Missouri Gas Energy
Summary of SIC Codes, Gas Distribution Operating Income and Assets Compared to Total for the
Proxy Group of Nine Value Line Natural Gas Distribution Companies
and Southern Union Company

Company	SIC Code	Description	Gas Distribution Operating Income/ Total Operating Income	Gas Distribution Assets/Total Assets	Value Line Beta (1)	
Proxy Group of Nine Value Line Natural Gas Distribution Companies						
AGL Resources Inc.	4924	Natural Gas Distribution	67.40%	76.65%	0.75	
Atmos Energy Corp.	4924	Natural Gas Distribution	81.16%	93.83%	0.65	
The Laclede Group, Inc.	4924	Natural Gas Distribution	61.47%	83.70%	0.65	
New Jersey Resources Corp.	4924	Natural Gas Distribution	69.57%	69.65%	0.70	
Northwest Natural Gas Co.	4924	Natural Gas Distribution	90.65%	96.36%	0.60	
Piedmont Natural Gas Co., Inc.	4924	Natural Gas Distribution	100.00%	96.50%	0.70	
South Jersey Industries, Inc.	4924	Natural Gas Distribution	64.79%	80.23%	0.75	
Southwest Gas Corporation	4923	Natural Gas Transmission and Distribution	86.56%	95.86%	0.75	
WGL Holdings, Inc.	4924	Natural Gas Distribution	83.90%	90.20%	0.75	
			78.39%	87.00%	0.70	Average
			81.16%	90.20%	0.70	Median
Southern Union Company	4922	Natural Gas Transmission	13.39%	14.02%	1.10	

Notes
(1) From Page 9 of Schedule FJH-15.

Source of Information:
EDGAR Filings of 2007 Company 10Ks

STANDARD &POOR'S

RATINGSDIRECT®

February 2, 2009

Issuer Ranking:

U.S. Natural Gas Distributors And Integrated Gas Companies, Strongest To Weakest

Primary Credit Analyst:
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Issuer Ranking:

U.S. Natural Gas Distributors And Integrated Gas Companies, Strongest To Weakest

Standard & Poor's Ratings Services' analytic framework for companies in all sectors, including investor-owned utilities, consists of the business risk profile and financial risk profile. We categorize business risk profiles as 'Excellent', 'Strong', 'Satisfactory', 'Weak', or 'Vulnerable'. To determine a utility's business risk profile, Standard & Poor's analyzes the following qualitative business or operating characteristics typical of a utility: markets and service area economy; competitive position; operations; regulation; and management. We characterize financial risk profiles as 'Minimal', 'Modest', 'Intermediate', 'Aggressive', and 'Highly Leveraged'. The primary drivers in our financial risk profile analysis of these companies include accounting characteristics; financial governance/policies and risk tolerance; cash flow adequacy; capital structure and leverage; and liquidity/short-term factors.

Currently, Standard & Poor's considers 85% of the rated U.S. gas distribution companies to have excellent business risk profiles, which reflects the supportive nature of most regulatory environments, monopolistic market positions, a mostly residential customer base, and relatively low operating risk compared with other utilities. The companies designated with a strong (two companies) business risk profile reflect significant non-regulated operations or a less supportive regulatory framework than other jurisdictions. We have assigned a satisfactory business risk profile to four companies that have expanded into the higher risk exploration and production (E&P) arena. Standard & Poor's views the E&P segments as having significantly higher operating and financial risks than utility assets, specifically, the exposure to commodity price fluctuations and significant ongoing capital needs. The business risk profile of MXEnergy Holdings Inc. is vulnerable, reflecting management's acquisitive nature, lack of significant barriers to entry for competing natural gas marketers, and relatively flat participation in retail choice programs.

Because most companies in the sector have an excellent business risk profile, ratings differentiation occurs as varying financial performance, specifically, variations in the level and stability of cash flows and debt leverage. We categorize the local gas distribution companies (LDC) as having intermediate (77%), aggressive (about 20%), or highly leveraged (2%) financial risk profile. From 2002 through 2007, the median adjusted funds from operations to total debt for gas LDC companies was 28.1%, 19.9%, and 17.4% for the 'AA', 'A', and 'BBB' categories, respectively. For these companies, the median adjusted FFO interest coverage was 6.1x, 4.4x, and 3.7x with total debt to capital of 49.8%, 51.8%, and 57.1%, respectively.

For the related industry report card, please see "Industry Report Card: U.S. Investor-Owned Natural Gas Distribution Companies Remain Stable," published on Dec. 31, 2008.

The following list ranks all the rated companies in this industry from strongest to weakest based on rating and outlook. Companies with the same rating and outlook are further ranked by our opinion of credit quality based primarily on business risks for investment-grade companies and primarily on financial risks for speculative-grade companies.

Issuer Ranking: U.S. Natural Gas Distributors And Integrated Gas Companies

Company	Corporate credit rating*	Business risk profile	Financial profile
Nicor Gas Co.	AA/Stable/A-1+	Excellent	Intermediate
Nicor Inc.	AA/Stable/A-1+	Excellent	Intermediate

Issuer Ranking: U.S. Natural Gas Distributors And Integrated Gas Companies (cont.)			
Washington Gas Light Co.	AA-/Stable/A-1	Excellent	Intermediate
WGL Holdings Inc.	AA-/Stable/A-1	Excellent	Intermediate
Northwest Natural Gas Co.	AA-/Negative/A-1+	Excellent	Intermediate
NSTAR Gas Co.	A+/Stable/--	Excellent	Intermediate
Piedmont Natural Gas Co. Inc.	A/Stable/--	Excellent	Intermediate
KeySpan Energy Delivery Long Island	A/Stable/--	Excellent	Intermediate
KeySpan Energy Delivery New York	A/Stable/--	Excellent	Intermediate
Laclede Gas Co.	A/Stable/A-1	Excellent	Intermediate
Laclede Group Inc. (The)	A/Stable/--	Excellent	Intermediate
New Jersey Natural Gas Co.	A/Negative/A-1	Excellent	Intermediate
Southern California Gas Co.	A/Negative/A-1	Excellent	Intermediate
San Diego Gas & Electric Co.	A/Negative/A-1	Excellent	Intermediate
Northern Natural Gas Co.	A/Watch Neg/--	Excellent	Intermediate
Wisconsin Gas LLC	A-/Positive/A-2	Excellent	Intermediate
Indiana Gas Co. Inc.	A-/Stable/--	Excellent	Intermediate
Colonial Gas Co.	A-/Stable/--	Excellent	Intermediate
Boston Gas Co.	A-/Stable/--	Excellent	Intermediate
Southern Indiana Gas & Electric Co.	A-/Stable/--	Excellent	Intermediate
Vectren Utility Holdings Inc.	A-/Stable/A-2	Excellent	Intermediate
Vectren Corp.	A-/Stable/--	Excellent	Intermediate
KeySpan Corp.	A-/Stable/A-2	Excellent	Intermediate
Atlanta Gas Light Co.	A-/Stable/--	Excellent	Intermediate
AGL Resources Inc.	A-/Stable/A-2	Excellent	Intermediate
Peoples Gas Light & Coke Co. (The)	A-/Negative/A-2	Excellent	Intermediate
North Shore Gas Co.	A-/Negative/--	Excellent	Intermediate
Peoples Energy Corp.	A-/Negative/--	Excellent	Intermediate
Public Service Co. of North Carolina Inc.	A-/Negative/A-2	Excellent	Aggressive
Questar Gas Co.	A-/Watch Neg/--	Excellent	Intermediate
Questar Corp.	--/Watch Neg/A-2	Satisfactory	Intermediate
Atmos Energy Corp.	BBB+/Stable/A-2	Excellent	Aggressive
South Jersey Gas Co.	BBB+/Stable/--	Excellent	Aggressive
Sempra Energy	BBB+/Negative/A-2	Strong	Intermediate
Connecticut Natural Gas Corp.	BBB+/Watch Neg/--	Excellent	Intermediate
Southern Connecticut Gas Co.	BBB+/Watch Neg/--	Excellent	Intermediate
National Fuel Gas Co.	BBB+/Watch Neg/A-2	Satisfactory	Intermediate
Alabama Gas Corp.	BBB+/Watch Neg/--	Excellent	Intermediate
Energen Corp.	BBB+/Watch Neg/--	Satisfactory	Intermediate
Yankee Gas Services Co.	BBB/Stable/--	Excellent	Aggressive
Michigan Consolidated Gas Co.	BBB/Stable/A-2	Excellent	Aggressive
Equitable Resources Inc.	BBB/Watch Neg/A-3	Satisfactory	Intermediate
Southwest Gas Corp.	BBB-/Positive/--	Strong	Aggressive
Bay State Gas Co.	BBB-/Stable/--	Excellent	Aggressive
NiSource Inc.	BBB-/Stable/--	Excellent	Aggressive

Issuer Ranking: U.S. Natural Gas Distributors And Integrated Gas Companies (cont.)*			
Northern Indiana Public Service Co.	BBB-/Stable/--	Excellent	Aggressive
SourceGas LLC	BB+/Stable/--	Excellent	Highly leveraged
MXEnergy Holdings Inc.	CC/Watch Neg/--	Vulnerable	Highly leveraged

*As of Feb. 2, 2009.

STANDARD &POOR'S

RATINGSDIRECT®

February 2, 2009

Issuer Ranking:

U.S. Midstream Energy Companies, Strongest To Weakest

Primary Credit Analyst:
William Ferara, New York (1) 212-438-1776; bill_ferara@standardandpoors.com

Issuer Ranking:

U.S. Midstream Energy Companies, Strongest To Weakest

The following list ranks all the rated companies in this industry from strongest to weakest based on rating and outlook. Companies with the same rating and outlook are further ranked by our opinion of credit quality based primarily on business risks for investment-grade companies and primarily on financial risks for speculative-grade companies.

A Standard & Poor's rating outlook assesses the potential direction of an issuer's long-term debt rating over the intermediate to longer term. In determining a rating outlook, consideration is given to any changes in the economic and/or fundamental business conditions. An outlook is not necessarily a precursor of a rating change or future CreditWatch action. "Positive" indicates that a rating may be raised; "negative" means a rating may be lowered; "stable" indicates that ratings are not likely to change; and "developing" means ratings may be raised or lowered.

Midstream business profiles can be categorized as "excellent," "strong," "satisfactory," "weak," or "vulnerable" under the credit ratings methodology applied to all rated corporate entities at Standard & Poor's. Issuer credit ratings, shown as long-term rating/outlook or CreditWatch/short-term rating, are local and foreign currency unless otherwise noted. A dash (--) indicates not rated.

For the related industry report card, please see "Industry Report Card: U.S. Midstream Energy Credit Quality Suffers From Tight Liquidity And Lower Commodity Prices," published on Dec. 24, 2008.

Issuer Ranking: U.S. Midstream Energy Companies

Issuers	Corp. credit rating*	Business risk	Financial risk
Colonial Pipeline Co.	A/Stable/A-1	Excellent	Intermediate
Northern Natural Gas Co.	A/Watch Neg/--	Excellent	Intermediate
Maritimes & Northeast Pipeline L.P.	Sr secured: A/Stable	--	--
Explorer Pipeline Co.	--/--/A-2	Excellent	Intermediate
Express Pipeline Partnership¶	Sr secured: A-/Stable	--	--
Northern Border Pipeline Co.	A-/Stable/--	Excellent	Intermediate
Questar Pipeline Co.	A-/Watch Neg/--	Excellent	Intermediate
Kern River Funding Corp.¶	Sr secured: A-/Watch Neg	--	--
Iroquois Gas Transmission System L.P.	BBB+/Positive/--	Excellent	Intermediate
Alliance Pipeline Limited Partnership¶	Sr secured: BBB+/Stable	--	--
Alliance Pipeline L.P.¶	Sr secured: BBB+/Stable	--	--
Spectra Energy Corp	BBB+/Stable/--	Strong	Intermediate
Enogex Inc.	BBB+/Stable/--	Satisfactory	Intermediate
Centennial Energy Holdings Inc.	BBB+/Stable/A-2	Satisfactory	Intermediate
DCP Midstream LLC	BBB+/Negative/A-2	Satisfactory	Intermediate
Questar Market Resources Inc.	BBB+/Watch Neg/--	Satisfactory	Intermediate
National Fuel Gas Co.	BBB+/Watch Neg/A-2	Satisfactory	Intermediate
Florida Gas Transmission Co. LLC	BBB/Stable/--	Excellent	Intermediate
Gulfstream Natural Gas System LLC	BBB/Stable/--	Excellent	Aggressive

Issuer Ranking: U.S. Midstream Energy Companies (Cont'd.)			
Gulf South Pipeline Co. L.P.	BBB/Stable/--	Excellent	Aggressive
Texas Gas Transmission LLC	BBB/Stable/--	Excellent	Aggressive
Magellan Midstream Partners L.P.	BBB/Stable/--	Satisfactory	Intermediate
Buckeye Partners L.P.	BBB/Stable/--	Satisfactory	Aggressive
Boardwalk Pipeline Partners L.P.	BBB/Stable/--	Strong	Aggressive
ONEOK Inc.	BBB/Stable/A-2	Satisfactory	Intermediate
ONEOK Partners L.P.	BBB/Stable/--	Satisfactory	Intermediate
Rockies Express Pipeline LLC	BBB/Negative/--	Excellent	Aggressive
Kinder Morgan Energy Partners L.P.	BBB/Negative/A-3	Satisfactory	Intermediate
Enbridge Energy Partners L.P.	BBB/Negative/--	Satisfactory	Aggressive
Equitable Resources Inc.	BBB/Watch Neg/--	Satisfactory	Intermediate
Transcontinental Gas Pipe Line Corp.	BBB-/Stable/--	Excellent	Aggressive
Northwest Pipeline G.P.	BBB-/Stable/--	Excellent	Aggressive
NGPL PipeCo. LLC	BBB-/Stable/--	Excellent	Aggressive
MidCon LLC	BBB-/Stable/--	Excellent	Aggressive
Williams Cos. Inc. (The)	BBB-/Stable/--	Satisfactory	Aggressive
Williams Partners LP	BBB-/Stable/--	Satisfactory	Aggressive
TEPPCO Partners L.P.	BBB-/Stable/--	Satisfactory	Aggressive
Enterprise Products Partners L.P.	BBB-/Stable/--	Satisfactory	Aggressive
Energy Transfer Partners L.P.	BBB-/Stable/--	Satisfactory	Aggressive
Southern Star Central Gas Pipeline Inc.	BBB-/Stable/--	Excellent	Aggressive
Southern Star Central Corp.	BBB-/Stable/--	Excellent	Aggressive
Panhandle Eastern Pipe Line L.P.	BBB-/Negative/--	Satisfactory	Aggressive
Southern Union Co.	BBB-/Negative/--	Satisfactory	Aggressive
IFM (US) Colonial Pipeline 2 LLC	BB+/Stable/--	Satisfactory	Aggressive
Knight Inc.	BB/Stable/--	Weak	Aggressive
SG Resources Mississippi LLC¶	Sr secured: BB/Stable	--	--
Tennessee Gas Pipeline Co.	BB/Negative/--	Excellent	Aggressive
Southern Natural Gas Co.	BB/Negative/--	Excellent	Aggressive
Colorado Interstate Gas Co.	BB/Negative/--	Excellent	Aggressive
El Paso Natural Gas Co.	BB/Negative/--	Excellent	Aggressive
El Paso Corp.	BB/Negative/--	Satisfactory	Aggressive
Copano Energy LLC	BB-/Positive/--	Weak	Aggressive
Enterprise GP Holdings L.P.	BB-/Stable/--	Weak	Aggressive
Suburban Propane Partners L.P.	BB-/Stable/--	Weak	Aggressive
Inergy L.P.	BB-/Stable/--	Weak	Aggressive
Targa Resources Partners LP	BB-/Stable/--	Weak	Aggressive
Regency Energy Partners L.P.	BB-/Negative	Weak	Aggressive
Ferrellgas Partners L.P.	B+/Stable/--	Weak	Highly leveraged
Port Barre Investments LLC d/b/a Bobcat Gas Storage¶	Sr secured: B+/Negative	--	--
MarkWest Energy Partners L.P.	B+/Watch Neg/--	Weak	Aggressive
Atlas Pipeline Partners L.P.	B+/Watch Neg/--	Weak	Aggressive
Targa Resources Inc.	B/Stable/--	Vulnerable	Aggressive

Issuer Ranking: U.S. Midstream Energy Companies (cont.)			
Pine Prairie Energy Center LLC¶	Sr secured: B/Stable	--	--
Star Gas Partners L.P.	B-/Positive/--	Vulnerable	Highly leveraged
Cheniere Energy Inc.	CCC+/Negative/--	Vulnerable	Highly leveraged

*As of Feb. 2, 2009.

PROXY GROUP OF NINE VALUE LINE NATURAL GAS DISTRIBUTION COMPANIES
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2004 - 2008, INCLUSIVE

	2008	2007	2006	2005	2004	
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$1,929.182	$1,891.518	$1,824.633	$1,726.287	$1,490.288	
SHORT-TERM DEBT	$326.477	$205.402	$227.944	$156.543	$129.446	
TOTAL CAPITAL EMPLOYED	$2,255.658	$2,096.919	$2,052.577	$1,882.830	$1,619.734	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	5.21 %	5.84 %	6.08 %	5.93 %	5.42 %	
PREFERRED STOCK	1.70	1.21	1.20	1.19	1.20	
						5 YEAR AVERAGE
CAPITAL STRUCTURE RATIOS						
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	45.87 %	46.90 %	48.13 %	49.25 %	48.76 %	47.78 %
PREFERRED STOCK	0.29	0.36	0.36	0.36	0.38	0.35
COMMON EQUITY	53.84	52.74	51.51	50.39	50.86	51.87
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	54.53 %	53.23 %	55.00 %	54.31 %	53.44 %	54.10 %
PREFERRED STOCK	0.25	0.32	0.32	0.33	0.36	0.31
COMMON EQUITY	45.22	46.45	44.69	45.36	46.20	45.59
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
FINANCIAL RATIOS - MARKET BASED						
EARNINGS / PRICE RATIO	7.24 %	6.10 %	6.61 %	6.00 %	6.57 %	6.50 %
MARKET / AVERAGE BOOK RATIO	175.86	187.89	184.03	188.84	177.18	182.76
DIVIDEND YIELD	3.91	3.39	3.74	3.73	3.88	3.73
DIVIDEND PAYOUT RATIO	55.06	58.79	57.51	62.46	61.90	59.14
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	12.50 %	11.40 %	12.21 %	11.56 %	11.62 %	11.86 %
FUNDS FROM OPERATIONS / INTEREST COVERAGE (3)	4.51 X	4.42 X	4.08 X	4.28 X	4.99 X	4.46 X
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	17.01 %	19.91 %	17.81 %	18.25 %	20.85 %	18.77 %
TOTAL DEBT / TOTAL CAPITAL	54.53 %	53.23 %	55.00 %	54.31 %	53.44 %	54.10 %

See Page 2 for notes.

Proxy Group of Nine Value Line Natural Gas Distribution Companies
Capitalization and Financial Statistics
2004-2008, 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 natural gas distribution companies: 1) which are included in the Natural Gas (Utility) group in Value Line (Standard Edition); 2) which have Value Line five-year EPS growth rate projections; 3) which have a Value Line beta; 4) which have not cut or omitted their common dividends during the five years ending 2008 or through the time of the preparation of this testimony; 5) which derived 60% or greater of both total net operating income and assets from to regulated gas operations; and 6) which at the time of the preparation of Mr. Hanley's accompanying direct testimony, had not publicly announced that they were involved in any merger or acquisition activity.

The following nine natural gas distribution companies met the above criteria:

AGL Resources, Inc.
The Laclede Group, Inc.
Northwest Natural Gas Co.
South Jersey Industries, Inc.
WGL Holdings, Inc.
Atmos Energy Corp.
New Jersey Resources Corp.
Piedmont Natural Gas Co., Inc.
Southwest Gas Corporation

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

Capital Structure Based upon Total Capital for
the Proxy Group of Nine Value Line Natural Gas Distribution Companies
for the Years 2004 through 2008

	2008	2007	2006	2005	2004	5 YEAR AVERAGE
AGL Resources, Inc.						
Long-Term Debt	39.64 %	42.25 %	42.55 %	43.96 %	48.05 %	43.29 %
Short-Term Debt	20.50	14.64	14.14	14.21	9.89	14.67
Preferred Stock	0.76	1.19	1.10	1.03	1.06	1.03
Common Equity	39.10	41.92	42.21	40.80	41.00	41.01
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Atmos Energy Corp.						
Long-Term Debt	46.88 %	50.16 %	51.82 %	55.58 %	43.35 %	49.56 %
Short-Term Debt	7.75	3.55	9.07	3.68	0.00	4.81
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	45.37	46.29	39.11	40.74	56.65	45.63
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
The Laclede Group, Inc.						
Long-Term Debt	31.73 %	38.18 %	39.30 %	46.47 %	48.61 %	40.86 %
Short-Term Debt	28.57	20.40	20.60	8.63	8.56	17.35
Preferred Stock	0.05	0.08	0.09	0.12	0.15	0.10
Common Equity	39.65	41.34	40.01	44.78	42.68	41.69
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
New Jersey Resources Corporation						
Long-Term Debt	36.27 %	30.07 %	27.14 %	34.36 %	32.08 %	31.99 %
Short-Term Debt	12.55	19.90	22.66	18.67	24.24	19.60
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	51.18	50.03	50.20	46.97	43.68	48.41
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Northwest Natural Gas Company						
Long-Term Debt	36.88 %	41.20 %	43.86 %	42.60 %	42.65 %	41.44 %
Short-Term Debt	17.86	11.40	8.03	10.19	8.76	11.25
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	45.26	47.40	48.11	47.21	48.59	47.31
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Piedmont Natural Gas Company, Inc.						
Long-Term Debt	38.92 %	43.44 %	43.93 %	38.76 %	40.63 %	41.14 %
Short-Term Debt	19.19	10.30	9.05	9.31	6.74	10.92
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	41.89	46.26	47.02	51.93	52.63	47.94
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
South Jersey Industries, Inc.						
Long-Term Debt	32.95 %	37.38 %	36.09 %	37.36 %	43.25 %	37.41 %
Short-Term Debt	19.57	12.35	19.49	17.12	11.94	16.10
Preferred Stock	0.04	0.04	0.05	0.05	0.25	0.08
Common Equity	47.44	50.23	44.37	45.47	44.56	46.41
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Southwest Gas Corporation						
Long-Term Debt	52.20 %	58.58 %	61.07 %	64.50 %	61.61 %	59.59 %
Short-Term Debt	2.40	0.38	0.00	1.10	4.76	1.73
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	45.40	41.04	38.93	34.40	33.63	38.68
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
WGL Holdings, Inc.						
Long-Term Debt	33.54 %	34.82 %	36.11 %	39.71 %	39.98 %	36.83 %
Short-Term Debt	13.37	10.07	10.05	2.56	5.87	8.39
Preferred Stock	1.39	1.54	1.60	1.76	1.73	1.60
Common Equity	51.70	53.57	52.24	55.97	52.42	53.18
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Average Proxy Group of Nine AUS Natural Gas Distribution						
Long-Term Debt	38.78 %	41.79 %	42.43 %	44.81 %	44.47 %	42.45 %
Short-Term Debt	15.75	11.44	12.57	9.50	8.97	11.65
Preferred Stock	0.25	0.32	0.31	0.33	0.35	0.31
Common Equity	45.22	46.45	44.69	45.36	46.21	45.59
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
EDGAR Online's I-Metrix Database
Annual Forms 10-K

Missouri Gas Energy
Summary of Capital Structure for Last 5 Quarters
of the Proxy Group of Nine Value Line Natural Gas Distribution Companies

	Quarter 4 2008	Quarter 3 2008	Quarter 2 2008	Quarter 1 2008	Quarter 4 2007	5 Quarter Average
AGL Resources						
Long-Term Debt	39.64 %	39.91 %	42.30 %	41.66 %	42.25 %	41.15 %
Short-Term Debt	20.50	18.32	13.25	10.14	14.64	15.37
Preferred Stock	0.76	0.69	0.88	0.88	1.19	0.88
Common Equity	39.10	41.08	43.57	47.32	41.92	42.60
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Atmos Energy Corp.						
Long-Term Debt	46.51 %	46.88 %	48.87 %	50.03 %	48.78 %	48.22 %
Short-Term Debt	7.91	7.75	2.61	0.00	4.64	4.58
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	45.58	45.37	48.52	49.97	46.58	47.20
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Laclede Group, Inc. (1)						
Long-Term Debt	33.49 %	35.63 %	36.35 %	35.28 %	32.61 %	34.67 %
Short-Term Debt	22.68	19.76	6.89	17.02	26.99	18.67
Preferred Stock	0.06	0.06	0.08	0.07	0.08	0.07
Common Equity	43.77	44.55	56.68	47.63	40.32	46.59
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
New Jersey Resources Corp.						
Long-Term Debt	32.91 %	36.27 %	38.66 %	32.39 %	29.14 %	33.87 %
Short-Term Debt	17.78	12.55	11.14	12.28	21.38	15.03
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	49.31	51.18	50.20	55.33	49.48	51.10
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Northwest Natural Gas Company						
Long-Term Debt	36.88 %	39.64 %	42.76 %	43.05 %	41.20 %	40.70 %
Short-Term Debt	17.86	13.53	5.60	4.55	11.40	10.59
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	45.26	46.83	51.64	52.40	47.40	48.71
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Piedmont Natural Gas Co., Inc.						
Long-Term Debt	38.92 %	43.04 %	44.48 %	40.53 %	43.44 %	42.08 %
Short-Term Debt	19.19	8.85	4.23	14.20	10.30	11.35
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	41.89	48.11	51.29	45.27	46.26	46.57
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
South Jersey Industries						
Long-Term Debt	35.94 %	34.64 %	35.88 %	40.40 %	37.38 %	36.85 %
Short-Term Debt	12.20	15.39	12.30	3.59	12.35	11.16
Preferred Stock	0.12	0.13	0.14	0.05	0.04	0.10
Common Equity	51.74	49.84	51.68	55.96	50.23	51.89
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Southwest Gas Company						
Long-Term Debt	54.20 %	56.73 %	55.92 %	55.83 %	58.67 %	56.27 %
Short-Term Debt	2.31	0.00	0.00	0.00	0.38	0.54
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	43.49	43.27	44.08	44.17	40.95	43.19
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
WGL Holdings, Inc.						
Long-Term Debt	32.31 %	33.54 %	35.95 %	34.81 %	32.26 %	33.77 %
Short-Term Debt	16.68	13.37	2.73	5.35	15.21	10.67
Preferred Stock	1.29	1.39	1.57	1.52	1.42	1.44
Common Equity	49.72	51.70	59.75	58.32	51.11	54.12
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Proxy Group of Nine Value Line Natural Gas Distribution Companies						
Long-Term Debt	38.98 %	40.70 %	42.35 %	41.55 %	40.64 %	40.84 %
Short-Term Debt	15.23	12.17	6.53	7.46	13.03	10.88
Preferred Stock	0.25	0.25	0.30	0.28	0.30	0.28
Common Equity	45.54	46.88	50.82	50.71	46.03	48.00
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

Notes:

(1) Piedmont Natural Gas Co., Inc.'s capital structure data at 12/31/08 was not available at the preparation of this exhibit. The capital structure data used for Piedmont are the balance sheets from 9/30/08 to 9/30/07.

SOUTHERN UNION CO
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2004 - 2008, INCLUSIVE

	2008	2007	2006	2005	2004	
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$5,686.009	$5,600.812	$5,201.075	$4,029.858	$3,516.603	
SHORT-TERM DEBT	$401.459	$123.000	$100.000	$420.000	$21.000	
TOTAL CAPITAL EMPLOYED	$6,087.468	$5,723.812	$5,301.075	$4,449.858	$3,537.603	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	6.16 %	6.44 %	7.37 %	5.92 %	5.14 %	
PREFERRED STOCK	9.12	7.55	7.55	7.55	5.52	
						5 YEAR AVERAGE
CAPITAL STRUCTURE RATIOS						
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	58.35 %	60.62 %	60.58 %	53.99 %	64.11 %	59.53 %
PREFERRED STOCK	2.02	4.11	4.42	5.71	6.54	4.56
COMMON EQUITY	39.62	35.28	35.00	40.30	29.35	35.91
TOTAL	99.99 %	100.01 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	61.10 %	61.46 %	61.32 %	58.33 %	64.33 %	61.31 %
PREFERRED STOCK	1.89	4.02	4.34	5.17	6.50	4.38
COMMON EQUITY	37.01	34.52	34.34	36.50	29.17	34.31
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
FINANCIAL RATIOS - MARKET BASED						
EARNINGS / PRICE RATIO	10.91 %	5.62 %	6.47 %	0.13 %	7.58 %	6.14 %
MARKET / AVERAGE BOOK RATIO	120.18	196.73	176.35	171.90	135.06	160.04
DIVIDEND YIELD	2.90	1.28	1.14	0.00	0.00	1.06
DIVIDEND PAYOUT RATIO	26.87	25.54	23.18	0.00	0.00	15.12
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	13.21 %	11.13 %	11.60 %	0.25 %	10.38 %	9.31 %
FUNDS FROM OPERATIONS / INTEREST COVERAGE (3)	3.45 x	3.35 x	3.69 x	3.85 x	3.39 x	3.55 x
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	14.70 %	14.53 %	17.85 %	15.84 %	13.42 %	15.27 %
TOTAL DEBT / TOTAL CAPITAL	61.10 %	61.46 %	61.32 %	58.33 %	64.33 %	61.31 %

Southern Union Company
Capitalization and Financial Statistics
2004-2008, Inclusive

Notes:

(1) All capitalization and financial statistics for Southern Union Company 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 (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.

Source of Information:
EDGAR Online's I-Metrix Database
Standard & Poor's Compustat Services, Inc., PC Plus / Research Insight Database

FIFTH EDITION

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9 Capital Budgeting and Risk

Long before the development of modern theories linking risk and expected return, smart financial managers adjusted for risk in capital budgeting. They realized intuitively that, other things being equal, risky projects are less desirable than safe ones. Therefore financial managers demanded a higher rate of return from risky projects, or they based their decisions on conservative estimates of the cash flows.

Various rules of thumb are often used to make these risk adjustments. For example, many companies estimate the rate of return required by investors in their securities and use the **company cost of capital** to discount the cash flows on all new projects. Since investors require a higher rate of return from a very risky company, such a firm will have a higher company cost of capital and will set a higher discount rate for its new investment opportunities. For example, in Table 8-1 we estimated that investors expected a rate of return of .163 or about 16.5 percent from Microsoft common stock. Therefore, according to the company cost of capital rule, Microsoft should have been using a 16.5 percent discount rate to compute project net present values.[1]

This is a step in the right direction. Even though we can't measure risk or the expected return on risky securities with absolute precision, it is still reasonable to assert that Microsoft faced more risk than the average firm and, therefore, should have demanded a higher rate of return from its capital investments.

But the company cost of capital rule can also get a firm into trouble if the new projects are more or less risky than its existing business. Each project should be evaluated at its *own* opportunity cost of capital. This is a clear implication of the value-additivity principle introduced in Chapter 7. For a firm composed of assets A and B, the firm value is

$$\text{Firm value} = PV(AB) = PV(A) + PV(B) = \text{sum of separate asset values}$$

Here PV(A) and PV(B) are valued just as if they were mini-firms in which stockholders could invest directly. Investors would value A by discounting its forecasted cash flows at a rate reflecting the risk of A. They would value B by discounting at a rate reflecting the risk of B. The two discount rates will, in general, be different.

[1]Microsoft did not use any significant amount of debt financing. Thus its cost of capital is the rate of return investors expect on its common stock. The complications caused by debt are discussed later in this chapter.

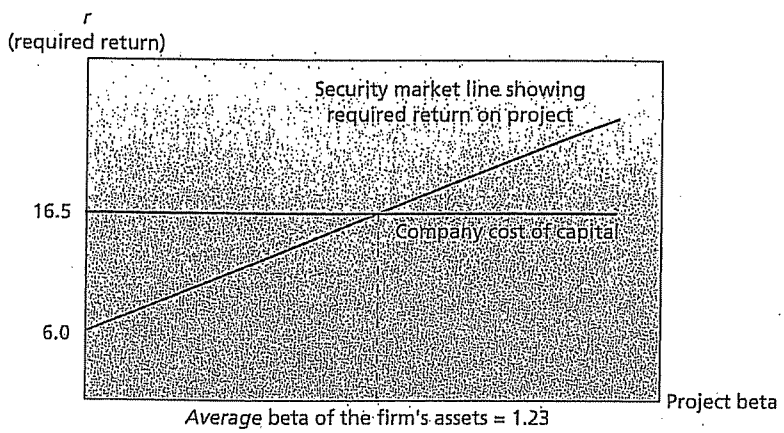

Figure 9-1 A comparison between the company cost of capital rule and the required return under the capital asset pricing model. Microsoft's company cost of capital is about 16.5 percent. This is the correct discount rate only if the project beta is 1.23. In general, the correct discount rate increases as project beta increases. Microsoft should accept projects with rates of return above the security market line relating required return to beta.

If the firm considers investing in a third project C, it should also value C as if C were a mini-firm. That is, the firm should discount the cash flows of C at the expected rate of return that investors would demand to make a separate investment in C. *The true cost of capital depends on the use to which the capital is put.*

This means that Microsoft should accept any project that more than compensates for the *project's beta*. In other words, Microsoft should accept any project lying above the upward-sloping line that links expected return to risk in Figure 9-1. If the project has a high risk, Microsoft needs a higher prospective return than if the project has a low risk. Now contrast this with the company cost of capital rule, which is to accept any project *regardless of its risk* as long as it offers a higher return than the *company's* cost of capital. In terms of Figure 9-1, the rule tells Microsoft to accept any project above the horizontal cost-of-capital line, i.e., any project offering a return of more than 16.5 percent.

It is clearly silly to suggest that Microsoft should demand the same rate of return from a very safe project as from a very risky one. If Microsoft used the company cost of capital rule, it would reject many good low-risk projects and accept many poor high-risk projects. It is also silly to suggest that just because Duke Power has a low company cost of capital, it is justified in accepting projects that Microsoft would reject. If you followed such a rule to its seemingly logical conclusion, you would think it possible to enlarge the company's investment opportunities by investing a large sum in Treasury bills. That would make the common stock safe and create a low company cost of capital.[2]

The notion that each company has some individual discount rate or cost of capital is widespread, but far from universal. Many firms require different returns from different categories of investment. For example, discount rates might be set as follows:

[2]If the present value of an asset depended on the identity of the company that bought it, present values would not add up. Remember, a good project is a good project is a good project.

Category	Discount Rate
Speculative ventures	30%
New products	20%
Expansion of existing business	15% (company cost of capital)
Cost improvement, known technology	10%

The capital asset pricing model is widely used by large corporations to estimate the discount rate. It states

$$\text{Expected project return} = r = r_f + (\text{project beta})(r_m - r_f)$$

To calculate this, you have to figure out the project beta. Before thinking about the betas of individual projects, we will look at some problems you would encounter in using beta to estimate a company's cost of capital. It turns out that beta is difficult to measure accurately for an individual firm: Much greater accuracy can be achieved by looking at an average of similar companies. But then we have to define *similar*. Among other things, we will find that a firm's borrowing policy affects its stock beta. It would be misleading, e.g., to average the betas of Chrysler, which has been a heavy borrower, and General Motors, which has generally borrowed less.

The company cost of capital is the correct discount rate for projects that have the same risk as the company's existing business but *not* for those projects that are safer or riskier than the company's average. The problem is to judge the relative risks of the projects available to the firm. To handle that problem, we will need to dig a little deeper and look at what features make some investments riskier than others. After you know *why* AT&T stock has less market risk than, say, Ford Motor, you will be in a better position to judge the relative risks of capital investment opportunities.

There is still another complication: Project betas can shift over time. Some projects are safer in youth than in old age; others are riskier. In this case, what do we mean by *the* project beta? There may be a separate beta for each year of the project's life. To put it another way, can we jump from the capital asset pricing model, which looks out one period into the future, to the discounted-cash-flow formula that we developed in Chapters 2 and 6 for valuing long-lived assets? Most of the time it is safe to do so, but you should be able to recognize and deal with the exceptions.

We will use the capital asset pricing model, or CAPM, throughout this chapter. But don't infer that the CAPM is the last word on risk and return. The principles and procedures covered in this chapter work just as well with other models such as arbitrage pricing theory (APT). For example, we could have started with an APT estimate of the expected rate of return on Microsoft stock; the discussion of company and project costs of capital would have followed exactly.

9-1 MEASURING BETAS

Suppose that you were considering an across-the-board expansion by your firm. Such an investment would have about the same degree of risk as the existing business. Therefore you should discount the projected flows at the company cost of capital. To estimate that, you could begin by estimating the beta of the company's stock.

An obvious way to measure the beta of the stock is to look at how its price has responded in the past to market movements. For example, in Figure 9-2*a* and *b* we have plotted monthly rates of return from AT&T and Hewlett-Packard against mar-

INTERMEDIATE FINANCIAL MANAGEMENT

9E

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ADJUSTING THE COST OF CAPITAL FOR RISK

As we have calculated it, the cost of capital reflects the average risk and overall capital structure of the entire firm. But what if a firm has divisions in several business lines that differ in risk? Or what if a company is considering a project that is much riskier than its typical project? It doesn't make sense for a company to use its overall cost of capital to discount divisional or project-specific cash flows that don't have the same risk as the company's average cash flows. The following sections explain how to adjust the cost of capital for divisions and for specific projects.

The Divisional Cost of Capital

Consider Starlight Sandwich Shops, a company with two divisions—a bakery operation and a chain of cafes. The bakery division is low risk and has a 10 percent cost of capital. The cafe division is riskier and has a 14 percent cost of capital. Each division is approximately the same size, so Starlight's overall cost of capital is 12 percent. The bakery manager has a project with an 11 percent expected rate of return, and the cafe division manager has a project with a 13 percent expected return. Should these projects be accepted or rejected? Starlight can create value if it accepts the bakery's project, since its rate of return is greater than its cost of capital (11% > 10%), but the cafe project's rate of return is less than its cost of capital (13% < 14%), so it should be rejected. However, if one simply compared the two projects' returns with Starlight's 12 percent overall cost of capital, then the bakery's value-adding project would be rejected while the cafe's value-destroying project would be accepted.

Many firms use the CAPM to estimate the cost of capital for specific divisions. To begin, recall that the Security Market Line equation expresses the risk/return relationship as follows:

$$r_s = r_{RF} + (RP_M)b$$

As an example, consider the case of Huron Steel Company, an integrated steel producer operating in the Great Lakes region. For simplicity, assume that Huron has only one division and uses only equity capital, so its cost of equity is also its corporate cost of capital, or WACC. Huron's beta = b = 1.1; r_{RF} = 7%; and RP_M = 6%. Thus, Huron's cost of equity is 13.6 percent:

$$r_s = 7\% + (6\%)1.1 = 13.6\%$$

This suggests that investors should be willing to give Huron money to invest in average-risk projects if the company expects to earn 13.6 percent or more on this money. By average risk we mean projects having risk similar to the firm's existing division.

Now suppose Huron creates a new transportation division consisting of a fleet of barges to haul iron ore, and barge operations have betas of 1.5 rather than 1.1. The barge division, with b = 1.5, has a 16.0 percent cost of capital:

$$r_{Barge} = 7\% + (6\%)1.5 = 16.0\%$$

On the other hand, if Huron adds a low-risk division, such as a new distribution center with a beta of only 0.5, its divisional cost of capital would be 10 percent:

$$r_{Center} = 7\% + (6\%)0.5 = 10.0\%$$

A firm itself may be regarded as a "portfolio of assets," and since the beta of a portfolio is a weighted average of the betas of its individual assets, adding the barge and distribution center divisions will change Huron's overall beta. The exact value of the new beta would depend on the relative size of the investment in the new divisions versus Huron's original steel operations. If 70 percent of Huron's total value ends up in the steel division, 20 percent in the barge division, and 10 percent in the distribution center, then its new corporate beta would be

$$\text{New beta} = 0.7(1.1) + 0.2(1.5) + 0.1(0.5) = 1.12$$

Thus, investors in Huron's stock would have a required return of:

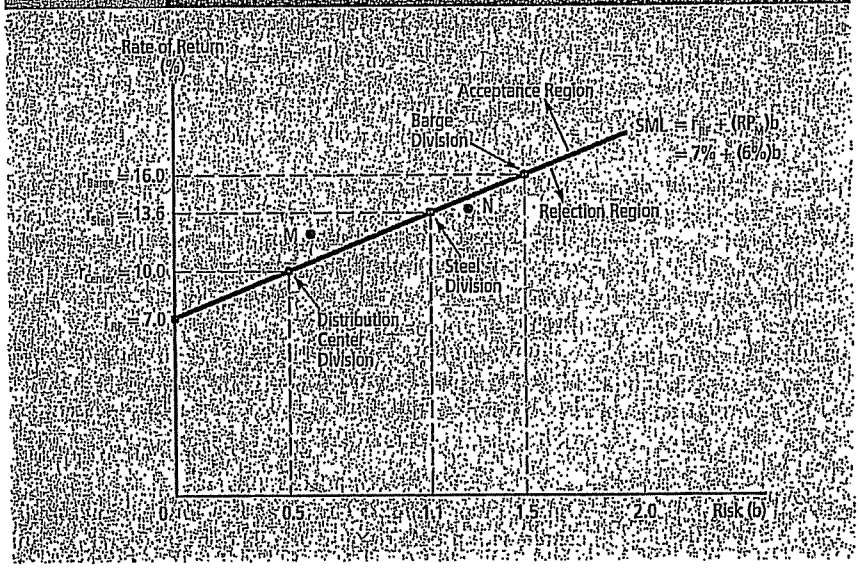
$$r_{\text{Huron}} = 7\% + (6\%)1.12 = 13.72\%$$

Even though the investors require an overall return of 13.72 percent, they would expect a return of at least 13.6 percent from the steel division, 16.0 percent from the barge division, and 10.0 percent from the distribution center.

Figure 10-1 gives a graphic summary of these concepts as applied to Huron Steel. Note the following points:

1. If the expected rate of return on a given capital project lies *above* the SML, the expected rate of return on the project is more than enough to compensate for its risk, and the project should be accepted. Conversely, if the project's rate of return lies *below* the SML, it should be rejected. Thus, Project M in Figure 10-1 is acceptable, whereas Project N should be rejected. N has a higher expected return than M, but the differential is not enough to offset its much higher risk.
2. For simplicity, the Huron Steel illustration is based on the assumption that the company used no debt financing, which allows us to use the SML to plot the

Figure 10-1 Using the Security Market Line for Divisions



company's cost of capital. The basic concepts presented in the Huron illustration also hold for companies that use debt financing. When debt financing is used, the division's cost of equity must be combined with the division's cost of debt and target capital structure to obtain the division's overall cost of capital.

Self-Test Questions

Based on the CAPM, how would one find the cost of capital for a low-risk division, and for a high-risk division?

Explain why you should accept a given capital project if its expected rate of return lies above the SML and reject it if its expected return is below the SML.

TECHNIQUES FOR MEASURING DIVISIONAL BETAS

In Chapter 2 we discussed the estimation of betas for stocks and indicated the difficulties in estimating beta. The estimation of divisional betas is much more difficult, and more fraught with uncertainty. However, two approaches have been used to estimate individual assets' betas—the pure play method and the accounting beta method.

The Pure Play Method

In the pure play method, the company tries to find several single-product companies in the same line of business as the division being evaluated, and it then averages those companies' betas to determine the cost of capital for its own division. For example, suppose Huron could find three existing single-product firms that operate barges, and suppose also that Huron's management believes its barge division would be subject to the same risks as those firms. Huron could then determine the betas of those firms, average them, and use this average beta as a proxy for the barge division's beta.[14]

The Accounting Beta Method

As noted above, it may be impossible to find single-product, publicly traded firms suitable for the pure play approach. If that is the case, we may be able to use the accounting beta method. Betas normally are found by regressing the returns of a particular company's *stock* against returns on a *stock market index*. However, we could run a regression of the division's *accounting return on assets* against the *average return on assets* for a large sample of companies, such as those included in the S&P 500. Betas determined in this way (that is, by using accounting data rather than stock market data) are called accounting betas.

Self-Test Question

Describe the pure play and the accounting beta methods for estimating divisional betas.

[14] If the pure play firms employ different capital structures than that of Huron, this fact must be dealt with by adjusting the beta coefficients. See Chapter 15 for a discussion of this aspect of the pure play method. For a technique that can be used when pure play firms are not available, see Yatin Bhagwat and Michael Ehrhardt, "A Full Information Approach for Estimating Divisional Betas," *Financial Management*, Summer 1991, pp. 60–69.

Missouri Gas Energy
Long-Term Debt Cost Rates of the
Proxy Group of Nine Value Line Natural Gas Distribution Companies
for the Fiscal Year 2008 (1)

Line No.	Proxy Group of Nine Value Line Natural Gas Distribution Companies	Actual for the Fiscal Year 2008 (1)
	AGL Resources, Inc.	5.64%
	Atmos Energy Corp	5.60%
	Laclede Group, Inc.	6.30%
	New Jersery Resources Corp.	5.20%
	Northwest Natural Gas Co.	6.53%
	Piedmont Natural Gas Co.	6.74%
	South Jersey Industries, Inc.	5.26%
	Southwest Gas Corp.	6.12%
	WGL Holdings, Inc.	5.98%
1.	Average	5.93%
2.	Provision for Estimated Issuance Costs	0.15%
3.	Conclusion of Long-Term Debt Cost Rate Applicable to Missouri Gas Energy (2)	6.08%

Notes: (1) Supporting information on pages 2 through 10 of this Schedule.

(2) Sum of Line Nos. 1 and 2.

Missouri Gas Energy
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
for AGL Resources Inc.
for the Fiscal Year 2008 (1)

	Amount Outstanding ($ 000s)	Effective Cost Rate	Annualized Cost ($ 000s)	Composite Interest Rate
Medium-term Notes				
Issue June 1992 Maturity at June 2012	$ 5,000	8.40%	$ 420	
Issue June 1992 Maturity at June 2012	5,000	8.30%	415	
Issue June 1992 Maturity at June 2012	5,000	8.30%	415	
Issue July 1997 Maturity July 2017	22,000	7.20%	1,584	
Issue February 1991 Maturity Feb. 2021	30,000	9.10%	2,730	
Issue April 1992 Maturity April 2022	5,000	8.55%	428	
Issue April 1992 Maturity April 2022	25,000	8.70%	2,175	
Issue April 1992 Maturity April 2022	6,000	8.55%	513	
Issue May 1992 Maturity May 2022	10,000	8.55%	855	
Issue Nov. 1996 Maturity Nov. 2026	30,000	6.55%	1,965	
Issue July 1997 Maturity July 2027	53,000	7.30%	3,869	
Senior Notes				
Issue Feb. 2001 Maturity Jan. 2011	300,000	7.13%	21,375	
Issue July 2003 Maturity April 2013	225,000	4.45%	10,013	
Issue Dec. 2004 Maturity Jan 2015	200,000	4.95%	9,900	
Issue June 2006 Maturity July 2016	175,000	6.38%	11,156	
Issue Dec 2007 Maturity July 2016	125,000	6.38%	7,969	
Issue Sep 2004 Maturity Oct 2034	250,000	6.00%	15,000	
Gas facility revenue bonds				
Issue July 1994 Maturity Oct 2022	47,000	0.70%	329	
Issue July 1994 Maturity Oct 2024	20,000	1.10%	220	
Issue June 1992 Maturity June 2026	39,000	1.10%	429	
Issue June 1992 Maturity June 2032	55,000	0.85%	468	
Issue July 1997 Maturity Nov 2033	39,000	5.25%	2,048	
Total Long-Term Debt (2)	$ 1,671,000		$ 94,276	5.64%

Notes: (1) Fiscal year ends December 31.
(2) Excluding capital leases of $ 4 million.

Source of Information: 2008 Annual Form 10-K

Missouri Gas Energy
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
for Atmos Energy Corporation
for the Fiscal Year 2008 (1)

Series	Amount Outstanding ($ 000s)	Effective Cost Rate (1)	Annualized Cost ($ 000s)	Composite Interest Rate
Long-Term Debt				
Unsecured 4.00% Senior Notes, due 2009	$ 400,000	4.000%	$ 16,000	
Unsecured 7.375% Senior Notes, due 2011	350,000	7.375%	25,814	
Unsecured 10% Unsecured Notes, due 2011	2,303	10.000%	230	
Unsecured 5.125% Senior Notes, due 2013	250,000	5.125%	12,813	
Unsecured 4.95% Senior Notes, due 2014	500,000	4.950%	24,750	
Unsecured 6.35% Senior Notes, due 2017	250,000	6.350%	15,875	
Unsecured 5.95% Senior Notes, due 2034	200,000	5.950%	11,900	
Medium Term Notes				
Series A, 1995-2, 6.27%, due 2010	10,000	6.270%	627	
Series A, 1995-1, 6.67%, due 2025	10,000	6.670%	667	
Unsecured 6.75% Debentures, due 2028	150,000	6.750%	10,125	
Rental property, propane and other term notes due in installments through 2013	1,309	5.600% (2)	73	
Total Long-Term Debt	$ 2,123,612		$ 118,874	5.60%

Notes:

(1) Fiscal year ends September 30.

(2) Assumed equal to the composite debt cost rate of all debt excluding other long-term debt at September 30, 2008.

Source of Information: 2008 Annual Form 10-K

Missouri Gas Energy
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
for Laclede Group, Inc.
for the Fiscal Year 2008 (1)

Series	Amount Outstanding ($ 000s)	Effective Cost Rate (1)	Annualized Cost ($ 000s)	Composite Interest Rate
Long-Term Debt - Laclede Gas				
First Mortgage Bond:				
6-1/2% Series, due November 2010	25,000	6.50%	1,625	
6-1/2% Series, due October 2012	25,000	6.50%	1,625	
5-1/2% Series, due May 2019	50,000	5.50%	2,750	
7% Series, due June 2029	25,000	7.00%	1,750	
7.90% Series, due September 2030	30,000	7.90%	2,370	
6% Series, due May 2034	100,000	6.00%	6,000	
6.15% Series, due June 2036	55,000	6.15%	3,383	
6.35% Series, Due October 2038	80,000	6.35%	5,080	
Total Long-Term Debt	$ 390,000		$ 24,583	6.30%

Notes:

(1) Fiscal year ends September 30.

Source of Information: 2008 Annual Form 10-K

Missouri Gas Energy
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
for New Jersey Resources Corp.
for the Fiscal Year 2008 (1)

Series	Amount Outstanding ($ 000s)	Effective Cost Rate (1)	Annualized Cost ($ 000s)	Composite Interest Rate
New Jersey Natural Gas				
First Mortgage Bonds				
6.27% Series X, due 2008	$ 30,000	6.270%	$ 1,881	
Variable Series AA, due 2030	25,000	3.900%	975	
Variable Series BB, due 2030	16,000	4.600% (2)	736	
6.88% Series CC, due 2010	20,000	6.880%	1,376	
Variable Series DD, due 2027	13,500	4.600% (2)	621	
Variable Series EE, due 2028	9,545	4.600% (2)	439	
Variable Series FF, due 2028	15,000	4.600% (2)	690	
Variable Series GG, due 2033	18,000	4.600% (2)	828	
5% Series HH, due 2038	12,000	5.000%	600	
4.5% Series II, due 2023	10,300	4.500%	464	
4.6% Series JJ, due 2024	10,500	4.600%	483	
4.9% Series KK, due 2040	15,000	4.900%	735	
5.6% Series LL, due 2018	125,000	5.600%	7,000	
4.77% Unsecured senior notes, due 2014	60,000	4.770%	2,862	
Capital lease obligation - Bulidings, due 2021	26,371	5.200% (3)	1,371	
Capital lease obligation - Meters, due 2012	34,020	5.200% (3)	1,769	
New Jersey Resources				
3.75% Unsecured senior notes, due 2009	25,000	3.750%	938	
6.05% Unsecured senior notes, due 2017	50,000	6.050%	3,025	
Total Long-Term Debt	$ 515,236		$ 26,793	5.20%

Notes: (1) Fiscal year ends September 30.

(2) Weighted average interest rate at September 30, 2008.

(3) Assumed equal to the composite debt cost rate of all debt excluding capital lease obligations at September 30, 2008.

Source of Information: 2008 Annual Form 10-K

Missouri Gas Energy
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
for Northwest Natural Gas Company
for the Fiscal Year 2008 (1)

Series	Amount Outstanding ($ 000s)	Effective Cost Rate (1)	Annualized Cost ($ 000s)	Composite Interest Rate
First Mortgage Bonds				
4.110% Series B due 2010	10,000	4.110%	411	
7.450% Series B due 2010	25,000	7.450%	1,863	
6.665% Series B due 2011	10,000	6.665%	667	
7.130% Series B due 2012	40,000	7.130%	2,852	
8.260% Series B due 2014	10,000	8.260%	826	
4.700% Series B due 2015	40,000	4.700%	1,880	
5.150% Series B due 2016	25,000	5.150%	1,288	
7.000% Series B due 2017	40,000	7.000%	2,800	
6.600% Series B due 2018	22,000	6.600%	1,452	
8.310% Series B due 2019	10,000	8.310%	831	
7.630% Series B due 2019	20,000	7.630%	1,526	
9.050% Series B due 2021	10,000	9.050%	905	
5.620% Series B due 2023	40,000	5.620%	2,248	
7.720% Series B due 2025	20,000	7.720%	1,544	
6.520% Series B due 2025	10,000	6.520%	652	
7.050% Series B due 2026	20,000	7.050%	1,410	
7.000% Series B due 2027	20,000	7.000%	1,400	
6.650% Series B due 2027	20,000	6.650%	1,330	
6.650% Series B due 2028	10,000	6.650%	665	
7.740% Series B due 2030	20,000	7.740%	1,548	
7.850% Series B due 2030	10,000	7.850%	785	
5.820% Series B due 2032	30,000	5.820%	1,746	
5.660% Series B due 2033	40,000	5.660%	2,264	
5.250% Series B due 2035	10,000	5.250%	525	
Total Long-Term Debt	$ 512,000		$ 33,418	6.53%

Notes: (1) Fiscal year ends December 31.

Source of Information: 2008 Annual Form 10-K

Missouri Gas Energy
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
for Piedmont Natural Gas Co.
for the Fiscal Year 2008 (1)

Series	Amount Outstanding ($ 000s)	Effective Cost Rate (1)	Annualized Cost ($ 000s)	Composite Interest Rate
Senior Notes				
8.51%, due 2017	$ 35,000	8.51%	$ 2,979	
Insured Quarterly Notes:				
6.25%, due 2036	199,261	6.25%	12,454	
Medium-Term Notes				
7.35%, due 2009	30,000	7.35%	2,205	
7.80%, due 2010	60,000	7.80%	4,680	
6.55%, due 2011	60,000	6.55%	3,930	
5.00%, due 2013	100,000	5.00%	5,000	
6.87%, due 2023	45,000	6.87%	3,092	
8.45%, due 2024	40,000	8.45%	3,380	
7.40%, due 2025	55,000	7.40%	4,070	
7.50%, due 2026	40,000	7.50%	3,000	
7.95% due, 2029	60,000	7.95%	4,770	
6.00%, due 2033	100,000	6.00%	6,000	
Total Long-Term Debt	$ 824,261		$ 55,560	6.74%

Notes: (1) Fiscal year ends October 31.

Source of Information: 2008 Annual Form 10-K

Missouri Gas Energy
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
for South Jersey Industries, Inc.
for the Fiscal Year 2008 (1)

Series	Amount Outstanding ($ 000s)	Effective Cost Rate (1)	Annualized Cost ($ 000s)	Composite Interest Rate
First Mortgage Bonds				
6.12% Series due 2010	10,000	6.12%	612	
6.74% Series due 2011	10,000	6.74%	674	
6.57% Series due 2011	15,000	6.57%	986	
4.46% Series due 2013	10,500	4.46%	468	
5.027% Series due 2013	14,500	5.027%	729	
4.52% Series due 2014	11,000	4.52%	497	
5.115% Series due 2014	10,000	5.115%	512	
5.387% Series due 2015	10,000	5.387%	539	
5.437% Series due 2016	10,000	5.437%	544	
6.50% Series due 2016	9,873	6.50%	642	
4.60% Series due 2016	17,000	4.60%	782	
4.657% Series due 2017	15,000	4.657%	699	
7.97% Series due 2018	10,000	7.97%	797	
7.125% Series due 2018	20,000	7.125%	1,425	
5.587% Series due 2019	10,000	5.587%	559	
7.7% Series due 2027	35,000	7.70%	2,695	
5.55% Series due 2033	32,000	5.55%	1,776	
6.213% Series due 2034	10,000	6.213%	621	
5.45% Series due 2035	10,000	5.45%	545	
Series A 2006 Bonds at variable rates due 2036	25,000	5.97% (2)	1,493	
Marina Energy LLC				
Series A 2001 Bonds at variables rates due 2031	20,000	1.68% (3)	336	
Series B 2001 Bonds at variables rates due 2021	25,000	2.57% (3)	643	
Series A 2006 Bonds at variables rates due 2036	16,400	0.98% (3)	161	
AC Landfill Energy, LLC				
Bank Term Loan, 6% due 2014	442	6.00%	27	
Mortgage Bond, 4.19% due 2019	1,181	4.19%	49	
Total Long-Term Debt	$ 357,896		$ 18,811	5.26%

Notes: (1) Fiscal year ends December 31.
(2) Assumed equal to the composite debt cost rate of all debt at December 31, 2007 excluding the Series A 2006 Bonds due 2036 and AC Landfill Energy, LLC's Bank Term Loan due 2014.
(3) At December 31, 2008

Source of Information: 2008 Annual Form 10-K

Missouri Gas Energy
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
for Southwest Gas Corporation
for the Fiscal Year 2008 (1)

Series	Amount Outstanding ($ 000s)	Effective Cost Rate (1)	Annualized Cost ($ 000s)	Composite Interest Rate
Debentures				
Notes, 8.375%, due 2011	$ 200,000	8.375%	$ 16,750	
Notes, 7.625%, due 2012	200,000	7.625%	15,250	
8% Series, due 2026	75,000	8.000%	6,000	
Medium-Term Notes, 7.59% series, due 2017	25,000	7.590%	1,898	
Medium-Term Notes, 7.78% series, due 2022	25,000	7.780%	1,945	
Medium-Term Notes, 7.92% series, due 2027	25,000	7.920%	1,980	
Medium-Term Notes, 6.76% series, due 2027	7,500	6.760%	507	
Revolving credit facility and commercial paper	150,000	6.120% (2)	9,180	
Industrial development revenue bonds				
Variable-rate bonds				
Tax-exempt Series A, due 2028	50,000	1.740% (3)	870	
2003 Series A, due 2038	50,000	1.850% (3)	925	
2008 Series A, due 2038	50,000	2.290%	1,145	
Fixed-rate bonds				
6.10% 1999 Series A, due 2038	12,410	6.100%	757	
5.95% 2999 Series C, due 2038	14,320	5.950%	852	
5.55% 1999 Series D, due 2038	8,270	5.550%	459	
5.45% 2003 Series C, due 2038	30,000	5.450%	1,635	
5.25% 2003 Series D, due 2038	20,000	5.250%	1,050	
5.80% 2003 Series E, due 2038	15,000	5.800%	870	
5.25% 2004 Series A, due 2034	65,000	5.250%	3,413	
5.00% 2004 Series B, due 2033	75,000	5.000%	3,750	
4.85% 2005 Series A, due 2035	100,000	4.850%	4,850	
4.75% 2006 Series A, due 2036	56,000	4.750%	2,660	
Other	33,620	6.120% (2)	2,058	
Total Long-Term Debt	$ 1,287,120		$ 78,804	6.12%

Notes: (1) Fiscal year ends December 31.
(2) Assumed equal to the composite debt cost rate of all debt excluding revolving credit facility and other.
(3) Effective interest rate at December 31, 2008.

Source of Information: 2008 Annual Form 10-K

Missouri Gas Energy
Calculation of the Composite Cost Rate of Long-Term Debt Outstanding
WGL Holdings, Inc.
for the Fiscal Year 2008 (1)

Series	Amount Outstanding ($ 000s)	Effective Cost Rate (1)	Annualized Cost ($ 000s)	Composite Interest Rate
Washington Gas Light Company				
Unsecured Medium-Term Notes				
Due fiscal year 2009, 5.49% to 6.92%	75,000	6.71% (2)	5,033	
Due fiscal year 2010, 3.61%	50,000	3.61%	1,805	
Due fiscal year 2010, 7.50% to 7.70%	24,000	7.60% (3)	1,824	
Due fiscal year 2011, 6.64%	30,000	6.64%	1,992	
Due fiscal year 2012, 5.90% to 6.05%	77,000	5.98% (4)	4,605	
Due fiscal year 2014, 4.88% to 5.17%	67,000	5.03% (5)	3,370	
Due fiscal year 2015, 4.83%	20,000	4.83%	966	
Due fiscal year 2016, 5.17%	25,000	5.17%	1,293	
Due fiscal year 2023, 6.65%	20,000	6.65%	1,330	
Due fiscal year 2025, 5.44%	40,500	5.44%	2,203	
Due fiscal year 2027, 6.40% to 6.82%	125,000	6.61% (6)	8,263	
Due fiscal year 2028, 6.57% to 6.85%	52,000	6.71% (7)	3,489	
Due fiscal year 2030, 7.50%	8,500	7.50%	638	
Due fiscal year 2036, 5.70% to 5.78%	50,000	5.74% (8)	2,870	
Other long-term debt	15,785	5.98% (9)	944	
Total Long-Term Debt	$ 679,785		$ 40,625	5.98%

Notes:
(1) Fiscal year ends September 30.
(2) Midpoint of 5.49% and 6.92%, (6.71% = (5.49% + 6.92%) / 2).
(3) Midpoint of 7.50% and 7.70%, (7.60% = (7.50% + 7.70%) / 2).
(4) Midpoint of 5.90% and 6.05%, (5.98% = (5.90% + 6.05%) / 2).
(5) Midpoint of 4.88% and 5.17%, (5.03% = (4.88% + 5.17%) / 2).
(6) Midpoint of 6.40% and 6.82%, (6.61% = (6.40% + 6.82%) / 2).
(7) Midpoint of 6.57% and 6.85%, (6.71% = (6.57% + 6.85%) / 2).
(8) Midpoint of 5.70% and 5.78%, (5.74% = (5.70% + 5.78%) / 2).
(9) Assumed equal to the composite debt cost rate of all debt excluding other long-term debt at September 30, 2007

Source of Information: 2008 Annual Form 10-K