

Missouri Gas Energy
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to the Financial Supporting Schedules
of Frank J. Hanley

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Missouri Gas Energy
Summary of Cost of Capital and Fair Rate of Return
Based on a Hypothetical Capital Structure

Type of Capital	Ratios (1)	Cost Rate	Weighted Cost Rate
Long-Term Debt	41.06%	6.080% (2)	2.496%
Short-Term Debt	10.94%	4.367% (3)	0.478%
Total Debt	52.00%		
Common Equity	48.00%	10.500% (4)	5.040%
Total	100.00%		8.014%

Based on the Actual Capital Structure of Southern Union Company at December 31, 2008

Type of Capital	Ratios (5)	Cost Rate	Weighted Cost Rate
Long-Term Debt	56.16%	6.258% (5)	3.514%
Short-Term Debt	3.26%	6.117% (6)	0.199%
Preferred Equity	1.92%	7.758% (5)	0.149%
Common Equity	38.66%	13.900% (4)	5.374%
Total	100.00%		9.236%

- (1) The 52.00% total debt ratio has been allocated between the long-term and short-term debt based upon the average long-term and short-term debt ratios of the proxy group of nine Value Line natural gas distribution companies for the five quarters ended December 31, 2008 as shown on Page 4 of Schedule FJH-5. The allocation is derived as follows:

Average for the Five Quarters ended December 31, 2008	Proxy Group of Nine Value Line Natural Gas Distribution Companies	Percent of Total Debt
Long-Term Debt	40.84 %	78.96 %
Short-Term Debt	10.88 %	21.04 %
Total Debt	51.73 %	100.00 %

Therefore, the hypothetical long-term debt ratio of 41.06% is derived as 78.96% * 52.00%, and the short-term debt ratio of 10.94% is derived as 21.04% * 52.00%.

- (2) Derived on Schedule FJH-9.
(3) Based on 300 basis points plus an 50 basis points upfront cost above the Blue Chip six-quarter projected average beginning with the third quarter of 2009 and ending with the fourth quarter of 2010 of the 3-month LIBOR rate of 0.8667% (from Page 40 of this Schedule). The fee schedule is based on a Calyon report to SUG on August 20, 2009, an excerpt from which is provided as Schedule FJH-27.
(4) Based upon informed judgment from the entire study, the principal results of which are summarized on Page 2 of this Schedule.
(5) Provided by Southern Union Company.
(6) Based on 425 basis points plus an 100 basis points upfront cost above the six-quarter projected average beginning with the third quarter of 2009 and ending with the fourth quarter of 2010 of the 3-month LIBOR rate of 0.8667% (from Page 40 of this Schedule). The fee schedule is based on a Calyon report to SUG on August 20, 2009, an excerpt of which is provided as Schedule FJH-27.

Missouri Gas Energy
Brief Summary of Common Equity Cost Rate

<u>No.</u>	<u>Principal Methods</u>	<u>Proxy Group of Nine Value Line Natural Gas Distribution Companies</u>	<u>Southern Union Company</u>
1.	Discounted Cash Flow Model (DCF) (1)	9.20 %	10.67 %
2.	Risk Premium Model (RPM) (2)	10.94	12.63
3.	Capital Asset Pricing Model (CAPM) (3)	10.83	13.93
4.	Comparable Earnings Model (CEM) (4)	NMF	16.50
5.	Indicated Common Equity Cost Rate before Adjustment for Business Risk	10.32 % (5)	13.59 % (6)
6.	Business Risk Adjustment (7)	<u>0.19</u>	<u>0.32</u>
7.	Indicated Common Equity Cost Rate	<u>10.51 %</u>	<u>13.90 %</u>
8.	Recommended Common Equity Cost Rate	<u>10.50 %</u>	<u>13.90 %</u>

- Notes: (1) From Page 21 of this Schedule.
(2) From page 34 of this Schedule.
(3) From page 49 of this Schedule.
(4) The CEM results are on Pages 52 and 53 of this Schedule. Mr. Hanley considers the 21.00% cost rate for the proxy group of nine Value Line natural gas distribution companies aberrant relative to the other cost of equity models shown on lines 1, 2, and 3 and as such it is a not meaningful figure (NMF) in this particular study.
(5) Equals the average of the three reasonable cost of common equity models. Since the range of the results is considerably less and the cost rates from the risk premium and CAPM models are much closer to each other than in Mr. Hanley's original analysis, he decided that it was necessary to give all models equal weight in this instance.
(6) Mid-point of the range of common equity cost rates produced by the cost of common equity models. For example, the indicated common equity cost rate for Southern Union Company, 13.59, is the mid-point of the range of its cost of common equity results which is 10.67% - 16.50%. If the results of the cost of common equity models were averaged instead of taking the midpoint, the indicated common equity cost rate would be 13.49%.
(7) Business risk adjustment to reflect Missouri Gas Energy's greater business risk due to its small size relative to the proxy group as explained in Mr. Hanley's direct testimony at pages 9-13 inclusive. Adjustments are equal to only one-fourth of the quantified differences shown on Page 3, Column 4, Lines 2 and 3 respectively.

Missouri Gas Energy
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

Line No.	<u>1</u>		<u>2</u>	<u>3</u>	<u>4</u>
	Market Capitalization on September 9, 2009 (1) (millions) (times larger)		Applicable Decile of the NYSE/AMEX/NASDAQ (2)	Applicable Size Premium (3)	Spread from Applicable Size Premium for (4)
1.	<u>Missouri Gas Energy</u>				
a.	<u>Based Upon the Proxy Group of Nine Value Line Natural Gas Distribution Companies</u>		8	2.35%	
b.	<u>Based on Southern Union Company</u>		8 - 9	2.53%	
2.	<u>Proxy Group of Nine Value Line Natural Gas Distribution Companies</u>		5 - 6	1.59%	0.76%
3.	<u>Southern Union Company</u>		4 - 5	1.26%	1.27%

(A)	(B)	(C)	(D)	(E)
Decile	Number of Companies (millions)	Recent Total Market Capitalization * (millions)	Recent Average Market Capitalization (millions)	Size Premium (Return in Excess of CAPM)*
1 - Largest	165	\$ 8,530,554.000	\$ 51,700.327	-0.36%
2	175	1,682,132.000	\$ 9,612.183	0.62%
3	183	804,806.000	\$ 4,397.847	0.74%
4	189	540,900.000	\$ 2,861.905	0.97%
5	211	409,557.000	\$ 1,941.028	1.54%
6	243	342,820.000	\$ 1,410.782	1.63%
7	319	283,476.000	\$ 888.639	1.62%
8	393	241,137.000	\$ 613.580	2.35%
9	603	181,013.000	\$ 300.187	2.71%
10 - Smallest	1626	12,878.000	\$ 7.920	5.81%

*From pages 7 and 11 of this Schedule

Notes:

- (1) From Page 4 of this Schedule.
- (2) Gleaned from Column (D) below on this page. The appropriate decile (Column (A)) corresponds to the market capitalization of the proxy group, which is found in Column 1.
- (3) Corresponding risk premium to the decile is provided on Column (E) on the bottom of this page.
- (4) Line No. 1a Column 3 – Line No. 2 Column 3 and Line No. 1b, Column 3 – Line No. 3 of Column 3 etc. For example, the 0.76% in Column 4, Line No. 2 is derived as follows $0.76\% = 2.35\% - 1.59\%$.

Missouri Gas Energy
Market Capitalization of Missouri Gas Energy
the Proxy Group of Nine Value Line Natural Gas Distribution Companies,
and Southern Union Company

		1	2	3	4	5	6
Company	Exchange	Common Stock Shares Outstanding at 2008 Fiscal Year End (millions)	Book Value per Share at 2008 Fiscal Year End (1)	Total Common Equity at 2008 Fiscal Year End (millions)	Closing Stock Market Price on September 9, 2009	Market-to-Book Ratio on September 9, 2009 (2)	Market Capitalization on September 9, 2009 (3) (millions)
Missouri Gas Energy		NA	NA	\$ 402.324 (4)	NA		
Based Upon the Proxy Group of Nine Value Line Natural Gas Distribution Companies						164.0 % (5)	\$ 659.811 (6)
Based on Southern Union Company						109.0 % (7)	\$ 438.533 (8)
Proxy Group of Nine Value Line Natural Gas Distribution Companies							
AGL Resources Inc.	NYSE	\$ 76.900	\$ 21.482	\$ 1,652.000	\$ 33.820	157.4 %	\$ 2,600.758
Almos Energy Corp.	NYSE	90.815	22.601	2,052.492	27.670	122.4	2,512.842
The Laclede Group, Inc.	NYSE	21.993	22.119	486.479	32.910	148.8	723.805
New Jersey Resources Corp.	NYSE	43.439	16.735	726.958	36.320	217.0	1,577.716
Northwest Natural Gas Co.	NYSE	26.594	23.628	628.373	42.100	178.2	1,119.607
Piedmont Natural Gas Co., Inc.	NYSE	73.246	12.113	887.244	23.600	194.8	1,728.606
South Jersey Industries, Inc.	NYSE	29.729	17.332	515.254	33.840	195.2	1,006.019
Southwest Gas Corporation	NYSE	44.192	23.485	1,037.841	24.280	103.4	1,072.970
WGL Holdings, Inc.	NYSE	49.917	20.886	1,047.564	33.240	158.4	1,659.237
Average		50.758	\$ 20.053	\$ 1,003.801	\$ 31.976	164.0 %	\$ 1,555.729
Southern Union Company	NYSE	125.122	\$ 18.006	\$ 2,252.952	\$ 19.630	109.0 %	\$ 2,456.145

NA = Not Available

Notes: (1) Column 3 / Column 1.

(2) Column 4 / Column 2.

(3) Column 5 * Column 3.

(4) From MGE's 2008 Annual Report to the Public Service Commission of Missouri.

(5) The market-to-book ratio of Missouri Gas Energy on September 9, 2009 is assumed to be equal to the average market-to-book ratio at September 9, 2009 of the Proxy Group of Nine Value Line Natural Gas Distribution Companies.

(6) Missouri Gas Energy's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio at September 9, 2009 of the Proxy Group of Nine Value Line Natural Gas Distribution Companies, 164.0%, and Missouri Gas Energy's market capitalization on September 9, 2009 would therefore have been \$659.811 million. (\$659.811 = \$402.324 * 164.0%).

(7) The market-to-book ratio of Missouri Gas Energy on September 9, 2009 is assumed to be equal to the average market-to-book ratio at September 9, 2009 of Southern Union Company.

(8) Missouri Gas Energy's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio at September 9, 2009 of Southern Union Company, 109.0%, and Missouri Gas Energy's market capitalization on September 9, 2009 would therefore have been \$438.533 million. (\$438.533 = \$402.324 * 109.0%).

Source of Information: 2008 Annual Forms 10K
yahoo.finance.com

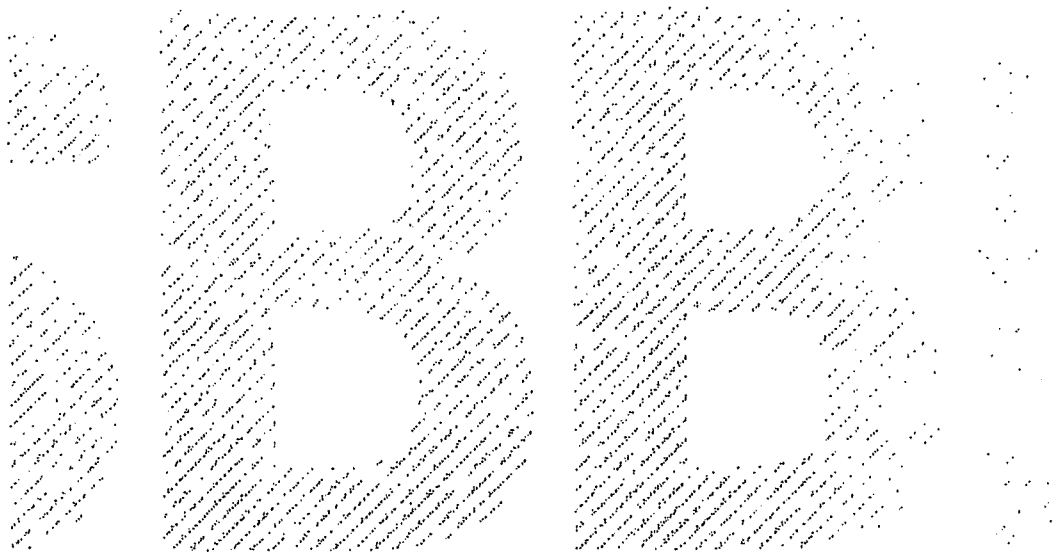
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2009 Valuation Yearbook

Market Results for

Stocks, Bonds, Bills, and Inflation

1926–2008



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Chapter 7

Firm Size and Return

The Firm Size Phenomenon

One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones. Many studies have looked at the effect of firm size on return.¹ In this chapter, the returns across the entire range of firm size are examined.

Size and Liquidity

Capitalization is not necessarily the underlying cause of the higher returns for smaller companies. While smaller companies are usually less liquid, with fewer shares traded on any given day, not all companies of the same size have the same liquidity. Stocks that are more liquid have higher valuations for the same cash flows because they have a lower cost of capital and commensurately lower returns on average. Stocks that are less liquid have a higher cost of capital and higher returns on average.²

While it would be very useful to estimate the equity cost of capital of companies that are not publicly traded, there is not a direct measure of liquidity for these companies because there are no public trades. Thus, there is usually no share turnover, no bid/ask spreads, etc. in which to measure liquidity. Even though liquidity is not directly observable, capitalization is; thus the size premium can serve as a partial measure of the increased cost of capital of a less liquid stock.

Size premiums presented in this book are measured from publicly traded companies of various sizes and therefore do not represent the full cost of capital for non-traded companies. The valuation for a non-publicly traded company should also reflect a discount for the very fact that it is not traded. This would be an illiquidity discount and could be applied to the valuation directly, or alternatively reflected as an illiquidity premium in the cost of capital.

This chapter does not tell you how to estimate this incremental illiquidity valuation discount (or cost of capital

illiquidity premium) that is not covered by the size premium. At the end of this chapter, we show some empirical results on the impact of liquidity on stock returns.

Construction of the Decile Portfolios

The portfolios used in this chapter are those created by the Center for Research in Security Prices (CRSP) at the University of Chicago's Graduate School of Business. CRSP has refined the methodology of creating size-based portfolios and has applied this methodology to the entire universe of NYSE/AMEX/NASDAQ-listed securities going back to 1926.

The New York Stock Exchange universe excludes closed-end mutual funds, preferred stocks, real estate investment trusts, foreign stocks, American Depository Receipts, unit investment trusts, and Americus Trusts. All companies on the NYSE are ranked by the combined market capitalization of their eligible equity securities. The companies are then split into 10 equally populated groups, or deciles. Eligible companies traded on the American Stock Exchange (AMEX) and the Nasdaq National Market (NASDAQ) are then assigned to the appropriate deciles according to their capitalization in relation to the NYSE breakpoints. The portfolios are rebalanced, using closing prices for the last trading day of March, June, September, and December. Securities added during the quarter are assigned to the appropriate portfolio when two consecutive month-end prices are available. If the final NYSE price of a security that becomes delisted is a month-end price, then that month's return is included in the quarterly return of the security's portfolio. When a month-end NYSE price is missing, the month-end value of the security is derived from merger terms, quotations on regional exchanges, and other sources. If a month-end value still is not determined, the last available daily price is used.

Base security returns are monthly holding period returns. All distributions are added to the month-end prices, and appropriate price adjustments are made to account for stock splits and dividends. The return on a portfolio for one month is calculated as the weighted average of the returns for its individual stocks. Annual portfolio returns are calculated by compounding the monthly portfolio returns.

Table 7-1: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Bounds, Size, and Composition

Decile	Historical Average Percentage of Total Capitalization	Recent Number of Companies	Recent Decile Market Capitalization (In Thousands)	Recent Percentage of Total Capitalization
1-Largest	63.22	165	\$8,530,554	64.89
2	13.96	175	1,682,132	12.80
3	7.56	183	804,806	6.12
4	4.72	189	540,900	4.11
5	3.24	211	409,557	3.12
6	2.39	243	342,820	2.61
7	1.75	319	283,476	2.16
8	1.30	393	241,137	1.83
9	1.02	603	181,013	1.38
10-Smallest	0.83	1826	128,780	0.99
Mid-Cap 3-5	15.52	583	1,755,263	13.35
Low-Cap 6-8	5.44	955	867,434	6.60
Micro-Cap 9-10	1.85	2229	309,793	2.36

Data from 1926-2008. Source: Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2009 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

Historical average percentage of total capitalization shows the average, over the last 83 years, of the decile market values as a percentage of the total NYSE/AMEX/NASDAQ calculated each month. Number of companies in deciles, recent market capitalization of deciles and recent percentage of total capitalization are as of September 30, 2008.

Table 7-2: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ,
Largest Company and Its Market Capitalization by Decile

Decile	Recent Market Capitalization (In Thousands)	Company Name
1-Largest	465,651,938	Exxon Mobil Corp.
2	18,503,467	Waste Management Inc. Del
3	7,360,271	Reliant Energy Inc.
4	4,225,152	IMS Health Inc.
5	2,785,538	Family Dollar Stores Inc.
6	1,848,961	Bally Technologies Inc.
7	1,197,133	Temple Inland Inc.
8	753,448	Kronos Worldwide Inc.
9	453,254	SWS Group Inc.
10-Smallest	218,533	Beazer Homes USA Inc.

Source: Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2009 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.
Market capitalization and name of largest company in each decile as of September 30, 2008.

Size of the Deciles

Table 7-1 reveals that the top three deciles of the NYSE/AMEX/NASDAQ account for most of the total market value of its stocks. Nearly two-thirds of the market value is represented by the first decile, which currently consists of 165 stocks, while the smallest decile accounts for just over one percent of the market value. The data in the second column of Table 7-1 are averages across all 83 years. Of course, the proportion of market value represented by the various deciles varies from year to year.

Columns three and four give recent figures on the number of companies and their market capitalization, presenting a snapshot of the structure of the deciles near the end of 2008.

Table 7-2 gives the current breakpoints that define the composition of the NYSE/AMEX/NASDAQ size deciles. The largest company and its market capitalization are presented for each decile. Table 7-3 shows the historical breakpoints for each of the three size groupings presented throughout this chapter. Mid-cap stocks are defined here as the aggregate of deciles 3-5. Based on the most recent data (Table 7-2), companies within this mid-cap range have market capitalizations at or below \$7,360,271,000 but greater than \$1,848,961,000. Low-cap stocks include deciles 6-8 and currently include all companies in the NYSE/AMEX/NASDAQ with market capitalizations at or below \$1,848,961,000 but greater than \$453,254,000. Micro-cap stocks include deciles 9-10 and include companies with market capitalizations at or below \$453,254,000. The market capitalization of the smallest company included in the micro-capitalization group is currently \$1,575,000.

Presentation of the Decile Data

Summary statistics of annual returns of the 10 deciles over 1926-2008 are presented in Table 7-4. Note from this exhibit that both the average return and the total risk, or standard deviation of annual returns, tend to increase as one moves from the largest decile to the smallest. Furthermore, the serial correlations of returns are near zero for all but the smallest deciles. Serial correlations and their significance will be discussed in detail later in this chapter.

Table 7-3

Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Largest and Smallest Company by Size Group

1926-1965

Date (Sept 30)	Capitalization of Largest Company (in Thousands)			Capitalization of Smallest Company (in Thousands)		
	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10
1926	\$60,103	\$13,795	\$4,213	\$13,800	\$4,263	\$43
1927	64,620	14,491	4,415	14,522	4,450	65
1928	80,910	18,761	5,074	16,768	5,119	135
1929	103,054	24,328	5,862	24,480	5,873	118
1930	66,750	12,918	3,359	13,050	3,369	30
1931	42,607	8,142	1,927	8,222	1,944	15
1932	12,212	2,208	468	2,223	469	19
1933	40,298	7,210	1,830	7,280	1,875	120
1934	38,019	6,838	1,673	6,669	1,691	69
1935	37,631	6,549	1,350	6,605	1,383	38
1936	46,963	11,505	2,754	11,526	2,800	98
1937	51,750	13,635	3,539	13,793	3,563	68
1938	36,019	8,372	2,195	8,400	2,200	60
1939	35,409	7,478	1,819	7,500	1,854	75
1940	28,903	7,990	1,861	8,007	1,872	51
1941	30,362	8,316	2,086	8,336	2,087	72
1942	26,037	6,868	1,770	6,870	1,779	82
1943	42,721	11,403	3,847	11,475	3,903	395
1944	46,221	13,066	4,812	13,068	4,820	309
1945	65,125	17,325	6,413	17,575	6,428	225
1946	77,784	24,192	10,149	24,199	10,168	829
1947	57,830	17,719	6,373	17,735	6,380	508
1948	67,238	19,632	7,329	19,651	7,348	683
1949	56,082	14,549	5,037	14,577	5,108	379
1950	66,143	18,675	6,225	18,700	6,243	303
1951	82,517	22,750	7,598	22,860	7,600	568
1952	95,636	25,405	8,428	25,452	8,480	480
1953	98,218	25,340	8,156	25,374	8,168	459
1954	125,834	29,707	8,488	29,791	8,502	463
1955	170,829	41,445	12,366	41,681	12,444	553
1956	183,792	46,805	13,524	46,886	13,623	1,122
1957	194,300	47,858	13,844	48,509	13,848	925
1958	195,536	46,774	13,789	46,871	13,816	550
1959	256,283	64,110	19,548	64,221	19,701	1,804
1960	252,282	61,485	19,293	61,529	19,344	831
1961	296,261	77,983	23,562	77,996	23,613	2,455
1962	250,768	58,785	18,952	58,866	18,968	1,018
1963	308,903	71,846	23,927	71,971	24,056	296
1964	349,675	79,508	25,595	79,937	25,607	223
1965	365,675	84,600	28,483	85,065	28,543	250

Source: Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2009 Center for Research in Security Prices (CRSP®),
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Table 7-3 (Continued)

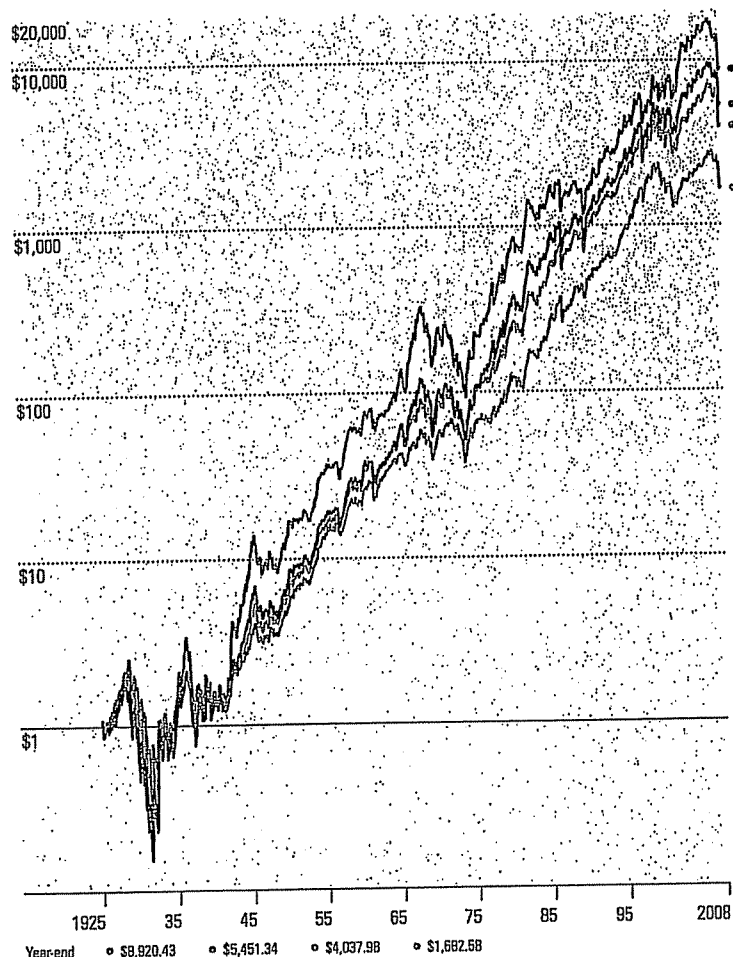
Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Largest and Smallest Company by Size Group

1986-2008

Date (Sept 30)	Capitalization of Largest Company (in Thousands)			Capitalization of Smallest Company (in Thousands)		
	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10
1986	\$403,137	\$99,960	\$34,884	\$100,107	\$34,966	\$381
1987	459,438	118,988	42,188	119,535	42,237	381
1988	531,306	150,893	60,543	151,260	60,719	592
1989	518,485	146,792	54,353	147,311	54,503	2,119
1990	382,684	94,754	29,916	94,845	29,932	822
1991	551,680	147,426	45,570	147,810	45,571	865
1992	557,181	143,835	46,728	144,263	46,757	1,031
1993	431,354	96,699	29,352	96,710	29,430	561
1994	356,876	79,878	23,355	80,280	23,400	444
1995	477,054	102,313	30,353	103,283	30,394	540
1996	566,295	121,717	34,864	121,992	34,901	564
1997	584,577	139,196	40,700	139,620	40,765	513
1998	580,881	164,093	47,927	164,455	48,038	830
1999	665,019	177,378	51,197	177,769	51,274	948
2000	762,195	199,312	50,496	199,315	50,544	549
2001	962,387	264,690	72,104	264,783	72,450	1,446
2002	770,517	210,301	55,336	210,630	55,423	1,060
2003	1,209,911	353,889	104,382	356,238	104,588	2,025
2004	1,075,436	315,965	91,004	316,103	91,195	2,093
2005	1,440,436	370,224	94,875	370,729	94,887	760
2006	1,857,621	449,015	110,617	449,462	110,953	706
2007	2,059,143	468,948	113,419	470,662	113,430	1,277
2008	1,957,926	421,340	94,449	421,675	94,573	696
1989	2,145,947	480,975	100,285	483,623	100,384	96
1990	2,171,217	474,065	93,750	474,477	93,790	132
1991	2,129,863	457,958	87,586	458,853	87,733	278
1992	2,428,671	500,327	103,352	500,346	103,500	510
1993	2,705,192	603,588	137,105	607,449	137,137	502
1994	2,470,244	596,059	148,104	597,975	148,216	598
1995	2,789,938	647,210	155,386	647,253	155,532	69
1996	3,142,657	751,316	193,001	751,680	193,016	1,043
1997	3,484,440	813,923	228,900	814,355	229,058	585
1998	4,216,707	925,688	252,553	926,215	253,031	1,671
1999	4,251,741	875,309	220,397	875,582	220,456	1,502
2000	4,143,802	840,000	192,083	840,730	192,439	1,393
2001	5,156,315	1,108,224	265,734	1,108,989	265,736	443
2002	4,930,326	1,116,525	308,980	1,124,331	309,245	501
2003	4,744,580	1,163,369	329,060	1,163,423	329,529	332
2004	6,241,953	1,607,854	505,437	1,607,931	506,410	1,393
2005	7,187,244	1,728,888	586,393	1,729,364	587,243	1,079
2006	7,777,183	1,946,588	626,955	1,947,240	627,017	2,247
2007	9,206,713	2,411,794	723,258	2,413,583	725,267	1,922
2008	7,360,271	1,848,961	453,254	1,849,950	453,398	1,575

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Graph 7-1: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Wealth Indices of Investments in Mid-, Low-, Micro-, and Total Capitalization Stocks
Index (Year-End 1925 = \$1.00)



Data from 1925–2008.

Graph 7-1 depicts the growth of one dollar invested in each of three NYSE/AMEX/NASDAQ groups broken down into mid-cap, low-cap, and micro-cap stocks. The index value of the entire NYSE/AMEX/NASDAQ is also included. All returns presented are value-weighted based on the market capitalizations of the deciles contained in each subgroup. The sheer magnitude of the size effect in some years is noteworthy. While the largest stocks actually declined 9 percent in 1977, the smallest stocks rose more than 20 percent. A more extreme case occurred in the depression-recovery year of 1933, when the difference between the

first and tenth decile returns was far more substantial, with the largest stocks rising 46 percent, and the smallest stocks rising 218 percent. This divergence in the performance of small and large company stocks is a common occurrence.

Table 7-4: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Summary Statistics of Annual Returns

Decile	Geometric Mean	Arithmetic Mean	Standard Deviation	Serial Correlation
1-Largest	8.9	10.8	19.48	0.09
2	10.1	12.5	22.33	0.04
3	10.4	13.1	23.89	-0.01
4	10.4	13.4	26.13	0.00
5	10.9	14.2	26.90	-0.02
6	10.9	14.5	27.59	0.04
7	10.8	14.8	29.82	0.02
8	11.0	16.0	34.44	0.06
9	11.1	16.6	36.70	0.05
10-Smallest	12.5	20.1	44.95	0.17
Mid Cap	10.5	13.4	24.93	-0.01
Low Cap	10.9	14.9	29.41	0.04
Micro	11.6	17.7	39.16	0.09
NYSE/AMEX/ NASDAQ Total Value Weighted Index	9.4	11.4	20.53	0.04

Data from 1926–2008. Source: Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2009 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

Results are for quarterly re-ranking for the deciles. The small company stock summary statistics presented in earlier chapters comprise a re-ranking of the portfolios every five years prior to 1982.

Aspects of the Firm Size Effect

The firm size phenomenon is remarkable in several ways. First, the greater risk of small stocks does not, in the context of the capital asset pricing model (CAPM), fully account for their higher returns over the long term. In the CAPM only systematic, or beta risk, is rewarded; small company stocks have had returns in excess of those implied by their betas.

Second, the calendar annual return differences between small and large companies are serially correlated. This suggests that past annual returns may be of some value in predicting future annual returns. Such serial correlation, or autocorrelation, is practically unknown in the market for large stocks and in most other equity markets but is evident in the size premia.

Table 7-5: Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Long-Term Returns In Excess of CAPM

Decile	Beta*	Arithmetic Mean Return (%)	Actual Return in Excess of Riskless Rate** (%)	CAPM Return in Excess of Riskless Rate† (%)	Size Premium (Return in Excess of CAPM) (%)
1-Largest	0.91	10.75	5.56	5.91	-0.36
2	1.03	12.51	7.31	6.69	0.62
3	1.10	13.06	7.87	7.13	0.74
4	1.12	13.45	8.25	7.28	0.97
5	1.16	14.23	9.03	7.49	1.54
6	1.18	14.48	9.28	7.65	1.63
7	1.24	14.84	9.65	8.03	1.62
8	1.30	15.95	10.76	8.41	2.35
9	1.35	16.62	11.42	8.71	2.71
10-Smallest	1.41	20.13	14.93	9.12	5.81
Mid-Cap, 3-5	1.12	13.37	8.18	7.24	0.94
Low-Cap, 6-8	1.22	14.86	9.66	7.92	1.74
Micro-Cap, 9-10	1.36	17.72	12.52	8.79	3.74

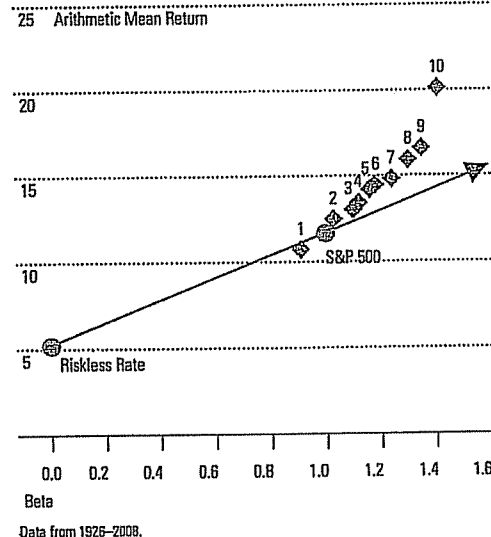
Data from 1926-2008.

*Betas are estimated from monthly returns in excess of the 30-day U.S. Treasury bill total return, January 1926-December 2008.

**Historical riskless rate measured by the 83-year arithmetic mean income return component of 20-year government bonds (5.20).

†Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.67 percent) minus the arithmetic mean income return component of 20-year government bonds (5.20 percent) from 1926-2008.

Graph 7-2: Security Market Line Versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ†



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Third, the firm size effect is seasonal. For example, small company stocks outperformed large company stocks in the month of January in a large majority of the years. Such predictability is surprising and suspicious in light of modern capital market theory. These three aspects of the firm size effect—long-term returns in excess of systematic risk, serial correlation, and seasonality—will be analyzed thoroughly in the following sections.

Long-Term Returns in Excess of Systematic Risk

The capital asset pricing model (CAPM) does not fully account for the higher returns of small company stocks. Table 7-5 shows the returns in excess of systematic risk over the past 83 years for each decile of the NYSE/AMEX/NASDAQ. Recall that the CAPM is expressed as follows:

$$k_s = r_f + (\beta_s \times ERP)$$

Table 7-5 uses the CAPM to estimate the return in excess of the riskless rate and compares this estimate to historical performance. According to the CAPM, the expected return on a security should consist of the riskless rate plus an additional return to compensate for the systematic risk of the security. The return in excess of the riskless rate is estimated in the context of the CAPM by multiplying the equity risk premium by β (beta). The equity risk premium is the return that compensates investors for taking on risk equal to the risk of the market as a whole (systematic risk).³ Beta measures the extent to which a security or portfolio is exposed to systematic risk.⁴ The beta of each decile indicates the degree to which the decile's return moves with that of the overall market.

A beta greater than one indicates that the security or portfolio has greater systematic risk than the market; according to the CAPM equation, investors are compensated for taking on this additional risk. Yet, Table 7-5 illustrates that the smaller deciles have had returns that are not fully explained by their higher betas. This return in excess of that predicted by CAPM increases as one moves from the largest companies in decile 1 to the smallest in decile 10. The excess return is especially pronounced for micro-cap stocks (deciles 9-10). This size-related phenomenon has prompted a revision to the CAPM, which includes a size premium. Chapter 4 presents this modified CAPM theory and its application in more detail.

Table 7-6: Size-Decile Portfolios 10a and 10b of the NYSE/AMEX/NASDAQ

Decile	Recent Number of Companies	Recent Decile Market Capitalization (In Thousands)	Market Capitalization of Largest Company (In Thousands)	Company Name
10a	409	\$77,980,249	\$218,533,000	Beazer Homes U.S.A. Inc.
10b	1182	75,412,545	136,500,000	Great Northern Iron Ore

Note: These numbers may not aggregate to equal decile 10 figures.

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Market capitalization and name of largest company in each decile as of September 30, 2008.

This phenomenon can also be viewed graphically, as depicted in the Graph 7-2. The security market line is based on the pure CAPM without adjustment for the size premium. Based on the risk (or beta) of a security, the expected return lies on the security market line. However, the actual historic returns for the smaller deciles of the NYSE/AMEX/NASDAQ lie above the line, indicating that these deciles have had returns in excess of that which is appropriate for their systematic risk.

Further Analysis of the 10th Decile

The size premia presented thus far do a great deal to explain the return due solely to size in publicly traded companies. However, by splitting the 10th decile into two size groupings we can get a closer look at the smallest companies. This magnification of the smallest companies will demonstrate whether the company size to size premia relationship continues to hold true.

As previously discussed, the method for determining the size groupings for size premia analysis was to take the stocks traded on the NYSE and break them up into 10 deciles, after which stocks traded on the AMEX and NASDAQ were allocated into the same size groupings. This same methodology was used to split the 10th decile into two parts: 10a and 10b, with 10b being the smaller of the two. This is equivalent to breaking the stocks down into 20 size groupings, with portfolios 19 and 20 representing 10a and 10b.

Table 7-7 shows that the pattern continues; as companies get smaller their size premium increases. There is a noticeable increase in size premium from 10a to 10b, which can also be demonstrated visually in Graph 7-3. This can be useful in valuing companies that are extremely small. Table 7-6 presents the size, composition, and breakpoints of deciles 10a and 10b.

First, the recent number of companies and total decile market capitalization are presented. Then the largest company and its market capitalization are presented.

Breaking the smallest decile down lowers the significance of the results compared to results for the 10th decile taken as a whole, however. The same holds true for comparing the 10th decile with the Micro-Cap aggregation of the 9th and 10th deciles. The more stocks included in a sample the more significance can be placed on the results. While this is not as much of a factor with the recent years of data, these size premia are constructed with data back to 1926. By breaking the 10th decile down into smaller components we have cut the number of stocks included in each grouping. The change over time of the number of stocks included in the 10th decile for the NYSE/AMEX/NASDAQ is presented in Table 7-8. With fewer stocks included in the analysis early on, there is a strong possibility that just a few stocks can dominate the returns for those early years.

While the number of companies included in the 10th decile for the early years of our analysis is low, it is not too low to still draw meaningful results even when broken down into subdivisions 10a and 10b. All things considered, size premia developed for deciles 10a and 10b are significant and can be used in cost of capital analysis. These size premia should greatly enhance the development of cost of capital analysis for very small companies.

Table 7-7: Long-Term Returns in Excess of CAPM Estimation for Decile Portfolios of the NYSE/AMEX/NASDAQ, with 10th Decile Split

	Beta*	Arithmetic Mean Return (%)	Realized Return in Excess of Riskless Rate** (%)	Estimated Return in Excess of Riskless Rate† (%)	Size Premium (Return in Excess of CAPM) (%)
1-Largest	0.91	10.75	5.56	5.91	-0.36
2	1.03	12.51	7.31	6.69	0.62
3	1.10	13.05	7.87	7.13	0.74
4	1.12	13.45	8.25	7.28	0.97
5	1.16	14.23	9.03	7.49	1.54
6	1.18	14.48	9.28	7.65	1.63
7	1.24	14.84	9.65	8.03	1.62
8	1.30	15.95	10.76	8.41	2.35
9	1.35	16.62	11.42	8.71	2.71
10a	1.42	18.49	13.29	9.19	4.11
10b-Smallest	1.38	23.68	18.48	8.95	9.53
Mid-Cap, 3-5	1.12	13.37	8.18	7.24	0.94
Low-Cap, 6-8	1.22	14.86	9.66	7.92	1.74
Micro-Cap, 9-10	1.36	17.72	12.52	8.79	3.74

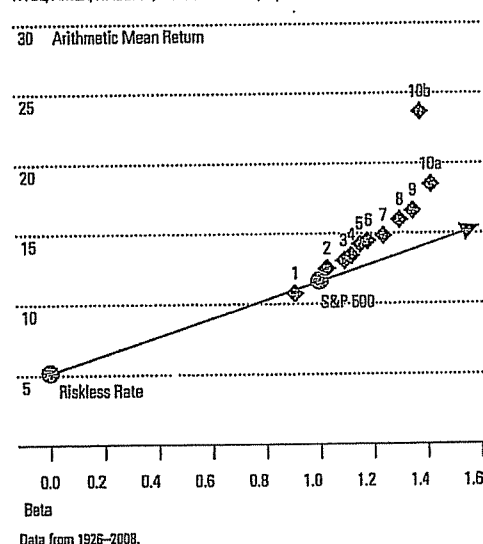
Data from 1926-2008. Source: Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2009 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

*Betas are estimated from monthly portfolio total returns in excess of the 30-day U.S. Treasury bill total return versus the S&P 500 total returns in excess of the 30-day U.S. Treasury bill, January 1926-December 2008.

**Historical riskless rate is measured by the 83-year arithmetic mean income return component of 20-year government bonds (5.20 percent).

†Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.57 percent) minus the arithmetic mean income return component of 20-year government bonds (5.20 percent) from 1926-2008.

Graph 7-3: Security Market Line versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ, with 10th Decile Split†



†Source: Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2009 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

Table 7-8: Historical Number of Companies for NYSE/AMEX/NASDAQ Decile 10

Sept.	Number of Companies
1926	52*
1930	72
1940	78
1950	100
1960	109
1970	865
1980	685
1990	1,814
2000	1,927
2005	1,746
2006	1,744
2007	1,775
2008	1,626

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*The fewest number of companies was 49 in March, 1926

Alternative Methods of Calculating the Size Premia

The size premia estimation method presented above makes several assumptions with respect to the market benchmark and the measurement of beta. The impact of these assumptions can best be examined by looking at some alternatives. In this section we will examine the impact on the size premia of using a different market benchmark for estimating the equity risk premium and beta. We will also examine the effect on the size premia study of using sum beta or an annual beta.⁵

Changing the Market Benchmark

In the original size premia study, the S&P 500 is used as the market benchmark in the calculation of the realized historical equity risk premium and of each size group's beta. The NYSE total value-weighted index is a common alternative market benchmark used to calculate beta. Table 7-9 uses this market benchmark in the calculation of beta. In order to isolate the size effect, we require an equity risk premium based on a large company stock benchmark. The NYSE deciles 1-2 large company index offers a mutually exclusive set of portfolios for the analysis of the smaller company groups: mid-cap deciles 3-5, low-cap deciles 6-8, and micro-cap deciles 9-10. The size premia analyses using these benchmarks are summarized in Table 7-9 and depicted graphically in Graph 7-4.

Table 7-9: Long-Term Returns in Excess of CAPM Estimation for Decile Portfolios of the NYSE/AMEX/NASDAQ, with NYSE Market Benchmarks

	Beta*	Arithmetic Mean Return (%)	Realized Return in Excess of Riskless Rate** (%)	Estimated Return in Excess of Riskless Rate* (%)	Size Premium (Return in Excess of CAPM) (%)
1-Largest	0.99	10.75	5.66	5.72	-0.16
2	1.11	12.51	7.31	6.45	0.86
3	1.18	13.06	7.87	6.81	1.05
4	1.20	13.45	8.25	6.97	1.28
5	1.23	14.23	9.03	7.14	1.89
6	1.26	14.48	9.28	7.28	2.00
7	1.32	14.84	9.65	7.63	2.01
8	1.38	15.95	10.76	8.00	2.76
9	1.42	16.62	11.42	8.25	3.17
10-Smallest	1.48	20.13	14.93	8.60	6.33
Mid-Cap, 3-5	1.19	13.37	8.18	6.92	1.26
Low-Cap, 6-8	1.30	14.86	9.66	7.54	2.12
Micro-Cap, 9-10	1.43	17.72	12.52	8.32	4.21

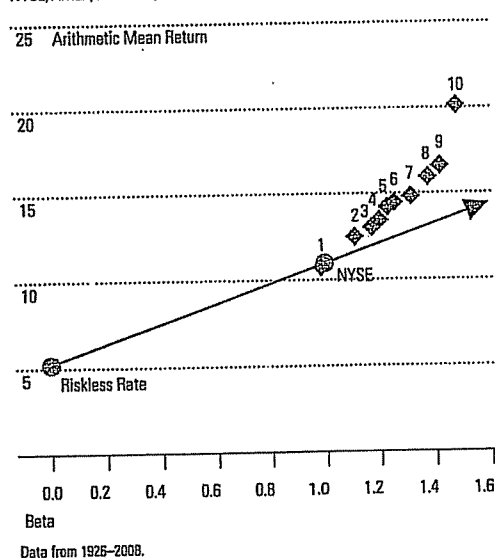
Data from 1926-2008. Source: Calculated (or Derived) based on data from CRSP US Stock Database and CRSP US Indices Database ©2009 Center for Research in Security Prices (CRSP®), The University of Chicago Booth School of Business. Used with permission.

*Betas are estimated from monthly portfolio total returns in excess of the 30-day U.S. Treasury bill total return versus the S&P 500 total returns in excess of the 30-day U.S. Treasury bill, January 1926-December 2008.

**Historical riskless rate is measured by the 63-year arithmetic mean income return component of 20-year government bonds (5.20 percent).

†Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.67 percent) minus the arithmetic mean income return component of 20-year government bonds (5.20 percent) from 1926-2008.

Graph 7-4: Security Market Line versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ, with NYSE Market Benchmarks†



For the entire period analyzed, 1926-2008, the betas obtained using the NYSE total value-weighted index are higher than those obtained using the S&P 500. Since smaller companies had higher betas using the NYSE benchmark, one would expect the size premia to shrink. However, as was illustrated in Chapter 5, the equity risk premium calculated using the NYSE deciles 1-2 benchmark results in a value of 5.80, as opposed to 6.47 when using the S&P 500. The effect of the higher betas and lower equity risk premium cancel each other out, and the resulting size premia in Table 7-9 are slightly higher than those resulting from the original study.

Measuring Beta with Sum Beta

The sum beta method attempts to provide a better measure of beta for small stocks by taking into account their lagged price reaction to movements in the market. [See Chapter 6.] Table 7-10 shows that using this method of beta estimation results in larger betas for the smaller size deciles of the NYSE/AMEX/NASDAQ while those of the larger size deciles remain relatively stable. From these results, it appears that the sum beta method corrects for possible errors that are made when estimating small company betas without adjusting for the lagged price reaction of small stocks. However, the sum beta, when applied to the CAPM, still does not account for all of the returns in excess of the riskless rate historically found for small stocks. Table 7-10 demonstrates that a size premium is still necessary to estimate the expected returns using sum beta in conjunction with the CAPM, though the premium is smaller than that needed when using the typical calculation of beta.

Graph 7-5 compares the 10 deciles of the NYSE/AMEX/NASDAQ to the security market line. There are two sets of decile portfolios—one set is plotted using the single variable regression method of calculating beta, as in Graph 7-2, and the second set uses the sum beta method. The portfolios plotted using sum beta more closely resemble the security market line. Again, this demonstrates that the sum beta method results in the desired effect: a higher estimate of returns for small companies. Yet the smaller portfolios still lie above the security market line, indicating that an additional premium may be required.

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Criteria Methodology: Business Risk/Financial Risk Matrix Expanded

Primary Credit Analysts:

Solomon B Samson, New York (1) 212-438-7653; sol_samson@standardandpoors.com

Emmanuel Dubois-Pelerin, Paris (33) 1-4420-6673; emmanuel_dubois-pelerin@standardandpoors.com

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Criteria Methodology: Business Risk/Financial Risk Matrix Expanded

(Editor's Note: In the previous version of this article published on May 26, certain of the rating outcomes in the table 1 matrix were misspelled. A corrected version follows.)

Standard & Poor's Ratings Services is refining its methodology for corporate ratings related to its business risk/financial risk matrix, which we published as part of 2008 Corporate Ratings Criteria on April 15, 2008, on RatingsDirect at www.ratingsdirect.com and Standard & Poor's Web site at www.standardandpoors.com.

This article amends and supersedes the criteria as published in Corporate Ratings Criteria, page 21, and the articles listed in the "Related Articles" section at the end of this report.

This article is part of a broad series of measures announced last year to enhance our governance, analytics, dissemination of information, and investor education initiatives. These initiatives are aimed at augmenting our independence, strengthening the rating process, and increasing our transparency to better serve the global markets.

We introduced the business risk/financial risk matrix four years ago. The relationships depicted in the matrix represent an essential element of our corporate analytical methodology.

We are now expanding the matrix, by adding one category to both business and financial risks (see table 1). As a result, the matrix allows for greater differentiation regarding companies rated lower than investment grade (i.e., 'BB' and below).

Table 1

Business And Financial Risk Profile Matrix						
Business Risk Profile	Financial Risk Profile					
	Minimal	Modest	Intermediate	Significant	Aggressive	Highly Leveraged
Excellent	AAA	AA	A	A-	BBB	--
Strong	AA	A	A-	BBB	BB	BB-
Satisfactory	A-	BBB+	BBB	BB+	BB-	B+
Fair	--	BBB-	BB+	BB	BB-	B
Weak	--	--	BB	BB-	B+	B-
Vulnerable	--	--	--	B+	B	CCC+

These rating outcomes are shown for guidance purposes only. Actual rating should be within one notch of indicated rating outcomes.

The rating outcomes refer to issuer credit ratings. The ratings indicated in each cell of the matrix are the midpoints of a range of likely rating possibilities. This range would ordinarily span one notch above and below the indicated rating.

Business Risk/Financial Risk Framework

Our corporate analytical methodology organizes the analytical process according to a common framework, and it divides the task into several categories so that all salient issues are considered. The first categories involve fundamental business analysis; the financial analysis categories follow.

Our ratings analysis starts with the assessment of the business and competitive profile of the company. Two companies with identical financial metrics can be rated very differently, to the extent that their business challenges and prospects differ. The categories underlying our business and financial risk assessments are:

Business risk

- Country risk
- Industry risk
- Competitive position
- Profitability/Peer group comparisons

Financial risk

- Accounting
- Financial governance and policies/risk tolerance
- Cash flow adequacy
- Capital structure/asset protection
- Liquidity/short-term factors

We do not have any predetermined weights for these categories. The significance of specific factors varies from situation to situation.

Updated Matrix

We developed the matrix to make explicit the rating outcomes that are typical for various business risk/financial risk combinations. It illustrates the relationship of business and financial risk profiles to the issuer credit rating.

We tend to weight business risk slightly more than financial risk when differentiating among investment-grade ratings. Conversely, we place slightly more weight on financial risk for speculative-grade issuers (see table 1, again). There also is a subtle compounding effect when both business risk and financial risk are aligned at extremes (i.e., excellent/minimal and vulnerable/highly leveraged.)

The new, more granular version of the matrix represents a refinement—not any change in rating criteria or standards—and, consequently, holds no implications for any changes to existing ratings. However, the expanded matrix should enhance the transparency of the analytical process.

Financial Benchmarks

Table 2

Financial Risk Indicative Ratios (Corporates)			
	FFO/Debt (%)	Debt/EBITDA (x)	Debt/Capital (%)
Minimal	greater than 60	less than 1.5	less than 25
Modest	45-60	1.5-2	25-35
Intermediate	30-45	2-3	35-45
Significant	20-30	3-4	45-50
Aggressive	12-20	4-5	50-60
Highly Leveraged	less than 12	greater than 5	greater than 60

How To Use The Matrix--And Its Limitations

The rating matrix indicative outcomes are what we typically observe--but are not meant to be precise indications or guarantees of future rating opinions. Positive and negative nuances in our analysis may lead to a notch higher or lower than the outcomes indicated in the various cells of the matrix.

In certain situations there may be specific, overarching risks that are outside the standard framework, e.g., a liquidity crisis, major litigation, or large acquisition. This often is the case regarding credits at the lowest end of the credit spectrum--i.e., the 'CCC' category and lower. These ratings, by definition, reflect some impending crisis or acute vulnerability, and the balanced approach that underlies the matrix framework just does not lend itself to such situations.

Similarly, some matrix cells are blank because the underlying combinations are highly unusual--and presumably would involve complicated factors and analysis.

The following hypothetical example illustrates how the tables can be used to better understand our rating process (see tables 1 and 2).

We believe that Company ABC has a satisfactory business risk profile, typical of a low investment-grade industrial issuer. If we believed its financial risk were intermediate, the expected rating outcome should be within one notch of 'BBB'. ABC's ratios of cash flow to debt (35%) and debt leverage (total debt to EBITDA of 2.5x) are indeed characteristic of intermediate financial risk.

It might be possible for Company ABC to be upgraded to the 'A' category by, for example, reducing its debt burden to the point that financial risk is viewed as minimal. Funds from operations (FFO) to debt of more than 60% and debt to EBITDA of only 1.5x would, in most cases, indicate minimal.

Conversely, ABC may choose to become more financially aggressive--perhaps it decides to reward shareholders by borrowing to repurchase its stock. It is possible that the company may fall into the 'BB' category if we view its financial risk as significant. FFO to debt of 20% and debt to EBITDA 4x would, in our view, typify the significant financial risk category.

Still, it is essential to realize that the financial benchmarks are guidelines, neither gospel nor guarantees. They can vary in nonstandard cases: For example, if a company's financial measures exhibit very little volatility, benchmarks may be somewhat more relaxed.

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Moreover, our assessment of financial risk is not as simplistic as looking at a few ratios. It encompasses:

- a view of accounting and disclosure practices;
- a view of corporate governance, financial policies, and risk tolerance;
- the degree of capital intensity, flexibility regarding capital expenditures and other cash needs, including acquisitions and shareholder distributions; and
- various aspects of liquidity--including the risk of refinancing near-term maturities.

The matrix addresses a company's standalone credit profile, and does not take account of external influences, which would pertain in the case of government-related entities or subsidiaries that in our view may benefit or suffer from affiliation with a stronger or weaker group. The matrix refers only to local-currency ratings, rather than foreign-currency ratings, which incorporate additional transfer and convertibility risks. Finally, the matrix does not apply to project finance or corporate securitizations.

Related Articles

Industrials' Business Risk/Financial Risk Matrix--A Fundamental Perspective On Corporate Ratings, published April 7, 2005, on RatingsDirect.

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Missouri Gas Energy
Indicated Common Equity Cost Rate Through Use of the
Single Stage Discounted Cash Flow Model for the
Proxy Group of Nine Value Line Natural Gas Distribution Companies

Based upon Projected Growth in EPS

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
	Average Dividend Yield (1)	Dividend Growth Component (2)	Adjusted Dividend Yield (3)	Growth Rate (4)	Indicated Common Equity Cost Rate (5)
<u>Proxy Group of Nine Value Line Natural Gas Distribution Companies</u>					
AGL Resources Inc.	5.10 %	0.11 %	5.21 %	4.35 %	9.56 %
Atmos Energy Corp.	4.81	0.11	4.92	4.40	9.32
The Laclede Group, Inc.	4.67	0.08	4.75	3.25	8.00
New Jersey Resources Corp.	3.35	0.10	3.45	5.75	9.20
Northwest Natural Gas Co.	3.70	0.09	3.79	5.10	8.89
Piedmont Natural Gas Co., Inc.	4.51	0.13	4.64	5.90	10.54
South Jersey Industries, Inc.	3.43	0.13	3.56	7.85	11.41
Southwest Gas Corporation	3.92	0.09	4.01	4.75	8.76
WGL Holdings, Inc.	4.44	0.09	4.53	4.25	8.78
Average	<u>4.21 %</u>	<u>0.10 %</u>	<u>4.32 %</u>	<u>5.07 %</u>	<u>9.38 %</u>
Median	<u>4.44 %</u>	<u>0.10 %</u>	<u>4.53 %</u>	<u>4.75 %</u>	<u>9.20 %</u>
<u>Southern Union Company</u>	<u>3.06 %</u>	<u>0.11 %</u>	<u>3.17 %</u>	<u>7.50 %</u>	<u>10.67 %</u>

Notes:

- (1) From Page 22 of this Schedule.
- (2) This reflects a growth rate component equal to one-half the conclusion of growth rate (from page 23 of this Schedule) x Column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for AGL Resources Inc., $5.10\% \times (1/2 \times 4.35\%) = 0.11\%$.
- (3) Column 1 + Column 2.
- (4) From Page 23 of this Schedule.
- (5) Column 3 + Column 4.

Missouri Gas Energy
Derivation of Dividend Yield for Use in the
Discounted Cash Flow Model

	Dividend Yield		
	Spot (9/9/2009)(1)	Average of Last 2 Months (2)	Average Dividend Yield (3)
<u>Proxy Group of Nine Value Line Natural Gas Distribution Companies</u>			
AGL Resources Inc.	5.09 %	5.12 %	5.10 %
Atmos Energy Corp.	4.77	4.85	4.81
The Laclede Group, Inc.	4.68	4.66	4.67
New Jersey Resources Corp.	3.41	3.29	3.35
Northwest Natural Gas Co.	3.75	3.65	3.70
Piedmont Natural Gas Co., Inc.	4.58	4.44	4.51
South Jersey Industries, Inc.	3.52	3.34	3.43
Southwest Gas Corporation	3.92	3.92	3.92
WGL Holdings, Inc.	4.43	4.45	4.44
Average	<u>4.24 %</u>	<u>4.19 %</u>	<u>4.21 %</u>
Median	<u>4.43 %</u>	<u>4.44 %</u>	<u>4.44 %</u>
<u>Southern Union Company</u>	<u>3.06 %</u>	<u>3.06 %</u>	<u>3.06 %</u>

Notes:

- (1) The spot dividend yield is the current annualized dividend per share divided by the spot market price on 9/9/2009.
- (2) The average 2-month dividend yield was computed by relating the indicated annualized dividend rate and market price on the last trading day of each of the two months ended 8/31/2009.
- (3) Equal weight has been given to the 2-month average and spot dividend yield. This provides recognition of current conditions, but does not place undue emphasis thereon.

Source of Information: yahoo.finance.com

Missouri Gas Energy
Historical and Projected Growth

	<u>1</u>	<u>2</u>		<u>3</u>
	Value Line Projected Growth 2012- 2014 (1)	Reuters Mean Consensus Projected Five Year Growth Rate		Average Projected Five Year Growth Rate in EPS (2)
	EPS	EPS	No. of Est.	
<u>Proxy Group of Nine Value Line Natural Gas Distribution Companies</u>				
AGL Resources Inc.	3.50 %	5.20 %	[3]	4.35 %
Atmos Energy Corp.	4.00	4.80	[6]	4.40
The Laclede Group, Inc.	3.50	3.00	[1]	3.25
New Jersey Resources Corp.	5.50	6.00	[3]	5.75
Northwest Natural Gas Co.	5.00	5.20	[3]	5.10
Piedmont Natural Gas Co., Inc.	5.50	6.30	[4]	5.90
South Jersey Industries, Inc.	5.50	10.20	[3]	7.85
Southwest Gas Corporation	4.50	5.00	[4]	4.75
WGL Holdings, Inc.	4.00	4.50	[2]	4.25
Average	<u>4.56 %</u>	<u>5.58 %</u>		<u>5.07 %</u>
Median	<u>4.50 %</u>	<u>5.20 %</u>		<u>4.75 %</u>
<u>Southern Union Company</u>	<u>5.00 %</u>	<u>10.00 %</u>	[1]	<u>7.50 %</u>

NA= Not Applicable

Notes: (1) As shown on Pages 24 through 33 of this Schedule.

(2) Average of Columns 1 and 2.

Source of Information: Value Line Investment Survey Standard Edition September 11, 2009.

Reuters Company Research September 8, 2009

Schedule FJH-14
Page 2 of 11
(UPDATED)

ATMOS ENERGY CORP. NYSE-ATO										RECENT PRICE	27.06	P/E RATIO	12.1	(Trailing: 11.9 Median: 16.0)	RELATIVE P/E RATIO	0.75	DIVID YLD	5.0%	VALUE LINE						
TIMELINESS	3	Lowered 9/11/09	High: 32.3	Low: 24.8	33.0	26.3	25.8	24.5	25.5	27.6	30.0	33.1	33.5	29.3	28.6	20.1	Target Price	2012	2013	2014					
SAFETY	2	Raised 12/16/05	LEGENDS 1.00 = Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area: prior recession Latest recession began 12/07																						
TECHNICAL	4	Lowered 9/4/09	2012-14 PROJECTIONS																						
BETA	.65	(1.00 = Market)	Price	Gain	Return	Ann'l Total																			
			40	(+50%)	14%																				
			30	(+10%)	7%																				
			Insider Decisions																						
			O	N	D	J	F	M	A	M	J														
			to Buy	0	0	0	0	1	0	0	0														
			Options	0	0	0	0	1	0	0	0														
			to Sell	0	1	0	1	0	0	0	0														
			Institutional Decisions																						
			4Q2008	1Q2009	2Q2009																				
			to Buy	141	108	107																			
			to Sell	103	122	115																			
			Hld's (\$000)	53678	53874	54285																			
			Percent shares traded																						
			12																						
			8																						
			4																						
			10																						
			7.5																						
			% TOT. RETURN 8/09																						
			THIS STOCK																						
			VL ARITH. INDEX																						
			1 yr. 4.3																						
			3 yr. 9.1																						
			5 yr. 36.1																						
			2012 32.3																						
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LACLEDE GROUP NYSE:LG				RECENT PRICE	32.61	P/E RATIO	13.8	Trailing: 10.9 Median: 15.0	RELATIVE P/E RATIO	0.86	DIV'D YLD	4.8%	VALUE LINE	Target Price Range 2012 2013 2014																			
TIMELINESS	3	Lowered 5/22/09	High: 27.9 Low: 22.4	27.0 20.0	24.8 17.5	25.5 21.3	25.0 19.0	30.0 21.8	32.5 26.0	34.3 26.9	37.5 29.1	36.0 28.8	55.8 31.9	48.3 29.3																			
SAFETY	2	Raised 6/20/03	LEGENDS 1.00 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area: prior recession Latest recession began 12/07																														
TECHNICAL	5	Lowered 9/4/09																															
BETA	.60	(1.00 = Market)																															
2012-14 PROJECTIONS				Ann'l Total	Price	Gain	Return																										
High	60	(+85%)	19%																														
Low	45	(+40%)	12%																														
Insider Decisions				O N D J F M A M J																													
to Buy				0 0 0 0 0 0 0 2 1																													
Options				0 0 0 0 0 0 0 0 0																													
to Sell				0 0 0 0 0 0 0 0 1 0																													
Institutional Decisions				4Q2008 1Q2009 2Q2009	Percent shares traded	7.5 5 2.5																											
to Buy				73 70 71																													
to Sell				86 81 81																													
Hld's(000)				11494 11043 10569																													
1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	© VALUE LINE PUB, INC	12-14														
32.33	33.43	24.79	31.03	34.33	31.04	26.04	29.99	53.08	39.84	54.95	59.59	75.43	93.51	93.40	100.44	88.90	91.30	Revenues per sh	111.55														
2.81	2.65	2.55	3.29	3.32	3.02	2.56	2.68	3.00	2.56	3.15	2.79	2.98	3.81	3.87	4.22	4.90	4.50	"Cash Flow" per sh	5.40														
1.61	1.42	1.27	1.87	1.84	1.58	1.47	1.37	1.61	1.18	1.82	1.90	2.37	2.31	2.64	2.95	2.60	2.60	Earnings per sh	3.00														
1.22	1.22	1.24	1.26	1.30	1.32	1.34	1.34	1.34	1.34	1.35	1.37	1.40	1.45	1.49	1.53	1.57	1.57	Div's Decl'd per sh	1.70														
2.62	2.50	2.63	2.35	2.44	2.68	2.58	2.77	2.51	2.80	2.67	2.45	2.84	2.97	2.72	2.57	2.55	2.60	Cap'l Spending per sh	3.40														
12.19	12.44	13.05	13.72	14.26	14.57	14.96	14.99	15.26	15.07	15.65	16.96	17.31	18.85	19.79	22.12	23.65	23.55	Book Value per sh	28.05														
15.59	15.67	17.42	17.56	17.56	17.63	18.88	18.88	18.88	18.96	19.11	20.98	21.17	21.36	21.65	21.99	22.50	23.00	Common Shs Outst'g	26.00														
13.5	16.4	15.5	11.9	12.5	15.5	15.8	14.9	14.5	20.0	13.6	15.7	16.2	13.6	14.2	14.3	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	17.5														
.80	1.08	1.04	.75	.72	.81	.90	.97	.74	1.09	.78	.83	.86	.73	.75	.89			Relative P/E Ratio	1.15														
5.6%	5.3%	6.3%	5.6%	5.6%	5.4%	5.8%	6.6%	5.7%	5.7%	5.4%	4.7%	4.4%	4.3%	4.4%	3.9%			Avg Ann'l Div'd Yield	3.2%														
CAPITAL STRUCTURE as of 6/30/09				491.6	566.1	1002.1	755.2	1050.3	1250.3	1597.0	1997.6	2021.6	2209.0	2000	2100					Revenues (\$mill)	2900												
Total Debt \$522.2 mill. Due in 5 Yrs \$90.0 mill.				26.9	26.0	30.5	22.4	34.6	36.1	40.1	50.5	49.8	57.6	65.0	60.0					Net Profit (\$mill)	80.0												
LT Debt \$389.2 mill. LT Interest \$25.0 mill.				35.5%	35.2%	32.7%	35.4%	35.0%	34.8%	34.1%	32.5%	33.4%	31.3%	35.5%	35.0%					Income Tax Rate	35.0%												
(Total interest coverage: 3.0x)				5.5%	4.6%	3.0%	3.0%	3.3%	2.9%	2.5%	2.5%	2.5%	2.6%	3.3%	2.9%					Profit Margin	2.8%												
Leases, Uncapitalized Annual rentals \$.9 mill.				41.8%	45.2%	49.5%	47.5%	50.4%	51.6%	48.1%	49.5%	45.3%	44.4%	42.5%	45.0%					Long-Term Debt Ratio	47.0%												
Pension Assets-9/08 \$248.3 mill.				57.8%	54.5%	50.2%	52.3%	49.4%	48.3%	51.8%	50.4%	54.6%	55.5%	57.5%	55.0%					Common Equity Ratio	53.0%												
Oblig. \$308.7 mill.				488.6	519.2	574.1	546.6	605.0	737.4	707.9	798.9	784.5	876.1	925	985					Total Capital (\$mill)	1375												
Pfd Stock None				519.4	575.4	602.5	594.4	621.2	646.9	679.5	763.8	793.8	823.2	865	915					Net Plant (\$mill)	1250												
Common Stock 22,167,303 shs.				7.1%	6.7%	6.9%	6.0%	7.4%	6.6%	7.6%	8.4%	8.5%	8.1%	8.5%	7.5%					Return on Total Cap'l	7.0%												
as of 7/31/09				9.5%	9.1%	10.5%	7.8%	11.5%	10.1%	10.9%	12.5%	11.6%	11.8%	12.0%	11.0%					Return on Shr. Equity	11.0%												
MARKET CAP: \$725 million (Small Cap)				9.5%	9.1%	10.5%	7.8%	11.6%	10.1%	10.9%	12.5%	11.6%	11.8%	12.0%	11.0%					Return on Com Equity	11.0%												
CURRENT POSITION (\$MILL.)				2007	2008	6/30/09														89%	98%	83%	113%	74%	73%	72%	59%	63%	56%	53%	60%		
Cash Assets				52.7	14.9	89.1																											
Other				414.6	547.0	283.6																											
Current Assets				467.3	561.9	372.7																											
Accts Payable				106.8	159.6	79.3																											
Debt Due				251.6	216.1	133.0																											
Other				115.3	103.5	87.8																											
Current Liab.				473.7	479.2	300.1																											
Fix. Chg. Cov.				282%	377%	370%																											
ANNUAL RATES OF change (per sh)				Past 10 Yrs	Past 5 Yrs	Est'd '06-'08 to '12-'14																											
Revenues				11.5%	14.0%	2.5%																											
"Cash Flow"				2.0%	6.5%	5.5%																											
Earnings				3.5%	9.5%	3.5%																											
Dividends				1.0%	1.5%	2.5%																											
Book Value				3.5%	5.5%	5.5%																											
Fiscal Year Ends				Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year																									
2006				689.2	708.8	330.6	269.0	1997.6																									
2007				539.6	700.8	457.9	323.3	2021.6																									
2008				504.0	747.7	505.5	451.8	2209.0																									
2009				674.3	659.1	309.9	356.7	2000																									
2010				530	570	520	480	2100																									
Fiscal Year Ends				Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year																									
2006				1.23	1.05	.13	d.04	2.37																									
2007				.89	.97	.43	.03	2.31																									
2008				.99	1.39	.41	d.14	2.64																									
2009				1.42	1.40	.31	d.18	2.95																									
2010				1.03	1.21	.38	d.02	2.60																									
Cal-endar				Mar.31	Jun.30	Sep.30	Dec.31	Full Year																									
2005				.34	.345	.345	.345	1.38																									
2006				.345	.355	.355	.355	1.41																									
2007				.365	.365	.365	.365	1.46																									
2008				.375	.375	.375	.375	1.50																									
2009				.385	.385	.385																											
(A) Fiscal year ends Sept. 30th.																																	
(B) Based on average shares outstanding thru '07, then diluted. Excludes nonrecurring loss: '06, '07. Excludes gain from discontinued operations.																																	
(C) Dividends historically paid in early January, April, July, and October. 'X' denotes reinvestment plan available. (D) Incl. deferred charges.																																	
(E) In millions.																																	
(F) City, ags. may not sum due to rounding or change in shares outstanding.																																	
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Company's Financial Strength																				B+													
Stock's Price Stability																				100													
Price Growth Persistence																				60													
Earnings Predictability																				85													
To subscribe call 1-800-833-0046																																	

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Page 6 of 11
(UPDATED)

PIEDMONT NAT'L GAS NYSE-PNY										RECENT PRICE	24.24	P/E RATIO	14.8	(Trailing: 15.6 Median: 18.0)	RELATIVE P/E RATIO	0.92	DIV'D YLD	4.5%	VALUE LINE
TIMELINESS	3	Raised 6/15/07	High: 18.1	18.3	19.7	19.0	19.0	22.0	24.3	25.8	28.4	28.0	35.3	32.0					Target Price Range 2012 2013 2014
SAFETY	2	New 7/27/90	Low: 13.9	14.3	11.8	14.6	13.7	16.6	19.2	21.3	23.2	22.0	21.7	20.7					
TECHNICAL	4	Raised 7/17/09	LEGENDS 1.40 x Dividends p sh divided by Interest Rate Relative Price Strength 2-for-1 split 11/04 Options: Yes Shaded area: prior recession Latest recession began 12/07																
BETA	.65	(1.00 = Market)	2012-14 PROJECTIONS																
			Price	Gain	Ann'l Total Return														
High	40	(+65%)	17%																
Low	30	(+25%)	10%																
Insider Decisions			Percent 7.5 shares traded 2.5																
			Institutional Decisions																
			Percent 7.5 shares traded 2.5																
			1 yr. -13.5 3 yr. 3.2 5 yr. 34.0																
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SOUTHWEST GAS NYSE-SWX				RECENT PRICE	23.98	P/E RATIO	13.5	(Trailing: 16.3 Median: 19.0)	RELATIVE P/E RATIO	0.84	DIV'D YLD	4.1%	VALUE LINE																	
TIMELINESS	3	Raised 5/23/08	High: 26.9	29.5	23.0	24.7	25.3	23.6	26.2	28.1	39.4	39.9	33.3	26.4	Target Price Range	2012	2013	2014												
SAFETY	3	Lowered 1/4/91	Low: 17.3	20.4	16.9	18.6	18.1	19.3	21.5	23.5	26.0	26.5	21.1	17.1																
TECHNICAL	4	Lowered 7/24/09	LEGENDS 1.50 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area: prior recession Latest recession began 12/07																											
BETA	.75	(1.00 = Market)																												
2012-14 PROJECTIONS				Ann'l Total	Price	Gain	Return																							
High	40	(+65%)	17%																											
Low	30	(+25%)	10%																											
Insider Decisions				O N D J F M A M J																										
to Buy	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0												
Options	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
to Sell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
Institutional Decisions				4Q2008	1Q2009	2Q2009																								
to Buy	83	83	86																											
to Sell	75	71	71																											
Net's (000)	32362	32859	32802																											
Percent	9	6	3																											
shares	3	3	3																											
traded	3	3	3																											
1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	© VALUE LINE PUB., INC.	12-14											
25.68	28.16	23.03	24.09	25.73	30.17	30.24	32.61	42.98	39.68	35.96	40.14	43.59	48.47	50.28	48.53	39.55	41.50	Revenues per sh	52.00											
3.24	5.09	2.65	3.00	3.85	4.48	4.45	4.57	4.79	5.07	5.11	5.57	5.20	5.97	6.21	5.76	5.95	6.15	"Cash Flow" per sh	7.30											
.63	1.22	.10	.25	.77	1.65	1.27	1.21	1.15	1.16	1.13	1.66	1.25	1.98	1.95	1.39	1.75	1.90	Earnings per sh	2.30											
.74	.80	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.86	.90	.95	1.00	Div'ds Decl'd per sh	1.15											
5.43	6.64	6.79	8.19	6.19	6.40	7.41	7.04	8.17	8.50	7.03	8.23	7.49	8.27	7.96	6.79	5.50	5.95	Cap'l Spending per sh	7.20											
15.96	16.38	14.55	14.20	14.09	15.67	16.31	16.82	17.27	17.91	18.42	19.18	19.10	21.58	22.98	23.49	25.25	26.05	Book Value per sh	28.00											
21.00	21.28	24.47	26.73	27.39	30.41	30.99	31.71	32.49	33.29	34.23	36.79	39.33	41.77	42.81	44.19	45.50	47.00	Common Shs Outst'g	50.00											
26.5	14.0	NMF	69.3	24.1	13.2	21.1	16.0	19.0	19.9	19.2	14.3	20.6	15.9	17.3	20.3	23.0	24.7	Avg Ann'l P/E Ratio	15.0											
1.57	.92	NMF	4.34	1.39	.69	1.20	1.04	.97	1.09	1.09	.76	1.10	.86	.92	1.22	1.22	1.22	Relative P/E Ratio	1.00											
4.4%	4.7%	5.4%	4.7%	4.4%	3.8%	3.1%	4.2%	3.8%	3.6%	3.8%	3.5%	3.2%	2.6%	2.6%	3.2%	3.2%	3.2%	Avg Ann'l Div'd Yield	3.3%											
CAPITAL STRUCTURE as of 6/30/09				936.9	1034.1	1396.7	1320.9	1231.0	1477.1	1714.3	2024.7	2152.1	2144.7	1800	1950	1800	1950	Revenues (\$mill)	2600											
Total Debt \$1228.0 mill. Due in 5 Yrs \$566.1 mill.				39.3	38.3	37.2	38.6	38.5	38.5	48.1	80.5	83.2	83.2	83.2	80.0	80.0	80.0	Net Profit (\$mill)	115											
LT Debt \$1222.9 mill. LT Interest \$85.0 mill.				35.5%	26.2%	34.5%	32.8%	30.5%	34.8%	29.7%	37.3%	36.5%	40.1%	38.0%	38.0%	38.0%	38.0%	Income Tax Rate	36.0%											
(Total interest coverage: 2.2x)				4.2%	3.7%	2.7%	2.9%	3.1%	4.0%	2.8%	4.0%	3.9%	2.8%	4.4%	4.6%	4.6%	4.6%	Net Profit Margin	4.4%											
Leases, Uncapitalized Annual rentals \$6.0 mill.				60.3%	60.2%	56.2%	62.5%	66.0%	64.2%	63.8%	60.6%	58.1%	55.3%	51.0%	50.5%	50.5%	50.5%	Long-Term Debt Ratio	49.0%											
Pension Assets-12/08 \$342.9 mill.				35.5%	35.8%	39.6%	34.1%	34.0%	35.8%	36.2%	39.4%	41.9%	44.7%	49.0%	49.5%	49.5%	49.5%	Common Equity Ratio	51.0%											
Oblig. \$558.9 mill.				1424.7	1489.9	1417.6	1748.3	1851.6	1968.6	2076.0	2287.8	2349.7	2323.3	2350	2475	2475	2475	Total Capital (\$mill)	2750											
Pfd Stock None				1581.1	1686.1	1825.6	1979.5	2175.7	2336.0	2489.1	2668.1	2845.3	2983.3	3050	3150	3150	3150	Net Plant (\$mill)	3600											
Common Stock 44,822,466 shs.				4.8%	4.6%	5.1%	4.3%	4.2%	5.0%	4.3%	5.5%	5.5%	4.5%	5.0%	5.5%	5.5%	5.5%	Return on Total Cap'l	6.0%											
as of 7/30/09				7.0%	6.5%	6.0%	5.9%	6.1%	8.3%	6.4%	8.9%	8.5%	5.9%	7.0%	7.5%	7.5%	7.5%	Return on Shr. Equity	8.0%											
MARKET CAP: \$1.1 billion (Mid Cap)				7.8%	7.2%	6.6%	6.5%	6.1%	8.3%	6.4%	8.9%	8.5%	5.9%	7.0%	7.5%	7.5%	7.5%	Return on Com Equity	8.0%											
CURRENT POSITION				2.8%	2.4%	1.9%	1.9%	1.7%	4.3%	2.2%	5.2%	4.8%	2.1%	3.0%	3.5%	3.5%	3.5%	Retained to Com Eq	4.0%											
(\$mill.)				64%	67%	71%	70%	72%	49%	65%	42%	44%	63%	54%	52%	52%	52%	All Div'ds to Net Prof	50%											
Cash Assets				2007	2008	6/30/09																								
Other				32.0	26.4	26.8																								
Current Assets				470.5	411.7	232.5																								
Accts Payable				502.5	438.1	259.3																								
Debt Due				220.7	191.4	68.0																								
Other				47.1	62.8	5.1																								
Current Liab.				260.1	255.7	303.0																								
Fix. Chg. Cov.				527.9	509.9	376.1																								
				229%	224%	233%																								
ANNUAL RATES				Past 10 Yrs.	Past 5 Yrs.	Est'd '06-'08 to '12-'14																								
Revenues				6.0%	4.5%	1.0%																								
"Cash Flow"				4.5%	3.5%	3.5%																								
Earnings				7.0%	9.0%	4.5%																								
Dividends				0.5%	1.0%	5.0%																								
Book Value				4.5%	5.0%	3.5%																								
Cal-endar				Mar.31	Jun.30	Sep.30	Dec.31	Full Year																						
2006				676.9	430.9	351.8	565.1	2024.7																						
2007				793.7	426.6	371.5	560.3	2152.1																						
2008				813.6	447.3	374.4	509.4	2144.7																						
2009				689.9	387.6	275	447.5	1800																						
2010				730	410	310	500	1950																						
Cal-endar				Mar.31	Jun.30	Sep.30	Dec.31	Full Year																						
2006				1.11	.02	d.26	1.11	1.98																						
2007				1.17	d.01	d.22	1.01	1.95																						
2008				1.14	d.06	d.38	.71	1.39																						
2009				1.12	d.01	d.35	.99	1.75																						
2010				1.15	Nil	d.30	1.05	1.90																						
Cal-endar				Mar.31	Jun.30	Sep.30	Dec.31	Full Year																						
2005				.205	.205	.205	.205	.82																						
2006				.205	.205	.205	.205	.82																						
2007				.205	.215	.215	.215	.85																						
2008				.215	.225	.225	.225	.89																						
2009				.225	.238	.238																								
(A) Based on avg. shares outstanding, thru '96, then diluted. Excl. nonrec. gains (losses); '93, '84; '97, '64; '02, (10p); '05, (11p); '06, '7p. Incl. as set withdrawn; '83, 44p. Excl. loss from dividend.																														
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Company's Financial Strength				B																										
Stock's Price Stability				100																										
Price Growth Persistence				65																										
Earnings Predictability				70																										
To subscribe call 1-800-833-0046																														

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(UPDATED)

<p>A) Fiscal year ends June 30th through 2004; December 31st beg. in 2005. (B) Based on diluted shares. Excludes non-recurring per share gain (loss): '01, 81¢; '03, 55¢; '06, 0¢.</p> <p>© 2009, Value Line Publishing, Inc. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, stored, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.</p>	<p>(1.30¢), '08, 45¢. Next egs. report due late Oct. Qtrly egs. may not sum due to changes in shares count. (C) In millions, adj. for splits. (D) Annual % common stock dividend suspended end of</p>	<p>2005. Cash dividend started April 2006. Qtrly divs paid January, April, July, and October. • Dividend Reinvestment plan available. (E) Incl. Inlang. In 2008: \$99.2 mill., \$0.72/sh.</p>	<p>Company's Financial Strength Stock's Price Stability Price Growth Persistence Earnings Predictability</p>	<p>B+ 85 85 60</p>
<p>To subscribe call 1-800-833-0046</p>				

Missouri Gas Energy
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

<u>Line No.</u>		<u>Proxy Group of Nine Value Line Natural Gas Distribution Companies</u>	<u>Southern Union Company</u>
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	5.60 %	5.60 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds	<u>0.50 (2)</u>	<u>0.50 (2)</u>
3.	Adjusted Prospective Yield on A Rated Public Utility Bonds	6.10 %*	6.10 %*
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	<u>0.18 (3)</u>	<u>0.54 (4)</u>
5.	Adjusted Prospective Bond Yield	6.28	6.64
6.	Equity Risk Premium (5)	<u>4.66</u>	<u>5.99</u>
7.	Risk Premium Derived Common Equity Cost Rate	<u>10.94 %</u>	<u>12.63 %</u>

* Actual Moody's A Rated Public Utility Bond Yield for August 2009 is 5.71%.

Notes: (1) Derived in Note (3) on Page 39 of this Schedule.

(2) The average yield spread of A rated public utility bonds over Aaa rated corporate bonds of 0.50% from Page 37 of this Schedule.

(3) Adjustment to reflect the A3 Moody's Bond Rating of the Proxy Group of Nine Value Line Natural Gas Distribution Companies as shown on Page 35 of this Schedule. Normally, Mr. Hanley would take 1/3 of the spread between Baa and A2 Public Utility Bonds ($1/3 * 0.78\% = 0.26\%$) to reflect the risk of the proxy group. However Mr. Hanley believes that the current spread between A2 and Baa2 rated public utility bonds are not representative of the long-term and will utilize a normalized spread of 0.54% between A2 and Baa2 rated public utility bonds based upon a weighting shown on page 37 of this Schedule and explained in Mr. Hanley's rebuttal testimony. A spread of 0.18%, or 1/3 of the normalized spread will be applied to the prospective yield on A rated public utility bonds relative to the proxy group of nine Value Line natural gas distribution companies as shown above.

(4) Adjustment to reflect the Baa3 Moody's Bond Rating of Southern Union Company as shown on page 35 of this Schedule. Normally, Mr. Hanley would take the full spread between A2 and Baa2 yields (0.78%) and add it to prospective A yield to reflect the risk of Southern Union Company. However Mr. Hanley believes that the current spread between A2 and Baa2 rated public utility bonds are not representative of the long-term and will utilize a normalized spread of 0.54% between A2 and Baa2 rated public utility bonds based upon a weighting shown on Page 37 of this Schedule and explained in Mr. Hanley's rebuttal testimony. The full spread of 0.54% will be applied to the prospective yield on A rated public utility bonds relative to Southern Union Company as shown above.

(5) From Page 38 of this Schedule.

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Page 34 of 55

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(UPDATED)

[illegible]

Notes: (1) From Page 36 of this Schedule.

(2) From Standard & Poor's Issuer Ranking: U.S. Natural Gas Distribution and Integrated Gas Companies, Strongest to Weakest and U.S. Midstream Energy Companies, Strongest to Weakest September 2, 2009.

(3) Ratings, business risk and financial risk profiles are those of Atlanta Gas Light Company.

(4) Ratings, business risk and financial risk are those of Laclede Gas Company.

(4) Ratings, business risk and financial risk are those of Laclede Gas Company.

(5) Ratings, business risk and financial risk profiles are those of New Jersey Natural Gas Company.

(5) Ratings, business risk and financial risk profiles are those of New Jersey Natural Gas.

(6) Ratings, business risk and financial risk profiles are those of South Jersey Gas.

(b) Ratings, business risk and financial risk profiles are those of South Jersey Gas.

(7) Ratings, business risk and financial risk profiles are those of Washington Gas Light Company.

Source Information: Moody's Investors Service
Standard & Poor's Global Utilities Rating Service

Missouri Gas Energy
Numerical Assignment for
Moody's and Standard & Poor's Bond Ratings,
Standard & Poor's Credit Ratings, and
Standard & Poor's Business and Financial Risk Profiles

<u>Moody's Bond Rating</u>	<u>Numerical Bond Weighting</u>	<u>Standard & Poor's Bond / Credit Rating</u>
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-

Standard & Poor's

<u>Business Risk Profile</u>	<u>Numerical Weighting</u>	<u>Financial Risk Profile</u>	<u>Numerical Weighting</u>
Excellent	1	Minimal	1
Strong	2	Modest	2
Satisfactory	3	Intermediate	3
Fair	4	Significant	4
Weak	5	Aggressive	5
Vulnerable	6	Highly Leveraged	6

Moody's
Comparison of Interest Rate Trends
for the Two Months Ending August 2009 (1)

Years	Corporate Bonds		Public Utility Bonds		Spread - Corporate v. Public Utility Bonds		Spread - Public Utility Bonds	
	Aaa Rated		Aa Rated	A Rated	Aa (Pub. Util.) over Aaa (Corp.)	A (Pub. Util.) over Aaa (Corp.)	A over Aa	Baa over A
July-09	5.41		5.63	5.97	0.22 %	0.56 %	0.34 %	0.90 %
August-09	5.26		5.33	5.71	0.07	0.45	0.38	0.65
Average of Last 2 Months	5.34 %		5.48 %	5.84 %	0.14 %	0.50 %	0.36 %	0.78 %

Average 5 yr Spread Between Moody's A and Baa Rated Public Utility Bonds (2) 0.46% 60% Weight
August 2009 Spread Between Moody's A and Baa Rated Public Utility Bonds (2) 0.65% 40% Weight
5 yr Normalized Spread Between Moody's A and Baa Rated Public Utility Bonds 0.54%

Notes: (1) All yields are distributed yields.
(2) From Page 48 of this Schedule.

Missouri Gas Energy
Judgment of Equity Risk Premium for
the Proxy Group of Nine Value Line Natural Gas Distribution Companies

Line No.		Proxy Group of Nine Value Line Natural Gas Distribution Companies	Southern Union Company
1.	Calculated equity risk premium based on the total market using the beta approach (1)	5.17 %	8.35 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with Baa rated bonds (2)	<u>4.15</u>	<u>3.63</u>
3.	Average equity risk premium	<u><u>4.66</u></u> %	<u><u>5.99</u></u> %

Notes:

- (1) From Page 39 of this Schedule.
(2) From Page 41 of this Schedule.

Missouri Gas Energy
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
the Proxy Group of Nine Value Line Natural Gas Distribution Companies

Line No.		Proxy Group of Nine Value Line Natural Gas Distribution Companies	Southern Union Company
1.	Arithmetic mean total return rate on the Standard & Poor's 500 Composite Index - 1926-2007 (1)	11.70 %	11.70 %
2.	Arithmetic mean yield on Aaa and Aa Corporate Bonds 1926-2007 (2)	(6.10)	(6.10)
3.	Historical Equity Risk Premium	5.60 %	5.60 %
4.	Forecasted 3-5 year Total Annual Market Return (3)	17.09 %	17.09 %
5.	Prospective Yield an Aaa Rated Corporate Bonds (4)	(5.60)	(5.60)
6.	Forecasted Equity Risk Premium	11.49 %	11.49 %
7.	Conclusion of Equity Risk Premium (5)	7.96 %	7.96 %
8.	Adjusted Value Line Beta (6)	0.65	1.05
9.	Beta Adjusted Equity Risk Premium	5.17 %	8.35 %

- Notes: (1) From Ibbotson SBBI - 2009 Valuation Yearbook - Market Results for Stocks Bonds Bills and Inflation for 1926-2008, Morningstar, Inc., 2009 Chicago, IL.
- (2) From Moody's Industrial Manual and Mergent Bond Record Monthly Update.
- (3) From Page 51 of this Schedule.
- (4) Average forecast based upon six quarterly estimates of Aaa rated corporate bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated September 1, 2009 (see Page 40 of this Schedule). The estimates are detailed below.

Third Quarter 2009	5.40 %
Fourth Quarter 2009	5.50
First Quarter 2010	5.60
Second Quarter 2010	5.60
Third Quarter 2010	5.70
Fourth Quarter 2010	5.80
Average	5.60 %

- (5) The average of the Historical Equity Risk Premium of 6.20% from Line No. 3 and the Forecasted Equity Risk Premium of 11.49% from Line No. 6 $((6.20\% + 11.49\%) / 2 = 8.84\%)$. Normally, Mr. Hanley would use this average in his Risk Premium Analysis. However, in Mr. Hanley's opinion, the current and recent substantial volatility in the stock market is extraordinary and not representative of the expected long-term. In view of the recent substantial increase in the market over the last five to six months, the potential for market appreciation has declined significantly. Thus, in Mr. Hanley's opinion, more weight should now be given to the market appreciation potential. Consequently, a 40% weight to the forecasted risk premium of 11.49% and a 60% weight to the historical risk premium of 5.60% is appropriate to reflect the current economic climate. The result of the weighting indicates a 7.96% risk premium.
- (6) From Page 42 of this Schedule.

Consensus Forecasts Of U.S. Interest Rates And Key Assumptions¹

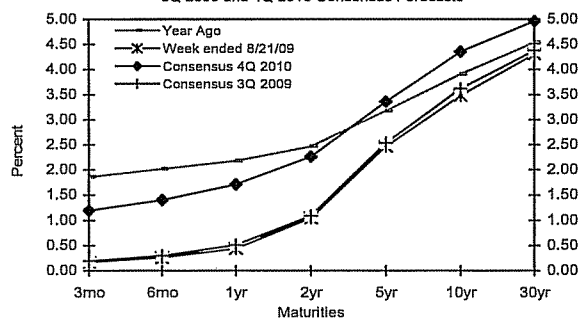
Interest Rates	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week End				Average For Month				3Q	4Q	1Q	2Q	3Q	4Q
	Aug. 21	Aug. 14	Aug. 7	July 31	July	June	May	2Q 2009	2009	2009	2010	2010	2010	2010
Federal Funds Rate	0.16	0.17	0.18	0.15	0.16	0.21	0.18	0.18	0.2	0.2	0.2	0.4	0.7	1.1
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.2	3.2	3.3	3.4	3.8	4.2
LIBOR, 3-mo.	0.44	0.45	0.47	0.49	0.52	0.62	0.82	0.85	0.6	0.6	0.6	0.8	1.1	1.5
Commercial Paper, 1-mo.	0.17	0.19	0.17	0.19	0.18	0.18	0.22	0.21	0.3	0.3	0.3	0.5	0.9	1.2
Treasury bill, 3-mo.	0.17	0.18	0.18	0.19	0.18	0.18	0.18	0.19	0.2	0.2	0.3	0.5	0.8	1.2
Treasury bill, 6-mo.	0.26	0.28	0.29	0.26	0.28	0.31	0.30	0.36	0.3	0.4	0.5	0.7	1.0	1.4
Treasury bill, 1 yr.	0.44	0.47	0.49	0.49	0.48	0.51	0.50	0.57	0.5	0.6	0.8	1.0	1.3	1.7
Treasury note, 2 yr.	1.05	1.16	1.23	1.14	1.02	1.18	0.93	1.01	1.1	1.2	1.4	1.6	1.9	2.3
Treasury note, 5 yr.	2.47	2.65	2.73	2.63	2.46	2.71	2.13	2.13	2.5	2.6	2.8	2.9	3.1	3.4
Treasury note, 10 yr.	3.48	3.67	3.77	3.67	3.56	3.72	3.29	3.16	3.6	3.7	3.9	4.0	4.2	4.4
Treasury note, 30 yr.	4.31	4.47	4.52	4.49	4.41	4.52	4.23	3.97	4.4	4.5	4.6	4.7	4.8	5.0
Corporate Aaa bond	5.24	5.34	5.34	5.40	5.41	5.61	5.54	5.50	5.4	5.5	5.6	5.6	5.7	5.8
Corporate Baa bond	6.56	6.62	6.71	6.91	7.09	7.50	8.06	8.10	7.0	7.0	7.0	7.0	7.1	7.2
State & Local bonds	4.58	4.65	4.65	4.69	4.72	4.81	4.56	4.85	4.7	4.8	4.8	4.8	4.9	5.0
Home mortgage rate	5.12	5.29	5.22	5.25	5.22	5.42	4.86	5.08	5.3	5.3	5.4	5.6	5.7	5.9

Key Assumptions	History								Consensus Forecasts-Quarterly Avg.					
	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
	2007	2007	2008	2008	2008	2008	2009	2009	2009	2009	2010	2010	2010	2010
Major Currency Index	77.0	73.3	72.0	70.9	73.5	81.3	82.7	79.4	76.4	76.1	76.2	76.4	76.6	76.6
Real GDP	3.6	2.1	-0.7	1.5	-2.7	-5.4	-6.4	-1.0	2.3	2.3	2.4	2.8	2.7	2.8
GDP Price Index	1.6	2.3	1.9	1.8	4.0	0.1	1.9	0.0	1.5	1.4	1.4	1.5	1.6	1.7
Consumer Price Index	2.4	5.8	4.5	4.5	6.2	-8.3	-2.4	1.3	2.6	1.8	1.7	1.6	2.1	2.1

Individual panel members' forecasts are on pages 4 through 9. Historical data for interest rates except LIBOR is from Federal Reserve Release (FRSR) H.15. LIBOR quotes available from *The Wall Street Journal*. Definitions reported here are same as those in FRSR H.15. Treasury yields are reported on a constant maturity basis. Historical data for the U.S. Federal Reserve Board's Major Currency Index is from FRSR H.10 and G.5. Historical data for Real GDP and GDP Chained Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index (CPI) history is from the Department of Labor's Bureau of Labor Statistics (BLS).

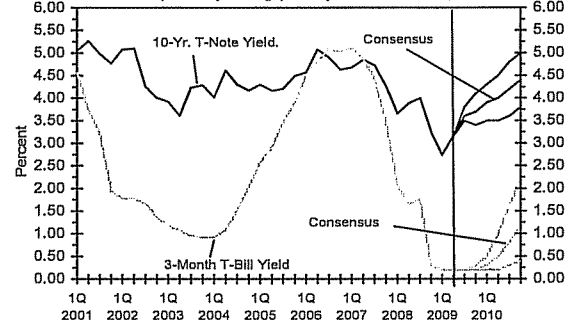
U.S. Treasury Yield Curve

Week ended August 21, 2009 and Year Ago vs.
3Q 2009 and 4Q 2010 Consensus Forecasts



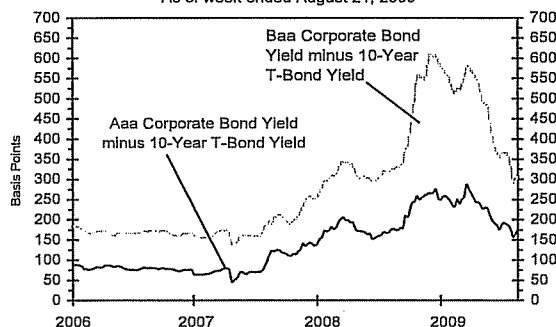
U.S. 3-Mo. T-Bills & 10-Yr. T-Note Yield

(Quarterly Average) History Forecast



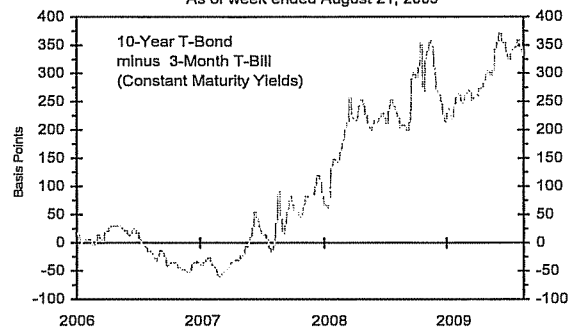
Corporate Bond Spreads

As of week ended August 21, 2009



U.S. Treasury Yield Curve

As of week ended August 21, 2009



Missouri Gas Energy
Derivation of Mean Equity Risk Premium Based on a Study
Using Holding Period Returns of Public Utilities

<u>Line No.</u>		Over A Rated Public Utility Bonds AUS Consultants - Utility Services <u>Study (1)</u>	Over Baa Rated Public Utility Bonds AUS Consultants - Utility Services <u>Study (1)</u>
		1928-2008	1928-2008
1.	Arithmetic Mean Holding Period Returns (2): Standard & Poor's Public Utility Index	10.74 %	10.74 %
2.	Arithmetic Mean Yield on: Moody's A Rated Public Utility Bonds	<u>(6.59)</u>	
3.	Arithmetic Mean Yield on: Moody's Baa Rated Public Utility Bonds		<u>(7.11)</u>
4.	Equity Risk Premium	<u>4.15 %</u>	<u>3.63 %</u>

Notes: (1) S&P Public Utility Index and Moody's Public Utility Bond Average Annual Yields 1928-2008, (AUS Consultants - Utility Services, 2009).

(2) Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.

Missouri Gas Energy
Value Line Adjusted Betas for
the Proxy Group of Nine Value Line Natural Gas Distribution Companies
and Southern Union Company

	<u>Value Line Adjusted Beta</u>
<u>Proxy Group of Nine Value Line Natural Gas Distribution Companies</u>	
AGL Resources Inc.	0.75
Atmos Energy Corp.	0.65
The Laclede Group, Inc.	0.60
New Jersey Resources Corp.	0.65
Northwest Natural Gas Co.	0.60
Piedmont Natural Gas Co., Inc.	0.65
South Jersey Industries, Inc.	0.65
Southwest Gas Corporation	0.75
WGL Holdings, Inc.	0.65
Average	<u>0.66</u>
Median	<u>0.65</u>
<u>Southern Union Company</u>	<u>1.05</u>

Source of Information: Value Line Investment Survey
(Standard Edition) September 11,
2009.

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(UPDATED)

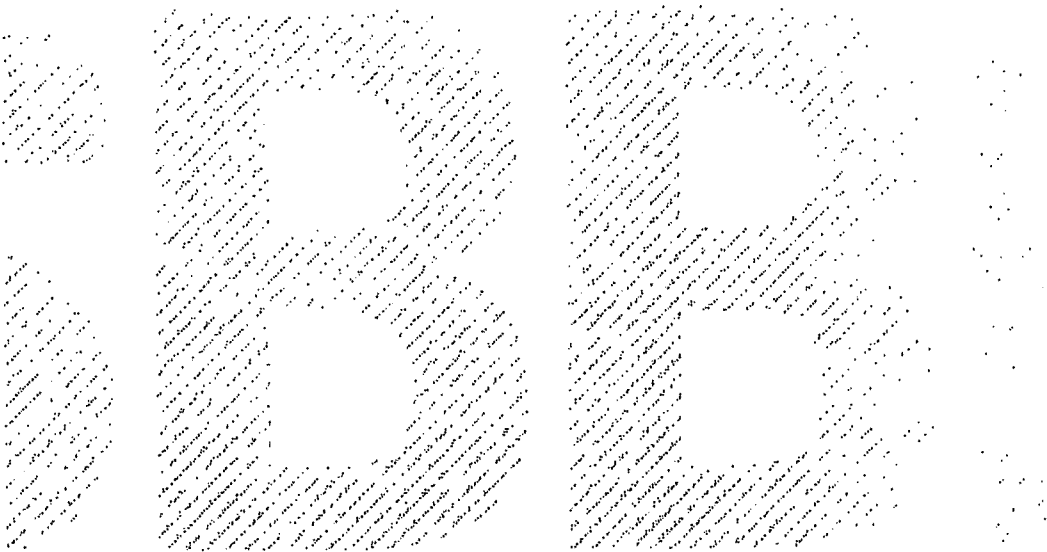
Ibbotson® S&P®

2009 Valuation Yearbook

Market Results for

Stocks, Bonds, Bills, and Inflation

1926–2008



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Treasury bond; however, the Treasury currently does not issue a 20-year bond. The 30-year bond that the Treasury recently began issuing again is theoretically more correct due to the long-term nature of business valuation, yet Ibbotson Associates instead creates a series of returns using bonds on the market with approximately 20 years to maturity. The reason for the use of a 20-year maturity bond is that 30-year Treasury securities have only been issued over the relatively recent past, starting in February of 1977, and were not issued at all through the early 2000s.

The same reason exists for why we do not use the 10-year Treasury bond—a long history of market data is not available for 10-year bonds. We have persisted in using a 20-year bond to keep the basis of the time series consistent.

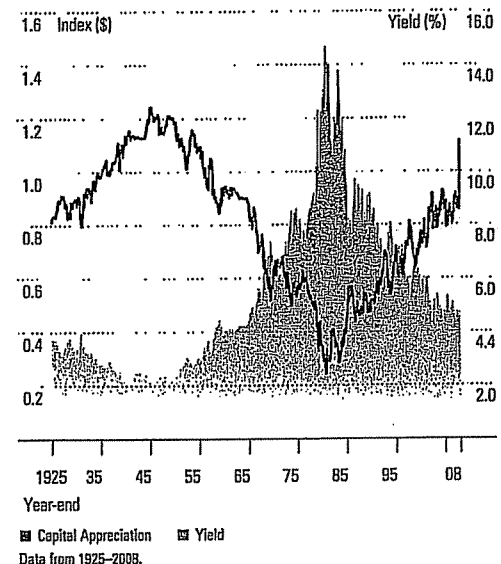
Income Return

Another point to keep in mind when calculating the equity risk premium is that the income return on the appropriate-horizon Treasury security, rather than the total return, is used in the calculation. The total return is comprised of three return components: the income return, the capital appreciation return, and the reinvestment return. The income return is defined as the portion of the total return that results from a periodic cash flow or, in this case, the bond coupon payment. The capital appreciation return results from the price change of a bond over a specific period. Bond prices generally change in reaction to unexpected fluctuations in yields. Reinvestment return is the return on a given month's investment income when reinvested into the same asset class in the subsequent months of the year. The income return is thus used in the estimation of the equity risk premium because it represents the truly riskless portion of the return.²

Yields have generally risen on the long-term bond over the 1926–2008 period, so it has experienced negative capital appreciation over much of this time. This trend has turned around since the 1980s, however. Graph 5-2 illustrates the yields on the long-term government bond series compared to an index of the long-term government bond capital appreciation. In general, as yields rose, the capital appreciation index fell, and vice versa. Had an investor held the long-term bond to maturity, he would have realized the yield on the bond as the total return. However, in a constant maturity portfolio, such as those used to measure bond returns in this publication, bonds are sold before maturity (at a capital loss if the market yield has risen since

the time of purchase). This negative return is associated with the risk of unanticipated yield changes.

Graph 5-2: Long-term Government Bond Yields versus Capital Appreciation Index



For example, if bond yields rise unexpectedly, investors can receive a higher coupon payment from a newly issued bond than from the purchase of an outstanding bond with the former lower-coupon payment. The outstanding lower-coupon bond will thus fail to attract buyers, and its price will decrease, causing its yield to increase correspondingly, as its coupon payment remains the same. The newly priced outstanding bond will subsequently attract purchasers who will benefit from the shift in price and yield; however, those investors who already held the bond will suffer a capital loss due to the fall in price.

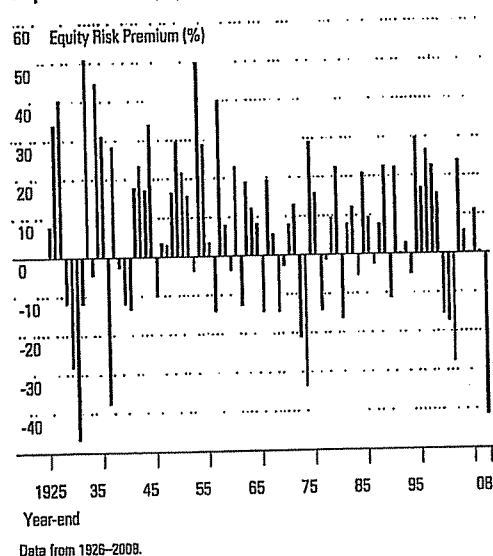
Anticipated changes in yields are assessed by the market and figured into the price of a bond. Future changes in yields that are not anticipated will cause the price of the bond to adjust accordingly. Price changes in bonds due to unanticipated changes in yields introduce price risk into the total return. Therefore, the total return on the bond series does not represent the riskless rate of return. The income return better represents the unbiased estimate of the purely riskless rate of return, since an investor can hold a bond to maturity and be entitled to the income return with no capital loss.

Arithmetic versus Geometric Means

The equity risk premium data presented in this book are arithmetic average risk premia as opposed to geometric average risk premia. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance, since it represents the compound average return.

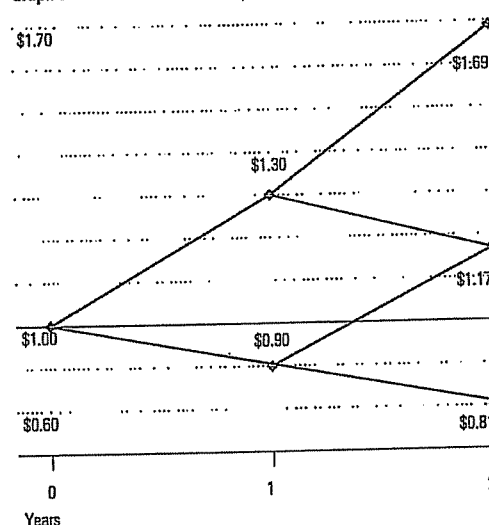
The argument for using the arithmetic average is quite straightforward. In looking at projected cash flows, the equity risk premium that should be employed is the equity risk premium that is expected to actually be incurred over the future time periods. Graph 5-3 shows the realized equity risk premium for each year based on the returns of the S&P 500 and the income return on long-term government bonds. (The actual, observed difference between the return on the stock market and the riskless rate is known as the realized equity risk premium.) There is considerable volatility in the year-by-year statistics. At times the realized equity risk premium is even negative.

Graph 5-3: Realized Equity Risk Premium Per Year



To illustrate how the arithmetic mean is more appropriate than the geometric mean in discounting cash flows, suppose the expected return on a stock is 10 percent per year with a standard deviation of 20 percent. Also assume that only two outcomes are possible each year: +30 percent and -10 percent (i.e., the mean plus or minus one standard deviation). The probability of occurrence for each outcome is equal. The growth of wealth over a two-year period is illustrated in Graph 5-4.

Graph 5-4: Growth of Wealth Example



The most common outcome of \$1.17 is given by the geometric mean of 8.2 percent. Compounding the possible outcomes as follows derives the geometric mean:

$$[(1+0.30) \times (1-0.10)]^{1/2} - 1 = 0.082$$

However, the expected value is predicted by compounding the arithmetic, not the geometric, mean. To illustrate this, we need to look at the probability-weighted average of all possible outcomes:

$(0.25 \times \$1.69) =$	$\$0.4225$
$+ (0.50 \times \$1.17) =$	$\$0.5850$
$+ (0.25 \times \$0.81) =$	$\$0.2025$
Total	\$1.2100

Therefore, \$1.21 is the probability-weighted expected value. The rate that must be compounded to achieve the terminal value of \$1.21 after 2 years is 10 percent, the arithmetic mean:

$$\$1 \times (1 + 0.10)^2 = \$1.21$$

The geometric mean, when compounded, results in the median of the distribution:

$$\$1 \times (1 + 0.082)^2 = \$1.17$$

The arithmetic mean equates the expected future value with the present value; it is therefore the appropriate discount rate.

Appropriate Historical Time Period

The equity risk premium can be estimated using any historical time period. For the U.S., market data exists at least as far back as the late 1800s. Therefore, it is possible to estimate the equity risk premium using data that covers roughly the past 100 years.

Our equity risk premium covers the time period from 1926 to the present. The original data source for the time series comprising the equity risk premium is the Center for Research in Security Prices. CRSP chose to begin their analysis of market returns with 1926 for two main reasons. CRSP determined that the time period around 1926 was approximately when quality financial data became available. They also made a conscious effort to include the period of extreme market volatility from the late twenties and early thirties; 1926 was chosen because it includes one full business cycle of data before the market crash of 1929. These are the most basic reasons why our equity risk premium calculation window starts in 1926.

Implicit in using history to forecast the future is the assumption that investors' expectations for future outcomes conform to past results. This method assumes that the price of taking on risk changes only slowly, if at all, over time. This "future equals the past" assumption is most applicable to a random time-series variable. A time-series variable is random if its value in one period is independent of its value in other periods.

Does the Equity Risk Premium Revert to Its Mean Over Time?

Some have argued that the estimate of the equity risk premium is upwardly biased since the stock market is currently priced high. In other words, since there have been several years with extraordinarily high market returns and realized equity risk premia, the expectation is that returns and realized equity risk premia will be lower in the future, bringing the average back to a normalized level. This argument relies on several studies that have tried to determine whether reversion to the mean exists in stock market prices and the equity risk premium.³ Several academics contradict each other on this topic; moreover, the evidence supporting this argument is neither conclusive nor compelling enough to make such a strong assumption.

Our own empirical evidence suggests that the yearly difference between the stock market total return and the U.S. Treasury bond income return in any particular year is random. Graph 5-3, presented earlier, illustrates the randomness of the realized equity risk premium.

A statistical measure of the randomness of a return series is its serial correlation. Serial correlation (or autocorrelation) is defined as the degree to which the return of a given series is related from period to period. A serial correlation near positive one indicates that returns are predictable from one period to the next period and are positively related. That is, the returns of one period are a good predictor of the returns in the next period. Conversely, a serial correlation near negative one indicates that the returns in one period are inversely related to those of the next period. A serial correlation near zero indicates that the returns are random or unpredictable from one period to the next. Table 5-3 contains the serial correlation of the market total returns, the realized long-horizon equity risk premium, and inflation.

Table 5-3: Interpretation of Annual Serial Correlations

Series	Serial Correlation	Interpretation
Large Company Stock Total Returns	0.04	Random
Equity Risk Premium	0.04	Random
Inflation Rates	0.64	Trend

Data from 1926–2008

The significance of this evidence is that the realized equity risk premium next year will not be dependent on the realized equity risk premium from this year. That is, there is no discernable pattern in the realized equity risk premium—it is virtually impossible to forecast next year's realized risk premium based on the premium of the previous year. For example, if this year's difference between the riskless rate and the return on the stock market is higher than last year's, that does not imply that next year's will be higher than this year's. It is as likely to be higher as it is lower. The best estimate of the expected value of a variable that has behaved randomly in the past is the average (or arithmetic mean) of its past values.

Table 5-4 also indicates that the equity risk premium varies considerably by decade. The complete decades ranged from a high of 17.9 percent in the 1950s to a low of 0.3 percent in the 1970s, however, thus far the 2000s have shown a -6.7 percent equity risk premium. This look at historical equity risk premium reveals no observable pattern.

Table 5-4: Long-Horizon Equity Risk Premium by Decade (%)

1920s*	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s**	1999-2008
17.6	2.3	8.0	17.9	4.2	0.3	7.9	12.1	-6.7	-4.5

Data from 1926–2008.

*Based on the period 1926–1929.

**Based on the period 2000–2008.

Finnerty and Leistikow perform more econometrically sophisticated tests of mean reversion in the equity risk premium. Their tests demonstrate that—as we suspected from our simpler tests—the equity risk premium that was realized over 1926 to the present was almost perfectly free of mean reversion and had no statistically identifiable time trends.⁴ Lo and MacKinlay conclude, “the rejection of the random walk for weekly returns does not support a mean-reverting model of asset prices.”

Choosing an Appropriate Historical Period

The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable.⁵ Furthermore, because an average of the realized equity risk premium is quite volatile when calculated using a short history, using a long series

makes it less likely that the analyst can justify any number he or she wants. The magnitude of how shorter periods can affect the result will be explored later in this chapter.

Some analysts estimate the expected equity risk premium using a shorter, more recent time period on the basis that recent events are more likely to be repeated in the near future; furthermore, they believe that the 1920s, 1930s, and 1940s contain too many unusual events. This view is suspect because all periods contain “unusual” events. Some of the most unusual events of the last hundred years took place quite recently, including the inflation of the late 1970s and early 1980s, the October 1987 stock market crash, the collapse of the high-yield bond market, the major contraction and consolidation of the thrift industry, the collapse of the Soviet Union, the development of the European Economic Community, and the attacks of September 11, 2001.

It is even difficult for economists to predict the economic environment of the future. For example, if one were analyzing the stock market in 1987 before the crash, it would be statistically improbable to predict the impending short-term volatility without considering the stock market crash and market volatility of the 1929–1931 period.

Without an appreciation of the 1920s and 1930s, no one would believe that such events could happen. The 83-year period starting with 1926 is representative of what can happen: it includes high and low returns, volatile and quiet markets, war and peace, inflation and deflation, and prosperity and depression. Restricting attention to a shorter historical period underestimates the amount of change that could occur in a long future period. Finally, because historical event-types (not specific events) tend to repeat themselves, long-run capital market return studies can reveal a great deal about the future. Investors probably expect “unusual” events to occur from time to time, and their return expectations reflect this.

A Look at the Historical Results

It is interesting to take a look at the realized returns and realized equity risk premium in the context of the above discussion. Table 5-5 shows the average stock market return and the average (arithmetic mean) realized long-horizon equity risk premium over various historical time periods. Similarly, Graph 5-5 shows the average (arithmetic mean) realized equity risk premium calculated through 2008 for different starting dates. The table and the graph both show

Missouri Gas Energy
 Spreads Between Moody's A and Baa Rated Public Utility Bond Yields
 for Five Years Eight Months Ending August 2009

DATE	Moody's A Rated Public Utility Bond Yields	Moody's Baa Rated Public Utility Bond Yields	Spread Between A and Baa Rated Bond Yields
Jan-04	6.15%	6.47%	0.32%
Feb-04	6.15%	6.28%	0.13%
Mar-04	5.97%	6.12%	0.15%
Apr-04	6.35%	6.46%	0.11%
May-04	6.62%	6.75%	0.13%
Jun-04	6.46%	6.84%	0.38%
Jul-04	6.27%	6.67%	0.40%
Aug-04	6.14%	6.45%	0.31%
Sep-04	5.98%	6.27%	0.29%
Oct-04	5.94%	6.17%	0.23%
Nov-04	5.97%	6.16%	0.19%
Dec-04	5.92%	6.10%	0.18%
Jan-05	5.78%	5.95%	0.17%
Feb-05	5.61%	5.76%	0.15%
Mar-05	5.83%	6.01%	0.18%
Apr-05	5.64%	5.95%	0.31%
May-05	5.53%	5.88%	0.35%
Jun-05	5.40%	5.70%	0.30%
Jul-05	5.51%	5.80%	0.29%
Aug-05	5.50%	5.81%	0.31%
Sep-05	5.52%	5.83%	0.31%
Oct-05	5.79%	6.08%	0.29%
Nov-05	5.88%	6.19%	0.31%
Dec-05	5.80%	6.14%	0.34%
Jan-06	5.75%	6.06%	0.31%
Feb-06	5.82%	6.11%	0.29%
Mar-06	5.98%	6.26%	0.28%
Apr-06	6.29%	6.54%	0.25%
May-06	6.42%	6.59%	0.17%
Jun-06	6.40%	6.61%	0.21%
Jul-06	6.37%	6.61%	0.24%
Aug-06	6.20%	6.43%	0.23%
Sep-06	6.00%	6.26%	0.26%
Oct-06	5.98%	6.24%	0.26%
Nov-06	5.80%	6.04%	0.24%
Dec-06	5.81%	6.05%	0.24%
Jan-07	5.96%	6.16%	0.20%
Feb-07	5.90%	6.10%	0.20%
Mar-07	5.85%	6.10%	0.25%
Apr-07	5.97%	6.24%	0.27%
May-07	5.99%	6.23%	0.24%
Jun-07	6.30%	6.54%	0.24%
Jul-07	6.25%	6.49%	0.24%
Aug-07	6.24%	6.51%	0.27%
Sep-07	6.18%	6.45%	0.27%
Oct-07	6.11%	6.36%	0.25%
Nov-07	5.97%	6.27%	0.30%
Dec-07	6.16%	6.51%	0.35%
Jan-08	6.02%	6.35%	0.33%
Feb-08	6.21%	6.60%	0.39%
Mar-08	6.21%	6.68%	0.47%
Apr-08	6.29%	6.81%	0.52%
May-08	6.27%	6.79%	0.52%
Jun-08	6.38%	6.93%	0.55%
Jul-08	6.40%	6.97%	0.57%
Aug-08	6.37%	6.98%	0.61%
Sep-08	6.49%	7.15%	0.66%
Oct-08	7.56%	8.58%	1.02%
Nov-08	7.20%	8.98%	1.78%
Dec-08	6.54%	8.13%	1.59%
Jan-09	6.39%	7.90%	1.51%
Feb-09	6.30%	7.74%	1.44%
Mar-09	6.42%	8.00%	1.58%
Apr-09	6.48%	8.03%	1.55%
May-09	6.49%	7.76%	1.27%
Jun-09	6.20%	7.30%	1.10%
Jul-09	5.97%	6.87%	0.90%
Aug-09	5.71%	6.36%	0.65%
Average	6.11%	6.57%	0.46%

Source of Information:
 Mergent Bond Record, September 2009, Volume 76, No. 9.

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Schedule FJH-17
 (UPDATED)

Missouri Gas Energy
Indicated Common Equity Cost Rate Through Use
of the Capital Asset Pricing Model
for the Proxy Group of Nine Value Line Natural Gas Distribution Companies
and Southern Union Company

<u>Line No.</u>	<u>Proxy Group of Nine Value Line Natural Gas Distribution Companies</u>	<u>Southern Union Company</u>
1. Traditional Capital Asset Pricing Model (1)	10.44 %	13.98 %
2. Empirical Capital Asset Pricing Model (1)	<u>11.21 %</u>	<u>13.87 %</u>
3. Conclusion	<u><u>10.83 %</u></u>	<u><u>13.93 %</u></u>

Notes:

(1) From Page 50 of this Schedule.

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Schedule FJH-18
Page 1 of 3
(UPDATED)

Missouri Gas Energy
Indicated Common Equity Cost Rate Through Use
of the Capital Asset Pricing Model

	<u>1</u>	<u>2</u>	<u>3</u>
	Value Line Adjusted Beta	Company-Specific Risk Premium Based on Market Premium of 8.87% (1)	CAPM Result Including Risk-Free Rate of 4.67% (2)
<u>Traditional Capital Asset Pricing Model (3)</u>			
Proxy Group of Nine Value Line Natural Gas Distribution Companies			
AGL Resources Inc.	0.75	6.65 %	11.32 %
Atmos Energy Corp.	0.65	5.77	10.44
The Laclede Group, Inc.	0.60	5.32	9.99
New Jersey Resources Corp.	0.65	5.77	10.44
Northwest Natural Gas Co.	0.60	5.32	9.99
Piedmont Natural Gas Co., Inc.	0.65	5.77	10.44
South Jersey Industries, Inc.	0.65	5.77	10.44
Southwest Gas Corporation	0.75	6.65	11.32
WGL Holdings, Inc.	0.65	5.77	10.44
Average	<u>0.66</u>	<u>5.87 %</u>	<u>10.54 %</u>
Median	<u>0.65</u>	<u>5.77 %</u>	<u>10.44 %</u>
<u>Southern Union Company</u>	<u>1.05</u>	<u>9.31 %</u>	<u>13.98 %</u>

<u>Empirical Capital Asset Pricing Model (4)</u>			
Proxy Group of Nine Value Line Natural Gas Distribution Companies			
AGL Resources Inc.	0.75	7.21 %	11.88 %
Atmos Energy Corp.	0.65	6.54	11.21
The Laclede Group, Inc.	0.60	6.21	10.88
New Jersey Resources Corp.	0.65	6.54	11.21
Northwest Natural Gas Co.	0.60	6.21	10.88
Piedmont Natural Gas Co., Inc.	0.65	6.54	11.21
South Jersey Industries, Inc.	0.65	6.54	11.21
Southwest Gas Corporation	0.75	7.21	11.88
WGL Holdings, Inc.	0.65	6.54	11.21
Average	<u>0.66</u>	<u>6.62 %</u>	<u>11.29 %</u>
Median	<u>0.65</u>	<u>6.54 %</u>	<u>11.21 %</u>
<u>Southern Union Company</u>	<u>1.05</u>	<u>9.20 %</u>	<u>13.87 %</u>

See Page 51 for notes.

Missouri Gas Energy
Development of the Market-Required Rate of Return on Common Equity Using
the Capital Asset Pricing Model
Adjusted to Reflect a Forecasted Risk-Free Rate and Market Return

Notes:

- (1) For reasons explained in Mr. Hanley's direct testimony, from the two previous month-end (July 2009 – August 2009), as well as a recently available (September 11, 2009), Value Line Summary & Index, a forecasted 3-5 year total annual market return of 17.09% can be derived by averaging the 2-month and spot forecasted total 3-5 year total appreciation, converting it into an annual market appreciation and adding the Value Line average forecasted annual dividend yield.

The 3-5 year average total market appreciation of 73% produces a four-year average annual return of 14.68% $((1.73^{25}) - 1)$. When the average annual forecasted dividend yield of 2.41% is added, a total average market return of 17.09% (2.41% + 14.68%) is derived.

The 2-month and spot forecasted total market return of 17.09% minus the risk-free rate of 4.67% (developed in Note 2) is 12.42% (17.09% - 4.67%). The Morningstar, Inc. (Ibbotson Associates) calculated market premium of 6.50% for the period 1926-2008 results from a total market return of 11.70% less the average income return on long-term U.S. Government Securities of 5.20% (11.70% - 5.20% = 6.50%). This is then averaged with the 12.42% Value Line market premium resulting in a 9.46% market premium. In Mr. Hanley's opinion, the current and recent substantial volatility in the stock market is extraordinary and not representative of the expected long-term. In view of the recent substantial increase in the market from when Mr. Hanley's original analysis was performed, the potential for market appreciation has declined significantly. Thus, a greater weight must be given to the market appreciation potential. Consequently, a 40% weight will be applied to the projected risk premium of 12.42% and a 60% weight will be applied to the historical market premium. The product of this weighting is 8.87% $((.40 * 12.42\%) + (.60 * 6.50\%))$ which will be then multiplied by the beta in column 1 of Page 50 of this Schedule.

- (2) For reasons explained previously in Mr. Hanley's direct testimony, the risk-free rate that Mr. Hanley relies upon for his CAPM analysis is the average forecast based upon six quarterly estimates of 30-year Treasury Note yields per the consensus of nearly 50 economists reported in the Blue Chip Financial Forecasts. The most recent is from September 1, 2009 (see Page 40 of this Schedule). The estimates are detailed below:

	<u>30-Year Treasury Note Yield</u>
Third Quarter 2009	4.40%
Fourth Quarter 2009	4.50
First Quarter 2010	4.60
Second Quarter 2010	4.70
Third Quarter 2010	4.80
Fourth Quarter 2010	<u>5.00</u>
Average	<u>4.67%</u>

- (3) The traditional Capital Asset Pricing Model (CAPM) is applied using the following formula:

$$R_S = R_F + \beta (R_M - R_F)$$

Where R_S = Return rate of common stock
 R_F = Risk Free Rate
 β = Value Line Adjusted Beta
 R_M = Return on the market as a whole

- (4) The empirical CAPM is applied using the following formula:

$$R_S = R_F + .25 (R_M - R_F) + .75 \beta (R_M - R_F)$$

Where R_S = Return rate of common stock
 R_F = Risk-Free Rate
 β = Value Line Adjusted Beta
 R_M = Return on the market as a whole

Source of Information: Value Line Summary & Index
Blue Chip Financial Forecasts, September 1, 2009
Value Line Investment Survey, (Standard Edition)
Ibbotson SBBI – 2009 Valuation Yearbook – Market Results for Stocks, Bonds, Bills, and Inflation for 1926-2008, Morningstar, Inc., 2009, Chicago,

Missouri Gas Energy
Comparable Earnings Analysis
for a Proxy Group of Nine Non-Utility Companies Comparable to the
Proxy Group of Nine Value Line Natural Gas Distribution Companies (1)

Proxy Group of Nine Non-Utility Companies Comparable to the Proxy Group of Nine Value Line Natural Gas Distribution Companies (1)	Adj Beta	Unadj Beta	Standard Error of the Regression	Standard Deviation of Beta	Rate of Return on Book Common Equity, Net Worth, or Partner's Capital	
					5-Year Projected (2)	Student's Statistic
Automatic Data Proc.	0.75	0.58	2.2033	0.0635	16.00 %	(0.65)
Gallagher (Arthur J.)	0.70	0.51	2.2842	0.0658	24.00	0.86
Erie Indermity Co.	0.70	0.51	2.0646	0.0595	21.00	0.29
Intl Flavors & Frag.	0.70	0.53	2.2368	0.0644	24.00	0.86
Kraft Foods	0.65	0.44	2.2521	0.0649	10.50	(1.69)
Northrop Grumman	0.75	0.56	2.2626	0.0652	15.50	(0.74)
Raytheon Co.	0.75	0.59	2.1222	0.0611	15.00	(0.84)
Sara Lee Corp.	0.70	0.50	2.2565	0.0650	23.50	0.77
Exxon Mobil Corp.	0.80	0.62	2.2771	0.0656	25.50	1.15
Average	0.72	0.54	2.2177	0.0639		
Average for the Proxy Group of Nine Value Line Natural Gas Distribution Companies	0.70	0.52	2.1000 (3)	0.0605		
Median (4)					21.00%	

See Page 54 for notes.

Missouri Gas Energy
Comparable Earnings Analysis
for a Proxy Group of Twenty Non-Utility Companies Comparable to
Southern Union Company (5)

Proxy Group of Twenty Non-Utility Companies Comparable to Southern Union Company (5)	Adj Beta	Unadj Beta	Standard Error of the Regression	Standard Deviation of Beta	Rate of Return on Book Common Equity, Net Worth, or Partner's Capital	
					5-Year Projected (2)	Student's Statistic
Air Products & Chem.	1.10	1.08	2.3626	0.0681	20.00 %	0.39
AplarGroup	1.00	1.00	2.5946	0.0747	11.50	(0.90)
Avery Dennison	1.00	0.95	2.3991	0.0691	17.00	(0.07)
Ammer. Express	1.15	1.21	2.4846	0.0716	23.50	0.92
Ball Corp.	1.10	1.12	2.5673	0.0740	18.00	0.08
Can. National Railway	1.10	1.13	2.5814	0.0744	15.50	(0.30)
Rockwell Collins	1.05	1.02	2.4591	0.0708	21.50	0.61
Dow Chemical	1.00	0.96	2.5945	0.0747	14.00	(0.52)
DST Systems	1.00	0.97	2.3933	0.0689	29.50	1.83
Eaton Corp.	1.10	1.14	2.4252	0.0699	12.50	(0.75)
Fortune Brands	1.00	0.99	2.3314	0.0672	11.50	(0.90)
Honeywell Intl	1.10	1.08	2.4089	0.0694	21.00	0.54
Mettler-Toledo Intl	1.00	0.97	2.5052	0.0722	32.50 (6)	2.28
News Corp.	1.05	1.03	2.3072	0.0665	10.50	(1.05)
Praxair Inc.	1.05	1.02	2.3077	0.0665	23.50	0.92
Donnelley (R.R.) & Sons	1.05	1.02	2.5412	0.0732	20.00	0.39
Republic Services	1.05	1.01	2.3435	0.0675	12.50	(0.75)
Stanley Works	1.10	1.09	2.6062	0.0751	16.50	(0.14)
Travelers Cos.	1.05	1.02	2.5261	0.0728	11.50	(0.90)
Time Warner	1.00	0.96	2.2781	0.0656	6.50	(1.66)
Average	1.05	1.04	2.4509	0.0706		
Southern Union Company						
Median (4)	1.10	1.09	2.4005 (7)	0.0692	16.75%	
Conservative Median (8)					16.50%	

See Page 54 for notes.

Missouri Gas Energy
Comparable Earnings Analysis

Notes:

- (1) The criteria for selection of the proxy group of nine non-utility companies was that the non-utility companies be domestic and have a meaningful rate of return on book common equity, shareholders' equity, net worth, or partners' capital for each of the five years ended 2007 and projected 2011- 2013 as reported in Value Line Investment Survey (Standard Edition). The proxy group of nine non-utility companies was selected based upon the proxy group of nine Value Line natural gas distribution companies' unadjusted beta range of 0.40 – 0.64 and standard error of the regression range of 1.9155 – 2.2845. These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression as detailed in Mr. Hanley's direct testimony. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and standard errors of the regression.
- (2) 2011 - 2013.
- (3) The standard deviation of group of ten Value Line electric and combination electric and gas companies' standard error of the regression is 0.0923. The standard deviation of the standard error of the regression is calculated as follows:

$$\text{Standard Deviation of the Std. Err. of the Regr.} = \frac{\text{Standard Error of the Regression}}{\sqrt{2N}}$$

where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

$$\text{Thus, } 0.0923 = \frac{2.100}{\sqrt{518}} = \frac{2.100}{22.7596}$$

- (4) Median five year projected rate of return on book common equity, shareholder's equity, net worth, or partners' capital.
- (5) The criteria for selection of the proxy group of twenty companies was that the non-utility companies be domestic and have a meaningful projected rate of return on book common equity, shareholders' equity, net worth, or partners' capital 2011 - 2013 as reported in Value Line Investment Survey (Standard Edition). The proxy group of twenty non-utility companies was selected based upon Southern Union Company's unadjusted beta range of 0.95 – 1.23 and standard error of the regression range of 2.1896 – 2.6114. These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression as detailed in Mr. Hanley's direct testimony. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and standard errors of the regression.
- (6) The Student's T-statistic associated with these returns exceeds 2.083 at the 95% level of confidence. Therefore, they have been excluded, as outliers, to arrive at proper mean projected returns as fully explained in Mr. Hanley's testimony.
- (7) The standard deviation of the proxy group of eight Value Line natural gas distribution companies' standard error of the regression is 0.2110 (2.4005 / 22.7596).
- (8) Median of the five year historical and five year projected return on book common equity, shareholder's equity, net worth or partner's capital excluding returns identified as outliers as outlined on Note 6) above.

Source of Information: Value Line, Inc., December 15, 2008
Value Line Investment Survey (Standard Edition)

Missouri Gas Energy
Authorized Returns on Equity and Equity Ratios for
Natural Gas Distribution Companies from January 2008 to August 2009

Company	State	Case Identification	Date	Return on Equity (%)	Common Equity /Total Cap (%)
Northern States Power Co-WI	Wisconsin	D-4220-UR-115 (gas)	1/8/2008	10.75	52.51
Wisconsin Electric Power Co.	Wisconsin	D-5-UR-103 (WEP-GAS)	1/17/2008	10.75	54.36
Wisconsin Gas LLC	Wisconsin	D-5-UR-103 (WG)	1/17/2008	10.75	46.64
North Shore Gas Co.	Illinois	D-07-0241	2/5/2008	9.99	56.00
Peoples Gas Light & Coke Co.	Illinois	D-07-0242	2/5/2008	10.19	56.00
Indiana Gas Co.	Indiana	Ca-43298	2/13/2008	10.20	48.99 (1)
Avista Corp.	Oregon	D-UG-181	3/31/2008	10.00	50.00 (1)
Duke Energy Ohio Inc.	Ohio	C-07-0589-GA-AIR	5/28/2008	10.50	55.76 (1)
Atmos Energy Corp.	Texas	GD-9762	6/24/2008	10.00	48.27
Questar Gas Co.	Utah	D-07-057-13	6/27/2008	10.00	51.38 (1)
San Diego Gas & Electric Co.	California	AP-06-12-009 (gas)	7/31/2008	10.70	49.00 (1)
Southern California Gas Co.	California	AP-06-12-010	7/31/2008	10.82	48.00 (1)
SourceGas Distribution LLC	Colorado	D-08S-108G	8/27/2008	10.25	53.13 (1)
Chesapeake Utilities Corp.	Delaware	D-07-186	9/2/2008	10.25	61.81 (1)
Atmos Energy Corp.	Georgia	D-27163-U	9/17/2008	10.70	45.00
Central Illinois Light Co.	Illinois	D-07-0588	9/24/2008	10.68	46.50
Central Illinois Public	Illinois	D-07-0589	9/24/2008	10.68	47.91
Illinois Power Co.	Illinois	D-07-0590	9/24/2008	10.68	51.76
Avista Corp.	Idaho	C-AVU-G-08-01	9/30/2008	10.20	47.94 (1)
New Jersey Natural Gas Co.	New Jersey	D-GR-07110889	10/3/2008	10.30	51.20 (1)
Puget Sound Energy Inc.	Washington	D-UG-07-2301	10/8/2008	10.15	46.00 (1)
CenterPoint Energy Resources	Texas	GD 9791	10/20/2008	10.06	55.40
Piedmont Natural Gas Co.	North Carolina	D-G-9, Sub 550	10/24/2008	10.60	51.00 (1)
Public Service Co. of NC	North Carolina	D-G-5, Sub 495	10/24/2008	10.60	54.00 (1)
Southwest Gas Corp.	California	A-07-12-022 (SoCalDiv)	11/21/2008	10.50	47.00 (1)
Southwest Gas Corp.	California	A-07-12-022 (NoCalDiv)	11/21/2008	10.50	47.00 (1)
Southwest Gas Corp.	California	A-07-12-022 (LkTah)	11/21/2008	10.50	47.00 (1)
Narragansett Electric Co.	Rhode Island	D-3943	11/24/2008	10.50	NA
Columbia Gas of Ohio Inc	Ohio	C-08-0072-GA-AIR	12/3/2008	10.39	NA (1)
Southwest Gas Corp.	Arizona	D-G-01551A-07-0504	12/24/2008	10.00	43.44
Northwest Natural Gas Co.	Washington	D-UG-08-0546	12/26/2008	10.10	50.74 (1)
Avista Corp.	Washington	D-UG-08-0417	12/29/2008	10.20	46.30 (1)
Michigan Gas Utilities Corp	Michigan	C-U-15549	1/13/2009	10.45	46.49 (1)
New England Gas Company	Massachusetts	DPU 08-35	2/2/2009	10.05	34.19
Louisville Gas & Electric Co.	Kentucky	C-2008-00252 (gas)	2/5/2009	NA	NA (1)
Equitable Gas Company	Pennsylvania	C-R-2008-2029325	2/26/2009	NA	NA (1)
Atmos Energy Corp.	Tennessee	D-08-00197	3/9/2009	10.30	48.12 (1)
Northern Illinois Gas Co.	Illinois	D-08-0363	3/25/2009	10.17	46.42
Entergy New Orleans Inc.	Louisiana	D-UD-08-03 (gas)	4/2/2009	10.75	NA (1)
Peoples Gas System	Florida	D-080318-GU	5/5/2009	10.75	48.51
Niagara Mohawk Power Corp.	New York	C-08-G-0609	5/14/2009	10.20	43.70 (1)
Minnesota Energy Resources	Minnesota	D-G-007,011/GR-08-835	5/21/2009	10.21	48.77
EnergyNorth Natural Gas Inc	New Hampshire	D-DG-08-009	5/29/2009	9.54	50.00 (1)
Black Hills Iowa Gas Utility	Iowa	D-RPU-08-3	6/3/2009	10.10	51.38 (1)
Central Hudson Gas & Electric	New York	C-08-G-0888	6/18/2009	10.00	47.00
CT Natural Gas Corp.	Connecticut	D-08-12-06	6/30/2009	9.31	52.52
Southern Connecticut Gas Co.	Connecticut	D-08-12-07	7/17/2009	9.26	52.00
Avista Corp.	Idaho	C-AVU-G-09-01	7/17/2009	10.50	50.00 (1)
UGI Central Penn Gas	Pennsylvania	R-2008-2079675	8/27/2009	NA	NA (1)
UGI Penn Natural Gas	Pennsylvania	R-2008-2079660	8/27/2009	NA	NA (1)
Average				10.31 %	49.51 %
Median				10.28 %	48.99 %
Average of Litigated Cases				10.27 %	49.12 %
Median of Litigated Cases				10.20 %	48.51 %

Notes:

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

Source of Information:

Report downloaded from Regulatory Research Associates, Inc. (RRA) an SNL Energy Company on September 10, 2009.

Missouri Gas Energy
Inappropriate Inclusion of NICOR, Inc., Nisource, Inc., and UGI Corporation
as Proxy Companies

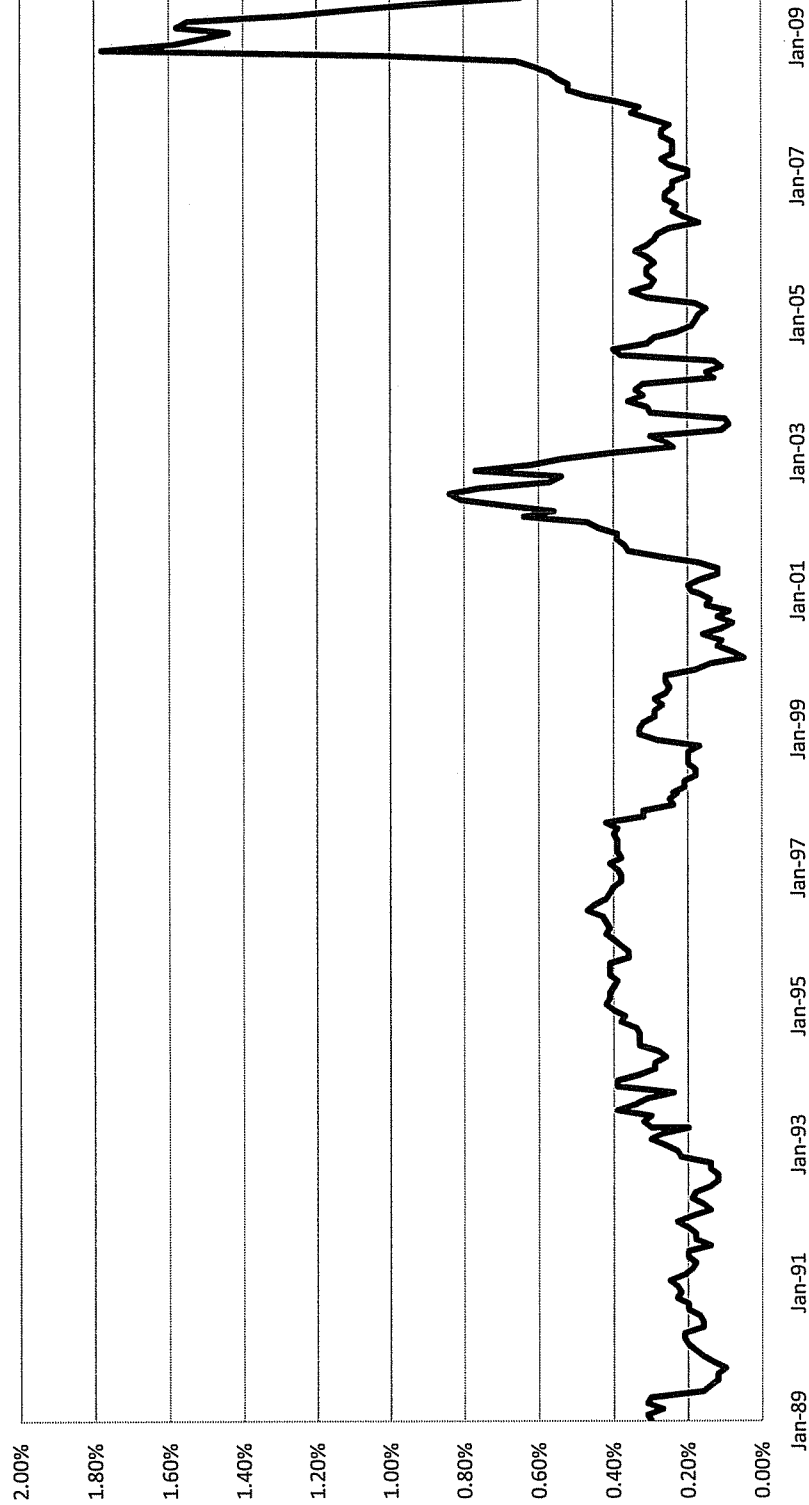
	<u>Company Name</u>	<u>Dividend Omission / Cutters?</u>	<u>Pending / Expected Merger or Acquisition?</u>	<u>Over 60% of Operating Income due to Regulated Gas Distribution Operations?</u>	<u>Over 60% of Total Assets due to Regulated Gas Distribution Operations?</u>
GAS	NICOR, Inc.		Yes		
NI	Nisource, Inc.			36.49%	37.11%
UGI	UGI Corporation			23.51%	26.22%

Source of Information:

Value Line Investment Survey
AUS Merger and Acquisition Quarterly Report June 30, 2009
Company 2008 SEC Filing 10K

Missouri Gas Energy
 Spreads Between Moody's
 Moody's A and Baa Rated Public Utility Bonds
 1989 - Present

**Spreads Between Moody's A and Baa Rated Public Utility Bonds January
 1989 - August 2009**



Source of Information:
 Mergent Bond Record, Various Dates.

Missouri Gas Energy
Moody's Bond Yields
January 1989 - August 2009

<u>DATE</u>	<u>Moody's A Rated Public Utility Bonds</u>	<u>Moody's Baa Rated Utility Bonds</u>	<u>Spread between A and Baa Rated Public Utility Bonds</u>
Jan-89	10.08%	10.38%	0.30%
Feb-89	10.07%	10.38%	0.31%
Mar-89	10.23%	10.50%	0.27%
Apr-89	10.18%	10.49%	0.31%
May-89	9.99%	10.29%	0.30%
Jun-89	9.64%	9.80%	0.16%
Jul-89	9.50%	9.64%	0.14%
Aug-89	9.52%	9.64%	0.12%
Sep-89	9.58%	9.70%	0.12%
Oct-89	9.54%	9.64%	0.10%
Nov-89	9.51%	9.64%	0.13%
Dec-89	9.44%	9.60%	0.16%
Jan-90	9.56%	9.74%	0.18%
Feb-90	9.76%	9.96%	0.20%
Mar-90	9.85%	10.06%	0.21%
Apr-90	9.92%	10.13%	0.21%
May-90	10.00%	10.16%	0.16%
Jun-90	9.80%	9.96%	0.16%
Jul-90	9.75%	9.92%	0.17%
Aug-90	9.92%	10.12%	0.20%
Sep-90	10.12%	10.32%	0.20%
Oct-90	10.05%	10.28%	0.23%
Nov-90	9.90%	10.12%	0.22%
Dec-90	9.73%	9.96%	0.23%
Jan-91	9.71%	9.96%	0.25%
Feb-91	9.47%	9.68%	0.21%
Mar-91	9.55%	9.74%	0.19%
Apr-91	9.46%	9.64%	0.18%
May-91	9.44%	9.64%	0.20%
Jun-91	9.59%	9.79%	0.20%
Jul-91	9.55%	9.69%	0.14%
Aug-91	9.29%	9.47%	0.18%
Sep-91	9.16%	9.34%	0.18%
Oct-91	9.12%	9.32%	0.20%
Nov-91	9.05%	9.28%	0.23%
Dec-91	8.88%	9.07%	0.19%
Jan-92	8.84%	8.98%	0.14%
Feb-92	8.93%	9.09%	0.16%
Mar-92	8.97%	9.16%	0.19%
Apr-92	8.93%	9.11%	0.18%
May-92	8.87%	9.01%	0.14%
Jun-92	8.78%	8.90%	0.12%
Jul-92	8.57%	8.69%	0.12%
Aug-92	8.44%	8.58%	0.14%
Sep-92	8.40%	8.54%	0.14%
Oct-92	8.54%	8.76%	0.22%
Nov-92	8.63%	8.86%	0.23%
Dec-92	8.43%	8.69%	0.26%

Missouri Gas Energy
Moody's Bond Yields
January 1989 - August 2009

<u>DATE</u>	<u>Moody's A Rated Public Utility Bonds</u>	<u>Moody's Baa Rated Utility Bonds</u>	<u>Spread between A and Baa Rated Public Utility Bonds</u>
Jan-93	8.27%	8.57%	0.30%
Feb-93	8.04%	8.31%	0.27%
Mar-93	7.90%	8.10%	0.20%
Apr-93	7.81%	8.11%	0.30%
May-93	7.86%	8.18%	0.32%
Jun-93	7.75%	8.05%	0.30%
Jul-93	7.54%	7.93%	0.39%
Aug-93	7.25%	7.59%	0.34%
Sep-93	7.04%	7.35%	0.31%
Oct-93	7.03%	7.27%	0.24%
Nov-93	7.30%	7.69%	0.39%
Dec-93	7.34%	7.73%	0.39%
Jan-94	7.33%	7.66%	0.33%
Feb-94	7.47%	7.76%	0.29%
Mar-94	7.47%	7.76%	0.29%
Apr-94	7.85%	8.11%	0.26%
May-94	8.33%	8.61%	0.28%
Jun-94	8.31%	8.64%	0.33%
Jul-94	8.47%	8.80%	0.33%
Aug-94	8.41%	8.74%	0.33%
Sep-94	8.64%	8.98%	0.34%
Oct-94	8.86%	9.24%	0.38%
Nov-94	8.98%	9.35%	0.37%
Dec-94	8.76%	9.16%	0.40%
Jan-95	8.73%	9.15%	0.42%
Feb-95	8.52%	8.93%	0.41%
Mar-95	8.37%	8.78%	0.41%
Apr-95	8.27%	8.67%	0.40%
May-95	7.91%	8.30%	0.39%
Jun-95	7.60%	8.01%	0.41%
Jul-95	7.70%	8.11%	0.41%
Aug-95	7.83%	8.24%	0.41%
Sep-95	7.62%	7.98%	0.36%
Oct-95	7.46%	7.82%	0.36%
Nov-95	7.43%	7.81%	0.38%
Dec-95	7.23%	7.63%	0.40%
Jan-96	7.22%	7.64%	0.42%
Feb-96	7.37%	7.78%	0.41%
Mar-96	7.73%	8.15%	0.42%
Apr-96	7.89%	8.32%	0.43%
May-96	7.98%	8.45%	0.47%
Jun-96	8.06%	8.51%	0.45%
Jul-96	8.02%	8.44%	0.42%
Aug-96	7.84%	8.25%	0.41%

Missouri Gas Energy
Moody's Bond Yields
January 1989 - August 2009

<u>DATE</u>	<u>Moody's A Rated Public Utility Bonds</u>	<u>Moody's Baa Rated Utility Bonds</u>	<u>Spread between A and Baa Rated Public Utility Bonds</u>
Sep-96	8.01%	8.41%	0.40%
Oct-96	7.77%	8.15%	0.38%
Nov-96	7.49%	7.87%	0.38%
Dec-96	7.59%	7.98%	0.39%
Jan-97	7.77%	8.18%	0.41%
Feb-97	7.64%	8.02%	0.38%
Mar-97	7.87%	8.26%	0.39%
Apr-97	8.03%	8.42%	0.39%
May-97	7.89%	8.28%	0.39%
Jun-97	7.72%	8.12%	0.40%
Jul-97	7.48%	7.87%	0.39%
Aug-97	7.51%	7.93%	0.42%
Sep-97	7.47%	7.79%	0.32%
Oct-97	7.35%	7.67%	0.32%
Nov-97	7.25%	7.49%	0.24%
Dec-97	7.16%	7.41%	0.25%
Jan-98	7.05%	7.28%	0.23%
Feb-98	7.12%	7.36%	0.24%
Mar-98	7.16%	7.37%	0.21%
Apr-98	7.16%	7.37%	0.21%
May-98	7.16%	7.34%	0.18%
Jun-98	7.03%	7.21%	0.18%
Jul-98	7.03%	7.23%	0.20%
Aug-98	7.00%	7.20%	0.20%
Sep-98	6.93%	7.13%	0.20%
Oct-98	6.96%	7.13%	0.17%
Nov-98	7.03%	7.31%	0.28%
Dec-98	6.91%	7.24%	0.33%
Jan-99	6.97%	7.30%	0.33%
Feb-99	7.09%	7.41%	0.32%
Mar-99	7.26%	7.55%	0.29%
Apr-99	7.22%	7.51%	0.29%
May-99	7.47%	7.74%	0.27%
Jun-99	7.74%	8.03%	0.29%
Jul-99	7.71%	7.97%	0.26%
Aug-99	7.91%	8.16%	0.25%
Sep-99	7.93%	8.19%	0.26%
Oct-99	8.06%	8.32%	0.26%
Nov-99	7.94%	8.12%	0.18%
Dec-99	8.14%	8.28%	0.14%
Jan-00	8.35%	8.40%	0.05%
Feb-00	8.25%	8.33%	0.08%
Mar-00	8.28%	8.40%	0.12%
Apr-00	8.29%	8.40%	0.11%

Missouri Gas Energy
Moody's Bond Yields
January 1989 - August 2009

<u>DATE</u>	<u>Moody's A Rated Public Utility Bonds</u>	<u>Moody's Baa Rated Utility Bonds</u>	<u>Spread between A and Baa Rated Public Utility Bonds</u>
May-00	8.70%	8.86%	0.16%
Jun-00	8.36%	8.47%	0.11%
Jul-00	8.25%	8.33%	0.08%
Aug-00	8.13%	8.25%	0.12%
Sep-00	8.23%	8.32%	0.09%
Oct-00	8.14%	8.29%	0.15%
Nov-00	8.11%	8.25%	0.14%
Dec-00	7.84%	8.01%	0.17%
Jan-01	7.80%	7.99%	0.19%
Feb-01	7.74%	7.94%	0.20%
Mar-01	7.68%	7.85%	0.17%
Apr-01	7.94%	8.06%	0.12%
May-01	7.99%	8.11%	0.12%
Jun-01	7.85%	8.02%	0.17%
Jul-01	7.78%	8.05%	0.27%
Aug-01	7.59%	7.95%	0.36%
Sep-01	7.75%	8.12%	0.37%
Oct-01	7.63%	8.02%	0.39%
Nov-01	7.57%	7.96%	0.39%
Dec-01	7.83%	8.27%	0.44%
Jan-02	7.66%	8.13%	0.47%
Feb-02	7.54%	8.18%	0.64%
Mar-02	7.76%	8.32%	0.56%
Apr-02	7.57%	8.26%	0.69%
May-02	7.52%	8.33%	0.81%
Jun-02	7.42%	8.26%	0.84%
Jul-02	7.31%	8.07%	0.76%
Aug-02	7.17%	7.74%	0.57%
Sep-02	7.08%	7.62%	0.54%
Oct-02	7.23%	8.00%	0.77%
Nov-02	7.14%	7.76%	0.62%
Dec-02	7.07%	7.61%	0.54%
Jan-03	7.06%	7.47%	0.41%
Feb-03	6.93%	7.17%	0.24%
Mar-03	6.79%	7.05%	0.26%
Apr-03	6.64%	6.94%	0.30%
May-03	6.36%	6.47%	0.11%
Jun-03	6.21%	6.30%	0.09%
Jul-03	6.57%	6.67%	0.10%
Aug-03	6.78%	7.08%	0.30%
Sep-03	6.56%	6.87%	0.31%
Oct-03	6.43%	6.79%	0.36%

Missouri Gas Energy
Moody's Bond Yields
January 1989 - August 2009

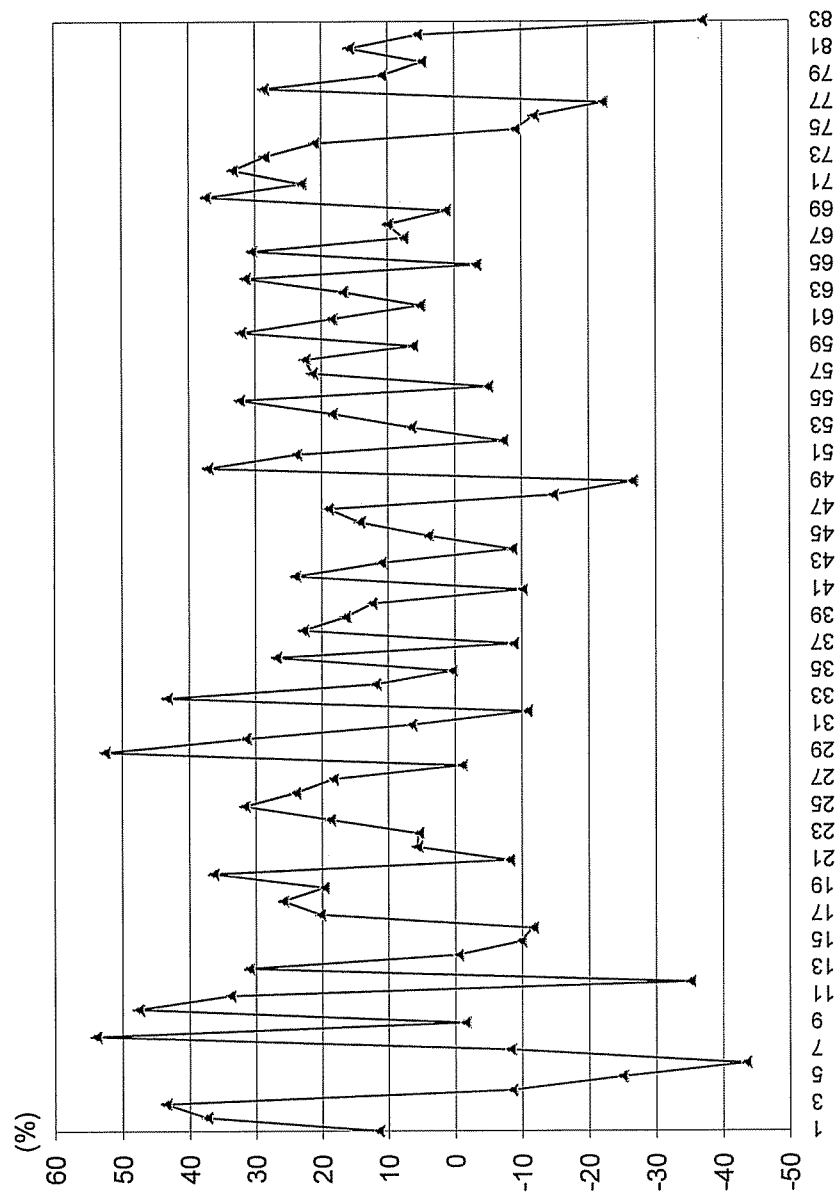
<u>DATE</u>	<u>Moody's A Rated Public Utility Bonds</u>	<u>Moody's Baa Rated Utility Bonds</u>	<u>Spread between A and Baa Rated Public Utility Bonds</u>
Nov-03	6.37%	6.69%	0.32%
Dec-03	6.27%	6.61%	0.34%
Jan-04	6.15%	6.47%	0.32%
Feb-04	6.15%	6.28%	0.13%
Mar-04	5.97%	6.12%	0.15%
Apr-04	6.35%	6.46%	0.11%
May-04	6.62%	6.75%	0.13%
Jun-04	6.46%	6.84%	0.38%
Jul-04	6.27%	6.67%	0.40%
Aug-04	6.14%	6.45%	0.31%
Sep-04	5.98%	6.27%	0.29%
Oct-04	5.94%	6.17%	0.23%
Nov-04	5.97%	6.16%	0.19%
Dec-04	5.92%	6.10%	0.18%
Jan-05	5.78%	5.95%	0.17%
Feb-05	5.61%	5.76%	0.15%
Mar-05	5.83%	6.01%	0.18%
Apr-05	5.64%	5.95%	0.31%
May-05	5.53%	5.88%	0.35%
Jun-05	5.40%	5.70%	0.30%
Jul-05	5.51%	5.80%	0.29%
Aug-05	5.50%	5.81%	0.31%
Sep-05	5.52%	5.83%	0.31%
Oct-05	5.79%	6.08%	0.29%
Nov-05	5.88%	6.19%	0.31%
Dec-05	5.80%	6.14%	0.34%
Jan-06	5.75%	6.06%	0.31%
Feb-06	5.82%	6.11%	0.29%
Mar-06	5.98%	6.26%	0.28%
Apr-06	6.29%	6.54%	0.25%
May-06	6.42%	6.59%	0.17%
Jun-06	6.40%	6.61%	0.21%
Jul-06	6.37%	6.61%	0.24%
Aug-06	6.20%	6.43%	0.23%
Sep-06	6.00%	6.26%	0.26%
Oct-06	5.98%	6.24%	0.26%
Nov-06	5.80%	6.04%	0.24%
Dec-06	5.81%	6.05%	0.24%
Jan-07	5.96%	6.16%	0.20%
Feb-07	5.90%	6.10%	0.20%
Mar-07	5.85%	6.10%	0.25%
Apr-07	5.97%	6.24%	0.27%
May-07	5.99%	6.23%	0.24%
Jun-07	6.30%	6.54%	0.24%

Missouri Gas Energy
Moody's Bond Yields
January 1989 - August 2009

<u>DATE</u>	<u>Moody's A Rated Public Utility Bonds</u>	<u>Moody's Baa Rated Utility Bonds</u>	<u>Spread between A and Baa Rated Public Utility Bonds</u>
Jul-07	6.25%	6.49%	0.24%
Aug-07	6.24%	6.51%	0.27%
Sep-07	6.18%	6.45%	0.27%
Oct-07	6.11%	6.36%	0.25%
Nov-07	5.97%	6.27%	0.30%
Dec-07	6.16%	6.51%	0.35%
Jan-08	6.02%	6.35%	0.33%
Feb-08	6.21%	6.60%	0.39%
Mar-08	6.21%	6.68%	0.47%
Apr-08	6.29%	6.81%	0.52%
May-08	6.27%	6.79%	0.52%
Jun-08	6.38%	6.93%	0.55%
Jul-08	6.40%	6.97%	0.57%
Aug-08	6.37%	6.98%	0.61%
Sep-08	6.49%	7.15%	0.66%
Oct-08	7.56%	8.58%	1.02%
Nov-08	7.20%	8.98%	1.78%
Dec-08	6.54%	8.13%	1.59%
Jan-09	6.39%	7.90%	1.51%
Feb-09	6.30%	7.74%	1.44%
Mar-09	6.42%	8.00%	1.58%
Apr-09	6.48%	8.03%	1.55%
May-09	6.49%	7.76%	1.27%
Jun-09	6.20%	7.30%	1.10%
Jul-09	5.97%	6.87%	0.90%
Aug-09	5.71%	6.36%	0.65%

Source of Information:
Mergent Bond Record, Various Dates

Missouri Gas Energy
Large Company Stock Returns
From 1926 to 2008



Source of Information:
Ibbotson SBBI - 2009 Valuation Yearbook - Market Results for Stocks Bonds Bills and Inflation - 1926-2008, Morningstar, Inc., 2009 Chicago, IL.

Missouri Gas Energy

Total Returns on Large Company Stocks

1926 to 2008

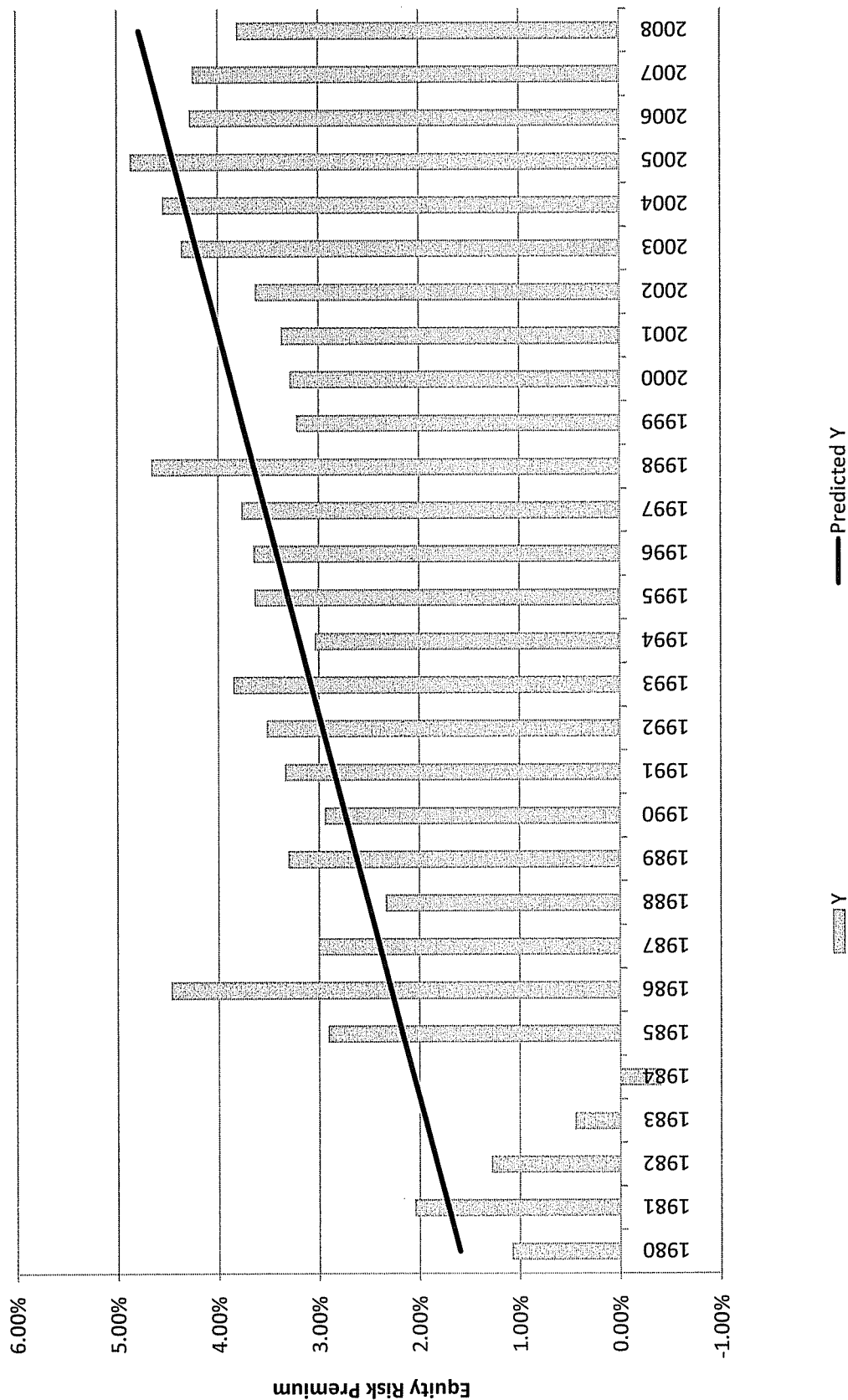
Large Company Stocks

		1926	
2008		10%	20%
-50%	-40%	-30%	-20%
		-10%	0%
		10%	20%
		30%	40%
		50%	60%

Geometric Mean: $r_G = \left[\frac{V_n}{V_0} \right]^{1/n} - 1$

Source : Ibbotson SBBI – 2009 Valuation Yearbook – Market Results for Stocks, Bonds, Bills, and Inflation –1926-2008, pp. 166-167, Morningstar, Inc., 2009 Chicago, IL

Predicted Equity Risk Premium based on Regression Analysis of OCP Witness Lawton on Schedule (DJL-10)



Missouri Gas Energy
Regression Analysis of Observed Risk Premiums
1980 - 2008

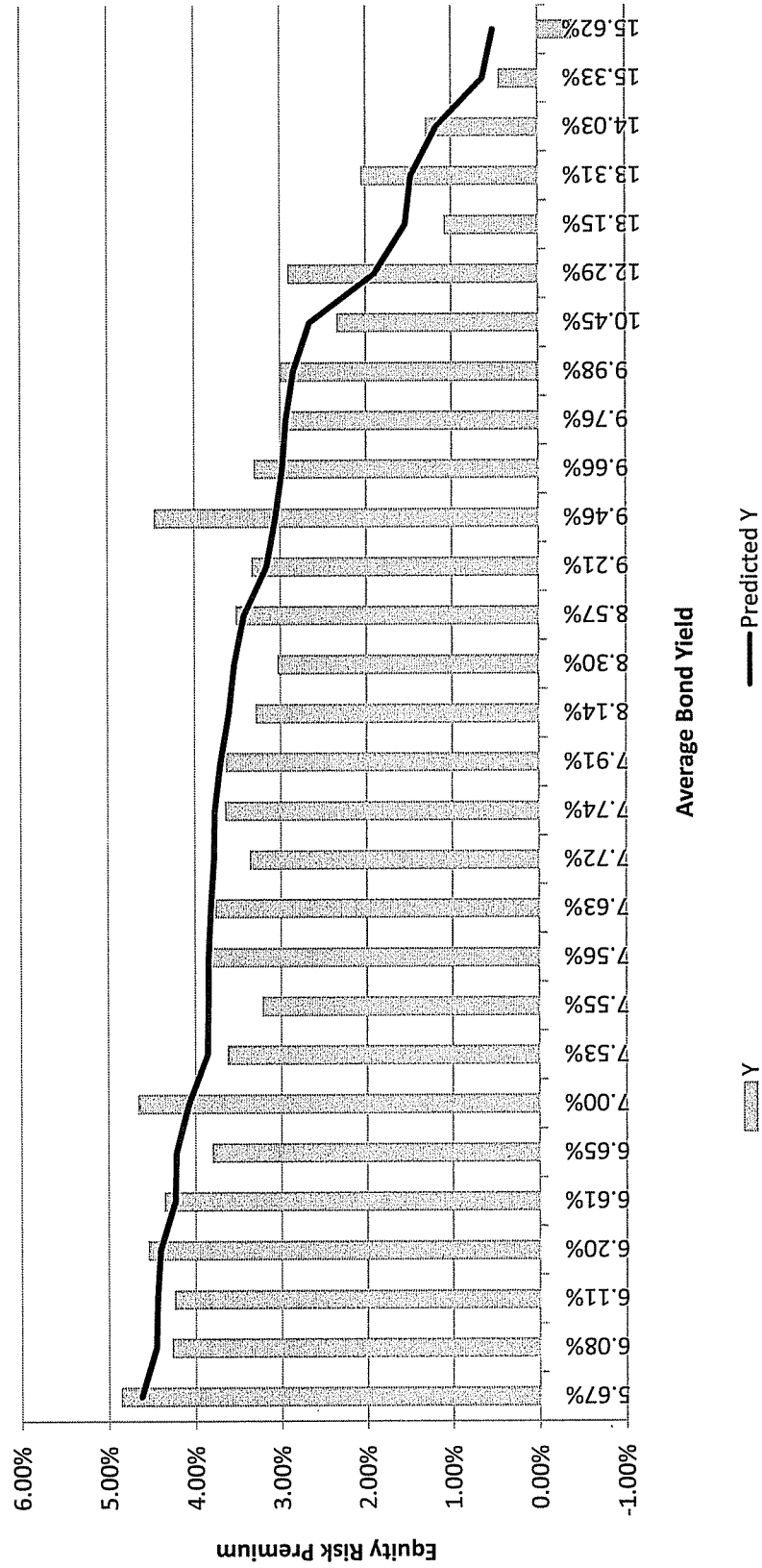
BCP Witness Lawton Observations (1)				Regression Predictions		
	Avg Bond Yield	Authorized Returns	Indicated Risk Premium	<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1980	13.15%	14.23%	1.08%	1	0.016012414	-0.005212414
1981	13.31%	15.36%	2.05%	2	0.017148227	-0.021148227
1982	14.03%	15.32%	1.29%	3	0.018284039	-0.013784039
1983	15.33%	15.78%	0.45%	4	0.019419852	0.001080148
1984	15.62%	15.22%	-0.40%	5	0.020555665	-0.007655665
1985	12.29%	15.20%	2.91%	6	0.021691478	0.007408522
1986	9.46%	13.93%	4.47%	7	0.022827291	0.021872709
1987	9.98%	12.99%	3.01%	8	0.023963103	0.006136897
1988	10.45%	12.79%	2.34%	9	0.025098916	-0.001698916
1989	9.66%	12.97%	3.31%	10	0.026234729	0.006865271
1990	9.76%	12.70%	2.94%	11	0.027370542	0.002029458
1991	9.21%	12.55%	3.34%	12	0.028506355	0.004893645
1992	8.57%	12.09%	3.52%	13	0.029642167	0.005557833
1993	7.56%	11.41%	3.85%	14	0.030777798	0.007722202
1994	8.30%	11.34%	3.04%	15	0.031913793	-0.001513793
1995	7.91%	11.55%	3.64%	16	0.033049606	0.003350394
1996	7.74%	11.39%	3.65%	17	0.034185419	0.002314581
1997	7.63%	11.40%	3.77%	18	0.035321232	0.002378768
1998	7.00%	11.66%	4.66%	19	0.036457044	0.010142956
1999	7.55%	10.77%	3.22%	20	0.037592857	-0.005392857
2000	8.14%	11.43%	3.29%	21	0.03872867	-0.00582867
2001	7.72%	11.09%	3.37%	22	0.039864483	-0.006164483
2002	7.53%	11.16%	3.63%	23	0.041000296	-0.004700296
2003	6.61%	10.97%	4.36%	24	0.042136108	0.001463892
2004	6.20%	10.75%	4.55%	25	0.043271921	0.002228079
2005	5.67%	10.54%	4.87%	26	0.044407734	0.004292266
2006	6.08%	10.36%	4.28%	27	0.045543547	-0.002743547
2007	6.11%	10.36%	4.25%	28	0.04667936	-0.00417936
2008	6.65%	10.46%	3.81%	29	0.047815172	-0.009715172

T-Statistic 6.16694392

Notes:

(1) From Schedule (DJL-10).

Predicted Equity Risk Premium based on Regression Analysis of OPC Witness Lawton on Schedule (DJL-10)



Missouri Gas Energy
Regression Analysis of Observed Risk Premiums
1980 - 2008

BCP Witness Lawton Observations (1)						
	Avg Bond Yield	Authorized Returns	Indicated Risk Premium	<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
2005	5.67%	10.54%	4.87%	1	0.046282568	0.002417432
2006	6.08%	10.36%	4.28%	2	0.044587512	-0.001787512
2007	6.11%	10.36%	4.25%	3	0.044463483	-0.001963483
2004	6.20%	10.75%	4.55%	4	0.044091398	0.001408602
2003	6.61%	10.97%	4.36%	5	0.042396341	0.001203659
2008	6.65%	10.46%	3.81%	6	0.04223097	-0.00413097
1998	7.00%	11.66%	4.66%	7	0.040783971	0.005816029
2002	7.53%	11.16%	3.63%	8	0.0385928	-0.0022928
1999	7.55%	10.77%	3.22%	9	0.038510114	-0.006310114
1993	7.56%	11.41%	3.85%	10	0.038468772	3.12284E-05
1997	7.63%	11.40%	3.77%	11	0.038179372	-0.000479372
2001	7.72%	11.09%	3.37%	12	0.037807286	-0.004107286
1996	7.74%	11.39%	3.65%	13	0.0377246	-0.0012246
1995	7.91%	11.55%	3.64%	14	0.037021772	-0.000621772
2000	8.14%	11.43%	3.29%	15	0.036070887	-0.003170887
1994	8.30%	11.34%	3.04%	16	0.035409401	-0.005009401
1992	8.57%	12.09%	3.52%	17	0.034293145	0.000906855
1991	9.21%	12.55%	3.34%	18	0.031647203	0.001752797
1986	9.46%	13.93%	4.47%	19	0.030613632	0.014086368
1989	9.66%	12.97%	3.31%	20	0.029786775	0.003313225
1990	9.76%	12.70%	2.94%	21	0.029373347	2.66531E-05
1987	9.98%	12.99%	3.01%	22	0.028463804	0.001636196
1988	10.45%	12.79%	2.34%	23	0.026520691	-0.003120691
1985	12.29%	15.20%	2.91%	24	0.018913609	0.010186391
1980	13.15%	14.23%	1.08%	25	0.015358124	-0.004558124
1983	13.31%	15.36%	2.05%	26	0.014696639	0.005803361
1984	14.03%	15.32%	1.29%	27	0.011719955	0.001180045
1982	15.33%	15.78%	0.45%	28	0.006345385	-0.001845385
1981	15.62%	15.22%	-0.40%	29	0.005146443	-0.009146443

T-Statistic -12.7385

Notes:
(1) From Schedule (DJL-10).

Missouri Gas Energy
Lawton Corrected Risk Premium Method
Reflecting a Forecasted Equity Risk Premium

Projected Baa Corporate Bond (1)	7.05 %
Spread Between Baa Corporates and Baa Public Utility Bonds (2)	<u>-0.19</u>
Projected Baa Public Utility Bond	6.86 %
Expected Risk Premium Over Public Utility Bonds (3)	<u>4.78</u>
Indicated Common Equity Cost Rate Based on Risk	<u><u>11.64</u> %</u>
Projected Baa Public Utility Bond	6.86 %
Expected Equity Risk Premium due to Inverse Relationship between Treasury Bond Yields and Equity Risk Premia (4)	<u>4.14</u>
Indicated Common Equity Cost Rate Based on Risk	<u><u>11.00</u> %</u>
Average of the Two Methods	<u><u>11.32</u> %</u>

Notes:

- (1) Average forecast based upon six quarterly estimates of Baa rated corporate bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated September 1, 2009 (see Page 40 of Schedule FJH-21). The estimates are detailed below.

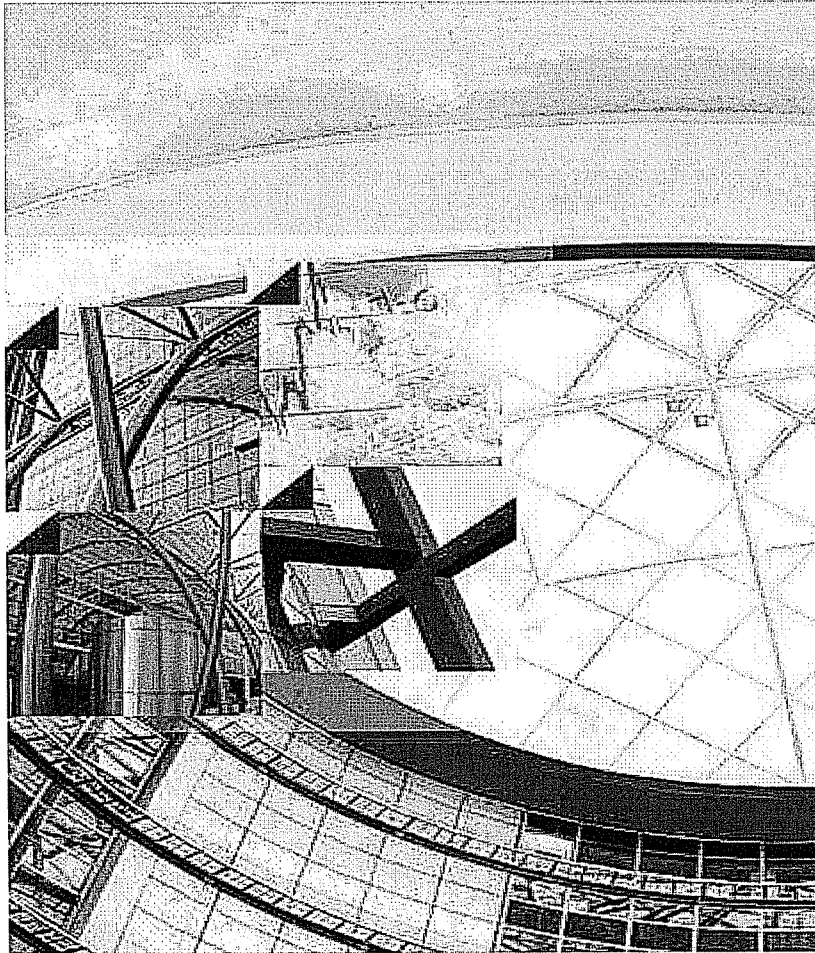
Third Quarter 2009	7.00 %
Fourth Quarter 2009	7.00
First Quarter 2010	7.00
Second Quarter 2010	7.00
Third Quarter 2010	7.10
Fourth Quarter 2010	<u>7.20</u>
Average	<u><u>7.05</u> %</u>

(2) From Schedule (DJI-4).

(3) From Schedule FJH-25, Sheet 2.

(4) From Schedule FJH-25, Sheet 4.

Schedule FJH-26



Southern Union

Market Update

August, 20 2009



CALYON
CRÉDIT AGRICOLE CIB

Utilities Recent Transactions Industry Comparable



COMPANY	DYNEGY HOLDINGS INC		AMEREN CORP		NORTHWESTERN CORP		INTEGRYS ENERGY			DTE ENERGY CO																																																															
INDUSTRY	Electric Services		Electric Services		Electric and other services		Electric Services			Integrated Energy Compagny Electric Generation & Distribution Natural Gas Distribution																																																															
CORPORATE RATING	B/B2		BBB-/Baa3		BBB-/Baa2		BBB-/A3			DTE Energy BBB																																																															
UNSECURED RATING	B/B3		BB+/Baa3		BBB-/Baa2		BBB-/A3			Detroit Ed. MichCon BBB																																																															
DATE	5-Aug-09		29-Jun-09		29-Jun-09		27-May-09			29-Apr-09																																																															
FACILITY DESCRIPTION	RC (5-year) TLB (6-year) LC (6-year)		RC (2-year) RC (2-year)		RC (3-year)		RC (364-day) (accordion to \$750MM)			\$1,000MM (total) 2-Yr RC																																																															
	\$850MM \$70MM \$450MM		\$1,079.5 MM \$800 MM		\$250 MM		\$425MM			\$538MM \$211MM \$250MM																																																															
PURPOSE	Debt Repayment		Corporate Purposes		Corporate Purposes		Corporate Purpose			Corporate Purpose																																																															
FIRST DRAWN	L+375 bps		L+425 bps		L+300 bps		L+300.0 bps			L+350.0 bps																																																															
UNDRAWN COST	CF: 75 bps		100 bps		CF: 50 bps		CF: 50 bps			87.5 bps 62.5 bps 62.5 bps																																																															
PRICING GRID					<table><tr><th>Sr Rating</th><th>Margin</th><th>Cmt Fee</th></tr><tr><td>≥ A-/A3</td><td>225.0 bps</td><td>25.0 bps</td></tr><tr><td>BBB+/Baa1</td><td>275.0 bps</td><td>37.5 bps</td></tr><tr><td>BBB-/Baa2</td><td>300.0 bps</td><td>50.0 bps</td></tr><tr><td>BBB-/Baa3</td><td>350.0 bps</td><td>62.5 bps</td></tr><tr><td>≤ BB+/Ba1</td><td>400.0 bps</td><td>75.0 bps</td></tr></table>			Sr Rating	Margin	Cmt Fee	≥ A-/A3	225.0 bps	25.0 bps	BBB+/Baa1	275.0 bps	37.5 bps	BBB-/Baa2	300.0 bps	50.0 bps	BBB-/Baa3	350.0 bps	62.5 bps	≤ BB+/Ba1	400.0 bps	75.0 bps	<table><tr><th>Sr Rating</th><th>Margin</th><th>Cmt Fee</th></tr><tr><td>≥ AA/Aa3</td><td>200.0 bps</td><td>15.0 bps</td></tr><tr><td>A+/A1</td><td>225.0 bps</td><td>20.0 bps</td></tr><tr><td>A/A2</td><td>250.0 bps</td><td>25.0 bps</td></tr><tr><td>A-/A3</td><td>275.0 bps</td><td>37.5 bps</td></tr><tr><td>BBB+/Baa1</td><td>300.0 bps</td><td>50.0 bps</td></tr><tr><td>BBB-/Baa2</td><td>325.0 bps</td><td>62.5 bps</td></tr><tr><td>BBB-/Baa3</td><td>375.0 bps</td><td>75.0 bps</td></tr></table>			Sr Rating	Margin	Cmt Fee	≥ AA/Aa3	200.0 bps	15.0 bps	A+/A1	225.0 bps	20.0 bps	A/A2	250.0 bps	25.0 bps	A-/A3	275.0 bps	37.5 bps	BBB+/Baa1	300.0 bps	50.0 bps	BBB-/Baa2	325.0 bps	62.5 bps	BBB-/Baa3	375.0 bps	75.0 bps	<table><tr><th>Sr Rating</th><th>Drawn Cost</th><th>Fac Fee</th></tr><tr><td>≥ A-/A3</td><td>250.0 bps</td><td>50.0 bps</td></tr><tr><td>BBB+/Baa1</td><td>300.0 bps</td><td>62.5 bps</td></tr><tr><td>BBB-/Baa2</td><td>350.0 bps</td><td>87.5 bps</td></tr><tr><td>BBB-/Baa3</td><td>400.0 bps</td><td>112.5 bps</td></tr><tr><td>≤ BB+/Ba1</td><td>450.0 bps</td><td>125.0 bps</td></tr></table>			Sr Rating	Drawn Cost	Fac Fee	≥ A-/A3	250.0 bps	50.0 bps	BBB+/Baa1	300.0 bps	62.5 bps	BBB-/Baa2	350.0 bps	87.5 bps	BBB-/Baa3	400.0 bps	112.5 bps	≤ BB+/Ba1	450.0 bps	125.0 bps
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≤ BB+/Ba1	450.0 bps	125.0 bps																																																																							
COVENANTS	Max Debt/EBITDA 2.50x Mini cons EBITBA/ Int Ex: 1.75x				Cons Debt/Cap: 65%		Max Debt/Cap: 65%			Max Debt/Cap: 65%																																																															

Source: Thomson Reuters LPC, Bloomberg

Utilities Recent Transactions Industry Comparable



COMPANY	DYNEGY HOLDINGS INC	AMEREN CORP	NORTHWESTERN CORP	INTEGRYS ENERGY	DTE ENERGY CO
COMMENTS	<p>Amendment Fee: 50 bps</p> <p>Expects a "temporary reduction in availability of liquidity" under its credit facility in mid-to late-2009 "as a result of forecasted EBITDA and a corresponding borrowing limitation under the secured debt to EBITDA covenant"</p> <p><u>Lenders</u></p> <p>Citigroup Admin. Agent JP Morgan Doc. Agent ABN AMRO Bank NV Doc. Agent Bank of America Credit Suisse Doc. Agent Calyon Participant Lehman Brothers Participant</p>	<p>These facilities cumulatively provide \$2.1 billion of credit through July 14, 2010, reducing to \$1.88 billion through July 14, 2011. The facilities were oversubscribed</p> <p><u>Lenders</u></p> <p>JP Morgan Admin. Agent Barclays Capital Synd. Agent BNP Paribas Participant BTMU Participant US Bank Participant</p>	<p><u>Lenders</u></p> <p>Bank of America Merrill Lynch Admin. Agent JP Morgan Syndic. Agent US Bank Doc. Agent Union Bank of California Doc. Agent Bank of Nova Scotia Participant Credit Suisse Participant Keycorp Participant UBS Participant</p>	<p>Comes with an accordion for increment credit to \$750 MM</p> <p>Upfront fee 200.0 bps (as per news article)</p> <p><u>Lenders</u></p> <p>Bank of America Admin. Agent JP Morgan Syndic. Agent Nova Scotia Co-Doc Agent Morgan Stanley Co-Doc Agent US Bank Co-Doc Agent State Bank of India Participant Union Bank Participant Keybank Participant Land Bank of Taiwan Participant Taiwan Business Bank Participant Mega International Participant State Street Participant</p>	<p><u>Commitment</u></p> <p>≥ \$85MM 250.0 bps ≥ \$55MM 225.0 bps ≥ \$35MM 200.0 bps < \$35MM 175.0 bps</p> <p><u>Upfront Fee</u></p> <p>Barclays Agent Citigroup Agent JP Morgan Agent Royal Bank of Scotland Agent Bank of America Agent Bank of Nova Scotia Agent</p> <p>Expected Closing Date 4/29/2009 \$500MM already committed by Bank meeting date (03/30/2009)</p>

Source: Thomson Reuters LPC, Bloomberg

Missouri Gas Energy
Indicators that Mr. Murray's Proxy Companies are Viewed
as Gas Distribution Companies by Investors

Company	Ticker	Included in Edward Jones Gas Distribution Companies?	Included in Value Line Natural Gas Utility Group?	% of Net Operating Income Derived from Gas Distribution Operations	% of Total Assets Devoted to Gas Distribution Operations
AGL Resources, Inc	AGL	Yes	Yes	67.99%	78.98%
Atmos Energy Corporation	ATO	Yes	Yes	61.13%	79.44%
New Jersey Resources Corporation	NJR	Yes	Yes	43.75%	64.27%
Northwest Natural Gas Company	NWN	Yes	Yes	89.53%	96.28%
Piedmont Natural Gas Co., Inc.	PNY	Yes	Yes	100.13%	96.70%
South Jersey Industries, Inc.	SJI	Yes	Yes	54.99%	73.84%
WGL Holdings, Inc.	WGL	Yes	Yes	96.63%	90.58%
Average				73.45%	82.87%
Median				67.99%	79.44%

Source of Information:
2008 SEC Filings of Company 10K

Missouri Gas Energy
Indicated Common Equity Cost Rate Through Use
of the Capital Asset Pricing Model for
Staff Witness Murray's Proxy Group of Seven Utility Companies

Line		Staff Witness Murray's Proxy Group of Seven Utility Companies
<u>No.</u>		
1.	Traditional Capital Asset Pricing Model (1)	10.44 %
2.	Empirical Capital Asset Pricing Model (1)	<u>11.21 %</u>
3.	Conclusion	<u><u>10.83 %</u></u>

Notes: (1) From Page 2 of this Schedule.

Missouri Gas Energy
Indicated Common Equity Cost Rate Through Use
of the Capital Asset Pricing Model

	<u>1</u>	<u>2</u>	<u>3</u>
	Value Line Adjusted Beta	Company-Specific Risk Premium Based on Market Premium of 8.87% (1)	CAPM Result Including Risk-Free Rate of 4.67% (2)
<u>Traditional Capital Asset Pricing Model (3)</u>			
Staff Witness Murray's Proxy Group of Seven Utility Companies			
AGL Resources, Inc	0.75	6.65	11.32
Atmos Energy Corporation	0.65	5.77	10.44
New Jersey Resources Corporation	0.65	5.77	10.44
Northwest Natural Gas Company	0.60	5.32	9.99
Piedmont Natural Gas Co., Inc.	0.65	5.77	10.44
South Jersey Industries, Inc.	0.65	5.77	10.44
WGL Holdings, Inc.	0.65	5.77	10.44
Average	<u>0.66</u>	<u>5.83 %</u>	<u>10.50 %</u>
Median	<u>0.65</u>	<u>5.77 %</u>	<u>10.44 %</u>

<u>Empirical Capital Asset Pricing Model (4)</u>			
Staff Witness Murray's Proxy Group of Seven Utility Companies			
AGL Resources, Inc	0.75	7.21	11.88
Atmos Energy Corporation	0.65	6.54	11.21
New Jersey Resources Corporation	0.65	6.54	11.21
Northwest Natural Gas Company	0.60	6.21	10.88
Piedmont Natural Gas Co., Inc.	0.65	6.54	11.21
South Jersey Industries, Inc.	0.65	6.54	11.21
WGL Holdings, Inc.	0.65	6.54	11.21
Average	<u>0.66</u>	<u>6.59 %</u>	<u>11.26 %</u>
Median	<u>0.65</u>	<u>6.54 %</u>	<u>11.21 %</u>

Please see Schedule FJH-21, Page 51 for notes.

Missouri Gas Energy
Implied ROEs Based on Murray Reasonableness Check
Shown on Page 42 of Staff Direct Testimony

Staff Proposed Capital Structure (1)	Ratio	Embedded Cost	Weighted Cost of Capital
Common Stock Equity	51.06 %	9.75 % (2)	4.98 %
Long-Term Debt	40.47	5.92	2.40
Short-Term Debt	8.47	0.89	0.08
	<u>100.00 %</u>		<u>7.46 %</u>

Reasonableness Check based on Lowest ROR (3)

Common Stock Equity	51.06 %	10.83 %	5.53 %
Long-Term Debt	40.47	5.92	2.40
Short-Term Debt	8.47	0.89	0.08
	<u>100.00 %</u>		<u>8.01 %</u>

Reasonableness Check based on Highest ROR (4)

Common Stock Equity	51.06 %	12.34 %	6.30 %
Long-Term Debt	40.47	5.92	2.40
Short-Term Debt	8.47	0.89	0.08
	<u>100.00 %</u>		<u>8.78 %</u>

Reasonableness Check based on Average ROR (5)

Common Stock Equity	51.06 %	11.44 %	5.84 %
Long-Term Debt	40.47	5.92	2.40
Short-Term Debt	8.47	0.89	0.08
	<u>100.00 %</u>		<u>8.32 %</u>

Notes:

- (1) From Murray Schedule 19.
- (2) Midpoint of Mr. Murray's DCF cost rate range of 9.25% - 10.25 %.
- (3) Based on the lowest average quarterly ROR awarded to gas utilities shown on Page 42 of the Staff Report.
- (4) Based on the highest average quarterly ROR awarded to gas utilities shown on Page 42 of the Staff Report.
- (5) Based on the average of all quarterly awarded RORs shown on Page 42 of the Staff Report.