ILLINOIS AMERICAN WATER COMPANY

EXHIBITS

TO ACCOMPANY

EXHIBIT 12.00: THE DIRECT TESTIMONY

OF

PAULINE M. AHERN, CRRA
PRINCIPAL
AUS CONSULTANTS

AUGUST 2007

Illinois American Water Company
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to the Financial Supporting Schedules
of Pauline M. Ahern

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Illinois American Water Company
Summary of Cost of Capital and Fair Rate of Return
Based upon the Estimated Average Capital Structure Ending June 30, 2009

Type of Capital	Ratios (1)	Cost Rate		Weighted Cost Rate
Long-Term Debt	53.12 %	5.71	% (1)	3.03 %
Short-Term Debt	0.22	4.81	(1)	0.01
Total Debt	53.34			3.04
Preferred Stock	0.00	0.00	(1)	0.00
Common Equity	46.66	11.25	(2)	5.25
Total	100.00 %			8.29 %

Notes:

(1) From Schedule D-1, page 1.

(2) Based upon informed judgment from the entire study, the principal results of which are summarized on page 2 of this Schedule.

Illinois American Water Company
Brief Summary of Common Equity Cost Rate

No.	Principal Methods	Proxy Group of Eight Water Companies	Proxy Group of Thirteen Utilities Selected Upon the Basis of Least Relative Distance
		Including All Results	
1.	Discounted Cash Flow Model (DCF) (1)	11.38 %	10.72 %
2.	Capital Asset Pricing Model (CAPM) (2)	11.16	12.22
3.	Indicated of Common Equity Cost Rate before Adjustment for Business Risk	11.27 %	11.47 %
4.	Business Risk Adjustment (3)	0.10	
5.	Common Equity Cost Rate after Adjustment for Business Risk	11.37 %	11.57 %
6.	Indicated Common Equity Cost Rate	11.45%	
		Including Only Those Results Greater than 8.6% and Less than 12.0%	
7.	Discounted Cash Flow Model (DCF) (4)	11.51 %	9.95 %
8	Capital Asset Pricing Model (CAPM) (5)	10.97	11.29
9.	Indicated of Common Equity Cost Rate before Adjustment for Business Risk	11.24 %	10.62 %
10	Business Risk Adjustment (3)	0.10	
11	Common Equity Cost Rate after Adjustment for Business Risk	11.34 %	10.72 %
12.	Indicated Common Equity Cost Rate	11.13%	
13.	Recommended Common Equity Cost Rate	11.25%	

Notes: (1) From Line No. 3 on page 1 of Schedule 12.07.
(2) From Line No. 3 on page 1 of Schedule 12.09.
(3) Business risk adjustment to reflect Illinois American, Inc.'s greater business risk due to its small size relative to each proxy group as detailed in Ms. Ahern's accompanying direct testimony.
(4) From Line No. 6 on page 1 of Schedule 12.07.
(5) From Line No. 4 on page 1 of Schedule 12.09.

Illinois American Water Company
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

Line No.		1 Total Capitalization (incl. Short-Term Debt) for the Year 2006 (millions)		(times larger)	2 Market Capitalization on July 13, 2007 (1) (millions)		(times larger)	3 Applicable Decile of the NYSE/AMEX/ NASDAQ	4 Applicable Size Premium		5 Spread from Applicable Size Premium (2)
1.	Illinois American Water Company	$ 563.874	(3)								
A.	Based upon the Proxy Group of Eight Water Companies				$ 579.569			8 - 9 (4)	2.49%	(5)	
B.	Based upon the Proxy Group of Thirteen Utilities Selected upon the Basis of Least Relative Distance				$ 478.157			9 (4)	2.70%	(5)	
2.	Proxy Group of Eight Water Companies	$ 555.480	(6)	1.0 x	$ 729.211		1.3 x	8 (7)	2.28%	(8)	0.21%
3.	Proxy Group of Thirteen Utilities Selected upon the Basis of Least Relative Distance	$ 11,637.958	(9)	20.6	$ 10,122.044		21.2	2 - 3 (10)	0.73%	(11)	1.97%

Decile	Number of Companies	Recent Total Market Capitalization (10) (millions)	Recent Average Market (millions)
1 - Largest	168	$9,586,846.750	$57,064.564
2	179	2,148,609.950	12,003.408
3	198	1,126,434.240	5,689.062
4	184	624,621.080	3,394.680
5	209	492,840.110	2,358.087
6	264	428,711.640	1,623.908
7	291	333,661.890	1,146.604
8	355	284,415.720	801.171
9	660	298,400.730	452.122
10 - Smallest	1744	229,218.310	131.433

See page 4 for notes.

Illinois American Water Company
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE

Notes:

(1) From page 5 of this Schedule.

(2) Line No. 1 – Line No. 2 and Line No. 1 – Line No. 3 of Columns 3 and 4, respectively. For example, the 0.21% in Column 5, Line No. 2 is derived as follows 0.21% = 2.49% - 2.28%.

(3) From page 1 of Schedule 12.04.

(4) With an estimated market capitalization of $579.569 million (based upon the proxy group of eight water companies) and $478.1572 (based upon the proxy group of thirteen utilities selected upon the basis of least relative distance), Illinois American Water Company falls between the 8th and 9th deciles of the NYSE/AMEX/NASDAQ which have an average market capitalization of $626.647 as can be gleaned from the information shown in the table on the bottom half of page 3 of this Schedule.

(5) Average size premium applicable to the 8th and 9th deciles of the NYSE/AMEX/NASDAQ as can be gleaned from the information shown on page 15 of this Schedule.

(6) From page 1 of Schedule 12.05.

(7) With an estimated market capitalization of $729.211 million, the proxy group of eight water companies falls in the 8th decile of the NYSE/AMEX/NASDAQ which has an average market capitalization of $801.171 million as shown in the table on the bottom half of page 3 of this Schedule.

(8) Size premium applicable to the 8th decile of the NYSE/AMEX/NASDAQ as shown on page 15 of this Schedule.

(9) From page 1 of Schedule 12.06.

(10) With an estimated market capitalization of $10,122.044 million, the proxy group of thirteen utilities selected upon the basis of least relative distance falls between the 2nd and 3rd deciles of the NYSE/AMEX/NASDAQ which have an average market capitalization of $8,846.235 million as can be gleaned from the information shown in the table on the bottom half of page 3 of this Schedule.

(11) Average size premium applicable to the 2nd and 3rd deciles of the NYSE/AMEX/NASDAQ as can be gleaned from the information shown on page 15 of this Schedule.

Source of Information: Ibbotson Associates, Stocks, Bonds, Bills and Inflation – Valuation Edition – 2007 Yearbook, Morningstar, Inc., Chicago, IL, 2007

Illinois American Water Company
Market Capitalization of Illinois American Water Company
the Proxy Group of Eight Water Companies and the
the Proxy Group of Thirteen Utilities Selected upon the Basis of Least Relative Distance

Company	1 Common Stock Shares Outstanding at March 31, 2007 (millions)	2 Book Value per Share at March 31, 2007 (1)	3 Total Common Equity at March 31, 2007 (millions)	4 Closing Stock Market Price on July 13, 2007	5 Market-to-Book Ratio at July 13, 2007 (2)	6 Market Capitalization on July 13, 2007 (3) (millions)
Illinois American Water Company	NA (4)	NA	$ 249.170 (4)	NA		
					232.6 % (5)	$ 579.569 (6)
Based upon the Proxy Group of Eight Water Companies						
Based upon the Proxy Group of Thirteen Utilities Selected upon the Basis of Least Relative Distance					191.9 % (7)	$ 478.157 (8)
Proxy Group of Eight Water Companies						
American States Water Co.	17.055	$ 16.847	$ 287.319	$ 36.420	216.2 %	$ 621.143
Aqua America, Inc.	133.261	6.965	928.164	22.760	326.8	3,033.020
Artesian Resources Corp.	6.273	14.659	91.958	19.190	130.9	120.379
California Water Service Group	20.659	18.100	373.930	38.020	210.1	785.455
Connecticut Water Service Inc.	8.304	11.928	99.049	24.750	207.5	205.524
Middlesex Water Company	13.168	9.806	129.121	19.020	194.0	250.455
SJW Corp.	18.312	12.435	227.707	33.750	271.4	618.030
York Water Company	11.218	5.854	65.672	17.800	304.1	199.680
Average	28.531	$ 12.074	$ 275.365	$ 26.464	232.6 %	$ 729.211
Proxy Group of Thirteen Utilities Selected upon the Basis of Least Relative Distance						
Alliant Energy Corp.	113.733	$ 22.543	$ 2,563.900	$ 39.560	175.5 %	$ 4,499.277
American Electric Power Co., Inc.	398.168	23.960	9,540.000	46.060	192.2	18,339.618
American States Water Co.	17.055	16.847	287.319	36.420	216.2	621.143
DTE Energy Company	176.065	33.033	5,816.000	50.670	153.4	8,921.214
Entergy Corp.	197.820	39.631	7,839.803	108.520	273.8	21,467.426
FPL Group, Inc.	406.416	24.288	9,871.000	56.430	232.3	22,934.055
Pinnacle West Capital Corp.	100.238 (9)	34.407	3,448.922	40.200	116.8	4,029.568
PPL Corp.	385.000	13.696	5,273.000	48.540	354.4	18,687.900
Progress Energy Inc.	258.000	32.950	8,501.000	46.170	140.1	11,911.860
SCANA Corp.	116.665 (10)	25.723	3,001.000	39.200	152.4	4,573.268
Vectren Corp.	76.500 (10)	15.982	1,222.600	27.460	171.8	2,100.690
Wisconsin Energy Corp.	116.950	25.248	2,952.800	43.770	173.4	5,118.902
Xcel Energy Inc.	408.561	14.353	5,868.251	20.500	142.8	8,381.651
	213.190	$ 24.820	$ 5,091.200	$ 46.423	191.9 %	$ 10,122.044

NA = Not Available

Notes:
(1) Column 3 / Column 1.
(2) Column 4 / Column 2.
(3) Column 5 * Column 3.
(4) Company-provided.
(5) The market-to-book ratio of Illinois American Water Company at July 13, 2007 is assumed to be equal to the average market-to-book ratio at July 13, 2007 of the proxy group of eight water companies.
(6) Illinois American Water Company's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio at July 13, 2007 of the proxy group of eight water companies, 232.6%, and Illinois American Water Company's market capitalization at July 13, 2007 would therefore have been $579.569 million. ($579.569 = $249.170 * 232.6%).
(7) The market-to-book ratio of Illinois American Water Company at July 13, 2007 is assumed to be equal to the average market-to-book ratio at July 13, 2007 of the proxy group of thirteen utilities selected upon the basis of least relative distance.
(8) Illinois American Water Company's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio at July 13, 2007 of the proxy group of thirteen utilities selected upon the basis of least relative distance, 191.9%, and Illinois American Water Company's market capitalization at July 13, 2007 would therefore have been $478.157 million. ($478.157 = $249.170 * 191.9%).
(9) At May 31, 2007. March 31, 2007 common shares outstanding are not available.
(10) At April 30, 2007. March 31, 2007 common shares outstanding are not available.

Source of Information: Standard & Poor's Compustat Services, Inc. Research Insight PCPlus Data Base
finance.yahoo.com
Company Forms 10Q for the period ending March 31, 2007

Stocks, Bonds, Bills, and Inflation

Market Results for 1926–2006

2007 Yearbook
Valuation Edition

MORNINGSTAR

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.

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.

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 168 stocks, while the smallest decile accounts for just over one percent of the

1 Rolf W. Banz was the first to document this phenomenon. See Banz, Rolf W. "The Relationship Between Returns and Market Value of Common Stocks," *Journal of Financial Economics*, Vol. 9, 1981, pp. 3–18.

market value. The data in the second column of Table 7-1 are averages across all 81 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 2006.

Table 7-1
Size-Decile Portfolios of the NYSE/AMEX/NASDAQ Size and Composition
1926 through September 30, 2006

Decile	Historical Average Percentage of Total Capitalization	Recent Number of Companies	Recent Decile Market Capitalization (in thousands)	Recent Percentage of Total Capitalization
1-largest	63.26%	168	$9,586,846,750	61.64%
2	13.97%	179	2,148,609,950	13.81%
3	7.57%	198	1,126,434,240	7.24%
4	4.73%	184	624,621,080	4.02%
5	3.24%	209	492,840,110	3.17%
6	2.38%	264	428,711,640	2.76%
7	1.74%	291	333,661,890	2.15%
8	1.29%	355	284,415,720	1.83%
9	1.00%	660	298,400,730	1.92%
10-Smallest	0.82%	1,744	229,218,310	1.47%
Mid-Cap 3-5	15.54%	591	2,243,894,380	15.41%
Low-Cap 6-8	5.41%	910	1,046,789,110	7.19%
Micro-Cap 9-10	1.83%	2,404	527,619,100	3.62%

Source: © 200703 CRSP® Center for Research in Security Prices. Graduate School of Business, The University of Chicago. Used with permission. All rights reserved. www.crsp.uchicago.edu

Historical average percentage of total capitalization shows the average, over the last 81 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, 2006.

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 $7,777,183,000 but greater than $1,946,588,000. Low-cap stocks include deciles 6–8 and currently include all companies in the NYSE/AMEX/NASDAQ with market capitalizations at or below $1,946,588,000 but greater than $626,955,000. Micro-cap stocks include deciles 9–10 and include companies with market capitalizations at or below $626,955,000. The market capitalization of the smallest company included in the micro-capitalization group is currently $2,247,000.

Table 7-2
Size-Decile Portfolios of the NYSE/AMEX/NASDAQ, Largest Company and Its Market Capitalization by Decile
September 30, 2006

Decile	Market Capitalization of Largest Company (in thousands)	Company Name
1-Largest	$371,187,368	Exxon Mobil Corp.
2	16,820,566	EOG Resources Inc.
3	7,777,183	Xcel Energy Inc.
4	4,085,184	First American Corp /CA
5	2,848,771	Scotts Miracle Gro Co.
6	1,946,588	DRS Technologies Inc.
7	1,378,476	ESCO Technologies Inc.
8	976,624	Knoll Inc.
9	626,955	Bandag Inc.
10-Smallest	314,433	M & F Worldwide Corp.

Source: Center for Research in Security Prices, University of Chicago.

Presentation of the Decile Data

Summary statistics of annual returns of the 10 deciles over 1926–2006 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 two deciles. Serial correlations and their significance will be discussed in detail later in this chapter.

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 224 percent. This divergence in the performance of small and large company stocks is a common occurrence.

Table 7-3
Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
Largest and Smallest Company by Size Group

from 1926 to1965

	Capitalization of Largest Company (in thousands)			Capitalization of Smallest Company (in thousands)		
Date (Sept 30)	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	$61,490	$13,835	$4,263	$13,860	$4,278	$43
1927	$65,078	$14,522	$4,450	$14,664	$4,496	$65
1928	$81,095	$18,788	$5,119	$18,801	$5,170	$135
1929	$103,054	$24,300	$5,850	$24,328	$5,862	$118
1930	$66,750	$12,918	$3,356	$13,050	$3,359	$30
1931	$43,120	$8,142	$1,944	$8,222	$1,946	$15
1932	$12,667	$2,208	$468	$2,223	$469	$19
1933	$40,298	$7,280	$1,875	$7,346	$1,892	$120
1934	$38,019	$6,638	$1,691	$6,669	$1,722	$69
1935	$37,631	$6,549	$1,350	$6,605	$1,383	$38
1936	$46,980	$11,526	$2,800	$11,563	$2,801	$98
1937	$51,750	$13,635	$3,563	$13,793	$3,600	$68
1938	$36,102	$8,372	$2,195	$8,400	$2,200	$60
1939	$35,409	$7,478	$1,854	$7,500	$1,860	$75
1940	$30,930	$8,007	$1,872	$8,130	$1,929	$51
1941	$31,398	$8,336	$2,087	$8,357	$2,100	$72
1942	$26,037	$6,870	$1,779	$6,875	$1,788	$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	$55,268	$17,575	$6,428	$17,584	$6,466	$225
1946	$77,784	$24,192	$10,149	$24,199	$10,168	$829
1947	$57,942	$17,735	$6,380	$17,872	$6,410	$747
1948	$67,238	$19,632	$7,329	$19,651	$7,348	$784
1949	$56,082	$14,549	$5,108	$14,577	$5,112	$379
1950	$66,143	$18,675	$6,225	$18,700	$6,243	$303
1951	$82,517	$22,750	$7,598	$22,860	$7,600	$668
1952	$97,936	$25,452	$8,480	$25,532	$8,551	$480
1953	$98,595	$25,374	$8,168	$25,395	$8,177	$459
1954	$125,834	$29,707	$8,488	$29,791	$8,502	$463
1955	$170,829	$41,681	$12,444	$41,861	$12,524	$553
1956	$183,792	$46,886	$13,623	$47,103	$13,659	$1,122
1957	$194,300	$47,658	$13,848	$48,509	$13,950	$925
1958	$195,536	$46,774	$13,816	$46,871	$14,015	$550
1959	$256,283	$64,110	$19,548	$64,221	$19,701	$1,804
1960	$252,292	$61,529	$19,344	$61,596	$19,385	$831
1961	$301,464	$77,996	$23,562	$78,976	$23,613	$2,455
1962	$250,786	$58,785	$18,744	$58,866	$18,952	$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: Center for Research in Security Prices, University of Chicago.

Table 7-3 (continued)

Size-Decile Portfolios of the NYSE/AMEX/NASDAQ

Largest and Smallest Company by Size Group

from 1966 to 2006

	Capitalization of Largest Company (in thousands)			Capitalization of Smallest Company (in thousands)		
Date (Sept 30)	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10
1966	$403,137	$99,960	$34,884	$100,107	$34,966	$381
1967	$459,438	$118,988	$42,188	$119,635	$42,237	$381
1968	$531,306	$150,893	$60,543	$151,260	$60,719	$592
1969	$518,485	$146,792	$54,353	$147,311	$54,503	$2,119
1970	$382,884	$94,754	$29,916	$94,845	$29,932	$822
1971	$551,690	$147,426	$45,570	$147,810	$45,571	$865
1972	$557,181	$143,835	$46,728	$144,263	$46,757	$1,031
1973	$431,354	$96,699	$29,352	$96,710	$29,430	$561
1974	$356,876	$79,878	$23,355	$80,280	$23,400	$444
1975	$477,054	$102,313	$30,353	$103,283	$30,394	$540
1976	$566,296	$121,717	$34,864	$121,992	$34,901	$564
1977	$584,577	$139,196	$40,700	$139,620	$40,765	$513
1978	$580,881	$164,093	$47,927	$164,455	$48,038	$830
1979	$665,019	$177,378	$51,197	$177,769	$51,274	$948
1980	$762,195	$199,312	$50,496	$199,315	$50,544	$549
1981	$962,397	$264,690	$72,104	$264,783	$72,450	$1,446
1982	$770,517	$210,301	$55,336	$210,630	$55,423	$1,060
1983	$1,209,911	$353,889	$104,382	$356,238	$104,588	$2,025
1984	$1,075,436	$315,965	$91,004	$316,103	$91,195	$2,093
1985	$1,440,436	$370,224	$94,875	$370,729	$94,887	$760
1986	$1,857,621	$449,015	$110,617	$449,462	$110,953	$706
1987	$2,059,143	$468,948	$113,419	$470,662	$113,430	$1,277
1988	$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	$602
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	$89
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	$4,143,902	$840,000	$192,083	$840,730	$192,439	$1,393
2001	$5,156,315	$1,108,224	$265,734	$1,108,969	$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

Source: Center for Research in Security Prices, *University of Chicago*.

Table 7-4
Size-Decile Portfolios of the NYSE/AMEX/NASDAQ, Summary Statistics of Annual Returns
1926–2006

Decile	Geometric Mean	Arithmetic Mean	Standard Deviation	Serial Correlation
1-Largest	9.6	11.3	19.06	0.09
2	11.0	13.3	21.72	0.03
3	11.3	13.8	23.51	–0.02
4	11.3	14.3	25.78	–0.02
5	11.7	14.9	26.61	–0.02
6	11.8	15.3	27.67	0.04
7	11.7	15.6	29.80	0.01
8	11.9	16.6	33.27	0.04
9	12.1	17.5	36.31	0.05
10-Smallest	14.0	21.6	45.16	0.15
Mid-Cap, 3–5	11.4	14.2	24.59	–0.02
Low-Cap, 6–8	11.8	15.7	29.34	0.03
Micro-Cap, 9–10	12.8	18.8	38.92	0.08
NYSE/AMEX/NASDAQ Total Value-Weighted Index	10.1	12.1	20.08	0.03

Source: Center for Research in Security Prices, University of Chicago.

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.

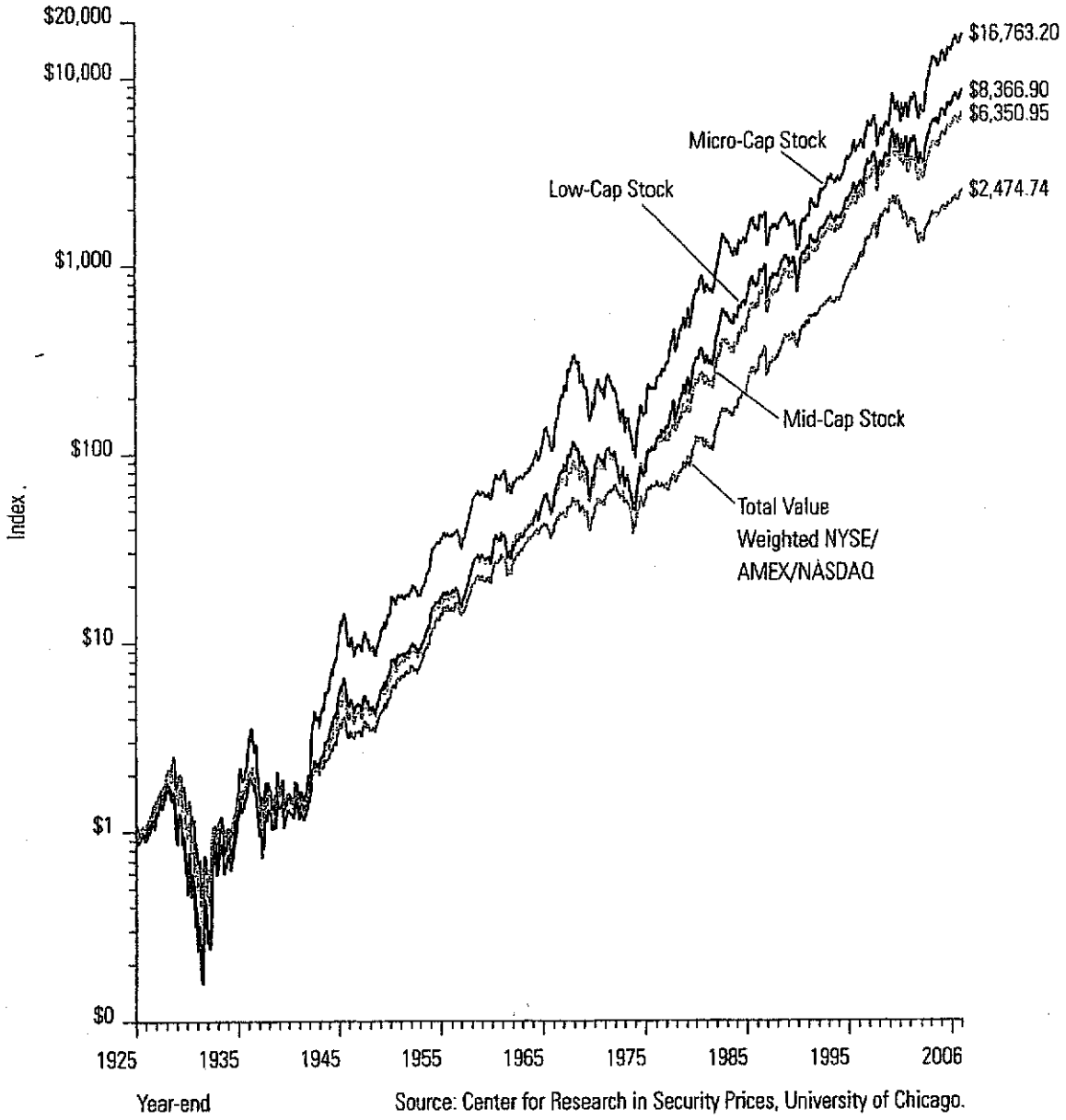
Third, the firm size effect is seasonal. For example, small company stocks outperformed large company stocks in the month of January in a large majority of the years. Such predictability is surprising and suspicious in light of modern capital market theory. These three aspects of the firm size effect—long-term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

Graph 7-1

Size-Decile Portfolios of the NYSE/AMEX/NASDAQ: Wealth Indices of Investments in Mid-, Low-, Micro- and Total Capitalization Stocks

Year-end 1925 = $1.00

1925–2006



Source: Center for Research in Security Prices, University of Chicago.

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 81 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).[2] Beta measures the extent to which a security or portfolio is exposed to systematic risk.[3] 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.

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.

2 The equity risk premium is estimated by the 81-year arithmetic mean return on large company stocks, 12.34 percent, less the 81-year arithmetic mean income-return component of 20-year government bonds as the historical riskless rate, in this case 5.21 percent. (It is appropriate, however, to match the maturity, or duration, of the riskless asset with the investment horizon.) See Chapter 5 for more detail on equity risk premium estimation.

3 Historical betas were calculated using a simple regression of the monthly portfolio (decile) total returns in excess of the 30-day U.S. Treasury bill total returns versus the S&P 500 total returns in excess of the 30-day U.S. Treasury bill, January 1926–December 2006. See Chapter 6 for more detail on beta estimation.

Table 7-5
Long-Term Returns in Excess of CAPM Estimation for Decile Portfolios of the NYSE/AMEX/NASDAQ
1926–2006

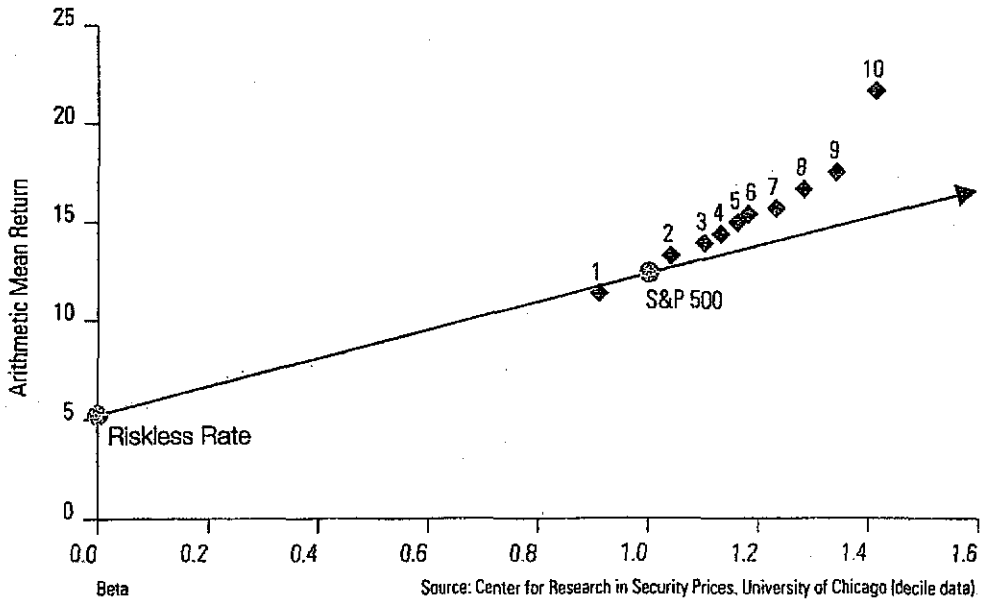
Decile	Beta*	Arithmetic Mean Return	Realized Return in Excess of Riskless Rate**	Estimated Return in Excess of Riskless Rate†	Size Premium (Return in Excess of CAPM)
1-Largest	0.91	11.35%	6.13%	6.49%	–0.36%
2	1.04	13.25%	8.04%	7.39%	0.65%
3	1.10	13.85%	8.64%	7.82%	0.81%
4	1.13	14.28%	9.07%	8.04%	1.03%
5	1.16	14.92%	9.71%	8.26%	1.45%
6	1.18	15.33%	10.11%	8.45%	1.67%
7	1.23	15.63%	10.42%	8.80%	1.62%
8	1.28	16.61%	11.39%	9.12%	2.28%
9	1.34	17.48%	12.27%	9.57%	2.70%
10-Smallest	1.41	21.57%	16.36%	10.09%	6.27%
Mid-Cap, 3-5	1.12	14.15%	8.94%	7.97%	0.97%
Low-Cap, 6-8	1.22	15.67%	10.46%	8.70%	1.76%
Micro-Cap, 9-10	1.36	18.77%	13.56%	9.68%	3.88%

*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 2006.

**Historical riskless rate is measured by the 81-year arithmetic mean income return component of 20-year government bonds (5.21 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 (12.34 percent) minus the arithmetic mean income return component of 20-year government bonds (5.21 percent) from 1926–2006.

Graph 7-2
Security Market Line versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ
1926–2006



Source: Center for Research in Security Prices, University of Chicago (decile data).

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 7-6
Size-Decile Portfolios 10a and 10b of the NYSE/AMEX/NASDAQ, Largest Company and Its Market Capitalization
September 30, 2006

Decile	Recent Number of Companies	Recent Decile Market Capitalization (in thousands)	Market Capitalization of Largest Company (in thousands)	Company Name
10a	511	124,268,473	314,433	M & F Worldwide Corp.
10b	1,237	103,630,389	173,439	Great Lakes Bancorp Inc. New

Note: These numbers may not aggregate to equal decile 10 figures.
Source: Center for Research in Security Prices, University of Chicago.

Table 7-7

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

1926–2006

	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	11.35%	6.13%	6.49%	–0.36%
2	1.04	13.25%	8.04%	7.39%	0.65%
3	1.10	13.85%	8.64%	7.82%	0.81%
4	1.13	14.28%	9.07%	8.04%	1.03%
5	1.16	14.92%	9.71%	8.26%	1.45%
6	1.18	15.33%	10.11%	8.45%	1.67%
7	1.23	15.63%	10.42%	8.80%	1.62%
8	1.28	16.61%	11.39%	9.12%	2.28%
9	1.34	17.48%	12.27%	9.57%	2.70%
10a	1.43	19.74%	14.53%	10.17%	4.35%
10b-Smallest	1.39	24.78%	19.57%	9.89%	9.68%
Mid-Cap, 3-5	1.12	14.15%	8.94%	7.97%	0.97%
Low-Cap, 6-8	1.22	15.67%	10.46%	8.70%	1.76%
Micro-Cap, 9-10	1.36	18.77%	13.56%	9.68%	3.88%

*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 2006.

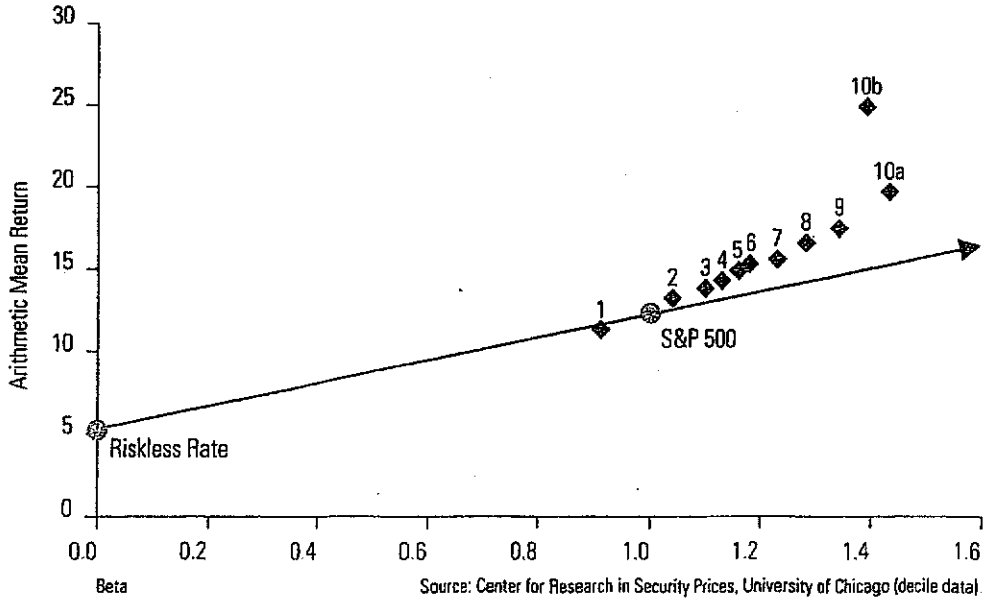
**Historical riskless rate is measured by the 81-year arithmetic mean income return component of 20-year government bonds (5.21 percent).

†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 (12.34 percent) minus the arithmetic mean income return component of 20-year government bonds (5.21 percent) from 1926–2006.

Graph 7-3

Security Market Line versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ, with 10th Decile Split

1926-2006



Source: Center for Research in Security Prices, University of Chicago (decile data).

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

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

Source: Center for Research in Security Prices, University of Chicago.

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 premia and beta. We will also examine the effect on the size premia study of using sum beta or an annual beta.[4]

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.

For the entire period analyzed, 1926–2006, 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 6.41, as opposed to 7.13 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.

4 Sum beta is the method of beta estimation described in Chapter 6 that was developed to better account for the lagged reaction of small stocks to market movements. The sum beta methodology was developed for the same reason that the size premia were developed; small company betas were too small to account for all of their excess returns.

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Utilities

The utilities rating methodology encompasses two basic components: business risk analysis and financial analysis. Evaluation of industry characteristics, the utility's position within that industry, its regulation, and its management provides the context for assessing a firm's financial condition.

Historical analysis is a tool for identifying strengths and weaknesses, and provides a starting point for evaluating financial condition. Business position assessment is the qualitative measure of a utility's fundamental creditworthiness. It focuses on the forces that will shape the utilities' future.

Utilities credit analysis factors

Business risk	Financial risk
• Markets and service area economy	• Earnings protection
• Competitive position	• Capital structure
• Operations	• Cash flow adequacy
• Regulation	• Financial flexibility/capital attraction
• Management	
• Fuel, power, and water supply	
• Asset concentration	

The credit analysis of utilities is quickly evolving, as utilities are treated less as regulated monopolies and more as entities faced with a host of challengers in a competitive environment. Marketplace dynamics are supplanting the power of regulation, making it critically important to reduce costs and/or market new services in order to thwart competitors' inroads.

Markets and service area economy

Assessing service territory begins with the economic and demographic evaluation of the area in which the utility has its franchise. Strength of long-term demand for the product is examined from a macroeconomic perspective. This enables Standard & Poor's to evaluate the affordability of rates and the staying power of demand.

Standard & Poor's tries to discern any secular consumption trends and, more importantly, the reasons for them. Specific items examined include the size and growth rate of the market, strength of the franchise, historical and projected sales growth, income levels and trends in population, employment, and per capita income. A utility with a healthy economy and customer base—as illustrated by diverse employment opportunities, average or above-average wealth and income statistics, and low unemployment—will have a greater capacity to support its operations.

For electric and gas utilities, distribution by customer class is scrutinized to assess the depth and diversity of the utility's customer mix. For example, heavy industrial concentration is viewed cautiously, since a utility may have significant exposure to cyclical volatility. Alternatively, a large residential component yields a stable and more predictable revenue stream. The largest utility customers are identified to determine their importance to the bottom line and assess the risk of their loss and potential adverse effect on the utility's financial position. Credit concerns arise when individual customers represent more than 5% of revenues. The company or industry may play a significant role in the overall economic base of the service area. Moreover, large customers may turn to cogeneration or alternative power supplies to meet their energy needs, potentially leading to reduced cash flow for the utility (even in cases where a large customer pays discounted rates and is not a profitable account for the utility). Customer concentration is less significant for water and telecommunication utilities.

Competitive position

As competitive pressures have intensified in the utilities industry, Standard & Poor's analysis has deepened to include a more thorough review of competitive position.

Electric utility competition

For electric utilities, competitive factors examined include: percentage of firm wholesale revenues that are most vulnerable to competition; industrial load concentration; exposure of key customers to alternative suppliers; commercial concentrations; rates for various customer classes; rate design and flexibility; production costs, both marginal and fixed; the regional capacity situation; and transmission constraints. A regional focus is evident, but high costs and rates relative to national averages are also of significant concern because of the potential for electricity substitutes over time.

Mounting competition in the electric utility industry derives from excess generating capacity, lower barriers to entering the electric generating business, and marginal costs that are below embedded costs. Standard & Poor's has already witnessed declining prices in wholesale markets, as *de facto* retail competition is already being seen in several parts of the country. Standard & Poor's believes that over the coming years more and more customers will want and demand lower prices. Initial concerns focus on the largest industrial loads, but other customer classes will be increasingly vulnerable. Competition will not necessar-

ily be driven by legislation. Other pressures will arise from global competition and improving technologies, whether it be the declining cost of incremental generation or advances in transmission capacity or substitute energy sources like the fuel cell. It is impossible to say precisely when wide-open retail competition will occur; this will be evolutionary. However, significantly greater competition in retail markets is inevitable.

Gas utility competition

Similarly, gas utilities are analyzed with regard to their competitive standing in the three major areas of demand: residential, commercial, and industrial. Although regulated as holders of monopoly power, natural gas utilities have for some time been actively competing for energy market share with fuel oil, electricity, coal, solar, wood, etc. The long-term staying power of market demand for natural gas cannot be taken for granted. In fact, as the electric utility industry restructures and reduces costs, electric power will become more cost competitive and threaten certain gas markets. In addition, independent gas marketers have made greater inroads behind the city gate and are competing for large gas users. Moreover, the recent trend by state regulators to unbundle utility services is creating opportunities for outsiders to market niche products. Distributors still have the upper hand, but those who do not reduce and control costs, and thus rates, could find competition even more difficult.

Natural gas pipelines are judged to carry a somewhat higher business risk than distribution companies because they face competition in every one of their markets. To the extent a pipeline serves utilities versus industrial end users, its stability is greater. Over the next five years, pipeline competition will heat up since many service contracts with customers are expiring. Most distributor or end-use customers are looking to reduce pipeline costs and are working to improve their load factor to do so. Thus, pipelines will likely find it difficult to recontract all capacity in coming years. Being the pipeline of choice is a function of attractive transportation rates, diversity and quality of services provided, and capacity available in each particular market. In all cases though, periodic discounting of rates to retain customers will occur and put pressure on profitability.

Water utility competition

As the last true utility monopoly, water utilities face very little competition and there is currently no challenge to the continuation of franchise areas. The only exceptions have been cases where investor-owned water companies have been subject to condemnation and municipalization because of poor service or political motivations. In that regard, Standard & Poor's pays close attention to costs and rates in relation to neighboring utilities and national averages. (In contrast, the privatization of public water facilities has begun, albeit at a slower pace than anticipated. This is occurring mostly in the form of operating contracts and public/private partnerships, and not in asset transfers. This trend should continue as cities look for ways to balance their tight budgets.) Also, water utilities are not fully immune to the forces of competition; in a few instances wholesale customers can access more than one supplier.

Telephone competition

The Telecommunications Act of 1996 accelerates the continuing challenge to the local exchange companies' (LECs) century-old monopoly in the local loop. Competitive access providers (CAPs), both facilities-based and resellers, are aggressively pursuing customers, generally targeting metropolitan areas, and promising lower rates and better service.

Most long-distance calls are still originated and terminated on the local telephone company network. To complete such a call, the long-distance provider (including AT&T, MCI, Sprint and a host of smaller interexchange carriers or "IXCs") must pay the local telephone company a steep "access" fee to compensate the local phone company for the use of its local network. CAPs, in contrast, build or lease facilities that directly connect customers to their long-distance carrier, bypassing the local telephone company and avoiding access fees, and thereby can offer lower long-distance rates. But the LECs are not standing still; they are combating the loss of business to CAPs by lowering access fees, thereby reducing the economic incentive for a high usage long-distance customer to use a CAP. LECs are attempting to make up for the loss of revenues from lower access fees by increasing basic local service rates (or at least not lowering them), since basic service is far less subject to competition. LECs are improving operating efficiency and marketing high margin, value-added new services. Additionally, in the wake of the Telecommunications Act, LECs will capture at least some of the inter-LATA long-distance market. As a result of these initiatives, LECs continue to rebuild themselves—from the traditional utility monopoly to leaner, more marketing oriented organizations.

While LECs, and indeed all segments of the telecommunications sector, face increasing competition, there are favorable industry factors that tend to offset heightened business risk and auger for overall ratings stability for most LECs. Importantly, telecommunications is a declining-cost business. With increased deployment of fiber optics, the cost of transport has fallen dramatically and digital switching hardware and software have yielded more capable, trouble-free and cost-efficient networks. As a result, the cost of network maintenance has dropped sharply, as illustrated by the ratio of employees per 10,000 access lines, an oft cited measurement of efficiency. Ratios as low as 25 employees per 10,000 lines are being seen, down from the typical 40 or more employees per 10,000 ratio of only a few years ago.

In addition, networks are far more capable. They are increasingly digitally switched and able to accommodate high-speed communications. The infrastructure needed to accommodate switched broadband services will be built into telephone networks over the next few years. These advanced networks will enable telephone companies to look to a greater variety of high-margin, value-added serv-

ices. In addition to those current services such as call waiting or caller ID, the delivery of hundreds of broadcast and interactive video channels will be possible. While these services offer the potential of new revenue streams, they will simultaneously present a formidable challenge. LECs will be entering the new (to them) arena of multimedia entertainment and will have to develop expertise in marketing and entertainment programming acumen; such skills stand in sharp contrast to LECs' traditional strengths in engineering and customer service.

Operations

Standard & Poor's focuses on the nature of operations from the perspective of cost, reliability, and quality of service. Here, emphasis is placed on those areas that require management attention in terms of time or money and which, if unresolved, may lead to political, regulatory, or competitive problems.

Operations of electric utilities

For electrics, the status of utility plant investment is reviewed with regard to generating plant availability and utilization, and also for compliance with existing and contemplated environmental and other regulatory standards. The record of plant outages, equivalent availability, load factors, heat rates, and capacity factors are examined. Also important is efficiency, as defined by total megawatt hour per employee and customers per employee. Transmission interconnections are evaluated in terms of the number of utilities to which the utility in question has access, the cost structures and available generating capacity of these other utilities, and the price paid for wholesale power.

Because of mounting competition and the substantial escalation in decommissioning estimates, significant weight is given to the operation of nuclear facilities. Nuclear plants are becoming more vulnerable to high production costs that make their rates uneconomic. Significant asset concentration may expose the utility to poor performance, unscheduled outages or premature shutdowns, and large deferrals or regulatory assets that may need to be written off for the utility to remain competitive. Also, nuclear facilities tend to represent significant portions of their operators' generating capability and assets. The loss of a productive nuclear unit from both power supply and rate base can interrupt the revenue stream and create substantial additional costs for repairs and improvements and replacement power. The ability to keep these stations running smoothly and economically directly influences the ability to meet electric demand, the stability of revenues and costs, and, by extension, the ability to maintain adequate creditworthiness. Thus, economic operation, safe operation, and long-term operation are examined in depth. Specifically, emphasis is placed on operation and maintenance costs, busbar costs, fuel costs, refueling outages, forced outages, plant statistics, NRC evaluations, the potential need for repairs, operating licenses, decommissioning estimates and amounts held in external trusts, spent fuel storage capacity, and management's nuclear experience. In essence, favorable nuclear operations offer significant opportunities but, if a nuclear unit runs poorly or not at all, the attendant risks can be great.

Operations of gas utilities

For gas pipeline and distribution companies, the degree of plant utilization, the physical condition of the mains and lines, adequacy of storage to meet seasonal needs, "lost and unaccounted for" gas levels, and per-unit nongas operating and construction costs are important factors. Efficiency statistics such as load factor, operating costs per customer, and operating income per employee are also evaluated in comparison to other utilities and the industry as a whole.

Operations of water utilities

As a group, water utilities are continually upgrading their physical plant to satisfy regulations and to develop additional supply. Over the next decade, water systems will increasingly face the task of maintaining compliance, as drinking water regulations change and infrastructure ages. Given that the Safe Drinking Water Act was authorized in 1974, the first generation of treatment plants built to conform with these rules are almost 20 years old. Additionally, because the focus during this period was on satisfying environmental standards, deferred maintenance of distribution systems has been common, especially in older urban areas. The increasing cost of supplying treated water argues against the high level of unaccounted for water witnessed in the industry. Consequently, Standard & Poor's anticipates capital plans for rebuilding distribution lines and major renewal and replacement efforts aimed at treatment plants.

Operations of telephone companies

For telephone companies, cost-of-service analysis focuses on plant capability and measures of efficiency and quality of service. Plant capability is ascertained by looking at such parameters as percentage of digitally switched lines; fiber optic deployment, in particular in those portions of the plant key to network survival; and the degree of broadband capacity fiber and coaxial deployment and broadband switching capacity. Efficiency measures include operating margins, the ratio of employees per 10,000 access lines, and the extent of network and operations consolidation. Quality of service encompasses examination of quantitative measures, such as trouble reports and repeat service calls, as well as an assessment of qualitative factors, that may include service quality goals mandated by regulators.

Regulation

Regulatory rate-setting actions are reviewed on a case-by-case basis with regard to the potential effect on creditworthiness. Regulators' authorizing high rates of return is of little value unless the returns are earnable. Furthermore, allowing high returns based on noncash items does not benefit bondholders. Also, to be viewed positively, regulatory treatment should allow consistent performance from

period to period, given the importance of financial stability as a rating consideration.

The utility group meets frequently with commission and staff members, both at Standard & Poor's offices and at commission headquarters, demonstrating the importance Standard & Poor's places on the regulatory arena for credit quality evaluation. Input from these meetings and from review of rate orders and their impact weigh heavily in Standard & Poor's analysis.

Standard & Poor's does not "rate" regulatory commissions. State commissions typically regulate a number of diverse industries, and regulatory approaches to different types of companies often differ within a single regulatory jurisdiction. This makes it all but impossible to develop inclusive "ratings" for regulators.

Standard & Poor's evaluation of regulation also encompasses the administrative, judicial, and legislative processes involved in state and federal regulation. These can affect rate-setting activities and other aspects of the business, such as competitive entry, environmental and safety rules, facility siting, and securities sales.

As the utility industry faces an increasingly deregulated environment, alternatives to traditional rate-making are becoming more critical to the ability of utilities to effectively compete, maintain earnings power, and sustain creditor protection. Thus, Standard & Poor's focuses on whether regulators, both state and federal, will help or hinder utilities as they are exposed to greater competition. There is much that regulators can do, from allocating costs to more captive customers to allowing pricing flexibility—and sometimes just stepping out of the way.

Under traditional rate-making, rates and earnings are tied to the amount of invested capital and the cost of capital. This can sometimes reward companies more for justifying costs than for containing them. Moreover, most current regulatory policies do not permit utilities to be flexible when responding to competitive pressures of a deregulated market. Lack of flexible tariffs for electric utilities may lure large customers to wheel cheaper power from other sources.

In general, a regulatory jurisdiction is viewed favorably if it permits earning a return based on the ability to sustain rates at competitive levels. In addition to performance-based rewards or penalties, flexible plans could include market-based rates, price caps, index-based prices, and rates premised on the value of customer service. Such rates more closely mirror the competitive environment that utilities are confronting.

Electric industry regulation

The ability to enter into long-term arrangements at negotiated rates without having to seek regulatory approval for each contract is also important in the electric industry. (While contracting at reduced rates constrains financial performance, it lessens the potential adverse impact in the event of retail wheeling. Since revenue losses associated with this strategy are not likely to be recovered from ratepayers, utilities must control costs well enough to remain competitive if they are to sustain current levels of bondholder protection.)

Natural gas industry regulation

In the gas industry, too, several state commission policies weigh heavily in the evaluation of regulatory support. Examples include stabilization mechanisms to adjust revenues for changes in weather or the economy, rate and service unbundling decisions, revenue and cost allocation between sales and transportation customers, flexible industrial rates, and the general supportiveness of construction costs and gas purchases.

Water industry regulation

In all water utility activities, federal and state environmental regulations continue to play a critical role. The legislative timetable to effect the 1986 amendments to the Safe Drinking Water Act of 1974 was quite aggressive. But environmental standards-setting has actually slowed over the past couple of years due largely to increasing sentiment that the stringent, costly standards have not been justified on the basis of public health. A moratorium on the promulgation of significant new environmental rules is anticipated.

Telecommunications industry regulation

Despite the advances in telecommunications deregulation, analysis of regulation of telephone operators will continue to be a key rating determinant for the foreseeable future. The method of regulation may be either classic rate-based rate of return or some form of price cap mechanism. The most important factor is to assess whether the regulatory framework—no matter which type—provides sufficient financial incentive to encourage the rated company to maintain its quality of service and to upgrade its plant to accommodate new services while facing increasing competition from wireless operators and cable television companies.

Where regulators do still set tariffs based on an authorized return, Standard & Poor's strives to explore with regulators their view of the rate-of-return components that can materially impact reported versus regulatory earnings. Specifically these include the allowable base upon which the authorized return can be earned, allowable expenses, and the authorized return. Since regulatory oversight runs the gamut from strict, adversarial relationships with the regulated operating companies to highly supportive postures, Standard & Poor's probes beyond the apparent regulatory environment to ascertain the actual impact of regulation on the rated company.

Management

Evaluating the management of a utility is of paramount importance to the analytical process since management's abilities and decisions affect all areas of a company's operations. While regulation, the economy, and other outside factors can influence results, it is ultimately the quality of management that determines the success of a company.

With emerging competition, utility management will be more closely scrutinized by Standard & Poor's and will become an increasingly critical component of the credit evaluation. Management strategies can be the key determinant in differentiating utilities and in establishing where companies lie on the business position spectrum. It is imperative that managements be adaptable, aggressive, and proactive if their utilities are to be viable in the future; this is especially important for utilities that are currently uncompetitive.

The assessment of management is accomplished through meetings, conversations, and reviews of company plans. It is based on such factors as tenure, industry experience, grasp of industry issues, knowledge of customers and their needs, knowledge of competitors, accounting and financing practices, and commitment to credit quality. Management's ability and willingness to develop workable strategies to address their systems' needs, to deal with the competitive pressures of free market, to execute reasonable and effective long-term plans, and to be proactive in leading their utilities into the future are assessed. Management quality is also indicated by thoughtful balancing of public and private priorities, a record of credibility, and effective communication with the public, regulatory bodies, and the financial community. Boards of directors will receive ever more attention with respect to their role in setting appropriate management incentives.

With competition the watchword, Standard & Poor's also focuses on management's efforts to enhance financial condition. Management can bolster bondholder protection by taking any number of discretionary actions, such as selling common equity, lowering the common dividend payout, and paying down debt. Also important for the electric industry will be creativity in entering into strategic alliances and working partnerships that improve efficiency, such as central dispatching for a number of utilities or locking up at-risk customers through long-term contracts or expanded flexible pricing agreements. Proactive management teams will also seek alternatives to traditional rate-base, rate-of-return rate-making, move to adopt higher depreciation rates for generating facilities, segment customers by individual market preferences, and attempt to create superior service organizations.

In general, management's ability to respond to mounting competition and changes in the utility industry in a swift and appropriate manner will be necessary to maintain credit health.

Fuel, power, and water supply

Assessment of present and prospective fuel and power supply is critical to every electric utility analysis, while gauging the long-term natural gas supply position for gas pipeline and distribution companies and the water resources of a water utility is equally important. There is no similar analytical category for telephone utilities.

Electric utilities

For electric utilities emphasis is placed on generating reserve margins, fuel mix, fuel contract terms, demand-side management techniques, and purchased power arrangements. The adequacy of generating margins is examined nationally, regionally, and for each individual company. However, the reserve margin picture is muddied by the imprecise nature of peak-load growth forecasting, and also supply uncertainty relating to such things as Canadian capacity availability and potential plant shutdowns due to age, new NRC rules, acid rain remedies, fuel shortages, problems associated with nontraditional technologies, and so forth. Even apparently ample reserves may not be what they seem. Moreover, the quality of capacity is just as important as the size of reserves. Companies' reserve requirements differ, depending upon individual operating characteristics.

Fuel diversity provides flexibility in a changing environment. Supply disruptions and price hikes can raise rates and ignite political and regulatory pressures that ultimately lead to erosion in financial performance. Thus, the ability to alter generating sources and take advantage of lower cost fuels is viewed favorably.

Dependence on any single fuel means exposure to that fuel's problems: electric utilities that rely on oil or gas face the potential for shortages and rapid price increases; utilities that own nuclear generating facilities face escalating costs for decommissioning; and coal-fired capacity entails environmental problems stemming from concerns over acid rain and the "greenhouse effect."

Buying power from neighboring utilities, qualifying facility projects, or independent power producers may be the best choice for a utility that faces increasing electricity demand. There has been a growing reliance on purchased power arrangements as an alternative to new plant construction. This can be an important advantage, since the purchasing utility avoids potential construction cost overruns as well as risking substantial capital. Also, utilities can avoid the financial risks typical of a multiyear construction program that are caused by regulatory lag and prudence reviews. Furthermore, purchased power may enhance supply flexibility, fuel resource diversity, and maximize load factors. Utilities that plan to meet demand projections with a portfolio of supply-side options also may be better able to adapt to future growth uncertainties. Notwithstanding the benefits of purchasing, such a strategy has risks associated with it. By entering into a firm long-term purchased power contract that contains a fixed-cost component, utilities can incur substantial market, operating, regulatory, and financial risks. Moreover, regulatory treatment of purchased power removes any upside potential that might help offset the risks. Utilities are not compensated through incentive rate-making; rather, purchased power is recovered dollar-for-dollar as an operating expense.

To analyze the financial impact of purchased power, Standard & Poor's first calculates the net present value of future annual capacity payments (discounted at 10%). This represents a potential debt equivalent—the off-balance-sheet obligation that a utility incurs when it enters into a long-term purchased power contract. However, Standard

& Poor's adds to the utility's balance sheet only a portion of this amount, recognizing that such a contractual arrangement is not entirely the equivalent of debt. What percentage is added is a function of Standard & Poor's qualitative analysis of the specific contract and the extent to which market, operating, and regulatory risks are borne by the utility (the risk factor). For unconditional, take-or-pay contracts, the risk factor range is from 40%-80%, with the average hovering around 60%. A lower risk factor is typically assigned for system purchases from coal-fired utilities and a higher risk factor is usually designated for unit-specific nuclear purchases. The range for take-and-pay performance obligations is between 10%-50%.

Gas utilities

For gas distribution utilities, long-term supply adequacy obviously is critical, but the supply role has become even more important in credit analysis since the Federal Energy Regulatory Commission's Order 636 eliminated the interstate pipeline merchant business. This thrust gas supply responsibilities squarely on local gas distributors. Standard & Poor's has always believed distributor management has the expertise and wherewithal to perform the job well, but the risks are significant since gas costs are such a large percentage of total utility costs. In that regard, it is important for utilities to get preapprovals of supply plans by state regulators or at least keep the staff and commissioners well informed. To minimize risks, a well-run program would diversify gas sources among different producers or marketers, different gas basins in the U.S. and Canada, and different pipeline routes. Also, purchase contracts should be firm, with minimal take-or-pay provisions, and have prices tied to an industry index. A modest percentage of fixed-price gas is not unreasonable. Contracts, whether of gas purchases or pipeline capacity, should be intermediate term. Staggering contract expirations (preferably annually) provides an opportunity to be an active market player. A modest degree of reliance on spot purchases provides flexibility, as does the use of market-based storage. Gas storage and on-property gas resources such as liquefied natural gas or propane air are effective peak-day and peak-season supply management tools.

Since pipeline companies no longer buy and sell natural gas and are just common carriers, connections with varied reserve basins and many wells within those basins are of great importance. Diversity of sources helps offset the risks arising from the natural production declines eventually experienced by all reserve basins and individual wells. Moreover, such diversity can enhance a pipeline's attractiveness as a transporter of natural gas to distributors and end users seeking to buy the most economical gas available for their needs.

Water utilities

Nearly all water systems throughout the U.S. have ample long-term water supplies. Yet to gain comfort, Standard & Poor's assesses the production capability of treatment plants and the ability to pump water from underground aquifers in relation to the usage demands from consumers. Having adequate treated water storage facilities has become important in recent years and has helped many systems meet demands during peak summer periods. Of interest is whether the resources are owned by the utility or purchased from other utilities or local authorities. Owning properties with water rights provides more supply security. This is especially so in states like California where water allocations are being reduced, particularly since recent droughts and environmental issues have created alarm. Since the primary cost for water companies is treatment, it makes little difference whether raw water is owned or bought. In fact, compliance with federal and state water regulations is very high, and the overall cost to deliver treated water to consumers remains relatively affordable.

Asset concentration in the electric utility industry

In the electric industry, Standard & Poor's follows the operations of major generating facilities to assess if they are well managed or troubled. Significant dependence on one generating facility or a large financial investment in a single asset suggests high risk. The size or magnitude of a particular asset relative to total generation, net plant in service, and common equity is evaluated. Where substantial asset concentration exists, the financial profile of a company may experience wide swings depending on the asset's performance. Heavy asset concentration is most prevalent among utilities with costly nuclear units.

Earnings protection

In this category, pretax cash income coverage of all interest charges is the primary ratio. For this calculation, allowance for funds used during construction (AFUDC) is removed from income and interest expense. AFUDC and other such noncash items do not provide any protection for bondholders. To identify total interest expense, the analyst reclassifies certain operating expenses. The interest component of various off-balance-sheet obligations, such as leases and some purchased-power contracts, is included in interest expense. This provides the most direct indication of a utility's ability to service its debt burden.

While considerable emphasis in assessing credit protection is placed on coverage ratios, this measure does not provide the entire earnings protection picture. Also important are a company's earned returns on both equity and capital, measures that highlight a firm's earnings performance. Consideration is given to the interaction of embedded costs, financial leverage, and pretax return on capital.

Capital structure

Analyzing debt leverage goes beyond the balance sheet and covers quasi-debt items and elements of hidden financial leverage. Noncapitalized leases (including sale/lease-back obligations), debt guarantees, receivables financing, and purchased-power contracts are all considered debt equivalents and are reflected as debt in calculating capital

structure ratios. By making debt level adjustments, the analyst can compare the degree of leverage used by each utility company.

Furthermore, assets are examined to identify undervalued or overvalued items. Assets of questionable value are discounted to more accurately evaluate asset protection.

Some firms use short-term debt as a permanent piece of their capital structure. Short-term debt also is considered part of permanent capital when it is used as a bridge to permanent financing. Seasonal, self-liquidating debt is excluded from the permanent debt amount, but this situation is rare—with the exception of certain gas utilities. Given the long life of almost all utility assets, short-term debt may expose these companies to interest-rate volatility, remarketing risk, bank line backup risk, and regulatory exposure that cannot be readily offset. The lower cost of shorter-term obligations (assuming a positively sloped yield curve) is a positive factor that partially mitigates the risk of interest-rate variability. As a rule of thumb, a level of short-term debt that exceeds 10% of total capital is cause for concern.

Similarly, if floating-rate debt and preferred stock constitute over one-third of total debt plus preferred stock, this level is viewed as unusually high and may be cause for concern. It might also indicate that management is aggressive in its financial policies.

A layer of preferred stock in the capital structure is usually viewed as equity—since dividends are discretionary and the subordinated claim on assets provides a cushion for providers of debt capital. A preferred component of up to 10% is typically viewed as a permanent wedge in the capital structure of utilities. However, as rate-of-return regulation is phased out, preferred stock may be viewed by utilities—as many industrial firms would—as a temporary option for companies that are not current taxpayers that do not benefit from the tax deductibility of interest. Even now, floating-rate preferred and money market perpetual preferred are problematic; a rise in the rate due to deteriorating credit quality tends to induce a company to take out such preferred stock with debt. Structures that convey tax deductibility to preferred stock have become very popular and do generally afford such financings with equity treatment.

Cash flow adequacy

Cash flow adequacy relates to a company's ability to generate funds internally relative to its needs. It is a basic component of credit analysis because it takes cash to pay expenses, fund capital spending, pay dividends, and make interest and principal payments. Since both common and preferred dividend payments are important to maintain capital market access, Standard & Poor's looks at cash flow measures both before and after dividends are paid.

To determine cash flow adequacy, several quantitative relationships are examined. Emphasis is placed on cash flow relative to debt, debt service requirements, and capital spending. Cash flow adequacy is evaluated with respect to a firm's ability to meet all fixed charges, including capacity payments under purchased-power contracts. Despite the conditional nature of some contracts, the purchaser is obligated to pay a minimum capacity charge. The ratio used is funds from operations plus interest and capacity payments divided by interest plus capacity payments.

Financial flexibility/capital attraction

Financing flexibility incorporates a utility's financing needs, plans, and alternatives, as well as its flexibility to accomplish its financing program under stress without damaging creditworthiness. External funding capability complements internal cash flow. Especially since utilities are so capital intensive, a firm's ability to tap capital markets on an ongoing basis must be considered. Debt capacity reflects all the earlier elements: earnings protection, debt leverage, and cash flow adequacy. Market access at reasonable rates is restricted if a reasonable capital structure is not maintained and the company's financial prospects dim. The analyst also reviews indenture restrictions and the impact of additional debt on covenant tests.

Standard & Poor's assesses a company's capacity and willingness to issue common equity. This is affected by various factors, including the market-to-book ratio, dividend policy, and any regulatory restrictions regarding the composition of the capital structure.

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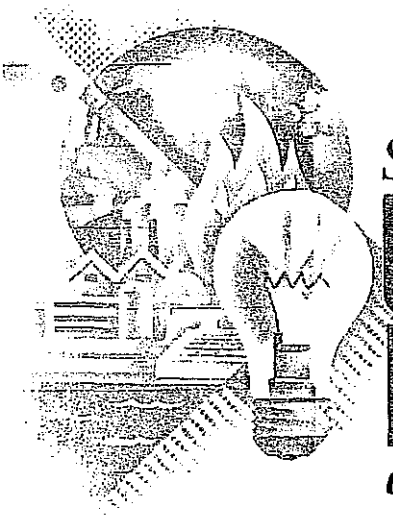

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STANDARD
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New Business Profile Scores Assigned for U.S. Utility and Power Companies; Financial Guidelines Revised

Standard & Poor's Ratings Services has assigned new business profile scores to U.S. utility and power companies to better reflect the relative business risk among companies in the sector. Standard & Poor's also has revised its published risk-adjusted financial guidelines. The new business scores and financial guidelines do not represent a change to Standard & Poor's ratings criteria or methodology, and no ratings changes are anticipated from the new business profile scores or revised financial guidelines.

New Business Profile Scores and Revised Financial Guidelines

Standard & Poor's has always monitored changes in the industry and altered its business risk assessments accordingly. This is the first time since the 10-point business profile scale for U.S. investor-owned utilities was implemented that a comprehensive assessment of the benefits and the application of the methodology has been made. The principal purpose was to determine if the methodology continues to provide meaningful differentiation of business risk. The review indicated that while business profile scoring continues to provide analytical benefits, the complete range of the 10-point scale was not being utilized to the fullest extent.

Standard & Poor's has also revised the key financial guidelines that it uses as an integral part of evaluating the credit quality of U.S. utility and power companies. These guidelines were last updated in June 1999. The financial guidelines for three principal ratios (funds from operations (FFO) interest coverage, FFO to total debt, and total debt to total capital) have been broadened so as to be more flexible. Pretax interest cov-

Chart 1

Distribution of Business Profile Scores

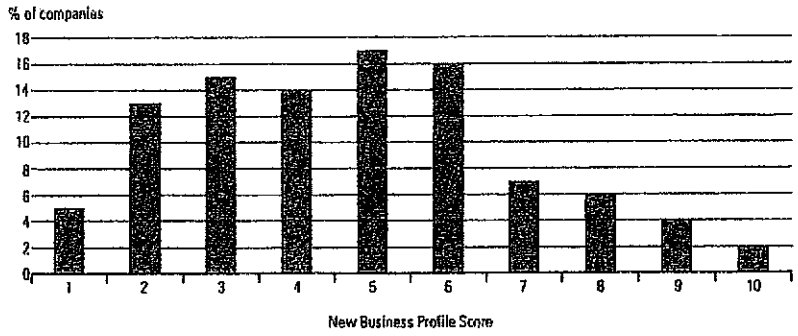
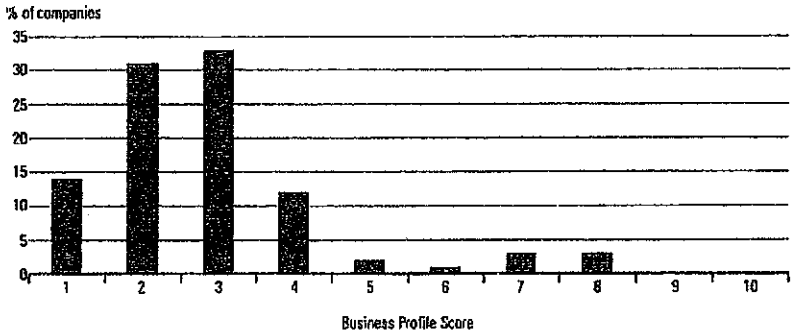


Chart 2

Transmission and Distribution—Water, Gas, and Electric



erage as a key credit ratio was eliminated.

Finally, Standard & Poor's has segmented the utility and power industry into sub-sectors based on the dominant corporate strategy that a company is pursuing Standard & Poor's has published a new U S utility and power company ranking list that reflects these sub-sectors

There are numerous benefits to the reassessment Fuller utilization of the entire 10-point scale provides a superior relative ranking of qualitative business risk A revision of the financial guidelines supports the goal of not causing rating changes from the recalibration of the business profiles Classification of companies by sub-sectors will ensure greater comparability and consistency in ratings. The use of industry segmentation will also allow more in-depth statistical analysis of ratings distributions and rating changes

The reassessment does not represent a change to Standard & Poor's criteria or methodology for determining ratings for utility and power companies. Each business profile score should be considered as the assignment of a new score; these scores do not represent improvement or deterioration in our assessment of an individual company's business risk relative to the previously assigned score The financial guidelines continue to be risk-adjusted based on historical utility and industrial medians Segmentation into industry sub-sectors does not imply that specific company characteristics will not weigh heavily into the assignment of a company's business profile score

Results

Previously, 83% of U S utility and power business profile scores fell between '3' and '6', which clearly does not reflect the risk differentiation that exists in the utility and power industry today. Since the 10-point scale was introduced, the industry has transformed into a much less homogenous industry, where the divergence of business risk—particularly regarding management, strategy, and degree of competitive market exposure—has created a much wider spectrum of risk profiles Yet over the same period, business profile scores actually converged more tightly around a median score of '4' The new business pro-

Chart 3

Transmission Only—Electric, Gas, and Other

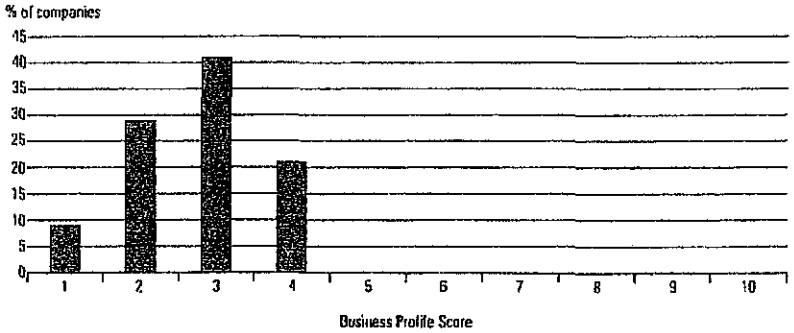
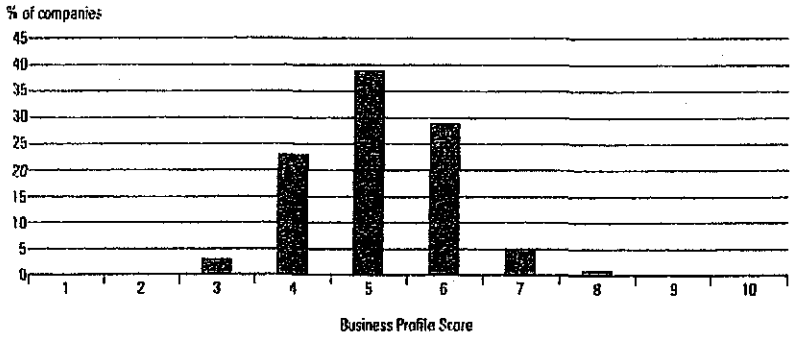


Chart 4

Integrated Electric, Gas, and Combination Utilities



file scores, as of June 2, are shown in Chart 1. The overall median business profile score is now '5'.

Table 1 contains the revised financial guidelines. It is important to emphasize that these metrics are only guidelines associated with expectations for various rating levels. Although credit ratio analysis is an important part of the ratings process, these three statistics are by no means the only critical financial measures that Standard & Poor's uses in its analytical process. We also analyze a wide array of financial ratios that do not have published guidelines for each rating category.

Again, ratings analysis is not driven solely by these financial ratios, nor has it ever been. In fact, the new financial guidelines that Standard & Poor's is incorporating for the specified rating categories reinforce the analytical framework whereby other factors can outweigh the achievement of otherwise acceptable financial ratios. These factors include:

- Effectiveness of liability and liquidity management,
- Analysis of internal funding sources;
- Return on invested capital;
- The execution record of stated business strategies,
- Accuracy of projected performance versus actual results, as well as the trend;
- Assessment of management's financial policies and attitude toward credit; and
- Corporate governance practices

Charts 2 through 6 show business profile scores broken out by industry sub-sector. The five industry sub-sectors are

- Transmission and distribution—Water, gas, and electric,
- Transmission only—Electric, gas, and other,
- Integrated electric, gas, and combination utilities,
- Diversified energy and diversified nonenergy; and
- Energy merchant/power developer/trading and marketing companies.

The average business profile scores for transmission and distribution companies and transmission-only companies are lower on the scale than the previous averages, while the average business profile scores for integrated utilities, diversified energy, and energy merchants and developers are higher

Chart 5

Diversified Energy and Diversified Non-Energy

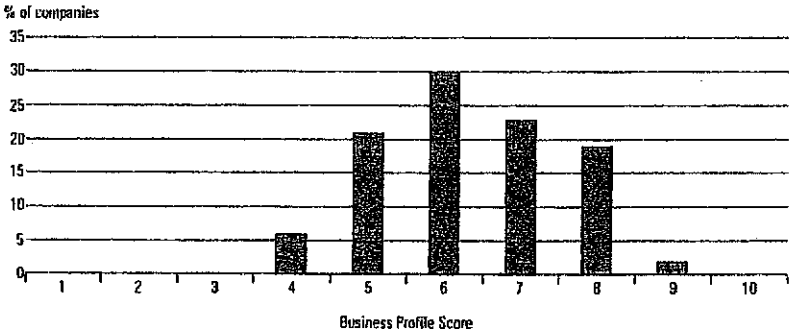
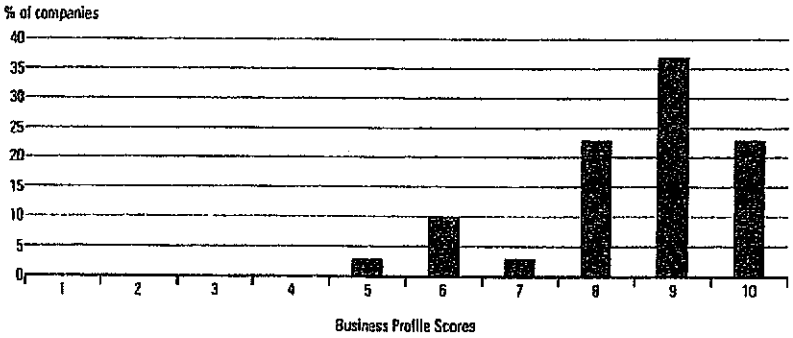


Chart 6

Energy Merchant/Developers/Trading and Marketing



See pages 16 to 19 for the company ranking list of business profile scores segmented by industry sub-sector and ranked in order of credit rating, outlook, business profile score, and relative strength

Business Profile Score Methodology

Standard & Poor's methodology of determining corporate utility business risk is anchored in the assessment of certain specific characteristics that define the sector. We assign business profile scores to each of the rated companies in the utility and power sector on a 10-point scale, where '1' represents the lowest risk and '10' the highest risk. Business profile scores are assigned to all rated utility and power companies, whether they are holding companies, subsidiaries, or stand-alone corporations. For operating subsidiaries and stand-alone companies, the score is a bottom-up assessment. Scores for families of companies are a composite of the operating subsidiaries' scores. The actual credit rating of a company is analyzed, in part, by comparing the business profile score with the risk-adjusted financial guidelines.

For most companies, business profile scores are assessed using five categories; specifically, regulation, markets, operations, competitiveness, and management. The emphasis placed on each category may be influenced by the

Table 1

Revised Financial Guidelines

Funds from operations/interest coverage (x)

Business Profile	AA		A		BBB		BB	
1	3	2.5	2.5	1.5	1.5	1		
2	4	3	3	2	2	1		
3	4.5	3.5	3.5	2.5	2.5	1.5	1.5	1
4	5	4.2	4.2	3.5	3.5	2.5	2.5	1.5
5	5.5	4.5	4.5	3.8	3.8	2.8	2.8	1.8
6	6	5.2	5.2	4.2	4.2	3	3	2
7	8	6.5	6.5	4.5	4.5	3.2	3.2	2.2
8	10	7.5	7.5	5.5	5.5	3.5	3.5	2.5
9			10	7	7	4	4	2.8
10			11	8	8	5	5	3

Funds from operation/total debt (%)

Business Profile	AA		A		BBB		BB	
1	20	15	15	10	10	5		
2	25	20	20	12	12	8		
3	30	25	25	15	15	10	10	5
4	35	28	28	20	20	12	12	8
5	40	30	30	22	22	15	15	10
6	45	35	35	28	28	18	18	12
7	55	45	45	30	30	20	20	15
8	70	55	55	40	40	25	25	15
9			65	45	45	30	30	20
10			70	55	55	40	40	25

Total debt/total capital (%)

Business Profile	AA		A		BBB		BB	
1	48	55	55	60	60	70		
2	45	52	52	58	58	68		
3	42	50	50	55	55	65	65	70
4	38	45	45	52	52	62	62	68
5	35	42	42	50	50	60	60	65
6	32	40	40	48	48	58	58	62
7	30	38	38	45	45	55	55	60
8	25	35	35	42	42	52	52	58
9			32	40	40	50	50	55
10			25	35	35	48	48	52

dominant strategy of the company or other factors. For example, for a regulated transmission and distribution company, regulation may account for 30% to 40% of the business profile score because regulation can be the single-most important credit driver for this type of company. Conversely, competition, which may not exist for a transmission and distribution company, would provide a much lower proportion (e.g., 5% to 15%) of the business profile score.

For certain types of companies, such as power generators, power developers, oil and gas exploration and production companies, or nonenergy-related holdings, where these five components may not be appropriate, Standard & Poor's will use other, more appropriate methodologies. Some of these companies are assigned business profile scores that are useful only for relative ranking purposes.

As noted above, the business profile score for a parent or holding company is a composite of the business profile scores of its individual subsidiary companies. Again, Standard & Poor's does not apply rigid guidelines for determining the proportion or weighting that each subsidiary represents in the overall business profile score. Instead, it is determined based on a number of factors. Standard & Poor's will analyze each subsidiary's contribution to FFO, forecast capital expenditures, liquidity requirements, and other parameters, including the extent to which one subsidiary has higher growth. The weighting is determined case-by-case. ■

Ronald M. Barone
New York (1) 212-438-7662
Richard W. Cortright, Jr.
New York (1) 212-438-7665
Suzanne G. Smith
New York (1) 212-438-2106
John W. Whitlock
New York (1) 212-438-7678
Andrew Watt
New York (1) 212-438-7868
Arthur F. Simonson
New York (1) 212-438-2094

Illinois American Water Company
Comparison of Bond Ratings and Business Profile for
the Proxy Group of Eight Water Companies and
the Proxy Group of Thirteen Utilities Selected Upon the Basis of Least Relative Distance

	June 2007 Moody's Bond Rating		June 2007 Standard & Poor's Bond Rating				Standard & Poor's Business Position / Profile (2)
	Bond Rating	Numerical Weighting (1)	Bond Rating	Numerical Weighting (1)	Credit Rating	Numerical Weighting (1)	
Proxy Group of Eight Water Companies							
American States Water Co. (3)	A2	6	A-	7	A-	7	3
Aqua America, Inc. (4)	NR	--	AA-	4	A+	5	2
Artesian Resources, Inc.	NR	--	NR	--	NR	--	--
California Water Service Group (5)	A2	6	NR	--	A+	5	3
Connecticut Water Service Group (6)	NR	--	AAA	1	A	6	1
Middlesex Water Company	NR	--	A	6	A-	7	3
SJW Corp.	NR	--	NR	--	NR	--	--
York Water Company	NR	--	A-	7	A-	7	2
Average	A2	6.0	A+	5.0	A	6.2	2.3
Proxy Group of Thirteen Utilities Selected Upon the Basis of Least Relative Distance							
Alliant Energy Corp. (7)	A2	6	A- / BBB+	7.5	A- / BBB+	7.5	4.5
American Electric Power Co., Inc. (8)	Baa1	8	BBB	9	BBB	9	4
American States Water Co. (3)	A2	6	A-	7	A-	7	3
DTE Energy Company (9)	A3	7	BBB+ / BBB	8.5	BBB	9	5
Entergy Corp. (10)	Baa2	9	BBB+	8	BBB	9	6
FPL Group, Inc. (11)	Aa3	4	A	6	A	6	4
Pinnacle West Capital Corp. (12)	Baa2	9	BBB-	10	BBB-	10	6
PPL Corp. (13)	A3	7	A-	7	A-	7	3
Progress Energy Inc.(14)	A2	6	BBB+	8	BBB+	8	4.5
SCANA Corp. (15)	A1 / A2	5.5	A-	7	A-	7	3
Vectren Corp. (16)	A3 / Baa1	7.5	A / A-	6.5	A-	7	2.5
Wisconsin Energy Corp. (17)	Aa3 / A1	4.5	A-	7	A-	7	3
Xcel Energy Inc. (18)	A3	7	BBB+	8	BBB	9	4.5
Average	A3	6.7	BBB+	7.7	BBB+	7.9	4.1

Notes:
(1) From page 2 of this Schedule.
(2) From Standard & Poor's U.S. Utilities and Power Companies, Strongest to Weakest, June 22, 2007, Issuer Ranking: U.S. Investor-Owned Water Utilities, Strongest to Weakest, July 16, 2007.
(3) Ratings and business profile are those of Golden State Water Company
(4) Ratings and business profile are those of Aqua Pennsylvania, Inc.
(5) Ratings and business profile are those of California Water Service Company.
(6) Ratings and business profile are those of Connecticut Water Company.
(7) Ratings and business profile are a composite of those of Interstate Power & Light Co. and Wisconsin Power & Light Co.
(8) Ratings and business profile are a composite of those of AEP Texas Central Co., AEP Texas North Co., Appalachian Power Co., Columbus Southern Power Co., Indiana Michigan Power Co., Kentucky Power Co., Ohio Power Co., Public Service Co. of OK, and Southwestern Electric Power Co.
(9) Ratings and business profile are a composite of those of Detroit Edison Co. and Michigan Consolidated Gas Co..
(10) Ratings and business profile are a composite of those of Entergy Arkansas, Inc., Entergy Gulf States, Entergy Louisiana, LLC, Entergy Mississippi, Inc., and Entergy New Orleans, Inc.
(11) Ratings and business profile are those of Florida Power & Light Co.
(12) Ratings and business profile are those of Arizona Public Service Co.
(13) Ratings and business profile are those of PPL Electric Utilities Corp.
(14) Ratings and business profile are a composite of those of Progress Energy Carolinas, Inc. and Progress Energy Florida, Inc.
(15) Ratings and business profile are a composite of those of Public Service Company of NC and South Carolina Electric & Gas Co.
(16) Ratings and business profile are a composite of those of Indiana Gas Co., Inc. and Southern Indiana Gas & Electric.
(17) Ratings and business profile are a composite of those of Wisconsin Electric Power Co. and Wisconsin Gas, LLC.
(18) Ratings and business profile are a composite of those of Northern States Power - Minn., Northern States Power - Wisconsin and Public Service Co. of Colorado.

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

Illinois American Water Company
Numerical Assignment for
Moody's and Standard & Poor's Bond Ratings

Moody's Bond Rating	Numerical Bond Weighting	Standard & Poor's Bond Rating
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-

ILLINOIS AMERICAN WATER COMPANY
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2000 - 2004, INCLUSIVE

	2006	2005	2004	2003	2002	5 YEAR AVERAGE
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$369.017	$511.662	$516.401	$529.173	$528.822	
SHORT-TERM DEBT	194.857	42.554	40.944	36.388	38.768	
TOTAL-CAPITAL EMPLOYED	$563.874	$554.216	$557.345	$565.561	$567.590	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	5.02 %	4.66 %	4.26 %	4.53 %	5.87 %	
PREFERRED DEBT	--	--	--	--	--	
DIVIDEND PAYOUT RATIO	117.72 %	75.60 %	78.40 %	50.88 %	77.47 %	80.01 %
CAPITAL STRUCTURE RATIOS						
BASED ON TOTAL PERMANENT CAPITAL.						
LONG-TERM DEBT	32.35 %	50.29 %	51.49 %	53.41 %	53.79 %	48.27 %
PREFERRED STOCK	0.00	0.00	0.00	0.00	0.00	0.00
COMMON EQUITY	67.65	49.71	48.51	46.59	46.21	51.73
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL.						
TOTAL DEBT, INCLUDING SHORT-TERM	55.73 %	54.11 %	55.06 %	56.40 %	56.95 %	55.65 %
MINORITY INTEREST	0.00	0.00	0.00	0.00	0.00	0.00
COMMON EQUITY	44.27	45.89	44.94	43.60	43.05	44.35
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
RATE OF RETURN ON AVERAGE COMMON EQUITY	3.21 %	6.23 %	7.33 %	1.84 %	5.82 %	4.89 %
FUNDS FROM OPERATIONS / INTEREST COVERAGE(2)	4.07 x	5.11 x	5.58 x	3.21 x	2.61 x	4.12 x
FUNDS FROM OPERATIONS / TOTAL DEBT(3)	15.07 %	19.38 %	19.89 %	10.07 %	7.41 %	14.36 %
TOTAL DEBT / TOTAL CAPITAL	55.73 %	54.11 %	55.06 %	56.40 %	56.95 %	55.65 %

SEE PAGE 2 FOR NOTES.

Illinois American Water Company, Inc.
Capitalization and Financial Statistics
2002 - 2006, Inclusive

Notes:

(1) All capitalization and financial statistics are based upon financial statements as originally reported in each year.

(2) Funds from operations (as defined in Note 3) plus interest charges divided by interest charges.

(3) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) as a percentage of total debt.

Source of Information: Illinois American Water Company Annual Reports to the Illinois Commerce Commission

PROXY GROUP OF EIGHT WATER COMPANIES
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2002 - 2006, INCLUSIVE

	2006	2005	2004	2003	2002	
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$532.756	$478.132	$446.177	$400.276	$348.252	
SHORT-TERM DEBT	$22.725	$23.094	$19.724	$25.263	$28.644	
TOTAL CAPITAL EMPLOYED	$555.480	$501.226	$465.901	$425.539	$376.896	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	6.32 %	6.15 %	6.18 %	6.30 %	6.54 %	
PREFERRED STOCK	5.12	5.05	4.79	4.11	5.52	
						5 YEAR AVERAGE
CAPITAL STRUCTURE RATIOS						
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	48.72 %	50.93 %	50.26 %	50.81 %	50.65 %	50.27 %
PREFERRED STOCK	0.32	0.36	0.39	0.46	0.51	0.41
COMMON EQUITY	50.96	48.71	49.35	48.73	48.84	49.32
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	50.21 %	52.45 %	52.01 %	53.82 %	53.62 %	52.42 %
PREFERRED STOCK	0.31	0.35	0.38	0.43	0.47	0.39
COMMON EQUITY	49.48	47.20	47.61	45.75	45.91	47.19
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
FINANCIAL RATIOS - MARKET BASED						
EARNINGS / PRICE RATIO	3.85 %	4.13 %	4.57 %	4.34 %	4.93 %	4.36 %
MARKET / AVERAGE BOOK RATIO	268.90	250.20	227.38	227.15	220.24	238.77
DIVIDEND YIELD	2.60	2.86	3.35	3.28	3.53	3.12
DIVIDEND PAYOUT RATIO	71.58	70.53	70.70	80.68	72.48	73.19
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	10.13 %	9.99 %	10.13 %	9.59 %	10.56 %	10.08 %
FUNDS FROM OPERATIONS / INTEREST COVERAGE (3)	4.05 X	4.02 X	4.22 X	3.81 X	3.61 X	3.94 X
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	18.91 %	18.16 %	19.60 %	16.97 %	16.43 %	18.01 %
TOTAL DEBT / TOTAL CAPITAL	50.21 %	52.45 %	52.01 %	53.82 %	53.62 %	52.42 %

See Page 2 for notes.

Proxy Group of Eight Water Companies
Capitalization and Financial Statistics
2002 - 2006, Inclusive

Notes:

(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.

(2) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt or preferred stock reported to be outstanding.

(3) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) plus interest charges divided by interest charges.

(4) Funds from operations (as defined in Note 3) as a percentage of total debt.

Selection Criteria:

The basis of selection was to include those domestic water companies: 1) which are assigned an SIC Code of 4941 (Water Supply Systems); 2) which have common stock actively traded; 3) which have Zacks' forecasted long-term earnings per share (EPS) growth rate projections; 4) which derived more than 70% of their 2006 operating revenues from water operations; and 5) which are included in S&P's Compustat Services, Inc. PC Plus Research Insight Database.

The following seven companies met the above criteria:

American States Water Co.
Aqua America, Inc.
Artesian Resources, Inc.
California Water Service Group
Connecticut Water Service, Inc.
Middlesex Water Company
SJW Corp.
York Water Co.

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus / Research Insight Database
Company Annual Forms 10K

Capital Structure Based upon Total Capital for
the Proxy Group of Eight Water Companies
for the Years 2002 through 2006

	2006	2005	2004	2003	2002	5 YEAR AVERAGE
American States Water Co.						
Long-Term Debt	45 95 %	48 03 %	43.66 %	46 21 %	49 61 %	46 69 %
Short-Term Debt	5 48	4 82	8 55	11 22	7 10	7.43
Preferred Stock	0 00	0 00	0 00	0 00	0 00	0.00
Common Equity	48.57	47.15	47.79	42.57	43.29	45.87
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Aqua America, Inc.						
Long-Term Debt	48.53 %	48 68 %	50 03 %	49 35 %	50 36 %	49 39 %
Short-Term Debt	5.88	7 47	5.10	6 47	9 39	6 86
Preferred Stock	0.09	0 08	0.08	0 06	0 06	0 07
Common Equity	45.50	43.77	44.79	44.12	40.19	43.67
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Artesian Resources Corp.						
Long-Term Debt	56.30 %	60 30 %	55 85 %	54 79 %	53 82 %	56 21 %
Short-Term Debt	6 03	2 08	7.38	9 39	3 24	5 62
Preferred Stock	0 00	0 00	0.00	0 07	0.17	0 05
Common Equity	37.67	37.62	36.77	35.75	42.77	38.12
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
California Water Service Group						
Long-Term Debt	44 58 %	48 07 %	48 66 %	51 77 %	51 25 %	48 87 %
Short-Term Debt	0 00	0 00	0 00	1 22	7 42	1 73
Preferred Stock	0.50	0 61	0 61	0 66	0.71	0 62
Common Equity	54.92	51.32	50.73	46.35	40.62	48.79
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Connecticut Water Service, Inc.						
Long-Term Debt	43.14 %	44 44 %	41 42 %	40 92 %	42 54 %	42 49 %
Short-Term Debt	2.93	2 65	3 51	6 11	4 55	3 95
Preferred Stock	0.43	0 47	0 53	0.53	0 55	0.50
Common Equity	53.50	52.44	54.54	52.44	52.36	53.06
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Middlesex Water Company						
Long-Term Debt	49.98 %	54 75 %	51 36 %	50 57 %	47 29 %	50 79 %
Short-Term Debt	0.00	1.68	4 86	6 42	9 47	4 49
Preferred Stock	1 49	1 66	1 79	2 09	2 18	1 84
Common Equity	48.53	41.91	41.99	40.92	41.06	42.88
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
SJW Corp.						
Long-Term Debt	40.24 %	42 63 %	43 77 %	45 64 %	39 98 %	42 45 %
Short-Term Debt	3 80	0 00	0 00	0 00	4 16	1 59
Preferred Stock	0 01	0 02	0 04	0.05	0 07	0 04
Common Equity	55.95	57.35	56.19	54.31	55.79	55.92
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
York Water Co.						
Long-Term Debt	48 82 %	47 34 %	51 94 %	41.40 %	45 00 %	46 90 %
Short-Term Debt	0 00	6 65	0 00	9 07	3 77	3 90
Preferred Stock	0 00	0 00	0 00	0 00	0 00	0 00
Common Equity	51.18	46.01	48.06	49.53	51.23	49.20
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Proxy Group of Eight Water Companies						
Long-Term Debt	47 19 %	49.28 %	48 34 %	47 58 %	47.48 %	47 97 %
Short-Term Debt	3 01	3.17	3 67	6 24	6.14	4 45
Preferred Stock	0 32	0.35	0 38	0 43	0 47	0 39
Common Equity	49.48	47.20	47.61	45.75	45.91	47.19
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

Source of Information: Standard & Poor's Compustat Services, Inc , PC Plus / Research Insight Data Base
Company Annual Forms 10-K

PROXY GROUP OF THIRTEEN UTILITIES SELECTED UPON THE BASIS OF LEAST RELATIVE DISTANCE
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2002 - 2006, INCLUSIVE

	2006	2005	2004	2003	2002	
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$11,249.528	$10,770.906	$10,455.390	$10,541.756	$10,131.357	
SHORT-TERM DEBT	$388.430	$367.387	$241.217	$237.368	$843.321	
TOTAL CAPITAL EMPLOYED	$11.637.958	$11.138.294	$10.696.608	$10.779.124	$10.974.678	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	6.21 %	6.09 %	6.06 %	5.71 %	5.96 %	
PREFERRED STOCK	5.89	6.05	5.75	8.15	9.71	
CAPITAL STRUCTURE RATIOS						5 YEAR AVERAGE
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	51.86 %	53.59 %	54.38 %	56.69 %	59.71 %	55.25 %
PREFERRED STOCK	1.13	1.05	1.08	1.10	1.48	1.17
COMMON EQUITY	47.01	45.36	44.54	42.21	38.81	43.59
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	54.24 %	55.62 %	56.16 %	58.39 %	62.94 %	57.47 %
PREFERRED STOCK	1.09	1.01	1.06	1.08	1.35	1.12
COMMON EQUITY	44.67	43.37	42.78	40.53	35.71	41.41
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
FINANCIAL RATIOS - MARKET BASED						
EARNINGS / PRICE RATIO	6.29 %	6.12 %	6.58 %	7.39 %	3.41 %	5.96 %
MARKET / AVERAGE BOOK RATIO	176.74	170.22	156.79	148.67	147.90	160.06
DIVIDEND YIELD	3.74	3.84	4.06	4.51	5.17	4.26
DIVIDEND PAYOUT RATIO	62.66	72.17	64.16	65.84	361.67	125.30
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	11.07 %	10.49 %	10.31 %	11.08 %	5.86 %	9.76 %
FUNDS FROM OPERATIONS / INTEREST COVERAGE (3)	4.59 X	4.24 X	4.07 X	4.37 X	3.92 X	4.24 X
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	22.83 %	19.49 %	18.88 %	19.76 %	16.33 %	19.46 %
TOTAL DEBT / TOTAL CAPITAL	54.24 %	55.62 %	56.16 %	58.39 %	62.94 %	57.47 %

See Page 2 for notes.

Proxy Group of Nine Utilities Selected upon the Basis of Least Relative Distance
Capitalization and Financial Statistics
2002 - 2006, Inclusive

Notes:

(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.

(2) Computed by relating actual long-term debt interest or preferred stock dividends booked to average of beginning and ending long-term debt or preferred stock reported to be outstanding.

(3) Funds from operations (as defined in Note 3) plus interest charges divided by interest charges.

(4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) as a percentage of total debt.

Selection Criteria:

The basis of selection was to include those electric, gas, and combination electric and gas utilities: 1) which are included in Standard & Poor's Compustat Services, Inc., PC Plus Database; 2) which are most similar in risk to Aqua Illinois, Inc. based upon an analysis of the least relative distance of eight financial and operating ratios as explained in detail in Ms. Ahern's direct testimony; 3) which have Zacks' long-term earnings per share (EPS) growth rate projections; 4) which pay common dividends; and 5) which have investment grade bonds as rated by Moody's and Standard & Poor's.

The following nine utilities met the above criteria:

Alliant Energy Corp.
American Electric Power Co., Inc.
American States Water Company
DTE Energy Company
Entergy Corp.
FPL Group, Inc.
Pinnacle West Capital Corp.
PPL Corp.
Progress Energy Inc.
SCANA Corp.
Vectren Corp.
Wisconsin Energy Corp.
Xcel Energy Inc.

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus Research Insight Database
Company Annual Forms 10K

Capital Structure Based upon Total Capital for
Proxy Group of Thirteen Utilities Selected Upon the Basis of Least Relative Distance
for the Years 2002 through 2006

	2006	2005	2004	2003	2002	5 YEAR AVERAGE
Alliant Energy Corp.						
Long-Term Debt	33.02 %	41.63 %	45.22 %	44.56 %	53.37 %	43.56 %
Short-Term Debt	3.89	5.20	1.89	2.56	6.02	3.91
Preferred Stock	5.41	4.91	5.44	5.87	4.84	5.29
Common Equity	57.68	48.26	47.45	47.01	35.77	47.23
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
American Electric Power Co., Inc.						
Long-Term Debt	59.58 %	57.67 %	59.43 %	63.48 %	49.80 %	57.99 %
Short-Term Debt	0.08	0.05	0.11	1.44	14.27	3.19
Preferred Stock	0.26	0.28	0.29	0.27	4.08	1.04
Common Equity	40.08	42.00	40.17	34.81	31.85	37.78
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
American States Water Co.						
Long-Term Debt	45.95 %	48.03 %	44.83 %	46.21 %	55.89 %	48.18 %
Short-Term Debt	5.48	4.82	8.38	11.22	6.22	7.22
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	48.57	47.15	46.79	42.57	37.89	44.59
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
DTE Energy Company						
Long-Term Debt	52.71 %	53.32 %	57.17 %	58.36 %	63.87 %	57.09 %
Short-Term Debt	7.62	6.47	2.84	2.65	3.01	4.52
Preferred Stock	0.28	0.63	0.93	1.12	0.00	0.59
Common Equity	39.39	39.58	39.06	37.87	33.12	37.80
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Entergy Corp.						
Long-Term Debt	52.10 %	52.87 %	47.35 %	47.46 %	51.71 %	50.30 %
Short-Term Debt	0.14	0.23	0.00	0.00	0.00	0.07
Preferred Stock	1.99	2.63	2.32	2.06	2.25	2.25
Common Equity	45.77	44.27	50.33	50.48	46.04	47.38
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FPL Group, Inc.						
Long-Term Debt	50.47 %	49.44 %	53.54 %	53.52 %	40.08 %	49.41 %
Short-Term Debt	4.93	6.07	2.85	5.42	14.94	6.84
Preferred Stock	0.00	0.00	0.00	0.03	1.54	0.31
Common Equity	44.60	44.50	43.61	41.03	43.44	43.44
Total Capital	100.00 %	100.01 %	100.00 %	100.00 %	100.00 %	100.00 %
Pinnacle West Capital Corp.						
Long-Term Debt	48.16 %	46.52 %	51.45 %	53.26 %	53.15 %	50.51 %
Short-Term Debt	0.53	0.24	1.14	1.38	1.72	1.00
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	51.31	53.23	47.41	45.36	45.14	48.49
Total Capital	100.00 %	99.99 %	100.00 %	100.00 %	100.01 %	100.00 %
PPL Corp.						
Long-Term Debt	58.65 %	60.20 %	63.84 %	71.40 %	67.84 %	64.39 %
Short-Term Debt	0.31	1.80	0.35	0.47	9.23	2.43
Preferred Stock	2.70	0.90	0.88	0.88	1.15	1.30
Common Equity	38.34	37.10	34.93	27.25	21.78	31.88
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

Capital Structure Based upon Total Capital for
Proxy Group of Thirteen Utilities Selected Upon the Basis of Least Relative Distance
for the Years 2002 through 2006

	2006	2005	2004	2003	2002	5 YEAR AVERAGE
Progress Energy Inc.						
Long-Term Debt	52.19 %	56.76 %	53.89 %	58.89 %	57.32 %	55.81 %
Short-Term Debt	0.00	0.91	3.73	0.02	3.97	1.73
Preferred Stock	0.59	0.70	0.70	0.51	0.53	0.61
Common Equity	47.22	41.63	41.68	40.58	38.18	41.86
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
SCANA Corp.						
Long-Term Debt	47.43 %	49.36 %	54.97 %	56.71 %	56.86 %	53.07 %
Short-Term Debt	7.43	6.72	3.42	3.23	3.61	4.88
Preferred Stock	1.74	1.79	1.87	1.90	1.98	1.86
Common Equity	43.40	42.13	39.74	38.16	37.55	40.20
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Vectren Corp.						
Long-Term Debt	43.31 %	46.45 %	41.40 %	44.98 %	44.52 %	44.13 %
Short-Term Debt	16.07	11.13	16.03	11.23	17.43	14.38
Preferred Stock	0.01	0.02	0.02	0.02	0.10	0.03
Common Equity	40.61	42.41	42.55	43.77	37.95	41.46
Total Capital	100.00 %	100.01 %	100.00 %	100.00 %	100.00 %	100.00 %
Wisconsin Energy Corp.						
Long-Term Debt	46.80 %	52.69 %	53.87 %	55.51 %	51.16 %	52.01 %
Short-Term Debt	12.66	6.82	5.45	9.05	14.91	9.78
Preferred Stock	0.42	0.45	0.49	0.45	0.47	0.46
Common Equity	40.12	40.04	40.19	34.99	33.46	37.76
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Xcel Energy Inc.						
Long-Term Debt	50.88 %	51.86 %	54.43 %	55.61 %	69.99 %	56.55 %
Short-Term Debt	4.70	5.75	2.53	0.49	7.29	4.15
Preferred Stock	0.80	0.84	0.88	0.88	0.66	0.81
Common Equity	43.62	41.55	42.16	43.02	22.06	38.48
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Proxy Group of Thirteen Utilities Selected Upon the Basis of Least Relative Distance						
Long-Term Debt	49.33 %	51.30 %	52.42 %	54.61 %	55.04 %	52.54 %
Short-Term Debt	4.91	4.32	3.75	3.78	7.89	4.93
Preferred Stock	1.09	1.01	1.06	1.08	1.35	1.12
Common Equity	44.67	43.37	42.78	40.53	35.71	41.41
Total Capital	100.00 %	100.00 %	100.01 %	100.00 %	100.00 %	100.00 %

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus / Research Insight Data Base

Basis for the Selection of the Proxy Group of Thirteen Utilities
Selected on the Basis of Least Relative Distance

Company	Pre-Tax Interest Coverage (1)	Common Equity Ratio (2)	Fixed Asset Turnover (3)	AFUDC to Net Income (4)	Cash Flow as a % of Permanent Capitalization (5)	Net Cash Flow to Expenditures (6)	Funds Flow Interest Coverage (7)	Operating Earnings Stability (8)	Sum of Distance (9)
ALLIANT ENERGY CORP	2.4262	0.5113	0.4286	-0.3820	0.1485	1.4044	5.4997	0.3606	0.9898
AMERICAN ELECTRIC POWER	2.7972	0.4075	0.3290	0.0715	0.0978	0.6934	3.7753	0.3540	1.1224
AMERICAN STATES WATER CO	3.0476	0.4750	0.2511	0.0000	0.1017	0.5852	3.9353	0.3032	1.1049
DTE ENERGY CO	2.2194	0.3934	0.4493	0.0000	0.0988	0.9653	3.7433	0.7478	1.1618
ENTERGY CORP	3.5897	0.4679	0.3205	0.0706	0.1310	1.0271	5.2997	0.3139	1.2412
FPL GROUP INC	3.0580	0.4424	0.3738	0.0418	0.1206	1.0539	4.7868	0.3942	0.6392
PINNACLE WEST CAPITAL CORP	2.8606	0.5065	0.2757	0.1089	0.0937	0.6706	4.1545	0.6010	0.8063
PPL CORP	2.9425	0.3679	0.3295	0.0000	0.1223	1.2970	4.0949	0.1193	1.0383
PROGRESS ENERGY INC	2.1495	0.4351	0.4069	0.0377	0.0976	0.9870	3.7731	0.4693	1.1206
SCANA CORP	2.5118	0.4176	0.4663	0.0454	0.1114	1.2488	4.2972	0.3400	0.7149
VECTREN CORP	2.7854	0.4186	0.5268	0.0368	0.1120	0.8325	4.5653	0.5503	0.5206
WISCONSIN ENERGY CORP	2.9477	0.4012	0.3811	0.1227	0.0986	0.7314	4.1589	0.2902	0.8753
XCEL ENERGY INC	2.2643	0.4245	0.3779	0.1151	0.1040	0.7604	3.8529	0.2494	1.0492
ILLINOIS AMERICAN WATER COMPANY	2.4844	0.4504	0.1911	0.0000	0.1163	0.8790	4.8132	0.5086	0.0000

See page 6 for notes.

Basis for the Selection of the Proxy Group of
Thirteen Utilities Selected upon the Basis of Least Relative Distance

Notes:

(1) Pre-tax interest coverage represents the number of times available earnings, before income taxes, excluding all allowance for funds used during construction (AFUDC) cover total interest charges, average for the years 2004, 2005 and 2006.

(2) Common equity ratio is the ratio of total common equity to total capitalization (the sum of total long-term debt, current maturities, short-term debt, total preferred stock and total common equity), average for the years 2004, 2005 and 2006.

(3) Fixed asset turnover is the ratio of total operating revenues to gross utility plant, average for the years 2004, 2005 and 2006.

(4) AFUDC to net income is the ratio of total AFUDC to income available for common equity, average for the years 2004, 2005 and 2006.

(5) Cash flow as a percent of permanent capitalization is the ratio of funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) to permanent capitalization (the sum of total long-term debt, current maturities, short-term debt total preferred stock and total common equity), average for the years 2004, 2005 and 2006.

(6) Net cash flow to capital expenditures is the ratio of gross construction expenditures, excluding all AFUDC, provided by funds from operation (as defined in Note 5), after payment of all cash dividends, average for the years 2004, 2005 and 2006.

(7) Funds flow interest coverage is the ratio of funds from operations (as defined in Note 5) plus total interest charges to total interest charges, average for the years 2004, 2005 and 2006.

(8) *Operating earnings stability is an index of the variation in quarterly before-income tax operating* income for the years 2004, 2005 and 2006. It is calculated by dividing the standard error of the estimate of a regression about a trend line by the mean. It is analogous to the coefficient of variation.

(9) Sum of distance is calculated as the squared distances between the eight operating / financial ratios of each firm and Aqua Illinois, Inc., summing the squared distances, and then calculating the square root of the summation.

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus / Research Insight Database
Company Annual Forms 10K and Quarterly Forms 10Q
Illinois American Water Company Annual Reports to the Illinois Commerce Commission and quarterly income statements

Illinois American Water Company
Indicated Common Equity Cost Rate
Through Use of the Discounted Cash Flow Model
Summary of Conclusion

Line No.		Proxy Group of Eight Water Companies	Proxy Group of Thirteen Utilities Selected Upon the Basis of Least Relative Distance
		Includes All Indicated Common Equity Cost Rates	
1.	Quarterly Compounded Growth Discounted Cash Flow Model (1)	11.30%	10.68%
2.	Quarterly Version of the Discounted Cash Flow Model (2)	11.46%	10.75%
3.	Conclusion	11.38%	10.72%
		Excludes Those Indicated Common Equity Cost Rates Equal to or Less than 8.6% and Equal to or Greater than 12.0% (3)	
4.	Quarterly Compounded Growth Discounted Cash Flow Model (1)	11.52%	9.91%
5.	Quarterly Version of the Discounted Cash Flow Model (2)	11.50%	9.99%
6.	Conclusion	11.51%	9.95%

Notes: (1) From page 2 of this Schedule.
(2) From page 3 of this Schedule.
(3) See note 7 on pages 2 and 3 of this Schedule.

Illinois American Water Company

Indicated Common Equity Cost Rate Through Use of the Quarterly Compounded Growth Discounted Cash Flow Model

Company	1 Current Market Price 07/13/07	2 Indicated Annual DPS	3 Number of Dividend Payments per Year	4 Zacks' Estimated Long-Term EPS Growth Rate	5 Periodic DPS (1)	6 Periodic Div. Yield (2)	7 Periodic Growth (3)	8 Adj. Periodic Div. Yield (4)	9 Periodic ROE (5)	10 Annual ROE (6)
Proxy Group of Eight Water Companies										
American States Water Co.	$ 36.42	$ 0.94	4	5.00%	$ 0.235	0.65%	1.23%	0.65%	1.88%	7.74%
Aqua America, Inc.	$ 22.76	$ 0.50	4	9.60%	$ 0.126	0.55%	2.32%	0.57%	2.88%	12.05%
Artesian Resources Corp.	$ 19.19	$ 0.65	4	7.00%	$ 0.163	0.85%	1.71%	0.86%	2.57%	10.67%
California Water Service Group	$ 38.02	$ 1.16	4	8.20%	$ 0.290	0.76%	1.99%	0.78%	2.77%	11.54%
Connecticut Water Service Inc.	$ 24.75	$ 0.95	4	10.00%	$ 0.237	0.96%	2.41%	0.98%	3.39%	14.27%
Middlesex Water Co.	$ 19.02	$ 0.69	4	8.00%	$ 0.173	0.91%	1.94%	0.92%	2.87%	11.97%
SJW Corp.	$ 33.75	$ 0.61	4	10.00%	$ 0.153	0.45%	2.41%	0.46%	2.87%	12.00%
York Water Co.	$ 17.86	$ 0.47	4	8.00%	$ 0.118	0.66%	1.94%	0.67%	2.62%	10.88%
Average							Average			11.30%
							Average including only those indicated common equity cost rates greater than 8.6% and less than 12.0%			11.52% (7)
Alliant Energy Corp.	$ 39.56	$ 1.27	4	6.00%	$ 0.318	0.80%	1.47%	0.82%	2.28%	9.45%
American Electric Power Co., Inc.	$ 46.06	$ 1.56	4	4.70%	$ 0.390	0.85%	1.15%	0.86%	2.01%	8.29%
American States Water Co.	$ 36.42	$ 0.94	4	5.00%	$ 0.235	0.65%	1.23%	0.65%	1.88%	7.74%
DTE Energy Company	$ 50.67	$ 2.12	4	5.70%	$ 0.530	1.05%	1.40%	1.06%	2.46%	10.19%
Entergy Corp.	$ 108.52	$ 2.39	4	10.80%	$ 0.598	0.55%	2.60%	0.57%	3.16%	13.26%
FPL Group, Inc.	$ 56.43	$ 1.64	4	9.40%	$ 0.410	0.73%	2.27%	0.74%	3.01%	12.61%
Pinnacle West Capital Corp.	$ 40.20	$ 2.10	4	6.70%	$ 0.525	1.31%	1.63%	1.33%	2.96%	12.38%
PPL Corp.	$ 48.54	$ 0.94	4	13.00%	$ 0.235	0.48%	3.10%	0.50%	3.60%	15.20%
Progress Energy Inc.	$ 46.17	$ 2.44	4	4.40%	$ 0.610	1.32%	1.08%	1.34%	2.42%	10.03%
SCANA Corp.	$ 39.20	$ 1.76	4	4.70%	$ 0.440	1.12%	1.15%	1.14%	2.29%	9.48%
Vectren Corp.	$ 27.46	$ 1.26	4	4.30%	$ 0.315	1.15%	1.06%	1.16%	2.22%	9.17%
Wisconsin Energy Corp.	$ 43.77	$ 1.00	4	9.20%	$ 0.250	0.57%	2.22%	0.58%	2.81%	11.72%
Wisconsin Energy Corp.	$ 20.50	$ 0.93	4	4.50%	$ 0.233	1.14%	1.11%	1.15%	2.26%	9.33%
							Average			10.68%
							Average including only those indicated common equity cost rates greater than 8.6% and less than 12.0%			9.91% %

Notes:
(1) Column 2 ÷ Column 3.
(2) Column 5 ÷ Column 1.
(3) ((1 + Column 4) ^ (1 / 4)) - 1.
(4) Column 6 * Column 7.
(5) Column 7 + column 8.
(6) ((1 + Column 9) ^ 4) -1.
(7) Includes only those indicated common equity cost rates which are greater than 8.6%, i.e., 200 basis points above the prospective yield on A rated Moody's public utility bonds of 6.6% (from page 1 of Schedule 12.08) and those indicated common equity cost rates which are less than 12.10%, i.e., 550 basis points above the prospective yield on A rated Moody's public utility bonds of 6.6% (from page 1 of Schedule 12.08).

Illinois American Water Company

Indicated Common Equity Cost Rate Through Use of the Quarterly Discounted Cash Flow Model

Company	1 Current Market Price 07/13/07	2 Current Quarterly Dividend $D_{0,1}$	3 $D_{0,2}$	4 $D_{0,3}$	5 $D_{0,4}$	6 Expected Quarterly Dividend $D_{1,1}$	7 $D_{1,2}$	8 $D_{1,3}$	9 $D_{1,4}$	10 Next Dividend Payment Date	11 Ex-Dividend Date	12 Zacks' Estimated Long-Term EPS Growth Rate	13 Cost of Common Equity Estimate
Proxy Group of Eight Water Companies													
American States Water Co.	$ 36.42	$ 0.225	$ 0.235	$ 0.235	$ 0.235	$ 0.235	$ 0.247	$ 0.247	$ 0.247	06/01/07	05/03/07	5.00%	7.83%
Aqua America, Inc.	$ 22.76	$ 0.115	$ 0.115	$ 0.115	$ 0.115	$ 0.126	$ 0.126	$ 0.126	$ 0.126	06/01/07	05/16/07	9.60%	12.01%
Artesian Resources Corp.	$ 19.19	$ 0.152	$ 0.160	$ 0.160	$ 0.163	$ 0.163	$ 0.171	$ 0.171	$ 0.174	05/25/07	05/08/07	7.00%	10.62%
California Water Service Group	$ 38.02	$ 0.288	$ 0.288	$ 0.290	$ 0.290	$ 0.290	$ 0.290	$ 0.314	$ 0.314	05/18/07	05/03/07	8.20%	11.66%
Connecticut Water Service Inc.	$ 24.75	$ 0.215	$ 0.215	$ 0.215	$ 0.215	$ 0.237	$ 0.237	$ 0.237	$ 0.237	06/15/07	05/30/07	10.00%	14.20%
Middlesex Water Co.	$ 19.02	$ 0.170	$ 0.173	$ 0.173	$ 0.173	$ 0.173	$ 0.186	$ 0.186	$ 0.186	06/01/07	05/11/07	8.00%	12.19%
SJW Corp.	$ 33.75	$ 0.141	$ 0.141	$ 0.151	$ 0.153	$ 0.153	$ 0.153	$ 0.166	$ 0.168	06/01/07	05/03/07	10.00%	12.06%
York Water Co.	$ 17.86	$ 0.112	$ 0.112	$ 0.118	$ 0.118	$ 0.118	$ 0.118	$ 0.127	$ 0.127	07/16/07	06/27/07	8.00%	10.93%
Average										Average			11.46%
										Average including only those indicated common equity cost rates greater than 8.6% and less than 12.0%			11.50% (7)
Alliant Energy Corp.	$ 39.56	$ 0.288	$ 0.288	$ 0.318	$ 0.318	$ 0.318	$ 0.318	$ 0.337	$ 0.337	05/15/07	04/26/07	6.00%	9.56%
American Electric Power Co., Inc.	$ 46.06	$ 0.370	$ 0.390	$ 0.390	$ 0.390	$ 0.390	$ 0.408	$ 0.408	$ 0.408	06/08/07	05/08/07	4.70%	8.42%
American States Water Co.	$ 36.42	$ 0.225	$ 0.235	$ 0.235	$ 0.235	$ 0.235	$ 0.247	$ 0.247	$ 0.247	06/01/07	05/16/07	5.00%	7.83%
DTE Energy Company	$ 50.67	$ 0.515	$ 0.515	$ 0.530	$ 0.530	$ 0.530	$ 0.530	$ 0.560	$ 0.560	07/15/07	06/14/07	5.70%	10.27%
Entergy Corp.	$ 108.52	$ 0.540	$ 0.540	$ 0.540	$ 0.540	$ 0.598	$ 0.598	$ 0.598	$ 0.598	09/01/07	07/30/07	10.80%	13.14%
FPL Group, Inc.	$ 56.43	$ 0.375	$ 0.375	$ 0.375	$ 0.410	$ 0.410	$ 0.410	$ 0.410	$ 0.449	06/15/07	05/06/07	9.40%	12.63%
Pinnacle West Capital Corp.	$ 40.20	$ 0.500	$ 0.525	$ 0.525	$ 0.525	$ 0.525	$ 0.560	$ 0.560	$ 0.560	06/01/07	04/27/07	6.70%	12.69%
PPL Corp.	$ 48.54	$ 0.275	$ 0.275	$ 0.275	$ 0.305	$ 0.235	$ 0.235	$ 0.235	$ 0.235	07/01/07	06/06/07	13.00%	15.13%
Progress Energy Inc.	$ 46.17	$ 0.605	$ 0.605	$ 0.610	$ 0.610	$ 0.610	$ 0.610	$ 0.637	$ 0.637	08/01/07	06/06/07	4.40%	10.11%
SCANA Corp.	$ 39.20	$ 0.420	$ 0.420	$ 0.420	$ 0.440	$ 0.440	$ 0.440	$ 0.440	$ 0.461	07/01/07	06/07/07	4.70%	9.52%
Vectren Corp.	$ 27.46	$ 0.305	$ 0.315	$ 0.315	$ 0.315	$ 0.315	$ 0.329	$ 0.329	$ 0.329	06/01/07	05/11/07	4.30%	9.35%
Wisconsin Energy Corp.	$ 43.77	$ 0.230	$ 0.230	$ 0.250	$ 0.250	$ 0.250	$ 0.250	$ 0.273	$ 0.273	06/01/07	05/10/07	9.20%	11.79%
Xcel Energy Inc.	$ 20.60	$ 0.223	$ 0.223	$ 0.223	$ 0.223	$ 0.233	$ 0.233	$ 0.233	$ 0.233	07/20/07	06/26/07	4.50%	9.30%
Average										Average			10.75%
										Average including only those indicated common equity cost rates greater than 8.6% and less than 12.0%			9.99% (7)

Notes:
(1) Column 2 + Column 3.
(2) Column 5 + Column 1.
(3) ((1 + Column 4) ^ (1 / 4)) - 1.
(4) Column 6 * Column 7.
(5) Column 7 + column 8.
(6) ((1 + Column 9) ^ 4) -1.
(7) Includes only those indicated common equity cost rates which are greater than 8.6%, i.e., 200 basis points above the prospective yield on A rated Moody's public utility bonds of 6.6% (from page 1 of Schedule 12.08) and those indicated common equity cost rates which are less than 12.10%, i.e., 550 basis points above the prospective yield on A rated Moody's public utility bonds of 6.6% (from page 1 of Schedule 12.08).

Source of Information: www.zacks.com/research
Value Line Investment Survey, April 27, 2007 (Standard Edition and Small and Mid-Cap Edition), May 11, June 1 and June 29, 2007
Company websites