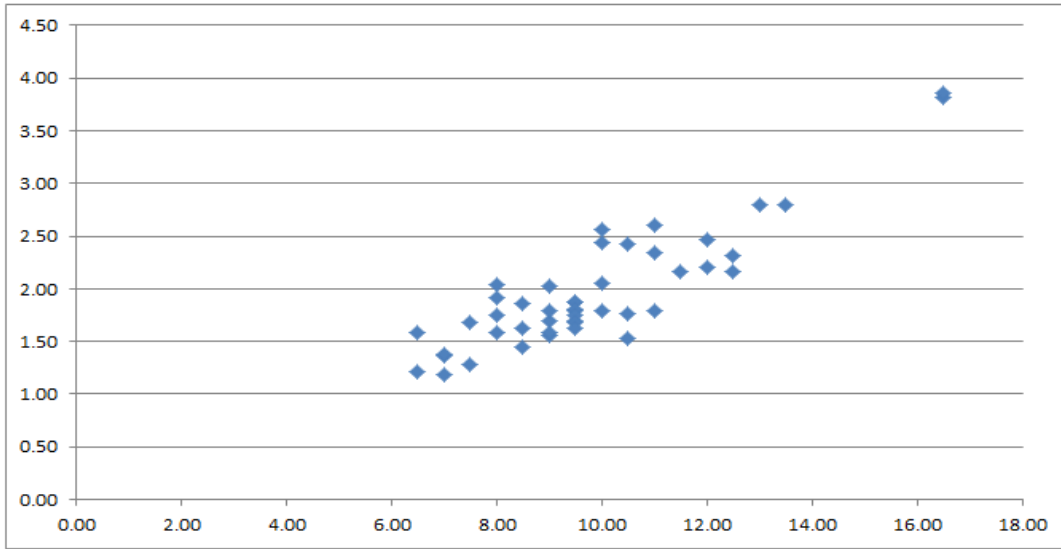
**Panel B - Long-Term Debt Cost Rate**

Kentucky American Water Company															
Case No. 2015-00418															
Embedded Cost of Long-Term Debt															
As of August 31, 2017															
Data: ___ Base Period ___X___ Forecasted Period														Exhibit 37, Schedule J-4	
Type of Filing: ___X___ Original ___ Updated ___ Revised														#VALUE!	
Workpaper Reference No(s): W/P - 7-4														Witness Responsible: Scott Rungren	
														Page 1 of 2	
Line No.	Debt Issue Type & Rate	Issue Date	Maturity Date	Amount Outstanding	Cost Rate at Issue	Cost Rate at Maturity	Bond Rating at Issue	Annualized Interest	Principal Amount	Annual Amort. of Issue Expense	Unamortized Discount or Premium	Unamortized Debt Expense	Unamortized Gain/Loss	Carrying Value	
1															
2															
3	General Mortgage Bonds:														
4															
5	Series 6.96% GMB	12/01/93	12/01/23	\$7,000,000	6.960%	7.006%	N/A	\$490,420	\$7,000,000	\$3,226	\$0	\$20,169	\$0	\$6,979,831	
6	Series 7.15% GMB	02/01/97	02/01/27	7,500,000	7.150%	7.182%	N/A	538,650	7,500,000	2,428	0	22,870	0	7,477,130	
7	Series 6.99% GMB	06/01/98	06/01/28	9,000,000	6.990%	7.026%	N/A	632,340	9,000,000	3,261	0	35,061	0	8,964,939	
8	Series 6.593% Note	10/22/2007	10/15/2037	47,000,000	6.593%	6.628%	N/A	3,115,160	47,000,000	16,599	0	334,060	0	46,665,940	
9	Series 6.25% Note	6/23/2009	6/1/2039	45,390,000	6.250%	6.295%	N/A	2,857,301	45,390,000	20,386	0	443,449	0	44,946,551	
10	Series 5.625% Note	09/10/09	09/01/39	26,000,000	5.625%	5.675%	N/A	1,475,500	26,000,000	13,005	0	286,157	0	25,713,843	
11	Series 5.375% Note	06/24/10	06/01/40	26,000,000	5.375%	5.417%	N/A	1,408,420	26,000,000	10,863	0	247,172	0	25,752,828	
12	Series 5.05% Note	11/21/11	10/15/37	20,000,000	5.050%	5.050%	N/A	1,010,000	20,000,000	0	0	0	0	20,000,000	
13	Series 4.00% Note	05/15/13	10/15/37	7,859,000	4.000%	4.000%	N/A	314,360	7,859,000	0	0	0	0	7,859,000	
14	Proposed 4.70% Note	06/15/16	06/15/46	7,250,000	4.050%	4.083%	N/A	296,018	7,250,000	2,417	0	69,580	0	7,180,420	
15															
16															
17															
18	Total Long-Term Debt and Annualized Cost			\$202,999,000				\$12,138,169	\$202,999,000	\$72,185	\$0	\$1,458,516	\$0	\$201,540,484	
19															
20															
21					6.020%										

Source: KAW\_R\_AGDR1\_NUM026\_032416\_Attachment\_1, Exhibit 37, Schedule J-4.

**Exhibit JRW-6  
Electric Utilities  
Panel A**

**Market-to-Book**

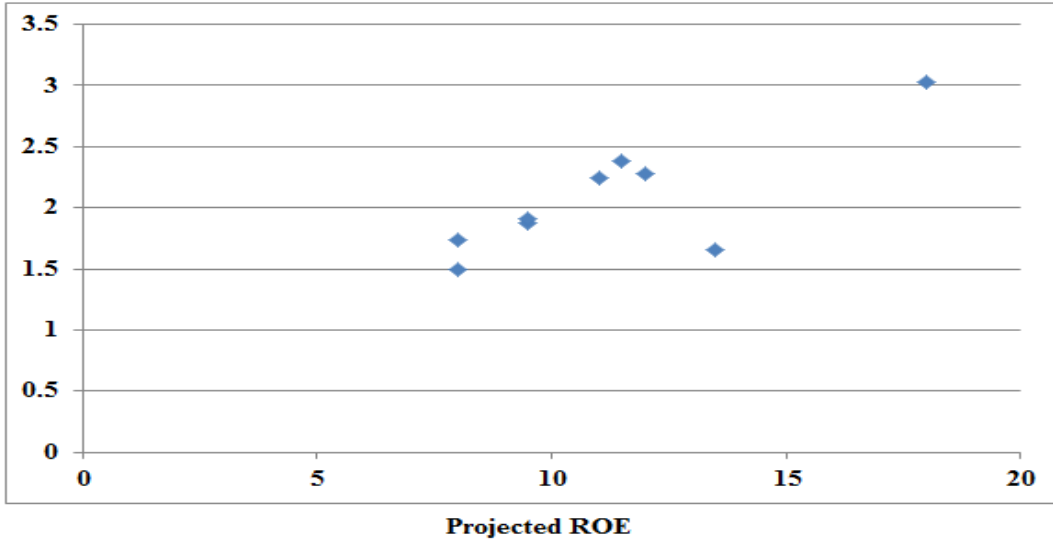


Value Line Investment Survey, 2015

**R-Square = .78, N=46**

**Panel B  
Gas Companies**

**Market-to-Book**

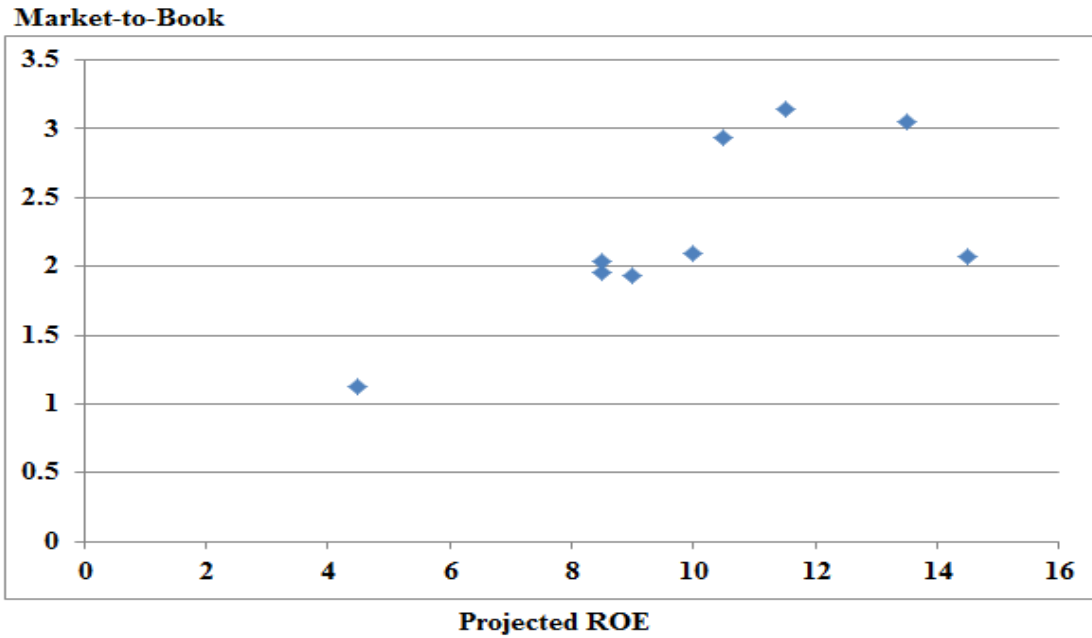


Value Line Investment Survey, 2015

**R-Square = .63, N=9**



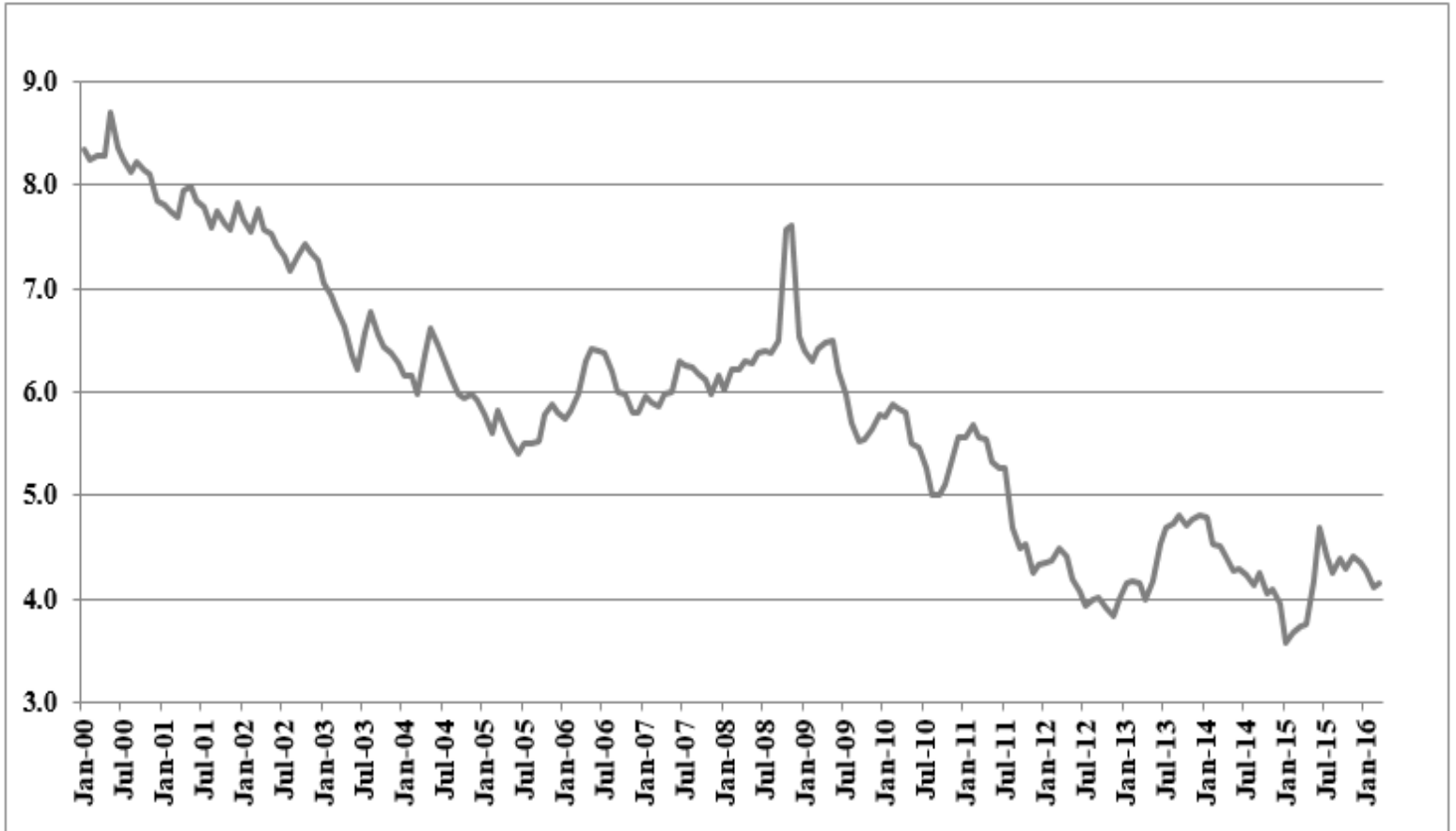
**Exhibit JRW-6  
Water Companies  
Panel C**



Value Line Investment Survey, 2015

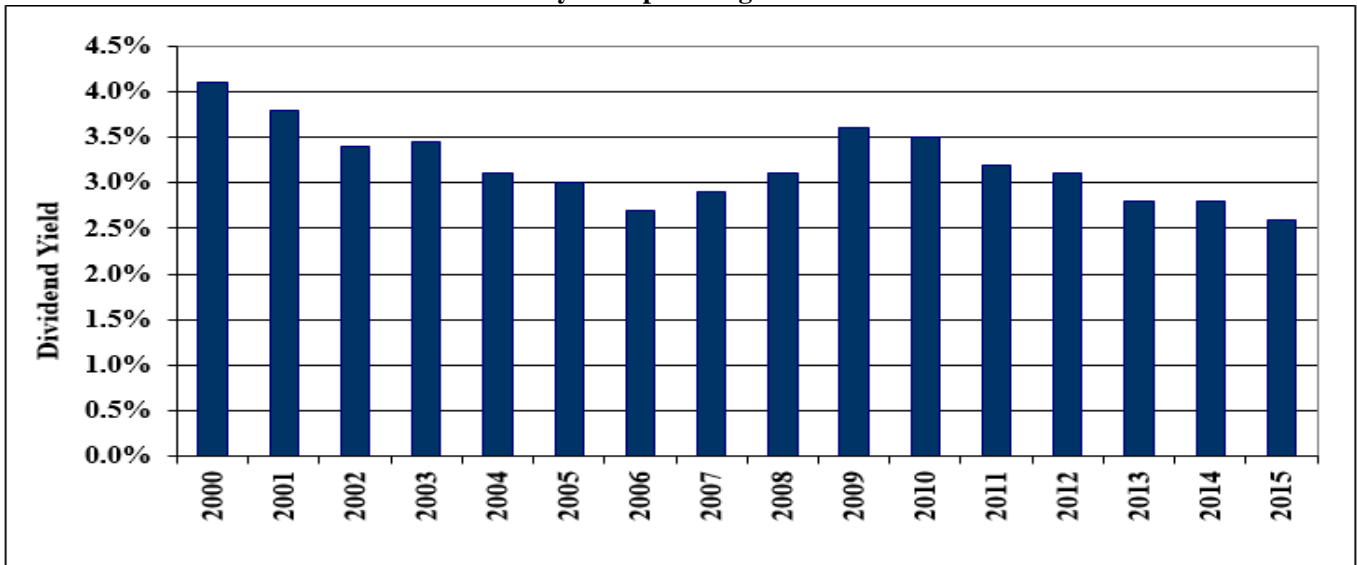
**R-Square = .49, N=9**

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

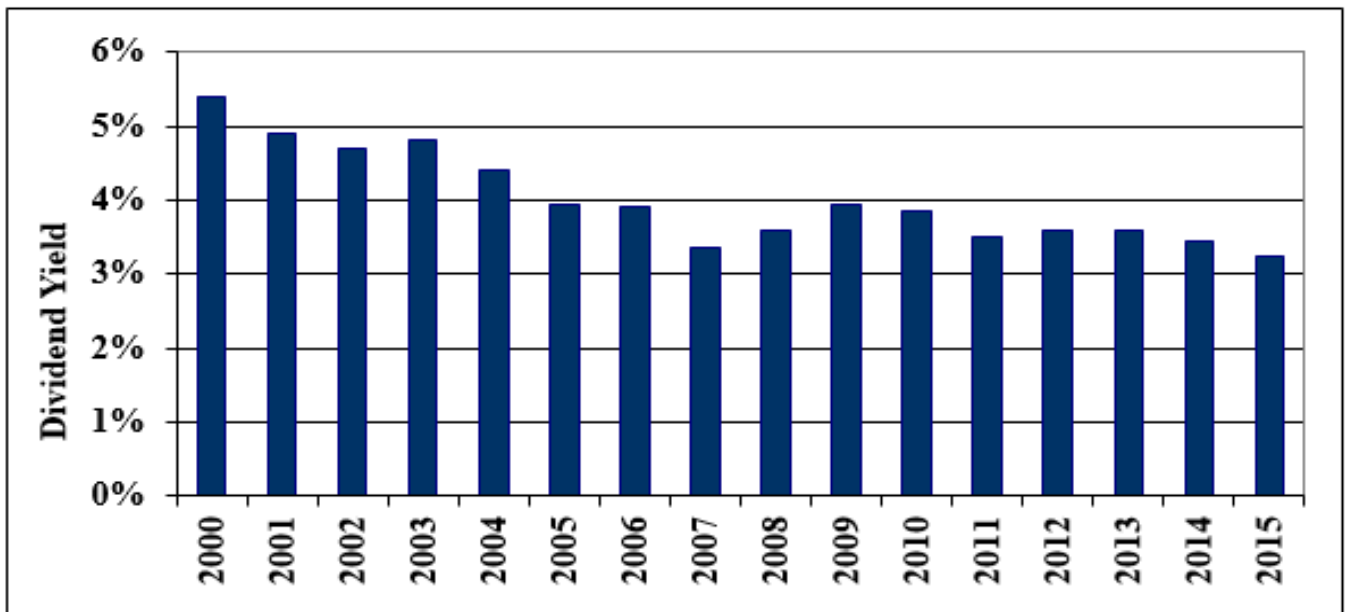


Source: Mergent Bond Record

Exhibit JRW-7  
Panel A  
Water Proxy Group Average Dividend Yield



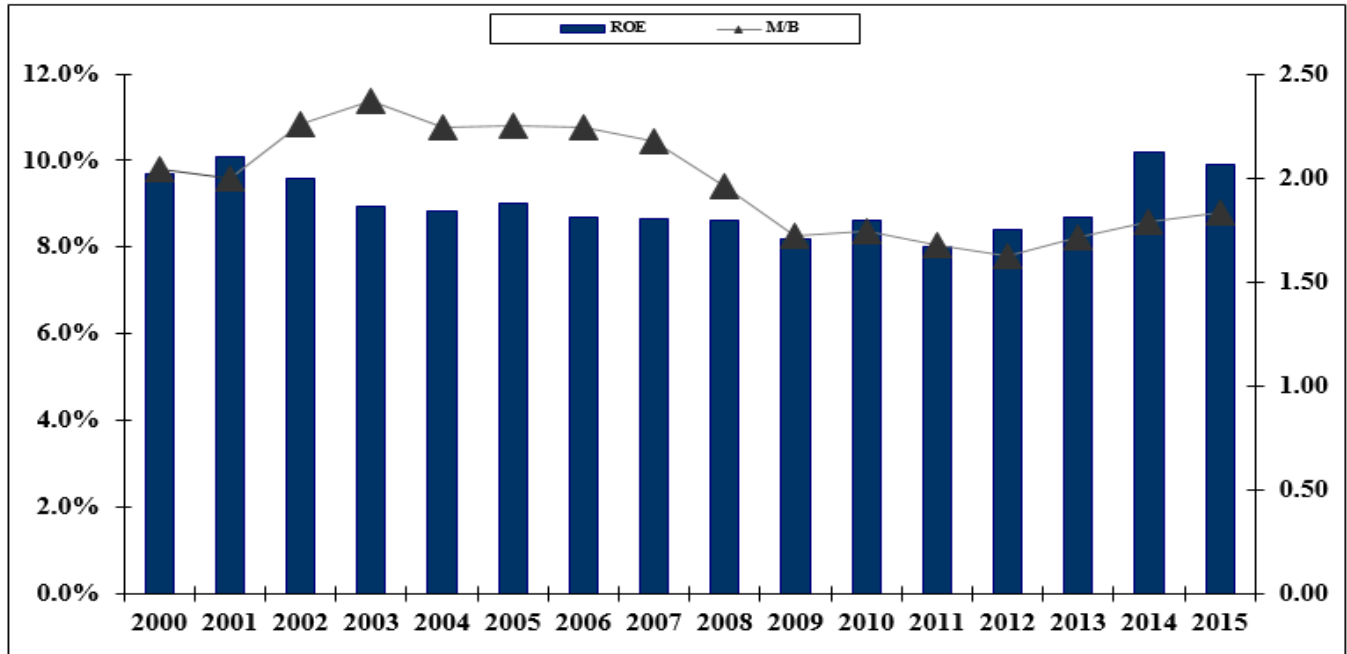
Panel B  
Gas Proxy Group Average Dividend Yield



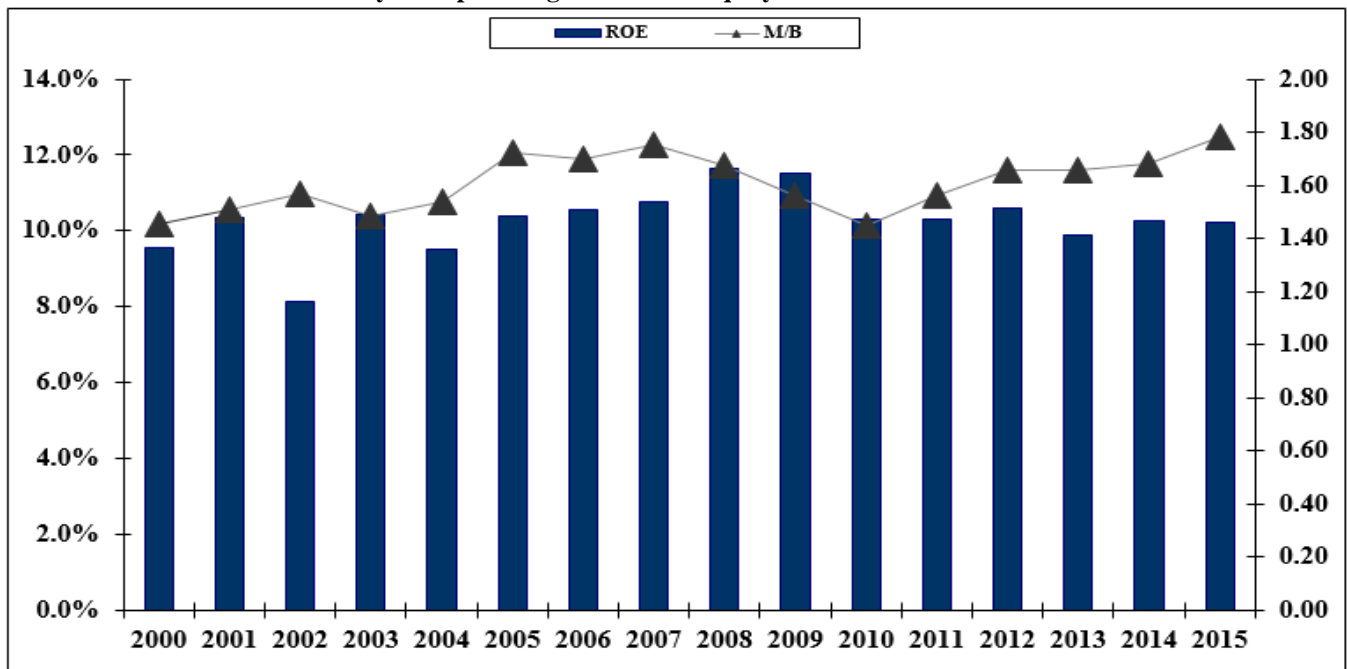
Data Source: Value Line Investment Survey.

Exhibit JRW-7

Panel A  
 Water Proxy Group Average Return on Equity and Market-to-Book Ratios



Panel B  
 Gas Proxy Group Average Return on Equity and Market-to-Book Ratios



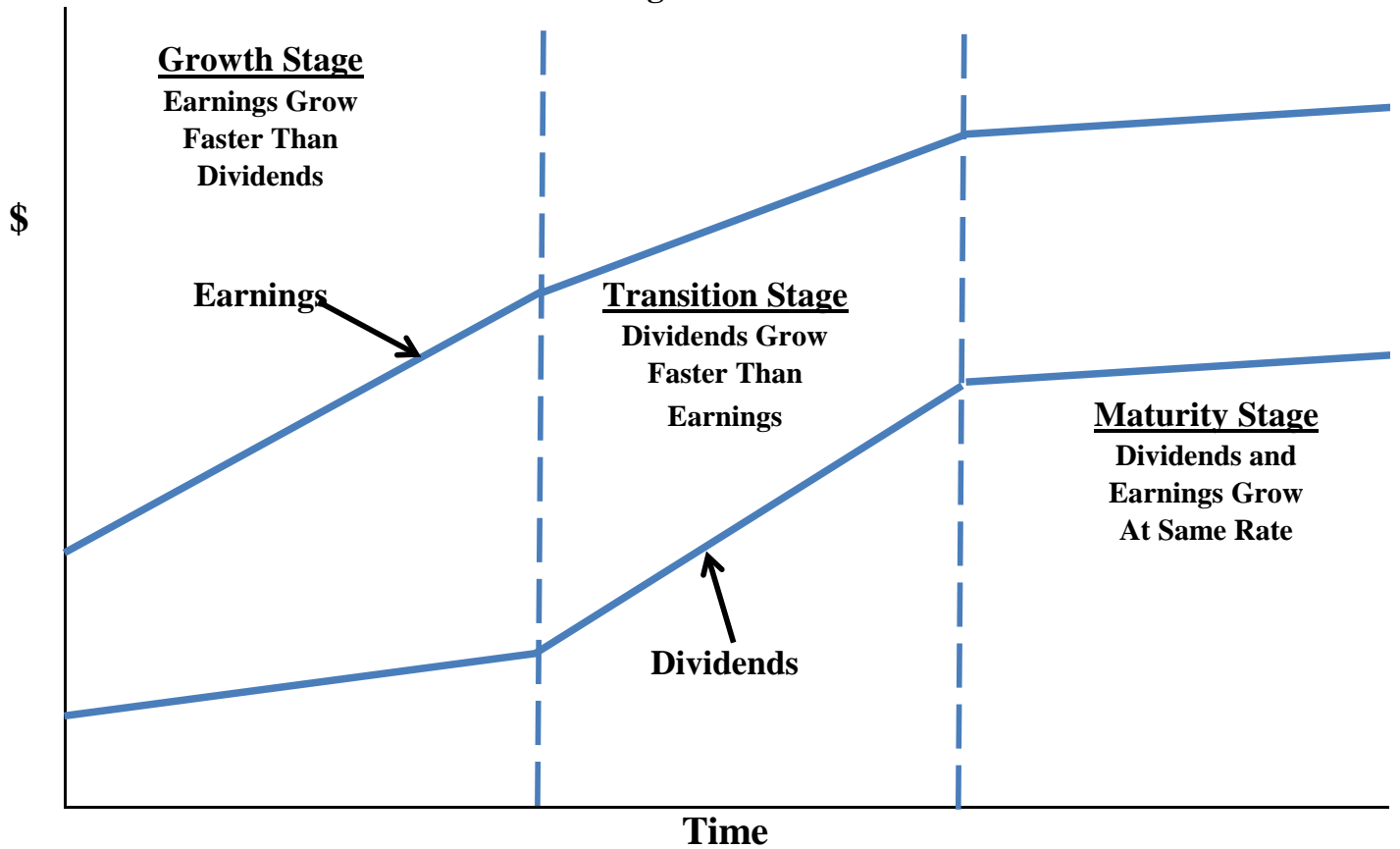
Data Source: Value Line Investment Survey.

Exhibit JRW-8

Industry Average Betas					
Industry Name	Beta	Industry Name	Beta	Industry Name	Beta
Homebuilding	1.47	Chemical (Basic)	1.17	Retail Building Supply	1.01
Heavy Truck & Equip	1.44	Diversified Co.	1.16	Investment Co.(Foreign)	1.01
Metals & Mining (Div.)	1.43	Educational Services	1.16	Toiletries/Cosmetics	1.01
Petroleum (Producing)	1.38	Advertising	1.16	Med Supp Non-Invasive	1.00
Oilfield Svcs/Equip.	1.38	Automotive	1.16	Shoe	0.98
Steel	1.38	Computers/Peripherals	1.15	Retail Automotive	0.98
Metal Fabricating	1.37	Trucking	1.15	Retail (Softlines)	0.98
Auto Parts	1.37	Financial Svcs. (Div.)	1.15	Telecom. Utility	0.96
Building Materials	1.33	Entertainment Tech	1.14	R.E.I.T.	0.95
Maritime	1.33	Retail (Hardlines)	1.13	Information Services	0.95
Hotel/Gaming	1.30	Publishing	1.12	Med Supp Invasive	0.95
Electrical Equipment	1.29	Internet	1.12	Drug	0.94
Semiconductor Equip	1.28	Entertainment	1.12	Precious Metals	0.93
Semiconductor	1.28	Apparel	1.12	Environmental	0.93
Insurance (Life)	1.27	Newspaper	1.12	Restaurant	0.92
Public/Private Equity	1.27	Wireless Networking	1.10	Thrift	0.92
Engineering & Const	1.27	Industrial Services	1.09	Funeral Services	0.92
Railroad	1.27	Bank	1.09	Pharmacy Services	0.91
Human Resources	1.25	Computer Software	1.09	Retail Store	0.89
Natural Gas (Div.)	1.25	Recreation	1.09	Beverage	0.87
Chemical (Diversified)	1.24	Biotechnology	1.08	Reinsurance	0.86
Chemical (Specialty)	1.23	Paper/Forest Products	1.07	Pipeline MLPs	0.85
Power	1.23	Bank (Midwest)	1.06	Insurance (Prop/Cas.)	0.85
Petroleum (Integrated)	1.23	Oil/Gas Distribution	1.06	Household Products	0.84
Electronics	1.21	Medical Services	1.05	Food Processing	0.84
Machinery	1.21	Telecom. Services	1.05	Investment Co.	0.80
Precision Instrument	1.21	Healthcare Information	1.04	Natural Gas Utility	0.80
Coal	1.21	Air Transport	1.04	Retail/Wholesale Food	0.78
Telecom. Equipment	1.19	IT Services	1.04	Electric Utility (West)	0.77
Securities Brokerage	1.19	Foreign Electronics	1.02	Tobacco	0.77
Furn/Home Furnishings	1.19	Aerospace/Defense	1.02	Electric Util. (Central)	0.76
Office Equip/Supplies	1.19	Cable TV	1.02	Water Utility	0.73
E-Commerce	1.18	Packaging & Container	1.02	Electric Utility (East)	0.68

Source: ValueLine Investment Survey, October, 2015.

Exhibit JRW-9  
Three-Stage DCF Model



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

## Exhibit JRW-9

DCF Model  
Consensus Earnings Estimates  
American Water Works (AWK)

[www.reuters.com](http://www.reuters.com)

4/15/2016

Line	Date	# of Estimates	Mean	High	Low
1	Quarter Ending Jun-16	11	0.74	0.79	0.65
2	Quarter Ending Sep-16	11	1.02	1.08	0.92
3	Year Ending Dec-16	16	2.82	2.85	2.75
4	Year Ending Dec-17	14	3.04	3.10	2.95
5	LT Growth Rate (%)	3	7.60	8.20	7.00

**Exhibit JRW-10**

**Kentucky-American Water Company  
Discounted Cash Flow Analysis**

**Panel A  
Water Proxy Group**

<b>Dividend Yield*</b>	<b>2.40%</b>
<b>Adjustment Factor (1 + 1/2g)</b>	<b><u>1.03</u></b>
<b>Adjusted Dividend Yield</b>	<b>2.47%</b>
<b>Growth Rate**</b>	<b><u>6.00%</u></b>
<b>Equity Cost Rate</b>	<b>8.5%</b>

\* Page 2 of Exhibit JRW-10

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

**Panel B  
Gas Proxy Group**

<b>Dividend Yield*</b>	<b>3.00%</b>
<b>Adjustment Factor (1 + 1/2g)</b>	<b><u>1.02625</u></b>
<b>Adjusted Dividend Yield</b>	<b>3.08%</b>
<b>Growth Rate**</b>	<b><u>5.25%</u></b>
<b>Equity Cost Rate</b>	<b>8.3%</b>

\* Page 2 of Exhibit JRW-10

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



## Exhibit JRW-10

Kentucky-American Water Company  
Dividend YieldsPanel A  
Water Proxy Group

Company	Annual Dividend	Dividend Yield 30 Day	Dividend Yield 90 Day	Dividend Yield 180 Day
American States Water Co. (NYSE-AWR)	\$ 0.90	2.3%	2.2%	2.2%
American Water Works Co., Inc. (NYSE-AWK)	\$ 1.36	2.0%	2.1%	2.3%
Aqua America, Inc. (NYSE-WTR)	\$ 0.71	2.2%	2.3%	2.5%
California Water Service Group (NYSE-CWT)	\$ 0.69	2.6%	2.8%	3.0%
Connecticut Water Service, Inc. (NDQ-CTWS)	\$ 1.07	2.4%	2.6%	2.8%
Middlesex Water Company (NDQ-MSEX)	\$ 0.80	2.6%	2.8%	3.1%
SJW Corporation (NYSE-SJW)	\$ 0.81	2.2%	2.4%	2.6%
York Water Company (NDQ-YORW)	\$ 0.62	2.1%	2.3%	2.5%
Mean		2.3%	2.4%	2.6%
Median		2.3%	2.4%	2.6%

Data Sources: <http://quote.yahoo.com>, April 15, 2016.Panel B  
Gas Proxy Group

Company	Annual Dividend	Dividend Yield 30 Day	Dividend Yield 90 Day	Dividend Yield 180 Day
Atmos Energy Corporation (NYSE-ATO)	\$ 1.68	2.3%	2.5%	2.7%
Chesapeake Utilities Corporation (NYSE-CPK)	\$ 1.15	1.9%	1.9%	2.1%
Laclede Group, Inc. (NYSE-LG)	\$ 1.96	2.9%	3.1%	3.4%
New Jersey Resources Corp. (NYSE-NJR)	\$ 0.96	2.7%	2.8%	3.1%
Northwest Natural Gas Co. (NYSE-NWN)	\$ 1.87	3.6%	3.7%	3.9%
South Jersey Industries, Inc. (NYSE-SJI)	\$ 1.05	3.8%	4.2%	4.3%
Southwest Gas Corporation (NYSE-SWX)	\$ 1.80	2.8%	3.0%	3.1%
WGL Holdings, Inc. (NYSE-WGL)	\$ 1.95	2.8%	3.0%	3.2%
Mean		2.9%	3.0%	3.2%
Median		2.8%	3.0%	3.2%

Data Sources: <http://quote.yahoo.com>, April 15, 2016.

## Exhibit JRW-10

**Kentucky-American Water Company**  
**DCF Equity Cost Growth Rate Measures**  
*Value Line* Historic Growth Rates

**Panel A**  
**Water Proxy Group**

Company	<i>Value Line</i> Historic Growth					
	Past 10 Years			Past 5 Years		
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
American States Water Co. (NYSE-AWR)	12.0%	6.5%	5.5%	12.0%	10.0%	6.0%
American Water Works Co., Inc. (NYSE-AWK)				13.0%	10.0%	2.5%
Aqua America, Inc. (NYSE-WTR)	8.5%	8.0%	7.0%	13.0%	7.5%	7.0%
California Water Service Group (NYSE-CWT)	5.0%	1.5%	5.5%	4.0%	2.0%	5.0%
Connecticut Water Service, Inc. (NDQ-CTWS)	4.0%	2.0%	6.5%	9.0%	2.0%	9.5%
Middlesex Water Company (NDQ-MSEX)	5.0%	1.5%	4.5%	5.5%	1.5%	3.0%
SJW Corporation (NYSE-SJW)	6.5%	4.0%	6.0%	15.0%	2.5%	5.0%
York Water Company (NDQ-YORW)	5.5%	4.0%	6.5%	6.0%	2.5%	4.5%
Mean	6.6%	3.9%	5.9%	9.7%	4.8%	5.3%
Median	5.5%	4.0%	6.0%	10.5%	2.5%	5.0%
Data Source: <i>Value Line Investment Survey, 2013.</i>				Average of Median Figures = 5.6%		

**Panel B**  
**Gas Proxy Group**

Company	<i>Value Line</i> Historic Growth					
	Past 10 Years			Past 5 Years		
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
Atmos Energy Corporation (NYSE-ATO)	5.0%	1.5%	6.0%	5.0%	2.0%	4.5%
Chesapeake Utilities Corporation (NYSE-CPK)	8.5%	3.0%	8.5%	10.5%	4.5%	8.5%
Laclede Group, Inc. (NYSE-LG)	4.0%	2.5%	7.0%	-2.0%	3.0%	7.5%
New Jersey Resources (NYSE-NJR)	6.5%	6.5%	8.0%	5.5%	8.5%	4.5%
Northwest Natural Gas Co. (NYSE-NWN)	2.5%	3.5%	3.5%	-4.0%	3.5%	3.0%
South Jersey Industries, Inc. (NYSE-SJI)	8.0%	8.5%	8.5%	6.5%	10.0%	8.0%
Southwest Gas Corporation (NYSE-SWX)	8.5%	5.0%	5.0%	11.0%	8.0%	5.0%
WGL Holdings, Inc. (NYSE-WGL)	3.5%	2.5%	4.0%	1.5%	3.0%	3.0%
Mean	5.8%	4.1%	6.3%	4.3%	5.3%	5.5%
Median	5.8%	3.3%	6.5%	5.3%	4.0%	4.8%
Data Source: <i>Value Line Investment Survey, 2013.</i>				Average of Median Figures = 4.9%		

Exhibit JRW-10

Kentucky-American Water Company  
 DCF Equity Cost Growth Rate Measures  
 Value Line Projected Growth Rates

Panel A  
 Water Proxy Group

Company	Value Line			Value Line		
	Projected Growth			Sustainable Growth		
	Est'd. '13-'15 to '19-'21			Return on Equity	Retention Rate	Sustainable Growth
Earnings	Dividends	Book Value				
American States Water Co. (NYSE-AWR)	6.0%	7.0%	4.0%	13.5%	44.0%	5.9%
American Water Works Co., Inc. (NYSE-AWK)	8.0%	10.5%	4.0%	10.5%	45.0%	4.7%
Aqua America, Inc. (NYSE-WTR)	7.0%	9.0%	6.0%	13.5%	40.0%	5.4%
California Water Service Group (NYSE-CWT)	6.0%	6.5%	4.0%	10.0%	38.0%	3.8%
Connecticut Water Service, Inc. (NDQ-CTWS)	4.5%	4.5%	2.5%	10.5%	43.0%	4.5%
Middlesex Water Company (NDQ-MSEX)	3.5%	3.0%	4.0%	9.0%	35.0%	3.2%
SJW Corporation (NYSE-SJW)	1.5%	6.0%	6.0%	9.0%	40.0%	3.6%
York Water Company (NDQ-YORW)	6.0%	6.5%	3.5%	12.5%	32.0%	4.0%
Mean	5.3%	6.6%	4.3%	11.1%	39.6%	4.4%
Median	6.0%	6.5%	4.0%	10.5%	40.0%	4.3%
Average of Median Figures =	5.5%				Median =	4.3%

Data Source: Value Line Investment Survey, 2016.

Panel B  
 Gas Proxy Group

Company	Value Line			Value Line		
	Projected Growth			Sustainable Growth		
	Est'd. '13-'15 to '19-'21			Return on Equity	Retention Rate	Internal Growth
Earnings	Dividends	Book Value				
Atmos Energy Corporation (NYSE-ATO)	6.0%	6.5%	3.5%	11.0%	46.0%	5.1%
Chesapeake Utilities Corporation (NYSE-CPK)	8.5%	6.0%	7.0%	13.0%	62.0%	8.1%
Laclede Group, Inc. (NYSE-LG)	9.0%	3.5%	4.5%	9.5%	48.0%	4.6%
New Jersey Resources (NYSE-NJR)	1.5%	3.0%	6.5%	11.5%	47.0%	5.4%
Northwest Natural Gas Co. (NYSE-NWN)	5.0%	1.5%	3.5%	9.0%	35.0%	3.2%
South Jersey Industries, Inc. (NYSE-SJI)	5.5%	6.5%	5.5%	11.5%	36.0%	4.1%
Southwest Gas Corporation (NYSE-SWX)	7.0%	7.5%	3.0%	13.0%	52.0%	6.8%
WGL Holdings, Inc. (NYSE-WGL)	5.0%	2.5%	4.5%	11.0%	43.0%	4.7%
Mean	5.9%	4.6%	4.8%	11.2%	46.1%	5.2%
Median	5.8%	4.8%	4.5%	11.3%	46.5%	4.9%
Average of Median Figures =	5.0%				Median =	4.9%

Data Source: Value Line Investment Survey, 2016.

Exhibit JRW-10

Kentucky-American Water Company  
 DCF Equity Cost Growth Rate Measures  
 Analysts Projected EPS Growth Rate Estimates

Panel A  
 Water Proxy Group

Company	Yahoo	Reuters	Zack's	Average
American States Water Co. (NYSE-AWR)	3.9%	3.9%	3.9%	3.9%
American Water Works Co., Inc. (NYSE-AWK)	7.6%	7.6%	7.4%	7.5%
Aqua America, Inc. (NYSE-WTR)	5.9%	5.9%	6.2%	6.0%
California Water Service Group (NYSE-CWT)	9.1%	9.1%	9.1%	9.1%
Connecticut Water Service, Inc. (NDQ-CTWS)	5.0%	5.0%	5.0%	5.0%
Middlesex Water Company (NDQ-MSEX)	2.7%	NA	NA	2.7%
SJW Corporation (NYSE-SJW)	14.0%	NA	NA	14.0%
York Water Company (NDQ-YORW)	4.9%	NA	NA	4.9%
Mean	6.6%	6.3%	6.3%	6.6%
Median	5.4%	5.9%	6.2%	5.5%

Data Sources: www.reuters.com, www.zacks.com, http://quote.yahoo.com, April 15, 2016

Panel B  
 Gas Proxy Group

Company	Yahoo	Reuters	Zack's	Average
Atmos Energy Corporation (NYSE-ATO)	6.4%	6.4%	6.4%	6.4%
Chesapeake Utilities Corporation (NYSE-CPK)	3.0%	NA	NA	3.0%
Laclede Group, Inc. (NYSE-LG)	4.7%	4.4%	4.8%	4.6%
New Jersey Resources (NYSE-NJR)	6.5%	NA	6.5%	6.5%
Northwest Natural Gas Co. (NYSE-NWN)	4.0%	NA	4.0%	4.0%
South Jersey Industries, Inc. (NYSE-SJI)	6.0%	NA	6.0%	6.0%
Southwest Gas Corporation (NYSE-SWX)	4.0%	NA	5.0%	4.5%
WGL Holdings, Inc. (NYSE-WGL)	8.0%	NA	7.3%	7.7%
Mean	5.3%	5.4%	5.7%	5.3%
Median	5.4%	5.4%	6.0%	5.3%

Data Sources: www.reuters.com, www.zacks.com, http://quote.yahoo.com, April 15, 2016

Exhibit JRW-10

Kentucky-American Water Company  
 DCF Growth Rate Indicators

Summary Growth Rates

Growth Rate Indicator	Water Proxy Group	Gas Proxy Group
Historic <i>Value Line</i> Growth in EPS, DPS, and BVPS	5.6%	4.9%
Projected <i>Value Line</i> Growth in EPS, DPS, and BVPS	5.5%	5.0%
Sustainable Growth ROE * Retention Rate	4.3%	4.9%
Projected EPS Growth from Yahoo, Zacks, and Reuters - Mean/Median	6.6%/5.5%	5.3%/5.3%

**Exhibit JRW-11**

**Kentucky-American Water Company  
Capital Asset Pricing Model**

**Panel A  
Water Proxy Group**

<b>Risk-Free Interest Rate</b>	<b>4.00%</b>
<b>Beta*</b>	<b>0.73</b>
<b><u>Ex Ante Equity Risk Premium**</u></b>	<b><u>5.50%</u></b>
<b>CAPM Cost of Equity</b>	<b>8.0%</b>

\* See page 3 of Exhibit JRW-11

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

**Panel B  
Gas Proxy Group**

<b>Risk-Free Interest Rate</b>	<b>4.00%</b>
<b>Beta*</b>	<b>0.80</b>
<b><u>Ex Ante Equity Risk Premium**</u></b>	<b><u>5.50%</u></b>
<b>CAPM Cost of Equity</b>	<b>8.4%</b>

\* See page 3 of Exhibit JRW-11

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

Exhibit JRW-11

Thirty-Year U.S. Treasury Yields  
January 2000-Present



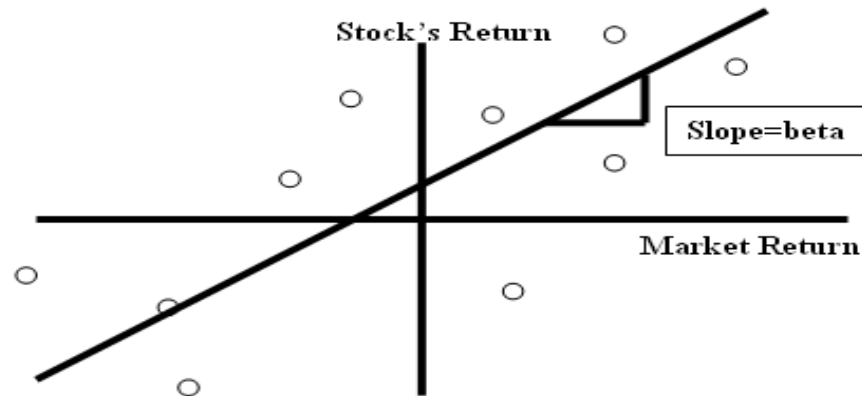
' Source: Federal Reserve Bank of St. Louis, FRED Database.

## Exhibit JRW-11

## Panel A

## Betas

## Calculation of Beta



## Water Proxy Group

Company	Beta
American States Water Co. (NYSE-AWR)	0.75
American Water Works Co., Inc. (NYSE-AWK)	0.70
Aqua America, Inc. (NYSE-WTR)	0.75
California Water Service Group (NYSE-CWT)	0.75
Connecticut Water Service, Inc. (NDQ-CTWS)	0.60
Middlesex Water Company (NDQ-MSEX)	0.70
SJW Corporation (NYSE-SJW)	0.75
York Water Company (NDQ-YORW)	0.70
Mean	0.71
Median	0.73

Data Source: *Value Line Investment Survey*, 2016.

## Gas Proxy Group

Company	Beta
Atmos Energy Corporation (NYSE-ATO)	0.80
Chesapeake Utilities Corporation (NYSE-CPK)	0.65
Laclede Group, Inc. (NYSE-LG)	0.70
New Jersey Resources Corp. (NYSE-NJR)	0.80
Northwest Natural Gas Co. (NYSE-NWN)	0.65
South Jersey Industries, Inc. (NYSE-SJI)	0.85
Southwest Gas Corporation (NYSE-SWX)	0.80
WGL Holdings, Inc. (NYSE-WGL)	0.80
Mean	0.76
Median	0.80

Data Source: *Value Line Investment Survey*, 2016.



**Exhibit JRW-11  
 Risk Premium Approaches**

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

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





**Authorized ROEs for Publicly-Held Water Companies**

	<b>Authorized ROE</b>	<b>Date</b>
<b>American States Water</b>	<b>9.43%</b>	<b>Jan-13</b>
<b>American Water Works</b>	<b>9.75%</b>	<b>Dec-12</b>
<b>Aqua America, Inc.</b>	<b>9.79%</b>	<b>May-14</b>
<b>Artesian Resources Corp.</b>	<b>10.00%</b>	<b>May-14</b>
<b>California Water Service Group</b>	<b>9.43%</b>	<b>Jan-13</b>
<b>Connecticut Water Services, Inc.</b>	<b>9.63%</b>	<b>Aug-14</b>
<b>Middlesex Water Company</b>	<b>9.75%</b>	<b>Mar-14</b>
<b>SJW Corp.</b>	<b>9.43%</b>	<b>Nov-11</b>
<b>York Water Company</b>	<b>NM</b>	
<b>Average</b>	<b>9.65%</b>	

Data Source: *AUS Utility Reports, April, 2016*

**Panel A**

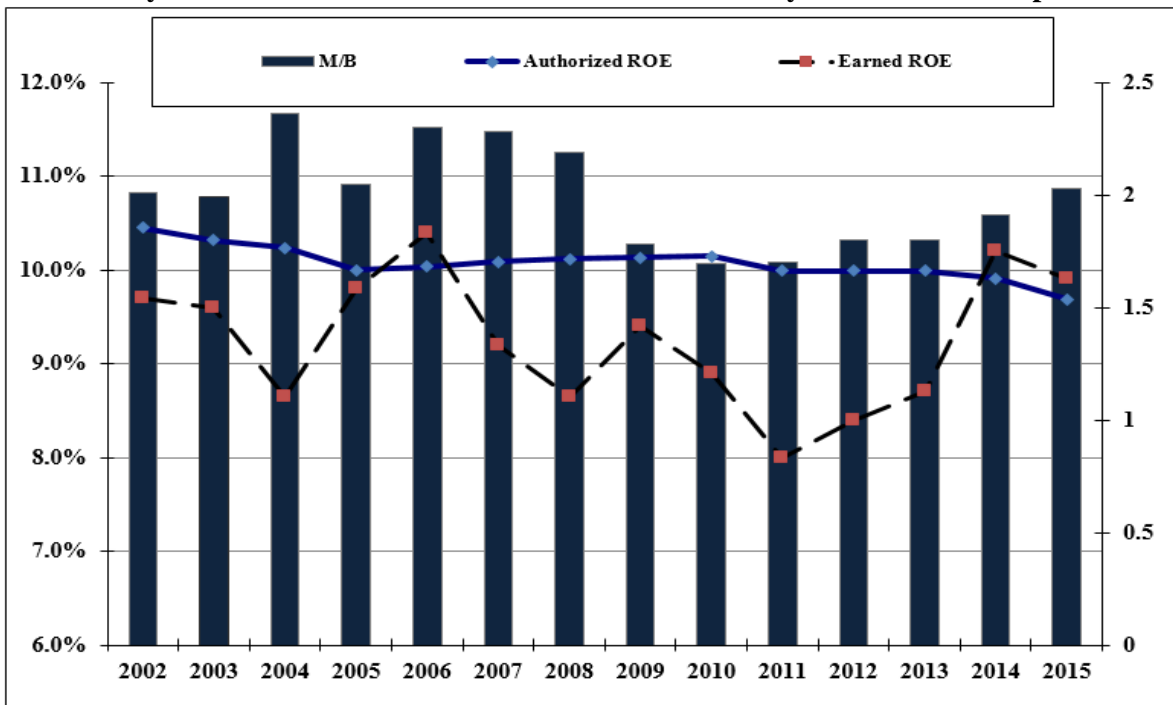
**Authorized and Earned ROEs and M/B Ratios for Publicly-Held Water Companies**

	Authorized	Earned	
Year	ROE	ROE	M/B
2002	10.45%	9.70%	2.01
2003	10.32%	9.60%	1.99
2004	10.24%	8.65%	2.36
2005	10.00%	9.80%	2.05
2006	10.04%	10.40%	2.30
2007	10.09%	9.20%	2.29
2008	10.12%	8.65%	2.19
2009	10.13%	9.40%	1.78
2010	10.15%	8.90%	1.70
2011	9.99%	8.00%	1.70
2012	9.99%	8.40%	1.80
2013	9.99%	8.70%	1.80
2014	9.91%	10.20%	1.91
2015	9.69%	9.90%	2.03

Data Source: AUS Utilities Report, Value Line Investment Survey

**Panel B**

**Summary of Authorized ROEs and M/B Ratios for Publicly-Held Water Companies**



Data Source: AUS Utilities Report, Value Line Investment Survey

**Exhibit JRW-13**

**Cost of Capital**

<b>Capital Source</b>	<b>Capitalization Ratio</b>	<b>Cost Rate</b>	<b>Weighted Cost Rate</b>
Short-Term Debt	1.49%	1.37%	0.02%
Long-Term Debt	50.59%	6.05%	3.06%
Preferred Stock	0.56%	8.52%	0.05%
Common Equity	47.36%	10.75%	5.09%
<b>Total Capital</b>	<b>100.00%</b>		<b>8.22%</b>

**Panel A**

**Dr. Vander Weide's Equity Cost Rate Approaches and Results**

Approach	Cost of Equity
DCF - Water	9.50%
DCF - LDC	10.10%
Ex Ante Risk Premium	11.20%
Ex Post Risk Premium	10.60%
CAPM - Historical	10.70%
CAPM - DCF Based	10.10%
Equity Cost Rate Range	9.5%-11.2%

**Panel B**

**Dr. Vander Weide's DCF - Water Results**

	Utility Proxy Group
Average Adjusted Dividend Yield*	3.24%
Growth**	6.26%
DCF Result	9.50%

\* Includes adjustments for quarterly payments and flotation costs

\*\* Expected EPS Growth from IBES and *Value Line*

**Dr. Vander Weide's DCF - Gas Results**

	Utility Proxy Group
Average Adjusted Dividend Yield*	4.04%
Growth**	6.06%
DCF Result	10.10%

\* Includes adjustments for quarterly payments and flotation costs

\*\* Expected EPS Growth from IBES and *Value Line*

**Panel C**

**Dr. Vander Weide's Ex Ante Risk Premium Results**

	Ex Ante Risk Premium
'A' Rated PU Yield	6.27%
Ex Ante Risk Premium*	4.93%
Equity Cost Rate	11.20%

\* Flotation Cost included in risk premium

**Panel D**

**Dr. Vander Weide's Ex Post Risk Premium Results**

	Ex Ante Risk Premium
Projected 'A' Rated PU Yield	6.27%
Historic Risk Premium*	4.23%
Equity Cost Rate	10.50%
Flotation Cost Adjustment	0.15%
Adjusted CAPM Result	10.65%

\* Midpoint of 3.9% and 4.5%

**Panel E**

**Dr. Vander Weide's Historical CAPM Results**

	Utility Proxy Group
Risk-Free Rate	4.24%
Beta	0.73
Equity Risk Premium	7.00%
CAPM Result	9.35%
Flotation Cost Adjustment	0.15%
Adjusted CAPM Result	9.50%
Size Adjustment	2.40%
Size Adjusted CAPM Result*	11.90%
Average CAPM Result	10.70%

\* Includes size adjustment

**Panel F**

**Dr. Vander Weide's Expected CAPM Results**

	Utility Proxy Group
Risk-Free Rate	4.24%
Beta	0.73
Equity Risk Premium	7.76%
CAPM Result	9.90%
Flotation Cost Adjustment	0.15%
Adjusted CAPM Result	10.05%

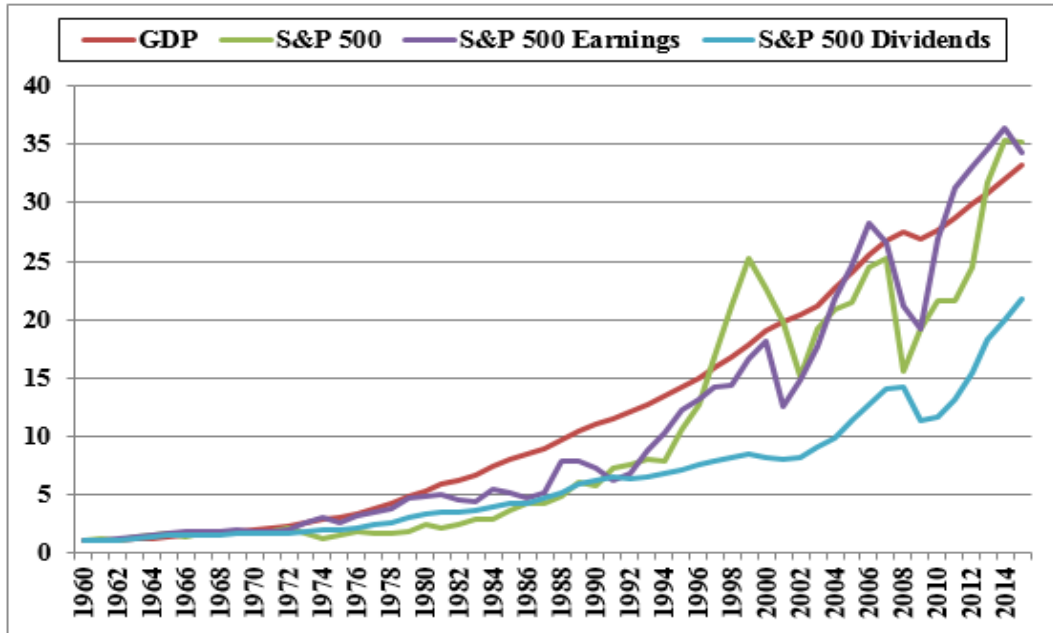
**Growth Rates**  
**GDP, S&P 500 Price, EPS, and DPS**

	<b>GDP</b>	<b>S&amp;P 500</b>	<b>S&amp;P 500 Earnings</b>	<b>S&amp;P 500 Dividends</b>	
1960	535.1	58.11	3.10	1.98	
1961	547.6	71.55	3.37	2.04	
1962	586.9	63.10	3.67	2.15	
1963	619.3	75.02	4.13	2.35	
1964	662.9	84.75	4.76	2.58	
1965	710.7	92.43	5.30	2.83	
1966	781.9	80.33	5.41	2.88	
1967	838.2	96.47	5.46	2.98	
1968	899.3	103.86	5.72	3.04	
1969	982.3	92.06	6.10	3.24	
1970	1049.1	92.15	5.51	3.19	
1971	1119.3	102.09	5.57	3.16	
1972	1219.5	118.05	6.17	3.19	
1973	1356.0	97.55	7.96	3.61	
1974	1486.2	68.56	9.35	3.72	
1975	1610.6	90.19	7.71	3.73	
1976	1790.3	107.46	9.75	4.22	
1977	2028.4	95.10	10.87	4.86	
1978	2278.2	96.11	11.64	5.18	
1979	2570.0	107.94	14.55	5.97	
1980	2796.8	135.76	14.99	6.44	
1981	3138.4	122.55	15.18	6.83	
1982	3313.9	140.64	13.82	6.93	
1983	3541.1	164.93	13.29	7.12	
1984	3952.8	167.24	16.84	7.83	
1985	4270.4	211.28	15.68	8.20	
1986	4536.1	242.17	14.43	8.19	
1987	4781.9	247.08	16.04	9.17	
1988	5155.1	277.72	24.12	10.22	
1989	5570.0	353.40	24.32	11.73	
1990	5914.6	330.22	22.65	12.35	
1991	6110.1	417.09	19.30	12.97	
1992	6434.7	435.71	20.87	12.64	
1993	6794.9	466.45	26.90	12.69	
1994	7197.8	459.27	31.75	13.36	
1995	7583.4	615.93	37.70	14.17	
1996	7978.3	740.74	40.63	14.89	
1997	8483.2	970.43	44.09	15.52	
1998	8954.8	1229.23	44.27	16.20	
1999	9510.5	1469.25	51.68	16.71	
2000	10148.2	1320.28	56.13	16.27	
2001	10564.6	1148.09	38.85	15.74	
2002	10876.9	879.82	46.04	16.08	
2003	11332.4	1111.91	54.69	17.88	
2004	12088.6	1211.92	67.68	19.41	
2005	12888.9	1248.29	76.45	22.38	
2006	13684.7	1418.30	87.72	25.05	
2007	14322.9	1468.36	82.54	27.73	
2008	14752.4	903.25	65.39	28.05	
2009	14414.6	1115.10	59.65	22.31	
2010	14798.5	1257.64	83.66	23.12	
2011	15379.2	1257.60	97.05	26.02	<b>Average</b>
2012	16027.2	1426.19	102.47	30.44	
2013	16498.1	1848.36	107.45	36.28	
2014	17183.5	2058.90	113.01	39.44	
2015	17803.4	2043.94	106.32	43.16	
<b>Growth Rates</b>	<b>6.58</b>	<b>6.69</b>	<b>6.64</b>	<b>5.76</b>	<b>6.42</b>

Data Sources: GDPA - <http://research.stlouisfed.org/fred2/series/GDPA/downloaddata>  
 S&P 500, EPS and DPS - <http://pages.stern.nyu.edu/~adamodar/>



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



	GDP	S&P 500	S&P 500 EPS	S&P 500 DPS
Growth Rates	6.58%	6.69%	6.64%	5.76%

**Panel A**  
**Historic GDP Growth Rates**

<b>10-Year Average</b>	<b>3.28%</b>
<b>20-Year Average</b>	<b>4.36%</b>
<b>30-Year Average</b>	<b>4.87%</b>
<b>40-Year Average</b>	<b>6.19%</b>
<b>50-Year Average</b>	<b>6.65%</b>

Calculated using GDP data on Page 1 of Exhibit JRW-14

**Panel B**  
**Projected GDP Growth Rates**

	<b>Time Frame</b>	<b>Projected Nominal GDP Growth Rate</b>
<b>Congressional Budget Office</b>	<b>2015-2040</b>	<b>4.3%</b>
<b>Survey of Financial Forecasters</b>	<b>Ten Year</b>	<b>4.4%</b>
<b>Social Security Administration</b>	<b>2015-2090</b>	<b>4.5%</b>
<b>Energy Information Administration</b>	<b>2013-2040</b>	<b>4.2%</b>

**Sources:**

<http://www.cbo.gov/topics/budget/budget-and-economic-outlook>

[http://www.eia.gov/forecasts/aeo/tables\\_ref.cfm](http://www.eia.gov/forecasts/aeo/tables_ref.cfm) Table 20

<http://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/2016/>

[http://www.ssa.gov/oact/tr/2015/X1\\_trLOT.html](http://www.ssa.gov/oact/tr/2015/X1_trLOT.html)