

BEFORE THE  
STATE OF NEW YORK  
PUBLIC SERVICE COMMISSION

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In the Matter of  
  
Consolidated Edison Company of New York  
  
Case 08-E-0539  
  
September 2008

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Prepared Exhibits of:  
Staff Finance Panel

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**Staff Finance Panel Summary of Exhibits**  
Case 08-E-0539

<u>Exhibit FP#</u>	<u>No. Pages</u>	<u>Description</u>
1	1	Overall Rate of return matrix
2	2	RY Capital Structure Forecast
3	3	Optimal Capital Structure Analysis/Historic test Pd. Analysis
4	2	Proxy Group Characteristics
5	1	Avg Cost of Long Term Debt
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7	1	Credit Quality Adjustment
8	4	S&P on Utility Ratings Approach Nov 2007
9	19	S&P Financial Guidelines for Utilities June 2004
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12	8	S&P Issuer Rankings Aug 2008
13	12	Moody's Electric Utility Industry Outlook July 2008
14	51	Merrill Lynch Quantitative Profiles July 2008
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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-1)**

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
RATE OF RETURN REQUIRED FOR THE RATE YEAR  
TWELVE MONTHS ENDING March 31, 2010

	<u>Average Capitalization %</u>	<u>Cost Rate %</u>	<u>Weighted Cost Rate %</u>
	<u>Percent</u>		
Long Term Debt	49.64%	5.85%	2.90%
Preferred Stock	1.10%	5.34%	0.06%
Customer Deposits	1.30%	3.75%	0.05%
Common Equity	<u>47.96%</u>	<u>9.50%</u>	<u>4.56%</u>
Total	<u>100.00%</u>		<u>7.57%</u>

**CASE 08-E-0539**  
**Exhibit \_\_ (FP-2)**

Historical Capital Structure Profile  
As of June 30, 2008  
(\$ millions)

	C1	C2	C3	C4	C5	C6	C7	C8	C9
				(C2 + C3)	(C1 - C4)			(C9 - C2)	
	CEI, Inc.	Con Edison	O&R	Utility	Non-Utility	Non-Utility Post 700M	Rational Non-Utility	Adj to Reflect Chgs thru end of RY	Staff Adjusted Con Edison (Avg Rate Year)
<b>Assets</b>									
Utility Plant (Original Cost)									
Electric	\$16,785	\$15,795	\$990	\$16,785	\$0	\$0			
Gas	3,545	3,133	411	3,544	1	1			
Steam	1,785	1,785	0	1,785	0	0			
General	1,747	1,608	139	1,747	0	0			
Total Utility Plant	23,862	22,321	1,540	23,861	1	1			
Less: Accumulated Depreciation	4,922	4,485	436	4,921	1	1			
Net Plant	18,940	17,836	1,104	18,940	0	0			
Construction Work in Progress	968	931	38	969	-1	-1			
Net Utility Plant	19,908	18,767	1,142	19,909	-1	-1			
Non-Utility Plant	21	11	0	11	10	10			
Net Plant	19,929	18,778	1,142	19,920	9	9			
Total Current Assets	4,531	2,388	376	2,764	1,767	1,067			
Investments	380	114	11	125	255	255			
Total Def.Chgs, Reg Assets and Noncurr Assets	5,413	4,374	501	4,875	538	538			
Total Assets	\$30,253	\$25,654	\$2,030	\$27,684	\$2,569	\$1,869			
<b>Capitalization and Liabilities</b>									
Capitalization									
Common Shareholders' Equity	\$9,680	\$8,191	\$454	\$8,645	\$1,035	\$335	\$485	\$1,114	\$9,305
Preferred Stock	213	213	0	213	0	0	0	0	213
Long-term Debt (incl Curr Mat)	9,178	8,470	383	8,853	325	325	325	1,161	9,631
Total Capitalization	19,071	16,874	837	17,711	1,360	660	810		19,149
Total Noncurrent Liabilities	1,976	1,473	391	1,864	112	112			
Total Current Liabilities(excl Curr Mat)	3,575	2,302	402	2,704	871	871			
Total Def Credits and Regulatory Liabilities	5,634	5,005	401	5,406	228	228			
Total Capitalization and Liabilities	\$30,256	\$25,654	\$2,031	\$27,685	\$2,571	\$1,871			
<b>Customer Deposit Total:</b>	252	245	7	252	0	0	0	8	253
<b>(Included in Current Liabilities)</b>									
<b>Long-Term Debt:</b>	47.5%	49.5%	45.4%	49.3%	23.9%	49.2%	40.1%	51.0%	49.638%
<b>Preferred Stock:</b>	1.1%	1.2%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	1.099%
<b>Customer Deposit:</b>	1.3%	1.4%	0.8%	1.4%	0.0%	0.0%	0.0%	0.0%	1.304%
<b>Common Equity:</b>	50.1%	47.8%	53.8%	48.1%	76.1%	50.8%	59.9%	49.0%	47.960%

Mix

CON EDISON EQUITY FORECAST

	Con Edison: Pre-filed		Con Edison: Preliminary Update		Staff Adjusted	
	Quarter End Bal	Net Additions	Quarter End Bal	Net Additions	Quarter End Bal	Net Additions
06/30/08	8,217,595		8,217,595		8,191,000	
net change	122,096		774,919		795,919	
09/30/08	8,339,691	122,096	8,992,514	774,919	8,986,919	795,919
net change	354,802	122,096	16,297		16,297	
12/31/08	8,694,493	354,802	9,008,811	16,297	9,003,216	16,297
net change	108,510	354,802	90,782		90,782	
03/31/09	8,803,003	108,510	9,099,593	90,782	9,093,998	90,782
net change	412,952	108,510	3,337		3,337	
06/30/09	9,215,955	412,952	9,102,930	3,337	9,097,335	3,337
net change	164,679	412,952	570,736		380,486	
09/30/09	9,380,634	164,679	9,673,666	570,736	9,477,821	380,486
net change	31,436	164,679	37,436		37,436	
12/31/09	9,412,070	31,436	9,711,102	37,436	9,515,257	37,436
net change	140,695	31,436	126,317		126,317	
03/31/10	9,552,765	140,695	9,837,419	126,317	9,641,574	126,317
Total Net Additions:		<u>1,335,170</u>		<u>1,619,824</u>		<u>1,450,574</u>
13-Point Avg		9,229,827		9,430,715		9,305,177
New Common Stock:		841,669		1,115,500		915,500

CON EDISON LONG TERM DEBT FORECAST

	Con Edison: Pre-filed		Con Edison: Preliminary Update		Staff Adjusted	
	Mo End Bal	Net Change	Mo End Bal	Net Change	Mo End Bal	Net Change
06/08	8,470,000		8,470,000		8,470,000	
07/08	8,370,000	(100,000)	8,370,000	(100,000)	8,370,000	(100,000)
08/08	8,370,000		8,370,000		8,370,000	
09/08	8,940,000	570,000	8,370,000		8,370,000	
10/08	8,940,000		8,370,000		8,370,000	
11/08	8,940,000		8,370,000		8,370,000	
12/08	8,940,000		8,670,000	300,000	8,670,000	300,000
01/09	8,940,000		8,670,000		8,670,000	
02/09	8,940,000		8,670,000		8,670,000	
03/09	8,940,000		8,670,000		8,670,000	
04/09	8,940,000		8,670,000		8,670,000	
05/09	8,940,000		8,670,000		8,670,000	
06/09	9,405,000	465,000	9,615,000	945,000	9,815,000	1,145,000
07/09	9,405,000		9,615,000		9,815,000	
08/09	9,405,000		9,615,000		9,815,000	
09/09	9,405,000		9,615,000		9,815,000	
10/09	9,405,000		9,615,000		9,815,000	
11/09	9,405,000		9,615,000		9,815,000	
12/09	9,975,000	570,000	9,875,000	260,000	10,075,000	260,000
01/10	9,975,000		9,875,000		10,075,000	
02/10	9,975,000		9,875,000		10,075,000	
03/10	9,975,000		9,875,000		10,075,000	
Total Net Additions:		<u>1,505,000</u>		<u>1,405,000</u>		<u>1,605,000</u>
13-Point Avg		9,473,077		9,476,923		9,630,769
New Debt Issues:		2,080,000		1,980,000		2,180,000

**CASE 08-E-0539**  
**Exhibit \_\_ (FP-3)**

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
 PRE-TAX RATE OF RETURN REQUIRED FOR THE RATE YEAR  
 TWELVE MONTHS ENDING March 31, 2010  
 HYPOTHETICAL CAPITALIZATION ANALYSIS

	Staff	Average Capitalization	Cost Rate	Weighted Cost Rate	Pre-tax Cost Rate
Long Term Debt	11,182,897	57.64%	6.15%	3.54%	3.54%
Preferred Stock	213,414	1.10%	5.34%	0.06%	0.10%
Customer Deposits	252,217	1.30%	3.75%	0.05%	0.05%
Common Equity	7,752,751	39.96%	9.99%	3.99%	6.61%
<b>Total</b>	<b>19,401,278</b>	<b>100.00%</b>		<b>7.64%</b>	<b>10.30%</b>
Co.s Est Rate Base	14,494,027				
PT ROR \$:	<b>1,493,147</b>				
(Int, NI, FIT, SIT)					
Capital Only	1,107,975				
Taxes	385,172				
Common Equity Adj:					
Kd	5.85%		6.15%		
Ke	9.50%		<b>9.99%</b>		
Ratio	162.39%				
Staff's Pre-tax ROR Amt\$:	<b>1,535,670</b>				
(3 notches higher credit rating)					
Net Savings	42,523				

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
 PRE-TAX RATE OF RETURN REQUIRED FOR THE RATE YEAR  
 TWELVE MONTHS ENDING March 31, 2010

	Staff	Average Capitalization	Cost Rate	Weighted Cost Rate	Pre-tax Cost Rate
Long Term Debt	9,630,769	49.64%	5.85%	2.90%	2.90%
Preferred Stock	212,563	1.10%	5.34%	0.06%	0.10%
Customer Deposits	252,769	1.30%	3.75%	0.05%	0.05%
Common Equity	9,305,177	47.96%	9.50%	4.56%	7.55%
Total	19,401,278	100.00%		7.57%	10.60%
Co.s Est Rate Base		14,494,027			
PT ROR \$:		1,535,670			
(Int, NI, FIT,SIT)		1,096,858			
Capital Only		438,812			
Taxes					

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
 PRE-TAX RATE OF RETURN REQUIRED FOR THE RATE YEAR  
 TWELVE MONTHS ENDING March 31, 2010  
 HYPOTHETICAL HISTORICAL TEST PERIOD ANALYSIS

	Staff	Average Capitalization	Cost Rate	Weighted Cost Rate	Pre-tax Cost Rate
Long Term Debt	9,630,769	49.64%	5.85%	2.90%	2.90%
Preferred Stock	212,563	1.10%	5.34%	0.06%	0.10%
Customer Deposits	252,769	1.30%	3.75%	0.05%	0.05%
Common Equity	<u>9,305,177</u>	47.96%	<b>10.33%</b>	<u>4.95%</u>	<u>8.20%</u>
Total	19,401,278	<u>100.00%</u>		<u>7.97%</u>	<u>11.25%</u>

Co.s Est Rate Base\*  
 (Hyp. Beg of Rate Year)  
 PT ROR \$: 13,644,027  
**1,535,558**

\* Co estimates avg RB will incr by \$1.7B on avg next 3 rate years - therefore, beg of pd reduced by 1/2 or \$850M

**CASE 08-E-0539**  
**Exhibit \_\_ (FP-4)**

### Staff Proxy Group Characteristics

Company	Parent Company Rating		S&P Business Profile <sup>1</sup>	Score	S&P Financial Profile <sup>1</sup>	Score	Regulated Revenue (%) <sup>3</sup>	Equity Ratio <sup>4</sup>
	S&P <sup>1</sup>	Moody's <sup>2</sup>						
1. ALLETE	BBB+	Baa1	Strong	2	Intermediate	3	86.0%	59.00%
2. Alliant Energy Corp. <sup>5</sup>	BBB+	Baa1	Excellent	1	Aggressive	4	90.5%	58.50%
3. Ameren Corp.	BBB-	Baa2	Satisfactory	3	Aggressive	4	83.8%	49.00%
4. American Electric Power	BBB	Baa2	Excellent	1	Aggressive	4	90.4%	40.50%
5. Avista Corp.	BBB-	Baa3	Strong	2	Aggressive	4	90.9%	50.50%
6. Cleco Corp.	BBB	Baa3	Strong	2	Aggressive	4	96.4%	51.00%
7. Consolidated Edison	A-	A2	Excellent	1	Intermediate	3	82.5%	49.50%
8. DPL Inc.	BBB	Baa2	Excellent	1	Aggressive	4	79.6%	42.00%
9. DTE Energy Co.	BBB	Baa2	Excellent	1	Aggressive	4	79.6%	45.50%
10. Duke Energy Corp.	A-	Baa2	Excellent	1	Intermediate	3	76.2%	64.50%
11. Edison International	BBB-	Baa2	Strong	2	Aggressive	4	79.9%	46.50%
12. Empire District Electric	BBB-	Baa2	Strong	2	Aggressive	4	99.3%	50.00%
13. Entergy Corp.	BBB	Baa3	Strong	2	Aggressive	4	80.6%	44.00%
14. FirstEnergy Corp.	BBB	Baa3	Strong	2	Aggressive	4	88.3%	51.00%
15. FPL Group, Inc.	A	A2	Excellent	1	Intermediate	3	76.1%	49.50%
16. Hawaiian Electric Industries Inc.	BBB	Baa1	Strong	2	Aggressive	4	83.0%	50.50%
17. IDACORP, Inc.	BBB	Baa2	Strong	2	Aggressive	4	93.6%	50.00%
18. MGE Energy Inc. <sup>6</sup>	AA-	Aa3	Excellent	1	Modest	2	99.0%	65.00%
19. NiSource Inc.	BBB	Baa3	Excellent	1	Aggressive	4	86.8%	45.00%
20. Northeast Utilities	BBB	Baa2	Excellent	1	Aggressive	4	98.6%	44.00%
21. NSTAR	A+	A2	Excellent	1	Intermediate	3	95.8%	39.50%
22. PG&E Corp.	BBB+	Baa1	Excellent	1	Intermediate	3	100.0%	50.50%
23. Pinnacle West Capital Corp.	BBB-	Baa3	Strong	2	Aggressive	4	82.8%	51.50%
24. Portland General Electric	BBB+	Baa2	Strong	2	Intermediate	3	84.2%	46.50%
25. Progress Energy	BBB+	Baa2	Excellent	1	Aggressive	4	83.8%	46.50%
26. Public Service Enterprise Group	BBB-	Baa2	Excellent	1	Aggressive	4	92.6%	49.00%
27. Southern Co.	A	A3	Excellent	1	Intermediate	3	98.6%	44.50%
28. TECO Energy, Inc.	BBB-	Baa3	Excellent	1	Aggressive	4	78.8%	38.50%
29. Vectren Corp. <sup>7</sup>	A-	Baa1	Excellent	1	Intermediate	3	77.1%	51.00%
30. Wisconsin Energy Corp.	BBB+	A3	Excellent	1	Aggressive	4	99.7%	48.00%
31. Xcel Energy, Inc.	BBB+	Baa1	Excellent	1	Aggressive	4	99.3%	46.50%

**Staff Proxy Group Average:** 1.4 3.6 88.2% 48.95%

<sup>1</sup>Source: U.S. Electric Utility Companies, Strongest To Weakest, July 3, 2008.

<sup>2</sup>Source: Moody's, Credit Opinion or Rating Action, accessed July 24, 2008.

<sup>3</sup>Source: Accessed 10-K report and annual reports for the period ending December 31, 2007.

<sup>4</sup>Source: Value Line Investment Survey's 2008 estimate from May 9 2008, May 30 2008 and June 27 2008 publications.

<sup>5</sup>The Moody's rating for Alliant Energy Corp. is for Interstate Power and Light Company.

<sup>6</sup>The Moody's rating for MGE Energy Inc. is for Madison Gas and Electric Company.

<sup>7</sup>The Moody's rating for Vectren Corp. is for Southern Indiana Gas & Electric Company.

**Staff Proxy Group**  
**Average S&P and Moody's Debt Rating**

Electric Utility Holding Co.	RATINGS		Score <sup>(See Legend)</sup>	
	S&P <sup>1</sup>	Moody's <sup>2</sup>	S&P	Moody's
1. ALLETE	BBB+	Baa1	8	8
2. Alliant Energy Corp. <sup>3</sup>	BBB+	Baa1	8	8
3. Ameren Corp.	BBB-	Baa2	10	9
4. American Electric Power	BBB	Baa2	9	9
5. Avista Corp.	BBB-	Baa3	10	10
6. Cleco Corp.	BBB	Baa3	9	10
7. Consolidated Edison	A-	A2	7	6
8. DPL Inc.	BBB	Baa2	9	9
9. DTE Energy Co.	BBB	Baa2	9	9
10. Duke Energy Corp.	A-	Baa2	7	9
11. Edison International	BBB-	Baa2	10	9
12. Empire District Electric	BBB-	Baa2	10	9
13. Entergy Corp.	BBB	Baa3	9	10
14. FirstEnergy Corp.	BBB	Baa3	9	10
15. FPL Group, Inc.	A	A2	6	6
16. Hawaiian Electric Industries, Inc.	BBB	Baa1	9	8
17. IDACORP, Inc.	BBB	Baa2	9	9
18. MGE Energy Inc. <sup>4</sup>	AA-	Aa3	4	4
19. NiSource Inc.	BBB	Baa3	9	10
20. Northeast Utilities	BBB	Baa2	9	9
21. NSTAR	A+	A2	5	6
22. PG&E Corp.	BBB+	Baa1	8	8
23. Pinnacle West Capital	BBB-	Baa3	10	10
24. Portland General Electric	BBB+	Baa2	8	9
25. Progress Energy	BBB+	Baa2	8	9
26. Public Service Enterprise Group	BBB-	Baa2	10	9
27. Southern Co.	A	A3	6	7
28. Teco Energy, Inc.	BBB-	Baa3	10	10
29. Vectren Corp. <sup>5</sup>	A-	Baa1	7	8
30. Wisconsin Energy Corp.	BBB+	A3	8	7
31. Xcel Energy, Inc.	BBB+	Baa1	8	8
<b>Average:</b>			<b>8.33</b>	<b>8.47</b>

<sup>1</sup> Source: U.S. Electric Utility Companies, Strongest To Weakest, July 3, 2008.

<sup>2</sup> Source: Moody's, Credit Opinion or Rating Action, accessed July 24, 2008.

<sup>3</sup> The Moody's rating for Alliant Energy Corp. is for Interstate Power and Light Company.

<sup>4</sup> The Moody's rating for MGE Energy Inc. is for Madison Gas and Electric Company.

<sup>5</sup> The Moody's rating for Vectren Corp. is for Southern Indiana Gas & Electric Company.

**LEGEND:**

S&P	Moody's	Score
AAA	Aaa	1
AA+	Aa1	2
AA	Aa2	3
AA-	Aa3	4
A+	A1	5
A	A2	6
A-	A3	7
BBB+	Baa1	8
BBB	Baa2	9
BBB-	Baa3	10

**CASE 08-E-0539**  
**Exhibit \_\_ (FP-5)**



**CASE 08-E-0539**  
**Exhibit \_\_ (FP-6)**

## Calculation of Electric ROE - DCF Method

(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
Company <sup>1</sup>	Beta <sup>2</sup>	1/08 - 6/08 Price <sup>3</sup>	EPS 2011-13	DPS 2008	DPS 2009	DPS 2011-13	BPS 2008	BPS 2009	BPS 2011-13	# of Shares 2008	# of Shares 2011-2013
1. ALLETE	0.90	\$ 39.82	\$ 3.25	\$ 1.72	\$ 1.80	\$ 2.00	\$ 25.60	\$ 27.10	\$ 32.50	32.30	36.50
2. Alliant Energy Corp.	0.80	36.70	3.30	1.40	1.53	1.92	25.75	27.15	31.95	111.00	119.00
3. Ameren Corp.	0.80	45.06	3.55	2.54	2.54	2.54	33.20	34.05	37.40	210.00	222.00
4. American Electric Power	0.85	42.97	4.25	1.67	1.80	2.40	27.35	29.20	35.00	404.00	415.00
5. Avista Corp.	0.95	20.24	1.75	0.68	0.78	1.20	18.00	18.85	20.75	54.00	56.50
6. Cleco Corp.	1.00	24.25	2.50	0.90	0.90	1.50	17.75	18.75	21.75	61.00	65.00
7. Consolidated Edison	0.75	42.02	3.55	2.34	2.36	2.42	34.35	35.30	38.65	280.00	288.00
8. DPL Inc.	0.80	27.21	2.35	1.10	1.16	1.34	8.40	9.45	12.50	112.00	112.00
9. DTE Energy Co.	0.80	41.89	3.75	2.12	2.12	2.30	36.70	37.80	41.75	163.25	163.25
10. Duke Energy Corp.	NMF	18.31	1.50	0.90	0.94	1.06	17.20	17.65	19.00	1,262.00	1,285.00
11. Edison International	0.85	51.30	4.50	1.24	1.34	1.64	28.45	31.10	39.45	326.00	326.00
12. Empire District Electric	0.85	20.93	2.00	1.28	1.28	1.40	16.70	16.95	18.25	37.00	37.50
13. Entergy Corp.	0.85	112.86	9.00	3.20	3.60	4.80	42.20	48.00	62.25	187.00	199.00
14. FirstEnergy	0.80	73.71	6.75	2.25	2.45	3.05	31.50	34.15	44.25	304.85	304.85
15. FPL Group, Inc.	0.80	64.65	5.10	1.78	1.92	2.34	28.30	30.95	39.65	412.00	428.00
16. Hawaiian Electric	0.70	23.99	1.75	1.24	1.24	1.24	15.35	15.60	16.75	85.50	87.50
17. IDACORP, Inc.	0.90	31.57	2.35	1.20	1.20	1.20	27.20	27.65	29.40	46.40	51.60
18. MGE Energy Inc.	0.95	33.77	2.75	1.43	1.45	1.50	19.80	20.65	21.05	23.00	25.00
19. NiSource Inc.	0.90	17.94	1.50	0.92	0.92	1.00	18.45	18.80	20.25	275.50	277.50
20. Northeast Utilities	0.75	26.68	2.40	0.83	0.88	1.03	19.75	21.55	25.80	158.20	192.00
21. NSTAR	0.80	32.38	3.00	1.43	1.53	1.85	16.80	17.60	20.75	106.81	106.81
22. PG&E Corp.	0.80	39.80	3.50	1.56	1.68	2.04	24.10	25.70	28.95	381.00	393.00
23. Pinnacle West Capital	0.80	35.77	3.05	2.12	2.20	2.58	35.55	36.00	37.50	100.70	107.00
24. Portland General Electric	0.85	23.86	2.25	0.99	1.08	1.35	21.90	22.85	25.50	62.55	73.00
25. Progress Energy	0.80	43.21	3.40	2.47	2.49	2.55	33.05	33.30	35.75	264.00	280.00
26. Public Service Enterprise	0.90	56.66	3.45	1.29	1.41	1.65	16.10	18.00	23.75	510.00	518.00
27. Southern Co.	0.70	36.32	3.00	1.66	1.73	2.00	17.30	18.45	21.75	777.00	815.00
28. Teco Energy, Inc.	0.95	17.29	1.50	0.80	0.82	0.90	9.75	10.20	12.00	212.00	216.00
29. Vectren Corp.	0.90	28.02	2.05	1.31	1.35	1.47	17.45	18.00	19.30	81.00	81.80
30. Wisconsin Energy	0.80	45.95	4.25	1.08	1.24	1.60	27.95	29.65	36.00	117.00	117.00
31. Xcel Energy, Inc.	0.75	20.77	2.00	0.95	0.99	1.15	15.30	15.90	18.25	430.00	438.00
	<b>Median:</b>										

Sources:

<sup>1</sup>Value Line Investment Survey, Electric Industry Central, June 27, 2008.

Value Line Investment Survey, Electric Industry East, May 30, 2008.

Value Line Investment Survey, Electric Industry West, May 9, 2008.

<sup>2</sup>Beta data is from Value Line Investment Survey.

<sup>3</sup>Historical price data is from Yahoo.com

# Calculation of Electric RC Calculation of Electric ROE - DCF Method

(B) Company <sup>1</sup>	(N) DPS Growth 2011-13	(O) Retention Rate 2012	(P) Return on Equity 2012	(Q) B x R	(R) Increase in Shares	(S) MBR 2007	(T) S Factor	(U) V Factor	(V) S x V	(W) Sustainable Growth	(X) Long-Form ROE
1. ALLETE	3.57	0.38	10.30	3.96	3.10	1.56	4.83	0.36	1.72	5.69	9.86%
2. Alliant Energy Corp.	7.86	0.42	10.61	4.44	1.76	1.43	2.50	0.30	0.75	5.18	9.46%
3. Ameren Corp.	0.00	0.28	9.64	2.74	1.40	1.36	1.90	0.26	0.50	3.24	8.41%
4. American Electric Power	10.06	0.44	12.51	5.45	0.67	1.57	1.06	0.36	0.38	5.83	10.33%
5. Avista Corp	15.44	0.31	8.57	2.69	1.14	1.12	1.28	0.11	0.14	2.83	7.80%
6. Cleco Corp.	18.56	0.40	11.78	4.71	1.60	1.37	2.19	0.27	0.59	5.30	10.45%
7. Consolidated Edison	0.84	0.32	9.32	2.97	0.71	1.22	0.86	0.18	0.16	3.13	8.39%
8. DPL Inc.	4.93	0.43	19.68	8.46	0.00	3.24	0.00	0.69	0.00	8.46	12.24%
9. DTE Energy Co.	2.75	0.39	9.13	3.53	0.00	1.14	0.00	0.12	0.00	3.53	8.49%
10. Duke Energy Corp.	4.09	0.29	7.99	2.34	0.45	1.06	0.48	0.06	0.03	2.37	7.63%
11. Edison International	6.97	0.64	11.86	7.54	0.00	1.80	0.00	0.45	0.00	7.54	9.99%
12. Empire District Electric	3.03	0.30	11.09	3.33	0.34	1.25	0.42	0.20	0.09	3.41	9.47%
13. Entergy Corp.	10.06	0.47	15.08	7.04	1.57	2.67	4.19	0.63	2.62	9.66	12.69%
14. FirstEnergy	7.57	0.55	15.91	8.72	0.00	2.34	0.00	0.57	0.00	8.72	11.80%
15. FPL Group, Inc.	6.82	0.54	13.39	7.25	0.96	2.28	2.19	0.56	1.23	8.48	11.20%
16. Hawaiian Electric	0.00	0.29	10.57	3.08	0.58	1.56	0.91	0.36	0.33	3.41	8.12%
17. IDACORP, Inc.	0.00	0.49	8.07	3.95	2.69	1.16	3.12	0.14	0.43	4.38	7.75%
18. MGE Energy Inc.	1.14	0.45	13.11	5.96	2.11	1.71	3.59	0.41	1.49	7.44	11.04%
19. NiSource Inc.	2.82	0.33	7.50	2.50	0.18	0.97	0.18	(0.03)	(0.01)	2.49	7.67%
20. Northeast Utilities	5.39	0.57	9.58	5.47	4.96	1.35	6.70	0.26	1.74	7.21	10.25%
21. NSTAR	6.54	0.38	14.85	5.69	0.00	1.93	0.00	0.48	0.00	5.69	10.37%
22. PG&E Corp.	6.69	0.42	12.33	5.14	0.78	1.65	1.29	0.39	0.51	5.65	9.83%
23. Pinnacle West Capital	5.45	0.15	8.19	1.26	1.53	1.01	1.54	0.01	0.01	1.27	7.99%
24. Portland General Electric	7.72	0.40	8.98	3.59	3.94	1.09	4.29	0.08	0.35	3.95	8.73%
25. Progress Energy	0.80	0.25	9.62	2.41	1.48	1.31	1.94	0.24	0.46	2.86	8.29%
26. Public Service Enterprise	5.38	0.52	15.20	7.93	0.39	3.52	1.37	0.72	0.98	8.91	11.03%
27. Southern Co.	4.95	0.33	14.17	4.72	1.20	2.10	2.52	0.52	1.32	6.04	10.58%
28. Teco Energy, Inc.	3.15	0.40	12.84	5.14	0.47	1.77	0.83	0.44	0.36	5.50	9.90%
29. Vectren Corp.	2.88	0.28	10.75	3.04	0.25	1.61	0.39	0.38	0.15	3.19	7.90%
30. Wisconsin Energy	8.87	0.62	12.19	7.60	0.00	1.64	0.00	0.39	0.00	7.60	10.19%
31. Xcel Energy, Inc.	5.12	0.43	11.21	4.76	0.46	1.36	0.63	0.26	0.16	4.93	9.62%

Median:

Median Result: 5.30 9.83%

**Calculation of GFC Cost of Equity - Staff Proxy Group**

Merrill Lynch Cost of Market<sup>1</sup>: 11.50%

Treasury Rates<sup>2</sup>  
 10 year      30 year

Jan-08	3.74%	4.33%
Feb-08	3.74%	4.52%
Mar-08	3.51%	4.39%
Apr-08	3.68%	4.44%
May-08	3.88%	4.60%
Jun-08	4.10%	4.69%

Risk Free Rate (1/08 - 6/08) 4.14%

Proxy Group Beta 0.80

Proxy Group DCF ROE 9.83%

Traditional CAPM ROE 10.03%

Zero Beta CAPM ROE 10.40%

Generic CAPM ROE 10.22%

2/3 DCF 1/3 CAPM Weighting  
 Return on Equity 9.96%

Credit Quality Adjustment -0.49%

Issuance Expense Adjustment 0.04%

**RECOMMENDED ROE (Unrounded) 9.51%**

Sources:

<sup>1</sup>Merrill Lynch, *Quantitative Profiles*, August 11, 2008; figure is average of Implied and Required Returns

<sup>2</sup>Federal Reserve Statistical Release, FRB: Federal Reserve Statistical Release H.15 - Historical Data

**CASE 08-E-0539**  
**Exhibit \_\_ (FP-7)**

## Staff Bond Yield Analysis and Credit Quality Adjustment

### Moody's Long-Term Corporate Bond Yield Averages (Seasoned Utility Bonds, 20Yr +)

Month	Aa	A	Baa
January	5.87%	6.02%	6.35%
February	6.04%	6.21%	6.60%
March	5.99%	6.21%	6.68%
April	5.99%	6.29%	6.81%
May	6.07%	6.27%	6.79%
June	6.19%	6.38%	6.93%
<b>6 Mo. Avg:</b>	6.03%	6.23%	6.69%

**Avg Spread**

<u>Aa vs A</u>	<u>A vs Baa</u>
0.21%	0.46%

Rating Scales		6 Mo Avg Yield
Moody's	S&P	
Aaa1	AAA+	
Aaa2	AAA	
Aaa3	AAA-	
Aa1	AA+	
Aa2	AA	6.03%
Aa3	AA-	6.09%
A1	A+	6.16%
A2	A	6.23%
A3	A-	6.38%
Baa1	BBB+	6.54%
Baa2	BBB	6.69%
Baa3	BBB-	<u>-0.33%</u>

**Implied Yields For:**  
Con Edison

Proxy group

**Implied Credit Quality Adjustment  
for Con Ed Debtholders**

Con Edison is rated "A1" by Moody's  
Con Edison is rated "A-" by S&P  
Proxy Group average bond ratings calculated on FP-7

Proxy Group Cost of Equity **9.96%**

Ratio of Proxy Group Cost of Equity to  
Proxy Group debt cost: 150.94%

**Implied Credit Quality Adjustment for  
Con Edison Common Equity Investors: -0.49%**

**CASE 08-E-0539**  
**Exhibit \_\_ (FP-8)**

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November 30, 2007

## U.S. Utilities Ratings Analysis Now Portrayed In The S&P Corporate Ratings Matrix

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# U.S. Utilities Ratings Analysis Now Portrayed In The S&P Corporate Ratings Matrix

The electric, gas, and water utility ratings ranking lists published today by Standard & Poor's U.S. Utilities & Infrastructure Ratings practice are categorized under the business risk/financial risk matrix used by the Corporate Ratings group. This is designed to present our rating conclusions in a clear and standardized manner across all corporate sectors. Incorporating utility ratings into a shared framework to communicate the fundamental credit analysis of a company furthers the goals of transparency and comparability in the ratings process. Table 1 shows the matrix.

**Table 1**

<b>Business Risk/Financial Risk</b>					
<b>Business Risk Profile</b>	<b>Financial Risk Profile</b>				
	<b>Minimal</b>	<b>Modest</b>	<b>Intermediate</b>	<b>Aggressive</b>	<b>Highly leveraged</b>
Excellent	AAA	AA	A	BBB	BB
Strong	AA	A	A-	BBB-	BB-
Satisfactory	A	BBB+	BBB	BB+	B+
Weak	BBB	BBB-	BB+	BB-	B
Vulnerable	BB	B+	B+	B	B-

The utilities rating methodology remains unchanged, and the use of the corporate risk matrix has not resulted in any changes to ratings or outlooks. The same five factors that we analyzed to produce a business risk score in the familiar 10-point scale are used in determining whether a utility possesses an "Excellent," "Strong," "Satisfactory," "Weak," or "Vulnerable" business risk profile:

- Regulation,
- Markets,
- Operations,
- Competitiveness, and
- Management.

Regulated utilities and holding companies that are utility-focused virtually always fall in the upper range ("Excellent" or "Strong") of business risk profiles. The defining characteristics of most utilities--a legally defined service territory generally free of significant competition, the provision of an essential or near-essential service, and the presence of regulators that have an abiding interest in supporting a healthy utility financial profile--underpin the business risk profiles of the electric, gas, and water utilities.

As the matrix concisely illustrates, the business risk profile loosely determines the level of financial risk appropriate for any given rating. Financial risk is analyzed both qualitatively and quantitatively, mainly with financial ratios and other metrics that are calculated after various analytical adjustments are performed on financial statements prepared under GAAP. Financial risk is assessed for utilities using, in part, the indicative ratio ranges in table 2.

*U.S. Utilities Ratings Analysis Now Portrayed In The S&P Corporate Ratings Matrix*

**Table 2**

<b>Financial Risk Indicative Ratios - U.S. Utilities</b>			
<b>(Fully adjusted, historically demonstrated, and expected to consistently continue)</b>			
	<b>Cash flow</b>		<b>Debt leverage</b>
	<b>(FFO/debt) (%)</b>	<b>(FFO/interest) (x)</b>	<b>(Total debt/capital) (%)</b>
Modest	40 - 60	4.0 - 6.0	25 - 40
Intermediate	25 - 45	3.0 - 4.5	35 - 50
Aggressive	10 - 30	2.0 - 3.5	45 - 60
Highly leveraged	Below 15	2.5 or less	Over 50

The indicative ranges for utilities differ somewhat from the guidelines used for their unregulated counterparts because of several factors that distinguish the financial policy and profile of regulated entities. Utilities tend to finance with long-maturity capital and fixed rates. Financial performance is typically more uniform over time, avoiding the volatility of unregulated industrial entities. Also, utilities fare comparatively well in many of the less-quantitative aspects of financial risk. Financial flexibility is generally quite robust, given good access to capital, ample short-term liquidity, and the like. Utilities that exhibit such favorable credit characteristics will often see ratings based on the more accommodative end of the indicative ratio ranges, especially when the company's business risk profile is solidly within its category. Conversely, a utility that follows an atypical financial policy or manages its balance sheet less conservatively, or falls along the lower end of its business risk designation, would have to demonstrate an ability to achieve financial metrics along the more stringent end of the ratio ranges to reach a given rating.

Note that even after we assign a company a business risk and financial risk, the committee does not arrive by rote at a rating based on the matrix. The matrix is a guide--it is not intended to convey precision in the ratings process or reduce the decision to plotting intersections on a graph. Many small positives and negatives that affect credit quality can lead a committee to a different conclusion than what is indicated in the matrix. Most outcomes will fall within one notch on either side of the indicated rating. Larger exceptions for utilities would typically involve the influence of related unregulated entities or extraordinary disruptions in the regulatory environment.

We will use the matrix, the ranking list, and individual company reports to communicate the relative position of a company within its business risk peer group and the other factors that produce the ratings.

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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-9)**

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June 2, 2004

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

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New Business Profile Scores and Revised Financial Guidelines

Results

Business Profile Score Methodology

Appendix: U.S. Utility and Power Company Ranking List

# 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 coverage 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 simultaneous 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.

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

**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 profile scores, as of the date of this publication, are shown in Chart 1. The overall median business profile score is now '5'.

**Chart 1**

**Chart 1  
Distribution of Business Profile Scores**

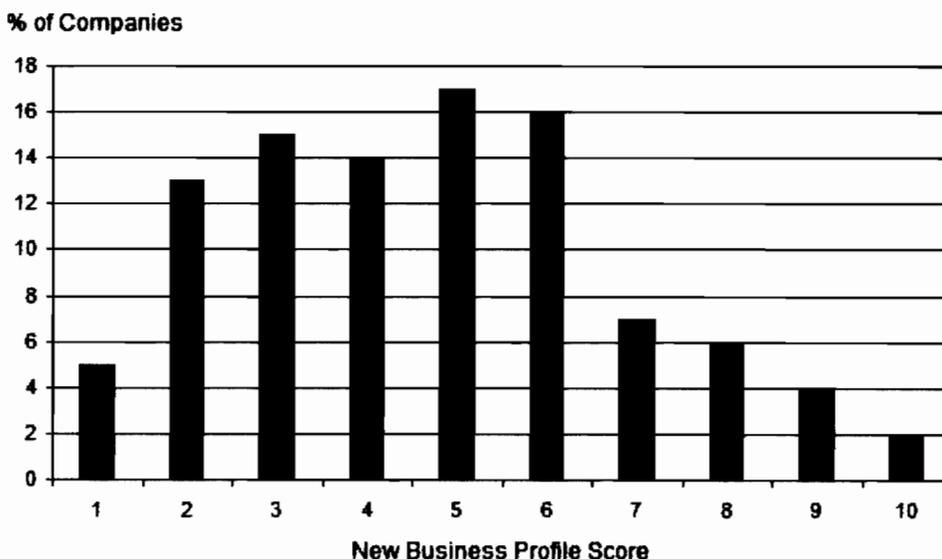


Table 1 contains the revised financial guidelines. It is important to emphasize that these metrics are only guidelines associated with expectations for various rating levels. Although credit ratio analysis is an important part of the ratings process, these three statistics are by no means the only critical 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.

**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

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

**Table 1**

<b>Revised Financial Guidelines (cont.)</b>								
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
<b>Funds from operation/total debt (%)</b>								
<b>Business Profile</b>	<b>AA</b>		<b>A</b>		<b>BBB</b>		<b>BB</b>	
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
<b>Total debt/total capital (%)</b>								
<b>Business Profile</b>	<b>AA</b>		<b>A</b>		<b>BBB</b>		<b>BB</b>	
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

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;

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

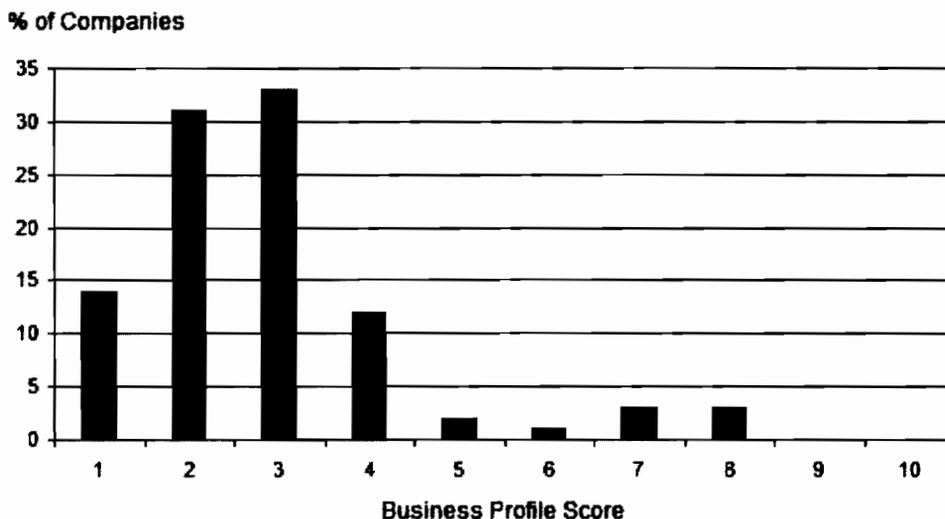
- The record of execution of stated business strategies;
- Accuracy of projected performance versus actual results, as well as the trend;
- Assessment of management's financial policies and attitude toward credit; and
- Corporate governance practices.

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.

**Chart 2**

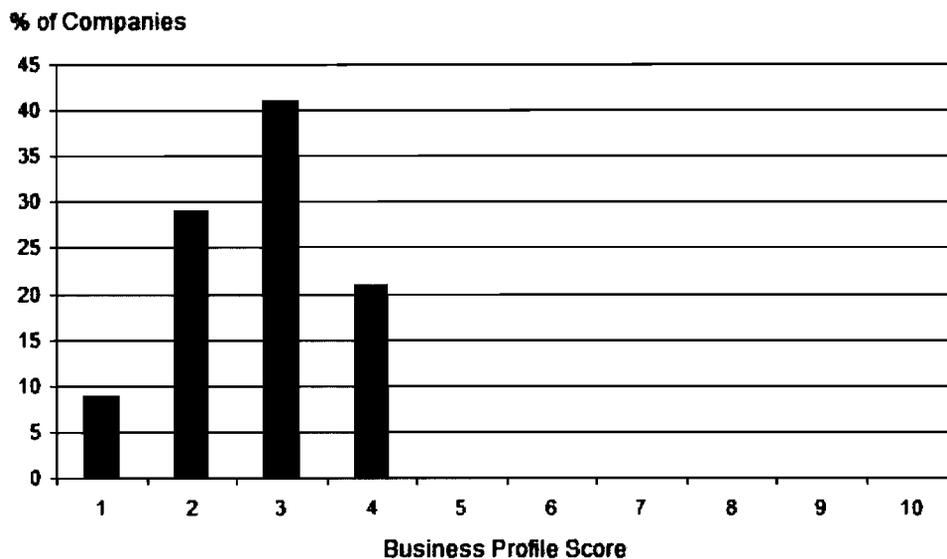
**Chart 2**  
**Transmission and Distribution--Water, Gas, and Electric**



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

Chart 3

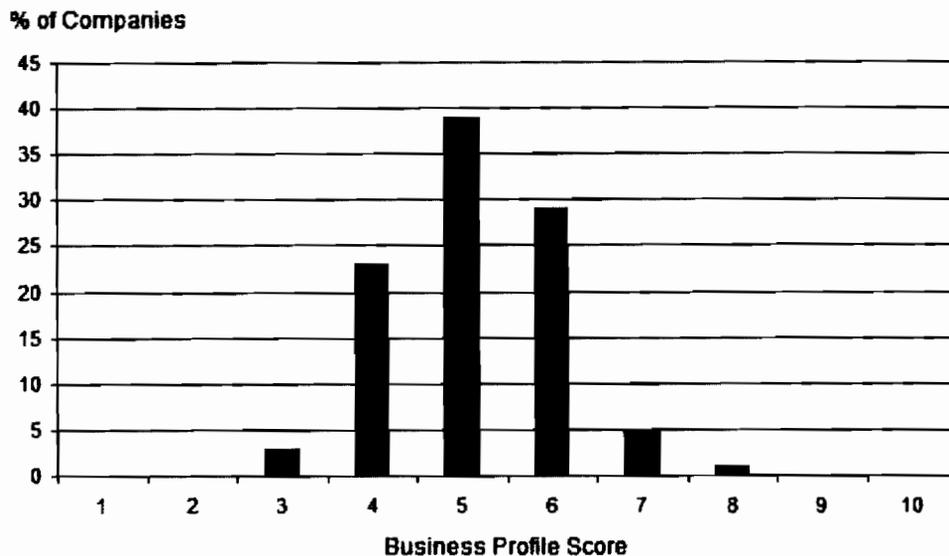
Chart 3  
**Transmission Only--Electric, Gas, and Other**



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

**Chart 4**

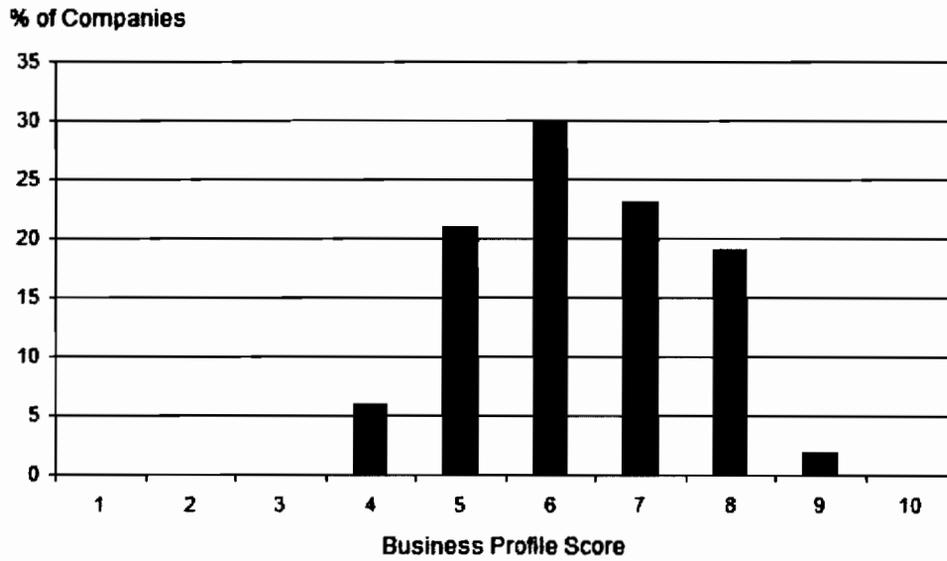
**Chart 4**  
**Integrated Electric, Gas, and Combination Utilities**



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

Chart 5

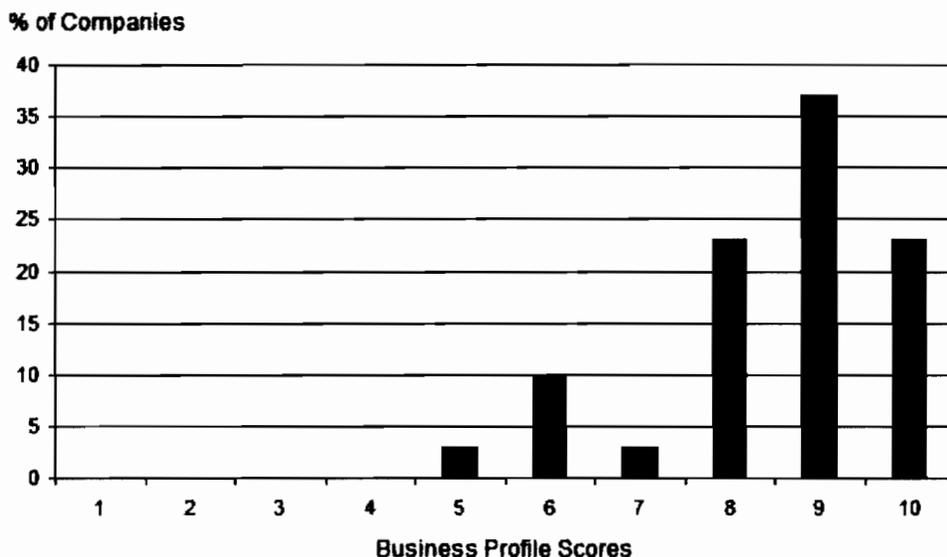
Chart 5  
**Diversified Energy and Diversified Non-Energy**



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

Chart 6

**Chart 6**  
**Energy Merchant/Developers/Trading and Marketing**



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.

The Appendix provides the company 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 dominant strategy of the company or other factors. For example, for a regulated transmission and distribution

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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.

## Appendix: U.S. Utility and Power Company Ranking List

U.S. Utility and Power Company Ranking List		
Company	Corporate Credit Rating	Business Profile
<b>1. Regulated Transmission and Distribution - Electric, Gas, and Water</b>		
Baton Rouge Water Works Co. (The)	AA/Stable/--	1
Nicor Gas Co.	AA/Stable/A-1+	2
Nicor Inc.	AA/Stable/A-1+	3
Washington Gas Light Co.	AA-/Stable/A-1+	2
WGL Holdings Inc.	AA-/Stable/A-1+	3
New Jersey Natural Gas Co.	A+/Stable/A-1	1
Aqua Pennsylvania	A+/Stable/--	2
KeySpan Energy Delivery Long Island	A+/Negative/--	1
KeySpan Energy Delivery New York	A+/Negative/--	1
Elizabethtown Water Co.	A+/Negative/--	2
California Water Service Co.	A+/Negative/--	3
Questar Gas Co.	A+/Negative/--	3
Southern California Gas Co.	A/Stable/A-1	1
Boston Edison Co.	A/Stable/A-1	1
Commonwealth Electric Co.	A/Stable/--	1
Cambridge Electric Light Co.	A/Stable/--	1
NSTAR	A/Stable/A-1	1
Massachusetts Electric Co.	A/Stable/A-1	1
Narragansett Electric Co.	A/Stable/A-1	1
Northwest Natural Gas Co.	A/Stable/A-1	1
Connecticut Water Service Inc.	A/Stable/ --	2
Connecticut Water Co. (The)	A/Stable/ --	2

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

<b>U.S. Utility and Power Company Ranking List (cont.)</b>		
Aquarion Co.	A/Stable/--	2
Aquarion Water Co. of Connecticut	A/Stable/--	2
NSTAR Gas Co.	A/Stable/--	2
Piedmont Natural Gas Co. Inc.	A/Stable/A-1	2
National Grid USA	A/Stable/A-1	2
Consolidated Edison Co. of New York Inc.	A/Stable/A-1	2
Orange and Rockland Utilities Inc.	A/Stable/A-1	2
Rockland Electric Co.	A/Stable/--	2
Consolidated Edison Inc.	A/Stable/A-1	2
Laclede Gas Co.	A/Stable/A-1	3
Laclede Group Inc.	A/Stable/--	3
Atlantic City Sewerage Co.	A/Stable/--	3
Niagara Mohawk Power Corp.	A/Stable/--	3
Central Hudson Gas & Electric Co.	A/Stable/--	3
American Water Capital Corp.	A/Negative/	2
Boston Gas Co.	A/Negative/--	2
Colonial Gas Co.	A/Negative/--	2
Middlesex Water Co.	A/Negative/--	3
York Water Co. (The)	A-/Stable/--	2
Alabama Gas Corp.	A-/Stable/--	2
Atlanta Gas Light Co.	A-/Stable/--	2
Public Service Co. of North Carolina Inc.	A-/Stable/A-2	2
Wisconsin Gas Co.	A-/Stable/A-2	2
North Shore Gas Co.	A-/Stable/A-2	2
Peoples Gas Light & Coke Co.	A-/Stable/A-2	2
ONEOK Inc.	A-/Stable/A-2	6
Indiana Gas Co. Inc.	A-/Negative/--	1
Southern California Water Co.	A-/Negative/--	3
American States Water Co.	A-/Negative/--	3
United Water New Jersey	A-/Negative/--	4
United Waterworks	A-/Negative/--	4
PPL Electric Utilities Corp.	A-/Negative/--	4
Commonwealth Edison Co.	A-/Negative/A-2	4
PECO Energy Co.	A-/Negative/A-2	4
Central Illinois Public Service Co.	A-/CW-Neg/--	3
Western Massachusetts Electric Co.	BBB+/Stable/--	1
Cascade Natural Gas Corp.	BBB+/Stable/--	2
South Jersey Gas Co.	BBB+/Stable/--	2
Baltimore Gas & Electric Co.	BBB+/Stable/A-2	3
Connecticut Natural Gas Corp.	BBB+/Negative/--	3
Southern Connecticut Gas Co.	BBB+/Negative/--	3
Central Maine Power Co.	BBB+/Negative/--	3
Atlantic City Electric Co.	BBB+/Negative/A-2	3

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

<b>U.S. Utility and Power Company Ranking List (cont.)</b>		
Potomac Electric Power Co.	BBB+/Negative/A-2	3
Delmarva Power & Light Co.	BBB+/Negative/A-2	3
Yankee Gas Services Co.	BBB+/Negative/--	3
Connecticut Light & Power Co.	BBB+/Negative/--	3
UGI Utilities Inc.	BBB+/Negative/--	4
Bay State Gas Co.	BBB/Stable/--	2
AEP Texas Central Co.	BBB/Stable/--	2
AEP Texas North Co.	BBB/Stable/--	2
Southwest Gas Corp.	BBB-/Stable/--	3
Columbus Southern Power Co.	BBB/Stable/--	3
Ohio Power Co.	BBB/Stable/--	3
Public Service Electric & Gas Co.	BBB/Stable/A-2	3
Oncor Electric Delivery Co.	BBB/Negative/--	2
Southern Union Co.	BBB/Negative/--	3
Centerpoint Energy Houston Electric LLC	BBB/Negative/--	3
CenterPoint Energy Resources Corp.	BBB/Negative/--	3
Duquesne Light Co.	BBB/Negative/	4
Duquesne Light Holdings Inc.	BBB/Negative/--	5
TXU Gas Co.	BBB/CW-Dev/--	3
Jersey Central Power & Light Co.	BBB-/Stable/--	4
Metropolitan Edison Co.	BBB-/Stable/--	4
Pennsylvania Electric Co.	BBB-/Stable/--	4
Texas-New Mexico Power Co.	BB+/Stable/--	4
AmeriGas Partners L.P.	BB+/Stable/--	7
NUI Utilities Inc.	BB/CW-Dev/--	4
Suburban Propane Partners L.P.	BB-/Stable/--	8
Star Gas Partners L.P.	BB-/Stable/--	8
SEMCO Energy Inc.	BB-/Negative/--	5
Ferrellgas Partners L.P.	BB-/Negative/--	8
Potomac Edison Co.	B/Stable/--	3
West Penn Power Co.	B/Stable/--	3
Illinova Corp.	B/Negative/--	7
NorthWestern Corp.	D/NM/--	7
<b>2. Transmission Only - Electric, Gas, and Other</b>		
Questar Pipeline Co.	A+/Negative/--	3
Mid-West Independent Transmission System Operator Inc.	A/Stable/--	1
American Transmission Co.	A/Stable/A-1	1
New England Power Co.	A/Stable/A-1	1
Colonial Pipeline Co.	A/Stable/A-1	3
Dixie Pipeline Co.	--/--/A-1	3
Plantation Pipeline Co.	--/--/A-1	3
Explorer Pipeline Co.	A/Stable/A-1	4

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

<b>U.S. Utility and Power Company Ranking List (cont.)</b>		
Northern Natural Gas Co.	A-/Positive/--	2
Buckeye Partners L.P.	A-/Stable/--	4
Kern River Gas Transmission Co.	A-/Negative/--	3
Northern Border Pipeline Co.	A-/CW-Neg/--	2
Texas Gas Transmission LLC	BBB+/Stable/--	3
Iroquois Gas Transmission System L.P.	BBB+/Stable/--	3
Florida Gas Transmission Co.	BBB/Stable/--	2
International Transmission Co.	BBB/Stable	2
ITC Holding Corp.	BBB/Stable	2
Texas Eastern Transmission L.P.	BBB/Stable/--	3
PanEnergy Corp.	BBB/Stable/--	3
TE Products Pipeline Co. L.P.	BBB/Stable/--	4
TEPPCO Partners L.P.	BBB/Stable/--	4
Panhandle Eastern Pipeline LLC	BBB/Negative/--	3
Noark Pipeline Finance LLC	BBB/Negative/--	4
Southern Star Central Gas Pipeline Inc.	BB/Stable/--	3
Transwestern Pipeline Co.	BB/CW-Dev/--	4
Transcontinental Gas Pipe Line Corp.	B+/Negative/--	2
Northwest Pipeline Corp.	B+/Negative/--	2
Colorado Interstate Gas Co.	B-/Negative/--	2
Southern Natural Gas Co.	B-/Negative/--	2
ANR Pipeline Co.	B-/Negative/--	3
Tennessee Gas Pipeline Co.	B-/Negative/--	3
El Paso Tennessee Pipeline Co.	B-/Negative/--	3
El Paso Natural Gas Co.	B-/Negative/--	4
Gas Transmission-Northwest Corp.	CC/CW-Pos/--	2
<b>3. Integrated Electric, Gas, and Combination Utilities</b>		
Wisconsin Public Service Corp.	AA-/Stable/A-1+	4
Madison Gas & Electric Co.	AA/Negative/A-1+	4
Southern Co.	A/Stable/A-1	4
Georgia Power Co.	A/Stable/A-1	4
Alabama Power Co.	A/Stable/A-1	4
Mississippi Power Co.	A/Stable/A-1	4
Gulf Power Co.	A/Stable/--	4
Savannah Electric & Power Co.	A/Stable/--	4
San Diego Gas & Electric Co.	A/Stable/A-1	5
MidAmerican Energy Co.	A/Stable/A-1	5
Questar Corp.	--/--/A-1	6
Equitable Resources Inc.	A/Stable/A-1	6
Florida Power & Light Co.	A/Negative/A-1	4
South Carolina Electric & Gas Co.	A-/Stable/A-2	4
SCANA Corp.	A-/Stable/--	4

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

U.S. Utility and Power Company Ranking List (cont.)		
Wisconsin Electric Power Co.	A-/Stable/A-2	4
AGL Resources Inc.	A-/Stable/A-2	4
Virginia Electric & Power Co. (Dominion Virginia)	A-/Stable/A-2	5
Idaho Power Co.	A-/Stable/A-2	5
IDACORP Inc.	A-/Stable/A-2	5
Energen Corp.	A-/Stable/--	6
Vectren Utility Holdings Inc.	A-/Negative/A-2	3
Wisconsin Power & Light Co.	A-/Negative/A-2	4
Atmos Energy Corp.	A-/Negative/A-2	4
Southern Indiana Gas & Electric Co.	A-/Negative/--	5
Montana-Dakota Utilities Co.	A-/Negative/--	5
PacifiCorp	A-/Negative/A-2	5
Northern Border Partners L.P.	A-/CW-Neg/--	4
Central Illinois Light Co.	A-/CW-Neg/--	5
CILCORP	A-/CW-Neg/--	5
Union Electric Co.	A-/CW-Neg/A-2	5
Ameren Corp.	A-/CW-Neg/A-2	5
Cincinnati Gas & Electric Co.	BBB+/Stable/A2-	4
Oklahoma Gas & Electric Co.	BBB+/Stable/A-2	4
Northern States Power Wisconsin	BBB+/Stable /A-2	5
Kentucky Utilities Co.	BBB+/Stable/A-2	5
Louisville Gas & Electric Co.	BBB+/Stable/A-2	5
Allete Inc.	BBB+/Stable/A-2	5
Wisconsin Energy Corp.	BBB+/Stable/A-2	5
PSI Energy Inc.	BBB+/Stable/A-2	5
Union Light Heat & Power Co.	BBB+/Stable/--	5
Hawaiian Electric Co. Inc.	BBB+/Stable/A-2	6
Enogex Inc.	BBB+/Stable/--	6
National Fuel Gas Co.	BBB+/Stable/A-2	7
Energy East Corp.	BBB+/Negative/--A2	3
RGS Energy Group Inc.	BBB+/Negative/--	4
Rochester Gas & Electric Corp.	BBB+/Negative/--	4
Michigan Consolidated Gas Co.	BBB+/Negative/A-2	4
Interstate Power & Light Co.	BBB+/Negative/A-2	5
Public Service Co. of New Hampshire	BBB+/Negative/--	5
Kaneb Pipe Line Operating Partnership L.P.	BBB+/Negative/--	5
Consolidated Natural Gas Co.	BBB+/Negative/A-2	6
Detroit Edison Co.	BBB+/Negative/A-2	6
Questar Market Resources Inc.	BBB+/Negative/--	8
Portland General Electric Co.	BBB+/CW-Neg./A-2	5
Columbia Energy Group	BBB/Stable/--	3
NiSource Inc.	BBB/Stable/--	4
Xcel Energy Inc.	BBB/Stable/A-2	5

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

<b>U.S. Utility and Power Company Ranking List (cont.)</b>		
Public Service Co. of Colorado	BBB/Stable /A-2	5
Northern States Power Co.	BBB/Stable /A-2	5
Southwestern Public Service Co.	BBB/Stable /A-2	5
Appalachian Power Co.	BBB/Stable/--	5
Kentucky Power Co.	BBB/Stable/--	5
Public Service Co. of Oklahoma	BBB/Stable/--	5
Southwestern Electric Power Co.	BBB/Stable/--	5
Northern Indiana Public Service Co.	BBB/Stable/--	5
Entergy Arkansas Inc.	BBB/Stable/--	5
Entergy Louisiana Inc.	BBB/Stable/--	5
Progress Energy Florida	BBB/Stable/--	5
Progress Energy Carolinas Inc.	BBB/Stable/A-2	5
Kansas City Power & Light Co.	BBB/Stable/A-2	6
PNM Resources Inc.	BBB/Stable/--	6
Southern California Edison Co.	BBB/Stable/A-2	6
Empire District Electric Co.	BBB/Stable/A-2	6
Entergy Mississippi Inc.	BBB/Stable/--	6
Entergy New Orleans Inc.	BBB/Stable/--	6
Duke Energy Field Services LLC	BBB/Stable/A-2	6
Arizona Public Service Co.	BBB/Negative/A-2	5
TXU U.S. Holdings Co.	BBB/Negative/--	5
Pinnacle West Capital Corp.	BBB/Negative/A-2	6
Cleco Power LLC	BBB/Negative/A-3	6
Puget Sound Energy Inc.	BBB-/Positive/A-3	5
Puget Energy Inc.	BBB-/Positive/--	5
Green Mountain Power Corp.	BBB-/Stable/--	5
Public Service Co. of New Mexico	BBB-/Stable/A-2	6
Pacific Gas & Electric Co.	BBB-/Stable/ --	6
Cleveland Electric Illuminating Co.	BBB-/Stable/--	6
Ohio Edison Co.	BBB-/Stable/--	6
Toledo Edison Co.	BBB-/Stable/--	6
Pennsylvania Power Co.	BBB-/Stable/--	6
El Paso Electric Co.	BBB-/Stable/--	6
Central Vermont Public Service Corp.	BBB-/Stable/--	6
Entergy Gulf States Inc.	BBB-/Stable/--	6
System Energy Resources Inc.	BBB-/Stable/--	7
Tampa Electric Co.	BBB-/Negative/A-3	4
Black Hills Power Inc.	BBB-/Negative/--	6
Westar Energy Inc.	BB+/Positive/--	5
Kansas Gas & Electric Co.	BB+/Positive/--	6
Indianapolis Power & Light Co.	BB+/Stable/--	4
IPALCO Enterprises Inc.	BB+/Stable/--	4
Enterprise Products Operating L.P.	BB+/Stable/--	6

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

<b>U.S. Utility and Power Company Ranking List (cont.)</b>		
Enterprise Products Partners L.P.	BB+/Stable/--	6
GulfTerra Energy Partners L.P.	BB+/CW-Neg/--	6
Consumers Energy Co.	BB/Negative/--	6
Tucson Electric Power Co.	BB/CW-Neg/--	6
Dayton Power & Light Co.	BB-/CW-Neg/ -	7
Monongahela Power Co.	B/Stable/--	5
Nevada Power Co.	B+/Negative/--	7
Sierra Pacific Power Co.	B+/Negative/--	7
Sierra Pacific Resources	B+/Negative/--	7
<b>4. Diversified Energy and Diversified Non-Energy</b>		
WPS Resources Corp.	A/Stable/A-1	5
KeySpan Corp.	A/Negative/A-1	4
FPL Group Inc.	A/Negative/--	6
Peoples Energy Corp.	A-/Stable/A-2	5
Vectren Corp.	A-/Negative/--	4
PacifiCorp Holdings Inc.	A-/Negative/--	5
Exelon Corp.	A-/Negative/A-2	7
MDLI Resources Group Inc.	A-/Negative/A-2	7
Centennial Energy Holdings Inc.	A-/Negative/A-2	8
Otter Tail Corp.	A-/Negative/--	8
Kinder Morgan Energy Partners L.P.	BBB+/Stable/A-2	4
Northeast Utilities	BBB+/Stable/--	5
OGE Energy Corp.	BBB+/Stable/A-2	6
LG&E Energy Corp.	BBB+/Stable/--	6
Cinergy Corp.	BBB+/Stable/A-2	6
Constellation Energy Group Inc.	BBB+/Stable/A-2	7
Sempra Energy	BBB+/Stable/A-2	7
Pepco Holdings Inc.	BBB+/Negative/A-2	5
Conectiv	BBB+/Negative/--	5
Alliant Energy Corp.	BBB+/Negative/A-2	6
DTE Energy Co.	BBB+/Negative/A-2	6
Dominion Resources Inc.	BBB+/Negative/A-2	7
Kinder Morgan Inc.	BBB/Stable/A-2	5
American Electric Power Co. Inc.	BBB/Stable/A-2	6
Entergy Corp.	BBB/Stable/--	6
Hawaiian Electric Industries Inc.	BBB/Stable/A-2	6
Progress Energy Inc.	BBB/Stable/A-2	6
PPL Corp.	BBB/Stable/--	7
Public Service Enterprise Group Inc.	BBB/Stable/A-2	7
Great Plains Energy inc.	BBB/Stable/--	7
Duke Energy Corp.	BBB/Stable/A-2	7
Duke Capital Corp.	BBB/Stable/A-2	8

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

<b>U.S. Utility and Power Company Ranking List (cont.)</b>		
TXU Corp.	BBB/Negative/--	5
Centerpoint Energy Inc.	BBB/Negative/--	5
Cleco Corp.	BBB/Negative/A-3	6
Potomac Capital Investment Corp.	BBB/Negative/--	8
MidAmerican Energy Holdings Co.	BBB-/Positive/--	5
FirstEnergy Corp.	BBB-/Stable/--	6
TECO Energy Inc.	BBB-/Negative/A-3	5
Black Hills Corp.	BBB-/Negative/--	8
Avista Corp.	BB+/Stable/--	6
Edison International	BB+/Stable/--	6
TNP Enterprises	BB+/Stable/--	6
New York Water Service Corp.	BB/Stable	7
CMS Energy Corp.	BB/Negative/--	7
DPL Inc.	BB- /CW-Neg/--	8
Williams Companies Inc. (The)	B+/Negative/--	8
Allegheny Energy Inc.	B/Stable/--	7
Dynegy Inc.	B/Negative/--	8
Dynegy Holdings Inc.	B/Negative/--	9
El Paso CGP Corp.	B-/Negative/--	6
Aquila Inc.	B-/Negative/--	8
El Paso Corp.	B-/Negative/--	8
<b>5. Energy Merchants/Power Developers/Trading and Marketing</b>		
Entergy-Koch L.P.	A/Stable/--	9
KeySpan Generation LLC	A/Negative/--	5
FPL Group Capital	A/Negative/A-1	8
Exelon Generation Co.	A-/Negative/A-2	8
AmerenEnergy Generating Co.	A-/CW-Neg/--	8
Southern Power Co.	BBB+/Stable/--	6
LG&E Capital Corp.	BBB+/Stable/A-2	9
Alliant Energy Resources Inc.	BBB+/Negative/--	9
American Ref-Fuel Co. LLC	BBB/Stable/--	6
PSEG Power LLC	BBB/Stable/--	8
PPL Energy Supply LLC	BBB/Stable/--	8
TXU Energy Co. LLC	BBB/Negative/--	7
Duke Energy Trading and Marketing LLC	BBB-/Negative/--	10
Northeast Generation Company	BB+/Negative/--	9
Cogentrix Energy	BB-/Stable/--	6
PSEG Energy Holdings Inc.	BB-/Stable/--	9
AES Corp.	B+/Stable/--	9
NRG Energy Inc.	B+/Stable	9
Allegheny Energy Supply Co. LLC	B/Stable/--	8
Reliant Resources Inc.	B/Negative/--	8

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

<b>U.S. Utility and Power Company Ranking List (cont.)</b>		
Calpine Corp	B/Negative/--	9
Edison Mission Energy	B/Negative/--	9
Orion Power Holdings Inc	B/Negative/--	9
Reliant Energy Mid-Atlantic Power Holdings LLC	B/Negative/--	9
Mirant Americas Generation Inc.	D/--/--	10
Mirant Americas Energy Marketing L.P.	D/--/--	10
Mirant Corp.	D/--/--	10
NEGT Energy Trading Holdings Corp	D/--/--	10
PG&E National Energy Group	D/--/--	10
USGen New England Inc.	D/--/--	10

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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-10)**

STANDARD  
POOR'S

RATINGSDIRECT®

June 11, 2008

# Consolidated Edison Co. of New York Inc.

**Primary Credit Analyst:**

John Kennedy, New York (1) 212-438-7670; john\_kennedy@standardandpoors.com

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Major Rating Factors

Rationale

Outlook

Analytical Note

# Consolidated Edison Co. of New York Inc.

## Major Rating Factors

### Strengths:

- Supportive regulatory regime;
- Low risk distribution business;
- Minimal competition; and
- Limited unregulated business.

### Corporate Credit Rating

A-/Stable/A-2

### Weaknesses:

- High cost operating environment;
- Large capital program; and
- Weak financial ratios for the current rating.

## Rationale

The ratings on regulated utility Consolidated Edison Co. of New York Inc. (CECONY) reflect the consolidated rating of its parent, Consolidated Edison Inc. The ratings also reflect Con Edison's Orange and Rockland Utilities Inc. subsidiary, and Con Edison's nonregulated activities, which include retail and wholesale services and operation of infrastructure projects.

Con Edison's, CECONY's, and O&R's business risk profiles are excellent. The strength of the business profile stems from a historically supportive regulatory environment and a conservative strategy as a transmission and distribution (T&D) company. The firm's financial profile is deemed intermediate at present, with proceeds of \$667 million after-tax from the sale of merchant activities later this year, boosting credit protection measures.

CECONY accounts for about 90% of Con Edison's total assets, revenues, and operating income. CECONY's electric and gas operations are low risk, reflecting Con Edison's strategy to own and operate electric and gas T&D assets in the Northeast. CECONY provides electric service to about 3.2 million customers and gas service to about 1.1 million customers in New York City and Westchester County. The company also provides steam service in parts of Manhattan. O&R and subsidiary Rockland Electric provide electric service to about 300,000 customers in southeastern New York and adjacent sections of New Jersey and northeastern Pennsylvania and gas service to about 125,000 customers in southeastern New York and northeastern Pennsylvania. Pursuant to restructuring agreements, the utilities have sold most of their electric generating capacity and provide their customers the opportunity to buy electricity and gas directly from other suppliers through retail access programs. In addition to delivering energy, the utilities supply about half of the energy that they deliver. Substantially all of the energy they supply to customers is purchased through firm contracts or wholesale energy markets.

CECONY's mostly underground service network and the capability of each of its independent networks to operate without two primary feeders enable CECONY to have some of the industry's lowest power interruption metrics. Con Edison's nonregulated activities will decline to a less than 5% of cash flow with the sale of 1,706MW of merchant generation capacity.

As of March 31, 2008, Con Edison had adjusted debt to capital of about 54%, adjusted funds from operations

*Consolidated Edison Co. of New York Inc.*

(FFO) interest coverage of 3.9x, and adjusted FFO to total debt of 15%. Although Con Edison recovers its underfunded pension and post-retirement benefit obligations through regulatory deferrals, the utility's combined pension and other postretirement obligations were underfunded by about \$609 million (\$415 million at CECONY).

### **Short-term credit factors**

The short-term rating on Con Edison and its subsidiaries is 'A-2', reflecting the company's adequate liquidity and the expectation of continued stable cash flows to fund dividends and capital spending. As of March 31, 2008, Con Edison and its subsidiaries had \$144 million of unrestricted cash (\$40 million at CECONY) and about \$1.1 billion available under its \$2.25 billion revolving credit facility, which matures in June 2011. Con Edison's borrowings under the revolving credit facility are limited to \$1 billion, and CECONY may borrow up to the full amount of the line. Con Edison primarily uses the revolving credit facility to support its commercial paper obligations, of which \$1.15 billion was outstanding as of March 31, 2008.

Consolidated cash flow from operations for the 12 months ended March 31, 2008 was about \$1.7 billion. Future debt and equity issuances will be required to fund annual capital spending of about \$2.5 billion (2008 estimate), common dividends of more than \$500 million per year (\$350 million to \$400 million of dividends paid annually to Con Edison from CECONY), and debt maturities of \$809 million in 2008. Standard & Poor's expects Con Edison to fund acquisitions of nonregulated business opportunities conservatively, and that these investments will account for only a small percentage of consolidated cash flows and capital commitments.

## **Outlook**

The stable outlook on Con Edison and its affiliates is based on an expectation of a reliable and sustainable cash flow stream from the company's predominantly regulated business strategy. Ratings incorporate constructive regulation, sizable recovery of deferred costs associated with incurred environmental and reliability improvements, and notable progress on debt reduction. Importantly, any deviation in expected cash flows, delays in reducing leverage, or difficulty recovering environmental and stranded costs

in a timely manner may weaken the financial profile, heightening the potential for outlook revision to negative or a downgrade. The company's substantial capital program and current debt leverage position preclude the potential for upward credit momentum at this time.

## **Analytical Note**

To improve the transparency of our rating process, we continue to explore various ways to show how we develop a company's adjusted ratios from its reported financial data. The tables below include financial statements for the past five fiscal years and a reconciliation table that bridges the company's reported financial statements to Standard & Poor's adjusted measures.

Changes from previously reported figures are primarily due to adjustments from pensions, other post-retirement obligations, purchased-power agreements, operating leases, asset-retirement obligations, deferred power costs, and/or company restatements. The largest adjustment is related to pensions and other post-retirement obligations, which adds \$609 million to 2008 debt. Similar changes are reflected in the historical financials.

Based on the regulatory framework in New York, which required utilities to sell their generation assets, and the

Consolidated Edison Co. of New York Inc.

company's role as an intermediary between retail customers and the electricity suppliers, Standard & Poor's revised its purchased-power adjustment factor for Consolidated Edison and its subsidiaries to 0%.

Please refer to "Credit FAQ: S&P Introduces Reconciliation Tables To Show Analytical Adjustments To Global Utilities' Financial Statements" published on Oct, 11, 2006 on RatingsDirect and "Credit FAQ: The Effect Of Regulatory Assets On North American Utilities' Credit Quality" published on Oct. 12, 2005 on RatingsDirect for more information.

**Table 1**

<b>Consolidated Edison Co. of New York Inc. -- Peer Comparison*</b>				
<b>Industry Sector: Utilities</b>				
	<b>--Average of past three fiscal years--</b>			
	<b>Consolidated Edison Co. of New York Inc.</b>	<b>Consolidated Edison Inc.</b>	<b>NSTAR</b>	<b>Central Hudson Gas &amp; Electric Corp.</b>
Rating as of June 6, 2008	A-/Stable/A-2	A-/Stable/A-2	A+/Stable/A-1	A/Stable/NR
<b>(Mil. \$)</b>				
Revenues	9,466.7	12,299.3	3,184.1	706.0
Net income from cont. oper.	752.3	798.3	208.1	34.6
Funds from operations (FFO)	1,245.4	1,443.9	584.0	77.8
Capital expenditures	1,759.2	1,884.3	398.5	72.4
Cash and short-term investments	76.3	139.3	22.0	3.2
Debt	8,046.2	9,835.8	2,515.9	482.4
Preferred stock	177.5	106.5	35.8	21.0
Equity	6,821.7	7,382.4	1,514.4	303.8
Debt and equity	14,867.9	17,218.1	4,030.3	786.1
<b>Adjusted ratios</b>				
EBIT interest coverage (x)	3.0	2.9	3.5	4.5
FFO int. cov. (x)	3.4	3.4	5.1	4.3
FFO/debt (%)	15.5	14.7	23.2	16.1
Discretionary cash flow/debt (%)	(12.9)	(10.8)	(12.1)	(6.9)
Net cash flow / capex (%)	44.6	48.0	113.7	90.8
Total debt/debt plus equity (%)	54.1	57.1	62.4	61.4
Return on common equity (%)	10.5	10.0	13.0	10.6
Common dividend payout ratio (un-adj.) (%)	57.8	69.9	63.8	33.7

\*Fully adjusted (including postretirement obligations).

**Table 2**

<b>Consolidated Edison Co. of New York Inc. -- Financial Summary*</b>					
<b>Industry Sector: Utilities</b>					
	<b>--Fiscal year ended Dec. 31--</b>				
	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>
Rating history	A/Negative/A-2	A/Negative/A-2	A/Stable/A-1	A/Stable/A-1	A/Stable/A-1
<b>(Mil. \$)</b>					
Revenues	9,885.0	9,288.0	9,227.0	7,971.0	8,166.0

Consolidated Edison Co. of New York Inc.

Table 2

Consolidated Edison Co. of New York Inc. -- Financial Summary*(cont.)					
Net income from continuing operations	855.0	697.0	705.0	529.0	602.0
Funds from operations (FFO)	1,273.1	1,104.9	1,358.2	1,508.6	1,479.5
Capital expenditures	1,817.4	1,727.0	1,733.3	1,314.3	1,215.0
Cash and short-term investments	121.0	47.0	61.0	10.0	33.0
Debt	8,824.2	7,840.2	7,474.4	6,083.9	5,861.2
Preferred stock	106.5	213.0	213.0	213.0	213.0
Equity	8,192.5	7,061.6	5,210.9	5,346.2	4,879.9
Debt and equity	17,016.7	14,901.8	12,685.3	11,430.1	10,741.1
<b>Adjusted ratios</b>					
EBIT interest coverage (x)	3.2	2.8	3.1	2.5	2.8
FFO int. cov. (x)	3.3	3.0	4.1	4.7	4.4
FFO/debt (%)	14.4	14.1	18.2	24.8	25.2
Discretionary cash flow/debt (%)	(11.4)	(11.8)	(16.0)	(6.5)	(5.1)
Net Cash Flow / Capex (%)	39.6	37.9	56.4	83.8	89.9
Debt/debt and equity (%)	51.9	52.6	58.9	53.2	54.6
Return on common equity (%)	10.9	10.0	10.7	8.2	10.9
Common dividend payout ratio (un-adj.) (%)	64.9	53.6	53.2	76.4	63.6

\*Fully adjusted (including postretirement obligations).

Table 3

Reconciliation Of Consolidated Edison Co. of New York Inc. Reported Amounts With Standard & Poor's Adjusted Amounts (Mil. \$)\*

--Fiscal year ended Dec. 31, 2007--

Consolidated Edison Co. of New York Inc. reported amounts

	Debt	Shareholders' equity	Operating income (before D&A)	Operating income (before D&A)	Operating income (after D&A)	Interest expense	Cash flow from operations	Cash flow from operations	Dividends paid	Capital expenditures
Reported	8,007.0	8,299.0	2,262.0	2,262.0	1,669.0	458.0	1,251.0	1,251.0	559.0	1,816.0
<b>Standard &amp; Poor's adjustments</b>										
Operating leases	224.5	--	39.5	14.2	14.2	14.2	25.3	25.3	--	10.4
Intermediate hybrids reported as equity	106.5	(106.5)	--	--	--	5.5	(5.5)	(5.5)	(5.5)	--
Postretirement benefit obligations	414.7	--	(134.0)	(134.0)	(134.0)	--	119.0	119.0	--	--
Capitalized interest	--	--	--	--	--	9.0	(9.0)	(9.0)	--	(9.0)
Share-based compensation expense	--	--	--	7.0	--	--	--	--	--	--
Asset retirement obligations	71.5	--	15.0	15.0	15.0	15.0	(11.7)	(11.7)	--	--

Consolidated Edison Co. of New York Inc.

Table 3

Reconciliation Of Consolidated Edison Co. of New York Inc. Reported Amounts With Standard & Poor's Adjusted Amounts (Mil. \$)* (cont.)										
Reclassification of nonoperating income (expenses)	--	--	--	--	36.0	--	--	--	--	--
Reclassification of working-capital cash flow changes	--	--	--	--	--	--	--	(96.0)	--	--
Total adjustments	817.2	(106.5)	(79.5)	(97.8)	(68.8)	43.7	118.1	22.1	(5.5)	1.4

Standard & Poor's adjusted amounts

	Debt	Equity	Operating income (before D&A)	EBITDA	EBIT	Interest expense	Cash flow from operations	Funds from operations	Dividends paid	Capital expenditures
Adjusted	8,824.2	8,192.5	2,182.5	2,164.2	1,600.2	501.7	1,369.1	1,273.1	553.5	1,817.4

\*Consolidated Edison Co. of New York Inc. reported amounts shown are taken from the company's financial statements but might include adjustments made by data providers or reclassifications made by Standard & Poor's analysts. Please note that two reported amounts (operating income before D&A and cash flow from operations) are used to derive more than one Standard & Poor's-adjusted amount (operating income before D&A and EBITDA, and cash flow from operations and funds from operations, respectively). Consequently, the first section in some tables may feature duplicate descriptions and amounts.

Ratings Detail (As Of June 11, 2008)\*

Consolidated Edison Co. of New York Inc.

Corporate Credit Rating	A-/Stable/A-2
Commercial Paper	
Local Currency	A-2
Preferred Stock	
Local Currency	BBB
Senior Unsecured	
Local Currency	A-

Corporate Credit Ratings History

25-Mar-2008	A-/Stable/A-2
06-Jun-2006	A/Negative/A-2
16-May-2003	A/Stable/A-1

Debt Maturities

As of Dec. 31, 2007:  
2008: \$809 mil.  
2009: \$478 mil.  
2010: \$684 mil.  
2011: \$3 mil.

Related Entities

Consolidated Edison Inc.

Issuer Credit Rating	A-/Stable/A-2
Commercial Paper	
Local Currency	A-2
Senior Unsecured	
Local Currency	BBB+

*Consolidated Edison Co. of New York Inc.*

**Ratings Detail (As Of June 11, 2008)\* (cont.)**

**Orange and Rockland Utilities Inc.**

Issuer Credit Rating	A-/Stable/A-2
Commercial Paper	
<i>Local Currency</i>	A-2
Senior Unsecured	
<i>Local Currency</i>	A-

**Rockland Electric Co.**

Issuer Credit Rating	A-/Stable/--
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\*Unless otherwise noted, all ratings in this report are global scale ratings. Standard & Poor's credit ratings on the global scale are comparable across countries. Standard & Poor's credit ratings on a national scale are relative to obligors or obligations within that specific country.

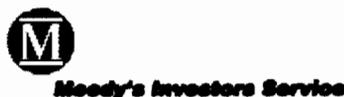
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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-11)**



**Credit Opinion: Consolidated Edison Company of New York, Inc.**

**Consolidated Edison Company of New York, Inc.**

*New York, New York, United States*

**Ratings**

<b>Category</b>	<b>Moody's Rating</b>
Outlook	Negative
Issuer Rating	A1
Senior Unsecured	A1
Subordinate	A2
Preferred Stock	A3
Commercial Paper	P-1
<b>Parent: Consolidated Edison, Inc.</b>	
Outlook	Negative
Issuer Rating	A2
Senior Unsecured	A2
Subordinate Shelf	(P)A3
Preferred Shelf	(P)Baa1
Commercial Paper	P-1

**Contacts**

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**Key Indicators**

[1]  
**Consolidated Edison Company of New York, Inc. (The)**

	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>
(CFO Pre-W/C + Interest) / Interest Expense	3.5x	3.3x	4.2x	4.9x
(CFO Pre-W/C) / Debt	14%	14%	18%	23%
(CFO Pre-W/C - Dividends) / Debt	7%	8%	12%	17%
(CFO Pre-W/C - Dividends) / Capex	31%	31%	52%	71%
Debt / Book Capitalization	40%	41%	42%	39%
EBITA Margin %	17%	16%	14%	8%

[1] All ratios calculated in accordance with the Global Regulated Electric Utilities Rating Methodology using Moody's standard adjustments.

*Note: For definitions of Moody's most common ratio terms please see the accompanying User's Guide.*

**Opinion**

**Company Profile**

Consolidated Edison Company of New York, Inc. (CECONY) is the largest regulated transmission & distribution (T&D) subsidiary of Consolidated Edison, Inc. (CEI). With \$9.9 billion in revenue for fiscal year 2007, CECONY is also the largest North American T&D utility rated by Moody's. The company serves approximately 3.2 million electric customers, 1.1 million gas customers, and 1,800 steam customers through its vast electric, gas and steam infrastructure primarily located in and around New York City and Westchester County.

CEI is also the parent holding company of regulated T&D subsidiary Orange and Rockland Utilities, Inc. (O&R) and

three wholly-owned competitive energy subsidiary companies that operate in the wholesale and retail competitive power supply markets and also offer some ancillary energy-related services. CECONY's and O&R's infrastructure comprise the largest utility system in New York State, serving roughly 3.5 million electric, 1.2 million gas and 1,800 steam customers located in some of the state's most dynamic communities. Both utilities are regulated at the state level by the New York Public Service Commission (NYPSC) and at the federal level by the Federal Energy Regulatory Commission (FERC). In addition, we note that O&R is also regulated by the New Jersey Board of Public Utilities, which has jurisdiction over its subsidiary, Rockland Electric Company (RECO), and the Pennsylvania Public Utility Commission, which has jurisdiction over its subsidiary, Pike County Light & Power Company. RECO and Pike County represent substantially smaller portions of O&R's service territory.

### Recent Events

Effective March 20, 2008, Moody's affirmed the ratings of CEI, CECONY, and O&R but revised the rating outlooks for all three companies to negative from stable. This action reflected our growing concern with regard to the ability of the three companies to achieve a materially stronger financial profile given the persistent weakness in key credit metrics for the companies relative to what we typically see for companies in the "A" rating category coupled with the decision by the NYPSC with respect to CECONY's latest rate case. We believe a stronger financial profile is necessary to compensate for the rising business and operating risks that go in tandem with the exceptionally large capital program that CECONY and O&R face over the next several years. The change to negative rating outlooks for the companies also takes into account our more guarded view than we have had in the past about the extent to which the New York regulatory environment will be supportive in future rate case decisions for CECONY and O&R. In particular, we note the 9.1% allowed return on equity (ROE) used by the NYPSC in late 2007 for O&R's rate investigation related to its electric operations (this compares to 10.4% previously) and the recent fully litigated decision in CECONY's electric rate case, which granted only about 35% of the \$1.2 billion rate increase requested (new rates effective April 1, 2008), also based on a 9.1% allowed ROE (reportedly the lowest ROE granted to an electric utility in over 30 years). We view this as an additional sign of the increasing propensity for the NYPSC to extend the cash recovery period for certain previously incurred costs, take a less supportive view with respect to certain types of future costs, and base decisions on a much lower authorized ROE.

Meanwhile, CEI's wholly-owned subsidiary, Consolidated Edison Development, is advancing its plans announced December 10, 2007, whereby it is selling 1,706 megawatts of competitive generation projects for \$1.5 billion in cash. The original agreement called for the acquirers to be North American Energy Alliance, LLC, which is a newly formed entity that is jointly owned and controlled by AllCapital (US) LLC, which is a subsidiary of Allco Finance Group, and Industry Funds Management Pty Ltd, which is acting on behalf of the IFM International Infrastructure Fund. More recently, we understand that the transaction has been modified so that IFM International Infrastructure Fund will now be the sole purchaser. The sale, which is subject to various state and regulatory approvals, is still expected to be completed by mid-2008. According to CEI, the sale is expected to produce a after-tax gain of about \$335 million, after taking into account various transaction-related expenses. After satisfying the repayment of project related debt, taxes, and transaction expenses, CEI estimates that cash proceeds will amount to \$654 million. CEI plans to use these proceeds for debt repayment and investments in its utility businesses. We view the planned sale of these assets and expected use of cash proceeds as a credit positive; however, the proposed transaction by itself does not completely mitigate our growing concerns which led to the aforementioned change in rating outlooks for CEI, CECONY, and O&R to negative from stable.

### Rating Rationale

CECONY's A1 senior unsecured rating and negative outlook reflects a history of generating relatively stable and predictable earnings and cash flows through operation of its vast utility T&D assets, and the benefits that have been derived from past multi-year rate settlements approved by the NYPSC and full and timely recovery of purchased power costs tied to provider of last resort obligations, as well as generally timely and adequate recovery of increased operating costs. The rating also takes into account the company's key credit metrics, such as cash flow from operations before working capital changes (CFO Pre-W/C) to debt and interest, as well as CECONY's liquidity profile. Some of CECONY's historical credit metrics have been somewhat weaker than those that we typically expect to see from "A" rated companies in this sector. Although we were anticipating that CECONY could achieve more substantive improvement in its key credit metrics over the next several years assuming a multi-year settlement of its recently concluded electric rate case on historically credit supportive terms, we are now more skeptical in our view due to the litigated outcome of that case outlined above in the Recent Events section. Nevertheless, we expect overall liquidity to remain sufficient, with ample access to committed bank credit facilities to supplement internally generated cash flow when needed, as well as continued access to common equity and long-term debt markets to address anticipated negative free cash flow over the next several years.

We note as well that CECONY's rating is viewed within the context of Moody's Rating Methodology for Global Regulated Utilities.

We cover the key factors that drive CECONY's current A1 senior unsecured debt rating and negative outlook in more detail below.

**CECONY'S RISK PROFILE IS RISING RELATIVE TO HISTORICAL LEVEL, DESPITE PARENT'S PLANNED SALE OF UNREGULATED GENERATION**

We believe that the business and operating risk profile for CECONY is arguably greater today and prospectively

than compared to historical periods, given execution risks associated with the very large capital expenditure program it faces and our growing concerns about the degree of supportiveness from the NYPSC. Our concern with the levels of business and operating risk and regulatory supportiveness is only partially tempered by CEI's planned sale of competitive generation assets expected to be completed by mid-2008.

CEI's 2007 10-K highlights plans for annual capital expenditures of about \$2.6 billion by CECONY in each of the next three years for system upgrades and expansion to ensure reliability in the face of strong economic growth. We believe that one can safely assume that management is committed to addressing these needs considering the FERC-mandated reliability standards for transmission owners (an after effect of the 2003 blackout that occurred in the Northeast U.S. in 2003) and the backlash felt by the company from the extended outage in Queens that occurred in the summer of 2006 and the steam pipe explosion in mid-town Manhattan last year. Moreover, we note there are service quality performance targets included within the recent CECONY electric rate order, under which CECONY would suffer negative financial consequences if these targets are not met. The need to address ongoing system reliability concerns requires considerably higher spending than the already high levels (close to \$2.0 billion) funded in 2006-2007.

Furthermore, we view rising construction costs as a potential risk to CECONY (and all utilities), as they may exceed construction estimates used in the rate-making process; however, in CECONY's case the risk of cost overruns and possible future disallowances by the regulators is partially mitigated by the fact that planned capital programs are spread among various small to medium-sized projects instead of a few large projects.

Given the magnitude of these projects, we expect CECONY will continue to use a mix of internally generated cash flow, parent contributions (including redeployment of some of the asset sale proceeds discussed above), bank borrowings, and long-term debt issues to finance these expected capital expenditures. We also expect continued maintenance of historic debt/capital ratios of approximately 50% for CEI and CECONY. The 50% target for CECONY is guided in part by the amount of common equity on which the NYPSC allows the utility to earn a return on. Consistent with this strategy, for fiscal year 2007 CEI issued 11 million shares of common stock, which resulted in net proceeds of \$558 million, thereby providing cash for capital contributions of \$518 million into CECONY and \$40 million into O&R to fund capital investments and for general corporate needs. The balance of CECONY's external financing came from increased commercial paper usage and a \$525 million, 30-year debt issuance.

As alluded to above in the Recent Events section, the competitive energy business generation asset sales planned to be completed by mid-2008 and the planned debt repayment to go with redeployment of capital into CECONY and O&R can be viewed as a credit positive, but not sufficiently so to mitigate our growing concerns.

#### CHALLENGES POSED BY RECENT ELECTRIC RATE CASE OUTCOME AND USE OF LOWER ALLOWED ROE BY NYPSC

Historically, CECONY has tended to benefit from multi-year rate increases and full and timely recovery of purchased power costs, as well as generally timely and adequate recovery of increased operating costs. As a result, we have historically taken a generally favorable view of CECONY's regulatory risk profile, especially when compared with the experiences of utilities in some other jurisdictions, such as Maryland and Illinois, where fuel and power cost adjustment proceedings in particular have been at times contentious, due in part to legislative intervention into the regulatory process.

As previously cited, we have become more guarded in our views about CECONY's regulatory risk profile. In particular, we believe CECONY's litigated (as opposed to settled) outcome in its recently concluded electric rate case, whereupon NYPSC extended the recovery period for certain previously incurred costs, took a less supportive view with respect to certain types of future costs, and used a lower allowed ROE poses a challenging obstacle to overcome. CECONY originally sought approval of a three-year rate filing made last year (May 2007). Unlike the case in many of its past filings, a negotiated multi-year settlement did not occur in this proceeding. As a result, the case recently concluded with a one-year litigated decision that simply addressed the first year request in the May 2007 filing, which asked for approximately \$1.2 billion in additional revenue requirements. The final decision approved only \$425 million (or roughly 35%) of the requested rate increase based on a very low 9.1% authorized ROE. By way of comparison, the Administrative Law Judge had previously issued a recommended order to the full NYPSC, which indicated that CECONY should be granted a rate increase of roughly half or \$600 million, based on a very low allowed ROE of 9% versus the 11.5% used as a basis for the May 2007 filing. Another somewhat concerning aspect of the recent order is the fact that some \$250 million of annual revenue to be collected through an adjustment clause is subject to refund, pending an independent audit of CECONY's capital spending over the period that new rates are in effect.

Although the parts of the decision that grant approval for CECONY to charge higher rates to address past capital spending that was higher than levels assumed in the prior multi-year plan that is expiring on March 31, 2008 and to compensate for expiring rate credits which were used to offset what otherwise would have been a need for higher rates in the expiring multi-year plan appear to be generally supportive of credit quality, the decision would appear to take a much less supportive tact with respect to recovery of costs for new or expanded operating programs, the recovery period for certain previously incurred costs, and the allowed ROE. Looking forward, we take the view that CECONY might have some flexibility to find ways to compensate for some of the disallowed costs related to new or expanded programs through other cost saving initiatives and or by somewhat reluctantly delaying implementation of some new programs and or new hires; however, we believe that the ability to compensate for the very low allowed ROE used in deciding the CECONY electric rate case poses a challenging obstacle for the

company to overcome.

Looking ahead, we note that CECONY is in the midst of a steam rate case, which is likely to be decided in September, and will likely be filing yet another electric rate case by the end of May 2008. Also, CECONY's affiliate, O&R, is in the midst of an electric rate case, which is likely to be decided in June. Given the expected pace of capital spending throughout the CEI family, we assume that the utilities will be active in the rate arena on an annual basis unless they can revert to past success in settling the proceedings on a multi-year basis. Against this backdrop, we have become more skeptical about the extent to which future regulatory decisions by the NYPSC might be supportive.

#### LESS OPPORTUNITY FOR IMPROVEMENT IN KEY CREDIT METRICS

Over 2004 - 2007, CECONY's CFO pre-W/C to adjusted interest and adjusted debt averaged 4.0x and 17.3%, respectively. The weaker level for these metrics since 2005 is due, in part, to the fact that CECONY has financed infrastructure investment above levels addressed in the company's rate plan expiring March 31, 2008. For example, CECONY's CFO pre-W/C to adjusted interest and adjusted debt was 3.5x and 14.1%, respectively, in 2007, and 3.3x and 13.8%, respectively, in 2006. These levels are a weak comparison to the levels of 4.2x and 17.8% achieved, respectively, in 2005.

In earlier published research, we referred to expected opportunities for CECONY to show sustainable improvement in CFO pre-W/C to interest and debt (i.e. to in excess of 4x and the mid-to-high teens, respectively) beginning in 2008. This reference point was based in part on an assumption that CECONY would achieve a more supportive outcome in its then pending electric case than, in our opinion, has turned out to be the case. We now believe that achievement of such levels over the next 12 to 18 months appears more challenging given the outcome in the CECONY electric rate case and the apparent propensity for the NYPSC to extend the time period for full cash recovery of prior costs incurred, to take a less supportive stance with respect to recovery of certain cost categories, and to use a much lower allowed ROE in the rate setting process. CECONY has been consistently spending more on capital expenditures than originally planned for in recent years, which has kept the utility in a "catch-up" mode in terms of cost recovery. Setting rates based on a very low ROE in the CECONY electric case (and the O&R electric rate investigation decided in late 2007) seems to be a discouragement instead of incentive to invest in utility infrastructure to ensure reliability of service against a backdrop of solid economic and customer growth in the utility service territories. In our view, if CECONY chooses to defer needed capital expenditures because of concerns about whether it will receive timely and adequate cost recovery, such a strategy could threaten CECONY's currently higher than national average reliability standards and would likely pressure its standing with state regulators and put the company at risk of suffering financial consequences for potential failure in meeting system reliability performance targets established in the CECONY electric rate order.

#### Liquidity

CECONY has the ability to draw up to the full \$2.25 billion available under a joint bank revolver arranged by CEI, CECONY, and O&R. The five-year syndicated unsecured committed revolving credit agreement expires June 22, 2012, following the amendment and restatement in June 2007 to extend the maturity by one year. It is worth noting that the size of the facility in the last year is capped at \$2.2 billion. Under the facility, CEI has a \$1.0 billion sub-borrowing capacity and O&R has a \$200 million sub-limit, in both cases, subject to the maximum availability. The credit agreement may be increased by an additional \$500 million under certain conditions, with proportional availability to each company as prior to the increase. As of December 31, 2007, there were no direct borrowings under the line, but CEI had arranged \$58.7 million of letters of credit. Although the credit agreement is available for direct borrowing to fund corporate needs and issuance of letters of credit, it is primarily used to backstop commercial paper programs in place for CEI, CECONY, and O&R, with the full amount available to CECONY, \$1.0 billion available to CEI and \$200 million available for O&R. The flexibility that CECONY has to increase its sub-limit borrowing capacity under the bank agreement provides it with the ability to increase the size of its commercial paper program, while ensuring that it always maintains 100% back up liquidity. As of December 31, 2007, CEI had \$840 of commercial paper outstanding; \$555 million of which related to CECONY's program, while about \$240 million was outstanding under the parent's program and \$45 million was under O&R's program. CEI reported a cash balance of \$210 million at December 31, 2007, including \$121 million at CECONY and \$60 million at O&R.

Over the next four quarters, CECONY's planned capital spending is expected to be around \$2.6 billion, while it will likely pay CEI a common dividend of close to \$600 million. In addition, CECONY reported long-term debt due within one year of \$280 million at December 31, 2007. As noted above, CEI recently announced the sale of 1,706 megawatts of unregulated generation assets currently owned by Consolidated Edison Development for approximately \$1.5 billion. Management has indicated that the estimated net cash proceeds of \$654 million will be used to repay consolidated debt and to invest in its remaining businesses. Given the magnitude of expected cash uses, we expect CECONY to be in a negative free cash flow position over the next few years. We anticipate that CECONY will continue to rely on a mix of internally generated cash flow, parent contributions (including redeployment of some of the asset sale proceeds discussed above), bank borrowings, and long-term debt issues to fund its needs. Importantly, we also expect the maintenance of historic debt/capital ratios of approximately 50% for CEI and CECONY. More specifically, we note that CEI has publicly disclosed it may issue common equity within a range of \$225 million to \$425 million in 2007, while debt issuance by CECONY could reach as high as \$1.8 billion.

Meanwhile, we observe that the quality of alternate liquidity provided by the jointly arranged bank revolver is

generally good since drawings under the facility are not subject to a material adverse change/material litigation clause and it only has a single financial covenant that sets a 65% limit for total debt to total capitalization for CECONY, CEI and O&R. All parties were comfortably in compliance with this covenant at December 31, 2007, and we expect that to remain so in the foreseeable future. Moreover, the credit agreement does not have any rating triggers that would cause an event of default or acceleration or put of obligations; however, it does include a ratings-based pricing grid.

**Rating Outlook**

CECONY's negative rating outlook, which mirrors the negative rating outlook for CEI, and O&R, reflects the persistent weakness in its key credit metrics relative to what we typically see for companies in the "A" rating category for this sector, and our growing concerns with CECONY's ability to achieve a materially stronger financial profile, which we believe is necessary to compensate for the rising business and operating risks that go in tandem with the exceptionally large capital program the utility faces over the next several years. The negative outlook also takes into account our more guarded view than we have had in the past about the extent to which the New York regulatory environment will be supportive in future rate case decisions for CECONY and O&R.

**What Could Change the Rating - Up**

Given CECONY's negative rating outlook, reflecting the current weakness in its key credit metrics and its sizable planned capital expenditures over the next several years, an upgrade in ratings is unlikely during the intermediate term. However, assuming future regulatory decisions are more supportive than the latest decision in CECONY's electric rate case, there could be some consideration given to stabilize the rating outlook. To achieve a higher rating over the longer term, the company would likely need to achieve CFO pre-W/C to debt and interest around 30% and close to 6.0x, respectively, for an extended period of time.

**What Could Change the Rating - Down**

CECONY's ratings could be downgraded if future regulatory actions continue to not be sufficiently supportive of credit quality. Moreover, credit quality could suffer if substantial debt-financed capital costs and/or extraordinary expenses arise from the recent system outages. CECONY's ratings could also be reconsidered if it is unable to demonstrate visible signs of being able to achieve on a sustainable basis CFO pre-W/C to debt and interest of at least 17% and comfortably above 4x, respectively, over the next 12 to 18 months.

**Rating Factors**

**Consolidated Edison Company of New York, Inc. (The)**

**Select Key Ratios for Global Regulated Electric Utilities**

Rating	Aa	Aa	A	A	Baa	Baa	Ba	Ba
Level of Business Risk	Medium	Low	Medium	Low	Medium	Low	Medium	Low
CFO pre-W/C to Interest (x) [1]	>6	>5	3.5-6.0	3.0-5.7	2.7-5.0	2-4.0	<2.5	<2
CFO pre-W/C to Debt (%) [1]	>30	>22	22-30	12-22	13-25	5-13	<13	<5
CFO pre-W/C - Dividends to Debt (%) [1]	>25	>20	13-25	9-20	8-20	3-10	<10	<3
Total Debt to Book Capitalization (%)	<40	<50	40-60	50-70	50-70	60-75	>60	>70

[1] CFO pre-W/C, which is also referred to as FFO in the Global Regulated Electric Utilities Rating Methodology, is equal to net cash flow from operations less net changes in working capital items

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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-12)**

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August 5, 2008

**Issuer Ranking:**

# U.S. Regulated Electric Utility Companies, Strongest To Weakest

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**Issuer Ranking:**

# U.S. Regulated Electric Utility Companies, Strongest To Weakest

The following list contains Standard & Poor's Ratings Services' ratings, outlooks, and business and financial profiles for companies with a primary regulated electric focus. This list reflects the current ratings and outlooks as of Aug. 5, 2008. The rankings in each rating/outlook grouping (e.g., BBB+/Stable/--) are based on relative business risk.

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.

Utility 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. To determine a utility's business profile, Standard & Poor's analyzes the following qualitative business or operating characteristics: markets and service area economy; competitive position; fuel and power supply; operations; asset concentration; regulation; and management. 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: Credit Quality For U.S. Electric Utilities Remains Strong Despite Rising Fuel and Construction Costs," published June 10, 2008.

<b>U.S. Regulated Electric Utilities</b>			
<b>As of Aug. 5, 2008</b>			
<b>Company</b>	<b>Corporate credit rating</b>	<b>Business profile</b>	<b>Financial profile</b>
Madison Gas & Electric Co.	AA-/Stable/A-1+	Excellent	Modest
-			
American Transmission Co.	A+/Stable/A-1	Excellent	Intermediate
Midwest Independent Transmission System Operator Inc.	A+/Stable/--	Excellent	Intermediate
NSTAR Electric Co.	A+/Stable/A-1	Excellent	Intermediate
NSTAR Gas Co.	A+/Stable/--	Excellent	Intermediate
NSTAR	A+/Stable/A-1	Excellent	Intermediate
-			
Florida Power & Light Co.	A/Stable/A-1	Excellent	Intermediate
KeySpan Energy Delivery Long Island	A/Stable/A-1	Excellent	Intermediate
KeySpan Energy Delivery New York	A/Stable/A-1	Excellent	Intermediate
Northern Natural Gas Co.	A/Stable/--	Excellent	Intermediate
Alabama Power Co.	A/Stable/A-1	Excellent	Intermediate
Georgia Power Co.	A/Stable/A-1	Excellent	Intermediate
Mississippi Power Co.	A/Stable/A-1	Excellent	Intermediate
Gulf Power Co.	A/Stable/--	Excellent	Intermediate

*Issuer Ranking: U.S. Regulated Electric Utility Companies, Strongest To Weakest*

<b>U.S. Regulated Electric Utilities(cont.)</b>			
San Diego Gas & Electric Co.	A/Stable/--	Excellent	Intermediate
Wisconsin Public Service Corp.	A/Stable/A-2	Excellent	Intermediate
FPL Group Inc.	A/Stable/--	Excellent	Intermediate
Southern Co.	A/Stable/A-1	Excellent	Intermediate
Central Hudson Gas & Electric Corp.	A/Stable/--	Excellent	Intermediate
-			
Wisconsin Gas LLC	A-/Positive/A-2	Excellent	Intermediate
Wisconsin Electric Power Co.	A-/Positive/A-2	Excellent	Intermediate
-			
California Independent System Operator Corp.	A-/Stable/--	Excellent	Intermediate
Massachusetts Electric Co.	A-/Stable/A-2	Excellent	Intermediate
Narragansett Electric Co.	A-/Stable/A-2	Excellent	Intermediate
New England Power Co.	A-/Stable/A-2	Excellent	Intermediate
Consolidated Edison Co. of New York Inc.	A-/Stable/A-2	Excellent	Intermediate
Orange and Rockland Utilities Inc.	A-/Stable/A-2	Excellent	Intermediate
Rockland Electric Co.	A-/Stable/--	Excellent	Intermediate
Consolidated Edison Inc.	A-/Stable/A-2	Excellent	Intermediate
Peoples Gas Light & Coke Co. (The)	A-/Stable/A-2	Excellent	Intermediate
North Shore Gas Co.	A-/Stable/--	Excellent	Intermediate
Peoples Energy Corp.	A-/Stable/A-2	Excellent	Intermediate
Virginia Electric & Power Co.	A-/Stable/A-2	Excellent	Aggressive
Duke Energy Indiana Inc.	A-/Stable/A-2	Excellent	Intermediate
Duke Energy Carolinas LLC	A-/Stable/A-2	Excellent	Intermediate
Duke Energy Ohio Inc.	A-/Stable/A-2	Excellent	Intermediate
Duke Energy Kentucky Inc.	A-/Stable/--	Excellent	Intermediate
Northern States Power Wisconsin	A-/Stable/--	Excellent	Intermediate
Wisconsin Power & Light Co.	A-/Stable/A-2	Excellent	Intermediate
Southern Indiana Gas & Electric Co.	A-/Stable/--	Excellent	Intermediate
MidAmerican Energy Holdings Co.	A-/Stable/--	Excellent	Aggressive
PPL Electric Utilities Corp.	A-/Stable/A-2	Excellent	Aggressive
Niagara Mohawk Power Corp.	A-/Stable/A-2	Excellent	Aggressive
PacifiCorp	A-/Stable/A-1	Excellent	Aggressive
Cinergy Corp.	A-/Stable/A-2	Excellent	Intermediate
Duke Energy Corp.	A-/Stable/A-2	Excellent	Intermediate
MidAmerican Energy Co.	A-/Stable/A-1	Excellent	Aggressive
National Grid USA	A-/Stable/A-2	Excellent	Intermediate
Dominion Resources Inc.	A-/Stable/A-2	Excellent	Aggressive
Integrus Energy Group Inc.	A-/Stable/A-2	Strong	Intermediate
-			
Public Service Co. of North Carolina Inc.	A-/Negative/A-2	Excellent	Aggressive
South Carolina Electric & Gas Co.	A-/Negative/A-2	Excellent	Aggressive
SCANA Corp.	A-/Negative/--	Excellent	Aggressive

*Issuer Ranking: U.S. Regulated Electric Utility Companies, Strongest To Weakest*

<b>U.S. Regulated Electric Utilities(cont.)</b>			
-			
Wisconsin Energy Corp.	BBB+/Positive/A-2	Excellent	Aggressive
-			
Southern California Edison Co.	BBB+/Stable/A-2	Excellent	Intermediate
Pacific Gas & Electric Co.	BBB+/Stable/A-2	Excellent	Intermediate
Florida Power Corp. d/b/a Progress Energy Florida Inc.	BBB+/Stable/A-2	Excellent	Aggressive
Carolina Power & Light Co. d/b/a Progress Energy Carolinas Inc.	BBB+/Stable/A-2	Excellent	Aggressive
Public Service Co. of Colorado	BBB+/Stable/A-2	Excellent	Aggressive
Northern States Power Co.	BBB+/Stable/A-2	Excellent	Aggressive
PECO Energy Co.	BBB+/Stable/A-2	Excellent	Aggressive
Southwestern Public Service Co.	BBB+/Stable/A-2	Excellent	Aggressive
Interstate Power & Light Co.	BBB+/Stable/A-2	Excellent	Aggressive
Xcel Energy Inc.	BBB+/Stable/A-2	Excellent	Aggressive
Kentucky Utilities Co.	BBB+/Stable/A-2	Excellent	Intermediate
Louisville Gas & Electric Co.	BBB+/Stable/--	Excellent	Intermediate
Progress Energy Inc.	BBB+/Stable/A-2	Excellent	Aggressive
Alliant Energy Corp.	BBB+/Stable/A-2	Excellent	Aggressive
E.ON U.S. LLC	BBB+/Stable/--	Excellent	Intermediate
Oklahoma Gas & Electric Co.	BBB+/Stable/A-2	Excellent	Intermediate
Portland General Electric Co.	BBB+/Stable/A-2	Strong	Intermediate
OGE Energy Corp.	BBB+/Stable/A-2	Strong	Intermediate
ALLETE Inc.	BBB+/Stable/A-2	Strong	Intermediate
Montana-Dakota Utilities Co.	BBB+/Stable/--	Strong	Intermediate
-			
Connecticut Natural Gas Corp.	BBB+/Negative/--	Excellent	Intermediate
Southern Connecticut Gas Co.	BBB+/Negative/--	Excellent	Intermediate
New York State Electric & Gas Corp.	BBB+/Negative/A-2	Excellent	Aggressive
Central Maine Power Co.	BBB+/Negative/--	Excellent	Aggressive
Rochester Gas & Electric Corp.	BBB+/Negative/--	Excellent	Aggressive
Energy East Corp.	BBB+/Negative/A-2	Excellent	Aggressive
Baltimore Gas & Electric Co.	BBB+/Negative/A-2	Strong	Intermediate
Otter Tail Corp.	BBB+/Negative/--	Strong	Intermediate
-			
Enogex Inc.	BBB+/Watch Neg/--	Satisfactory	Intermediate
-			
Dayton Power & Light Co.	BBB/Positive/--	Excellent	Aggressive
DPL Inc.	BBB/Positive/--	Excellent	Aggressive
-			
International Transmission Co.	BBB/Stable/--	Excellent	Aggressive
ITC Holdings Corp.	BBB/Stable/--	Excellent	Aggressive
ITC Midwest LLC	BBB/Stable/--	Excellent	Aggressive
Michigan Electric Transmission Co.	BBB/Stable/--	Excellent	Aggressive

*Issuer Ranking: U.S. Regulated Electric Utility Companies, Strongest To Weakest*

<b>U.S. Regulated Electric Utilities(cont.)</b>			
Yankee Gas Services Co.	BBB/Stable/--	Excellent	Aggressive
Michigan Consolidated Gas Co.	BBB/Stable/A-2	Excellent	Aggressive
Public Service Electric & Gas Co.	BBB/Stable/A-2	Excellent	Aggressive
AEP Texas Central Co	BBB/Stable/--	Excellent	Aggressive
AEP Texas North Co	BBB/Stable/--	Excellent	Aggressive
Jersey Central Power & Light Co.	BBB/Stable/--	Excellent	Aggressive
Columbus Southern Power Co.	BBB/Stable/--	Excellent	Aggressive
Ohio Power Co.	BBB/Stable/--	Excellent	Aggressive
Appalachian Power Co.	BBB/Stable/--	Excellent	Aggressive
CenterPoint Energy Houston Electric LLC	BBB/Stable/--	Excellent	Aggressive
CenterPoint Energy Inc.	BBB/Stable/A-2	Excellent	Aggressive
CenterPoint Energy Resources Corp.	BBB/Stable/--	Excellent	Aggressive
Western Massachusetts Electric Co.	BBB/Stable/--	Excellent	Aggressive
Atlantic City Electric Co.	BBB/Stable/A-2	Excellent	Aggressive
Potomac Electric Power Co.	BBB/Stable/A-2	Excellent	Aggressive
Kansas City Power & Light Co.	BBB/Stable/A-3	Excellent	Aggressive
Aquila Inc.	BBB/Stable/--	Excellent	Aggressive
Delmarva Power & Light Co.	BBB/Stable/A-2	Excellent	Aggressive
Green Mountain Power Corp.	BBB/Stable/--	Excellent	Aggressive
Kentucky Power Co.	BBB/Stable/--	Excellent	Aggressive
Public Service Co. of Oklahoma	BBB/Stable/--	Excellent	Aggressive
Southwestern Electric Power Co.	BBB/Stable/--	Excellent	Aggressive
Connecticut Light & Power Co.	BBB/Stable/--	Excellent	Aggressive
Public Service Co. of New Hampshire	BBB/Stable/--	Excellent	Aggressive
Metropolitan Edison Co.	BBB/Stable/--	Excellent	Aggressive
Pennsylvania Electric Co.	BBB/Stable/--	Excellent	Aggressive
Cleveland Electric Illuminating Co.	BBB/Stable/--	Excellent	Aggressive
Ohio Edison Co.	BBB/Stable/A-2	Excellent	Aggressive
Pennsylvania Power Co.	BBB/Stable/--	Excellent	Aggressive
Toledo Edison Co.	BBB/Stable/--	Excellent	Aggressive
Detroit Edison Co.	BBB/Stable/A-2	Excellent	Aggressive
American Electric Power Co. Inc.	BBB/Stable/A-2	Excellent	Aggressive
Northeast Utilities	BBB/Stable/--	Excellent	Aggressive
Great Plains Energy Inc.	BBB/Stable/--	Excellent	Aggressive
FirstEnergy Corp.	BBB/Stable/--	Excellent	Aggressive
DTE Energy Co.	BBB/Stable/A-2	Excellent	Aggressive
NorthWestern Corp.	BBB/Stable/--	Excellent	Aggressive
Indiana Michigan Power Co.	BBB/Stable/--	Strong	Aggressive
Cleco Power LLC	BBB/Stable/--	Strong	Aggressive
Cleco Corp.	BBB/Stable/--	Strong	Aggressive
Hawaiian Electric Co. Inc.	BBB/Stable/A-2	Strong	Aggressive
Idaho Power Co.	BBB/Stable/A-2	Strong	Aggressive
IDACORP Inc.	BBB/Stable/A-2	Strong	Aggressive

*Issuer Ranking: U.S. Regulated Electric Utility Companies, Strongest To Weakest*

<b>U.S. Regulated Electric Utilities(cont.)</b>			
El Paso Electric Co.	BBB/Stable/--	Strong	Aggressive
PEPCO Holdings Inc.	BBB/Stable/A-2	Strong	Aggressive
Hawaiian Electric Industries Inc.	BBB/Stable/A-2	Strong	Aggressive
-			
Entergy Arkansas Inc.	BBB/Negative/--	Strong	Aggressive
Entergy Louisiana LLC	BBB/Negative/--	Strong	Aggressive
Entergy Mississippi Inc.	BBB/Negative/--	Strong	Aggressive
Entergy Gulf States Louisiana LLC	BBB/Negative/--	Strong	Aggressive
Entergy Texas Inc.	BBB/Negative/--	Strong	Aggressive
Entergy Corp.	BBB/Negative/--	Strong	Aggressive
System Energy Resources Inc.	BBB/Negative/--	Strong	Aggressive
-			
Northern Indiana Public Service Co.	BBB/Watch Neg/--	Excellent	Aggressive
-			
Tampa Electric Co.	BBB-/Positive/A-3	Excellent	Aggressive
TECO Energy Inc.	BBB-/Positive/--	Excellent	Aggressive
-			
Potomac Edison Co.	BBB-/Stable/--	Excellent	Aggressive
West Penn Power Co.	BBB-/Stable/--	Excellent	Aggressive
Monongahela Power Co.	BBB-/Stable/--	Excellent	Aggressive
Westar Energy Inc.	BBB-/Stable/--	Excellent	Aggressive
Kansas Gas & Electric Co.	BBB-/Stable/--	Excellent	Aggressive
Consumers Energy Co.	BBB-/Stable/--	Excellent	Aggressive
CMS Energy Corp.	BBB-/Stable/A-3	Excellent	Aggressive
Dhio Valley Electric Corp.	BBB-/Stable/--	Excellent	Aggressive
Empire District Electric Co.	BBB-/Stable/A-3	Strong	Aggressive
Edison International	BBB-/Stable/--	Strong	Aggressive
Black Hills Power Inc.	BBB-/Stable/--	Strong	Intermediate
Arizona Public Service Co.	BBB-/Stable/A-3	Strong	Aggressive
Pinnacle West Capital Corp.	BBB-/Stable/A-3	Strong	Aggressive
Avista Corp.	BBB-/Stable/A-3	Strong	Aggressive
Allegheny Energy Inc.	BBB-/Stable/A-3	Strong	Aggressive
Union Electric Co. d/b/a AmerenUE	BBB-/Stable/A-3	Strong	Aggressive
Ameren Corp.	BBB-/Stable/A-3	Satisfactory	Aggressive
Black Hills Corp.	BBB-/Stable/--	Satisfactory	Intermediate
-			
Oncor Electric Delivery Co. LLC	BBB-/Watch Dev/--	Excellent	Intermediate
-			
Duquesne Light Co.	BBB-/Negative/--	Excellent	Highly leveraged
Duquesne Light Holdings Inc.	BBB-/Negative/--	Excellent	Highly leveraged
Entergy New Orleans Inc.	BBB-/Negative/--	Satisfactory	Aggressive

*Issuer Ranking: U.S. Regulated Electric Utility Companies, Strongest To Weakest*

<b>U.S. Regulated Electric Utilities(cont.)</b>			
-			
Puget Sound Energy Inc.	BBB-/Watch Neg/A-3	Excellent	Aggressive
Puget Energy Inc.	BBB-/Watch Neg/--	Excellent	Aggressive
-			
Central Vermont Public Service Corp.	BB+/Stable/--	Excellent	Highly leveraged
Indianapolis Power & Light Co.	BB+/Stable/--	Excellent	Highly leveraged
IPALCO Enterprises Inc.	BB+/Stable/--	Excellent	Highly leveraged
-			
Commonwealth Edison Co.	BB/Positive/B	Satisfactory	Aggressive
Central Illinois Public Service Co.	BB/Positive/--	Satisfactory	Aggressive
Illinois Power Co.	BB/Positive/--	Satisfactory	Aggressive
Central Illinois Light Co.	BB/Positive/--	Satisfactory	Aggressive
CILCORP Inc.	BB/Positive/--	Satisfactory	Aggressive
Tucson Electric Power Co.	BB/Positive/B-2	Strong	Highly leveraged
-			
Nevada Power Co.	BB/Stable/--	Excellent	Highly leveraged
Sierra Pacific Power Co.	BB/Stable/--	Excellent	Highly leveraged
Sierra Pacific Resources	BB/Stable/B-2	Excellent	Highly leveraged
-			
Texas-New Mexico Power Co.	BB-/Stable/--	Satisfactory	Highly leveraged
Public Service Co. of New Mexico	BB-/Stable/B-2	Satisfactory	Highly leveraged
PNM Resources Inc.	BB-/Stable/B-2	Satisfactory	Highly leveraged

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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-13)**

# Industry Outlook

# Moody's Global Infrastructure

July 2008

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## U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

The outlook for the U.S. investor-owned electric utility sector is stable. This outlook expresses Moody's expectations for the fundamental credit conditions in the industry over the next 12 to 18 months. Over the intermediate- to longer-term horizon, material risks continue to congregate.

- State regulatory authorities continue to authorize timely regulatory relief for prudently incurred costs and investments, a primary driver behind our stable outlook.
- Sector financial profile remains relatively steady — as measured by most key cash flow-related credit metrics — but an increasing business and operating risk profile will need to be mitigated by stronger balance sheets and cash flow-related credit metrics for many companies in order to avoid longer-term credit deterioration.
- Material business and operating risks lurk on the horizon, the most important of which include:
  - **Regulatory overhang:** Rising concerns over the pace and amount of requests for financial relief, many of which are attributed to rising commodity prices and other legislatively mandated obligations beyond the control of management;
  - **Market intervention:** Uncertainty over consumer tolerance for steadily increasing rates before a backlash erupts on the legislative front; and
  - **Corporate financing strategy:** Current reluctance on the part of many management teams to issue equity and / or finance substantial negative free cash flow positions with a more balanced allocation of debt and equity. Nevertheless, access to capital has not appeared to be an issue with the sector over the past several months.
- Proposed environmental legislation regarding carbon emissions represents a material long-term credit risk due to uncertainty over the framework and timeframe associated with implementation.



## U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

### Overview

The U.S. investor-owned electric utility sector enjoys solid credit metrics and the fundamental credit outlook remains stable. Most state regulators continue to grant reasonably timely recovery of prudently incurred operating costs and capital expenditures at a reasonable rate of return.

But pressures are building. Utilities are facing rising operating costs and infrastructure investment needs that are prompting them to seek more-frequent requests for rate relief. Meanwhile, as energy (and other commodity) costs rise, so does the risk of a consumer backlash over electric rates that could prompt legislative intervention or a more contentious atmosphere between utilities and their regulators. In addition, the prospect of carbon-emissions legislation remains a significant unknown with potential long-term credit implications.

### Key Trends and Rating Implications

#### What's Changed

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##### Number and pace of requests for rate relief increasing

Utilities are making more frequent requests for financial relief although the percentage increases sought in those requests are expected to be lower. Utilities appear to be positioning themselves to ask their regulators for rate relief more frequently in an attempt to more closely tie their cash inflows to their cash outflows.

While we continue to incorporate a view that these requests will be granted in a relatively timely manner, we remain concerned that at some point, consumers and / or elected officials will reach a threshold tolerance level where absorbing incremental rate increases may become problematic. Should this scenario materialize, we believe the risk of additional market intervention by state legislatures may increase or the relative supportiveness of regulators for additional infrastructure investments may begin to wane. If the regulatory framework begins to take on a more contentious tone, we would consider that to be a material credit negative.

Currently, the regulated nature of the U.S. investor-owned electric utility sector's business activities represents a significant positive credit driver. In our opinion, most state regulatory authorities continue to provide reasonably timely recovery of prudently incurred operating costs and infrastructure investments at a reasonable return. In addition, we incorporate a view that state regulators would otherwise prefer to regulate financially healthy utilities – as they are better positioned to invest in the local infrastructure and maintain high reliability standards – a key priority for the regulatory authorities and elected officials within a given region.

#### Fundamentals

---

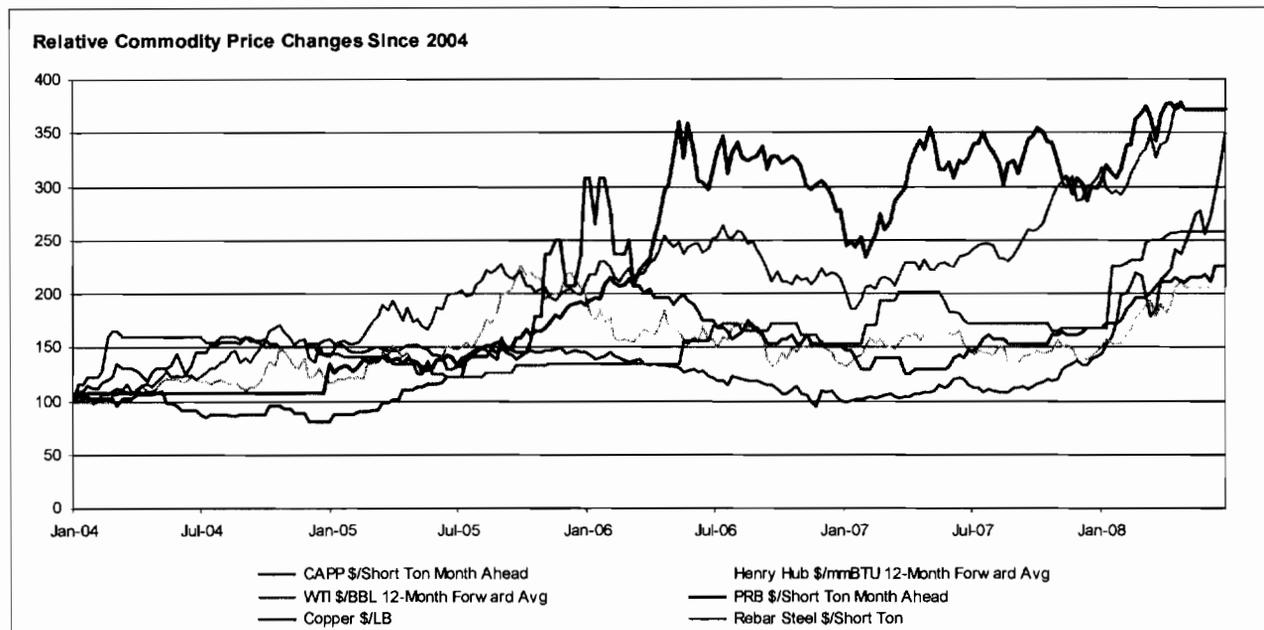
##### Rising pass-through costs could pressure other base-rate requests

Although the regulatory framework remains relatively supportive to the long-term financial health of the sector, concerns are rising related to the significant operating cost pressures associated with rising fuel and purchased power expenses, rising operating and maintenance (O&M) expenses, an aging labor force and other legislatively mandated expenses that will serve to increase all-in consumer rates (for example, renewable portfolio standards).

Many of these rising costs, most notably fuel and purchased power, are collected by utilities through fuel clauses or other direct pass-through mechanisms, without providing any profit or margin opportunities to the utility. As these costs rise, and rates are adjusted upwards, the total percentage of a consumer's bill comprised of pass-through costs may become somewhat skewed, which could lead to political pressure to limit other, base-rate requests for financial relief. This scenario could increase the risk of market intervention by elected officials and / or regulatory authorities. In our opinion, this scenario could be exacerbated by the current commodity markets, where significantly higher oil and natural gas prices may result in material increases to consumer bills.

U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

**Chart A:**



Source: Bloomberg

Moody's defines intervention as any legislatively mandated modification, amendment, revision or adjustment to the traditional electric market framework, which can be viewed as either a credit positive or credit negative. We observe that there has been recent intervention activity in Ohio, which was completed in a reasonably collaborative manner among the utilities, large industrials, consumer advocates and regulatory authorities. Intervention in Pennsylvania and Michigan also appear to be moving toward a resolution intended to lessen potentially adverse consequences to the sector and some modest intervention is currently underway in Texas. Over the longer term, we remain cautious with respect to many of the states that had previously attempted some forms of market restructuring, especially those in the Northeast and Mid-Atlantic regions, where new capacity payment obligations are creating incremental all-in rate pressures and several states are beginning to object to the size and scope of these payments.

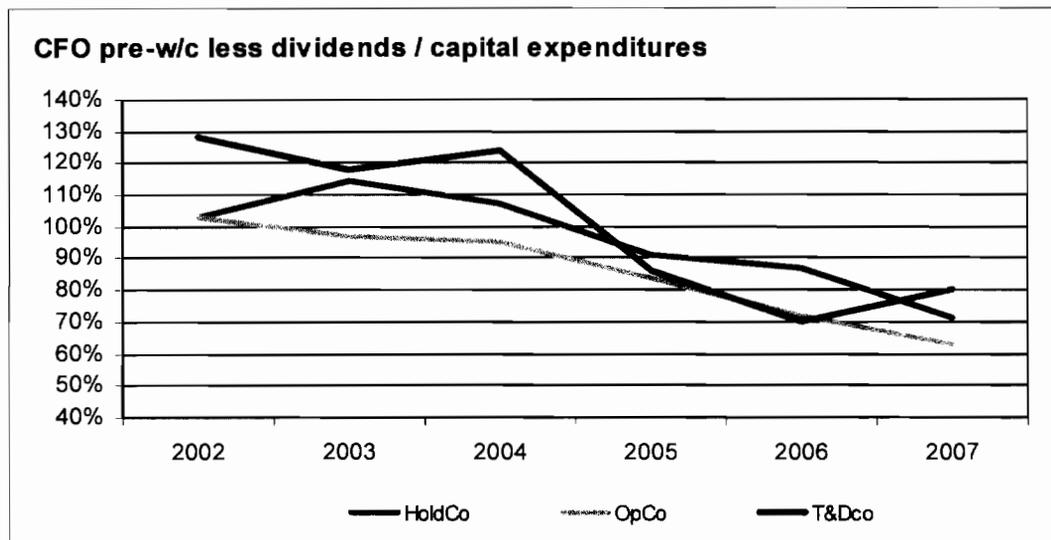
**Aged infrastructure raises need for capital spending, investment plans**

The sector is expected to invest heavily in its rate base and infrastructure over the next several years. However, many of the most expensive projects are very long term. Companies are beginning to highlight that their commitment to making these investments will be premised on some advanced regulatory support or acknowledgement that the investments will be deemed necessary. We view pre-approvals and other up-front regulatory supportiveness as a material credit positive, as it tends to decrease (but not eliminate) the risk for back-end regulatory disallowances.

The manner in which utilities manage these increasing cash outflows and the success they have in attaining regulatory relief will be a major factor in assessing credit ratings over the longer-term horizon. In the chart below, we show the historical trend of the internally generated funds in relation to capital expenditures, as measured by cash flow from operations before working capital adjustments (CFO pre-w/c) less dividends divided by capital expenditures. As can be seen in the chart, the ratio has moved quickly below 100%, and is expected to decline even further over the next few years, a significant credit negative. For illustrative analytical purposes, we segregated the sector into its parent holding companies (HoldCos), vertically integrated electric utilities (OpCos) and transmission and distribution utilities (T&DCos). For a list of the companies included in these peer indexes, please refer to Appendix A.

U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

**Chart B:**



Over the next few years, these ratios are expected to decline even further, and we observe that many companies in the sector are seriously considering engaging in the construction of new nuclear generating capacity – a long term commitment that could be very costly. Recently, several utilities, including Georgia Power and South Carolina Electric and Gas, have announced agreements with their respective vendors to pursue a new build program, where all-in prices are in the general vicinity of \$6,000 / kw capacity level and both appear to have very strong regulatory and political support for the investment. In a separate action, the Department of Energy recently released its solicitation procedures with respect to Federal loan guarantees for nuclear power facilities. The pursuit of new nuclear generating capacity could put significant pressure on the sector's overall capital investment plans and utilities that pursue these projects will most likely be ascribed a higher business and operating risk profile.

**Key metrics relatively stable amid rising operating costs, investment needs**

The key financial credit metrics for the sector remain relatively steady, but may need to improve given the increasing operating cost profile and infrastructure investment needs across the industry and evidence that regulatory relief is occurring in a reasonably timely manner.

In our opinion, the relationship between a utility's cash flow generating capabilities and its total adjusted debt outstanding is a more important element in assessing financial health than authorized returns on equity (ROEs). However, authorized and realized ROEs are a critical component to net income, which, in turn, is a critical component to cash flow, and we observe that the authorized ROEs for the sector have been falling steadily, albeit modestly, over the past few years. While regulators may argue that the overall risk of the sector is declining, partly as a function of pre-approvals for investment and the pass-through riders associated with many costs, the sector is entering a major period of capital-raising needs, and will need to attract a significant amount of new equity capital in order to maintain existing ratings. On the positive side, utilities continue to enjoy relatively consistent access to capital, liquidity remains adequate and, as noted previously, the overall financial profile has remained relatively steady over the recent past. In the table below, Moody's shows the relative stability of the sector from a pure cash flow from operations (CFO), CFO before working capital adjustments (CFO pre-w/c) and funds from operations (FFO) perspective.

U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

**Table 1:**

	Actual As Adjusted (Moody's FM)						Average		
	2002	2003	2004	2005	2006	2007	5-year ( '03 - '07 )	3-year ( '05 - '07 )	LTM Mar-08
	<b>CFO / Debt</b>								
HoldCo	16%	17%	18%	17%	19%	19%	18%	18%	19%
OpCo	27%	26%	27%	21%	27%	23%	25%	24%	23%
T&DCo	21%	20%	23%	22%	18%	19%	20%	20%	20%
<b>FFO / Debt</b>									
HoldCo	17%	19%	19%	19%	21%	21%	20%	21%	21%
OpCo	28%	28%	28%	26%	26%	25%	27%	26%	25%
T&DCo	23%	22%	28%	25%	20%	23%	24%	23%	24%
<b>CFO pre-w/c / Debt</b>									
HoldCo	16%	19%	18%	18%	21%	21%	19%	20%	20%
OpCo	28%	28%	27%	24%	25%	24%	26%	25%	24%
T&DCo	21%	21%	24%	22%	18%	22%	22%	21%	23%

SOURCE: Moody's FM

## Emerging Issues

### Pending environmental legislation

In our opinion, the prospect for new environmental emission legislation, via federal or state carbon emission rules, represents the single-biggest emerging issue on the horizon, due to the sheer volume of the sector's carbon dioxide emissions and the uncertainty surrounding the form and substance of the potential legislation. In general, Moody's remains indifferent as to which carbon emission reduction method is ultimately adopted, whether it be a straight tax regime or a "cap and trade" system. From a credit perspective, we believe the "cap and trade" system would be more complex, less transparent and likely to produce non-recurring profits for many companies. In addition, the potential costs associated with the "cap and trade" system may be less certain than a straight tax approach.

At this time, Moody's incorporates a view that the costs associated with any new legislation regarding emissions will generally be recovered through rates, either through existing fuel clause pass-through mechanisms or other incremental rate riders. We also incorporate a view that the timing of compliance requirements within any potential new legislation will be many years in the future. We observe that the framework behind such legislation is still being developed, is subject to a material amount of political influence and that numerous advocacy groups (including electric utilities) will have a significant amount of input into the drafting of the regulatory procedures associated with implementation.

We view the adoption of emission legislation as a potential credit negative. Although the costs are expected to ultimately be borne by end-use consumers, a credit neutral impact, the potential for regulators to limit other base-rate relief may increase, a credit negative. While Moody's acknowledges that a substantial amount of uncertainty exists at this time, we incorporate a view that management teams will proactively adjust their corporate finance policies, strengthen their balance sheets and bolster their available liquidity capacity at the front end of the implementation cycle to address and prepare for these potential uncertainties – in a manner that is consistent with the sector's perceived conservatism.

## U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

### Conclusion

Moody's continues to incorporate a view that the fundamentals underlying the U.S. investor-owned utility sector remain intact – the most important of which is the relative supportiveness of the regulatory environment. The maturity of the sector and its infrastructure, asset base and, more importantly, the engineering behind its operations, continue to produce an extremely high amount of electric reliability in a safe and efficient manner. In our opinion, maintaining safe reliability is one of the most important issues for state regulatory authorities.

At the same time, the sector is currently facing material issues, such as the need to replace aging infrastructure and the potential for new carbon emission legislation, which can have a significant impact on overall credit quality. These issues are longer-term in nature, providing ample time to revise, adjust and / or amend corporate finance policies and long-term corporate strategies well in advance of changing market conditions.

## U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

**Moody's Related Research****Rating Methodologies:**

- North American Diversified Natural Gas Transmission And Distribution Companies, March 2007 (102513)
- North American Natural Gas Pipelines, December 2006 (101229)
- North American Regulated Gas Distribution Industry (Local Distribution Companies), October 2006 (99282)
- U.S. Electric Generation & Transmission Cooperatives, May 2006 (97324)
- Global Regulated Electric Utilities, March 2005 (91730)

**Industry Outlooks:**

- North American Natural Gas Transmission & Distribution: Six-Month Industry Update, March 2008 (108212)
- U.S. Electric Utility Sector, January 2008 (107004)
- US Coal Industry Outlook – 2008, October 2007 (105372)
- North American Natural Gas Transmission & Distribution, September 2007 (104854)
- U.S. Electric Utilities, December 2006 (101304)

**Special Comments:**

- New Nuclear Generating Capacity: Potential Credit Implications for U.S. Investor Owned Utilities, May 2008 (109152)
- EU Climate Change Strategy, May 2008 (108846)
- Decommissioning and Waste Costs for New Generation of Nuclear Power Structures, May 2008 (109086)
- Credit Challenges Ahead For Public Power: Difficult Decisions on New Generation Capacity, November 2007 (105997)
- New Nuclear Generation in the United States: Keeping Options Open vs. Addressing An Inevitable Necessity, October 2007 (104977)
- Storm Clouds Gathering on the Horizon for the North American Electric Utility Sector, August 2007 (103941)
- Environmental Regulations Increase Capital Costs for Public Power Electric Utilities, June 2007 (103616)
- Regulation Of Greenhouse Gases: Substantial Credit Challenges Likely Ahead For U.S. Public Power Electric Utilities, June 2007 (103356)
- Regulatory Pressures Increase For U.S. Electric Utilities, March 2007 (102322)
- Moody's Comments on the Back to Basics Strategy for the North American Electric Utility Sector, November 2006 (100660)

*To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.*

## U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

**Appendix A**

Holding Companies (HoldCo's)	Sr. Unsec. or Equivl.	CFO pre-w/c / Debt			
		Average			
		5-year ( '03 - '07 )	3-year ( '05 - '07 )	Actual 2007	LTM Mar-08
Allegheny Energy, Inc.	Ba1	13%	18%	22%	23%
Alliant Energy Corporation		24%	25%	29%	37%
Ameren Corporation	Baa2	22%	22%	19%	19%
American Electric Power Company	Baa2	16%	16%	16%	17%
Cleco Corporation	Baa3	26%	29%	32%	30%
CMS Energy Corporation	Ba1	9%	12%	10%	7%
Constellation Energy Group, Inc.	Baa1	24%	25%	26%	25%
Dominion Resources Inc.	Baa2	14%	11%	-3%	-4%
DTE Energy Company	Baa2	14%	15%	11%	15%
Duke Energy Corporation	Baa2	25%	25%	35%	29%
Edison International	Baa2	27%	31%	30%	29%
Entergy Corporation	Baa3	30%	25%	27%	26%
Exelon Corporation	Baa1	29%	30%	39%	36%
FirstEnergy Corp.	Baa3	16%	17%	14%	16%
FPL Group, Inc.	A2	22%	22%	26%	23%
Great Plains Energy Incorporated	Baa2	28%	29%	24%	21%
MidAmerican Energy Holdings Co.	Baa1	11%	11%	12%	12%
OGE Energy Corp.	Baa1	25%	26%	18%	11%
Pepco Holdings, Inc.	Baa3	13%	13%	14%	16%
PG&E Corporation	Baa1	32%	25%	29%	30%
Pinnacle West Capital Corporation	Baa3	20%	20%	20%	20%
PNM Resources, Inc.	Ba2	15%	9%	11%	9%
PPL Corporation	Baa2	20%	21%	23%	21%
Progress Energy, Inc.	Baa2	16%	16%	16%	13%
Public Service Enterprise Group	Baa2	15%	16%	21%	24%
Puget Energy, Inc.	Ba1	15%	13%	17%	19%
SCANA Corporation	Baa1	20%	21%	21%	21%
Sempra Energy	Baa1	30%	33%	37%	34%
Sierra Pacific Resources	Ba3	10%	13%	17%	17%
Southern Company (The)	A3	22%	22%	20%	19%
TECO Energy, Inc.	Baa3	9%	13%	18%	18%
UniSource Energy Corporation	Ba1*	15%	16%	18%	17%
Westar Energy, Inc.	Baa3	18%	20%	19%	17%
Wisconsin Energy Corporation	A3	17%	17%	18%	20%
Xcel Energy Inc.	Baa1	20%	20%	21%	21%

\* senior secured

U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

Vertically Integrated Utilities (OpCos)	CFO pre-w/c / Debt				
	Sr. Unsec. or Equiliv.	Average			LTM Mar-08
		5-year ( '03 - '07 )	3-year ( '05 - '07 )	Actual 2007	
Alabama Power Company	A2	24%	22%	21%	21%
Appalachian Power Company	Baa2	17%	12%	13%	9%
Arizona Public Service Company	Baa2	21%	21%	22%	23%
Cleco Power LLC	Baa1	25%	22%	17%	18%
Columbus Southern Power Company	A3	28%	25%	29%	33%
Consumers Energy Company	Baa2	16%	18%	17%	17%
Dayton Power & Light Company	A3	48%	46%	41%	42%
Detroit Edison Company (The)	Baa1	19%	20%	16%	19%
Duke Energy Carolinas, LLC	A3	25%	29%	34%	28%
Duke Energy Indiana, Inc.	Baa1	20%	21%	22%	21%
Duke Energy Ohio, Inc.	Baa1	29%	29%	33%	36%
Entergy Arkansas, Inc.	Baa2	33%	32%	34%	31%
Entergy Gulf States Louisiana	Baa3	18%	16%	23%	24%
Entergy Louisiana, LLC	Baa2	27%	24%	29%	20%
Entergy Mississippi, Inc.	Baa3	25%	25%	32%	33%
Florida Power & Light Company	A1	38%	35%	37%	35%
Georgia Power Company	A2	24%	23%	20%	20%
Green Mountain Power Corporation	A3*	25%	24%	N/A	N/A
Gulf Power Company	A2	27%	27%	25%	26%
Hawaiian Electric Company, Inc.	Baa1	22%	22%	21%	21%
Idaho Power Company	Baa1	15%	12%	8%	7%
Indiana Michigan Power Company	Baa2	27%	27%	28%	31%
Indianapolis Power & Light Company	Baa2	33%	32%	32%	N/A
Interstate Power and Light Company	A3	33%	33%	40%	36%
Kansas City Power & Light Company	A3	29%	32%	29%	24%
Kansas Gas & Electric Co.	Baa2*	33%	34%	29%	N/A
Kentucky Power Company	Baa2	17%	16%	19%	17%
Kentucky Utilities Co.	A2	28%	26%	24%	N/A
Louisville Gas & Electric Company	A2	23%	23%	18%	N/A
Madison Gas and Electric Company	Aa3	29%	28%	27%	30%
MidAmerican Energy Company	A2	32%	28%	24%	24%
Mississippi Power Company	A1	48%	43%	54%	38%
Monongahela Power Company	Baa3	15%	20%	12%	N/A
Nevada Power Company	Ba3	14%	17%	23%	23%
Northern States Power Company (MN)	A3	29%	28%	29%	29%
Northern States Power Company (WI)	A3	26%	24%	25%	32%
Ohio Power Company	A3	22%	20%	20%	21%
Oklahoma Gas & Electric Company	A2	29%	25%	21%	17%
Pacific Gas & Electric Company	A3	32%	25%	30%	31%
PacifiCorp	Baa1	20%	19%	18%	19%

U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

Vertically Integrated Utilities (OpCos)	Sr. Unsec. or Equilv.	CFO pre-w/c / Debt				
		Average			Actual 2007	LTM Mar-08
		5-year ( '03 - '07)	3-year ( '05 - '07)			
Portland General Electric Company	Baa2	30%	27%	24%	26%	
Progress Energy Carolinas, Inc.	A3	31%	29%	32%	31%	
Progress Energy Florida, Inc.	A3	24%	27%	21%	18%	
Public Service Company of Colorado	Baa1	22%	22%	24%	28%	
Public Service Company of New Mexico	Baa3	17%	13%	13%	12%	
Public Service Company of Oklahoma	Baa1	20%	17%	7%	8%	
Puget Sound Energy, Inc.	Baa3	15%	13%	17%	19%	
Sierra Pacific Power Company	Ba3	13%	17%	15%	16%	
South Carolina Electric & Gas Co	A3	24%	26%	25%	25%	
Southern California Edison Company	A3	48%	48%	50%	47%	
Southwestern Electric Power Company	Baa1	25%	23%	17%	12%	
Southwestern Public Service Company	Baa1	18%	16%	14%	14%	
Tampa Electric Company	Baa2	24%	23%	25%	26%	
Tucson Electric Power Company	Baa3	16%	18%	19%	18%	
Union Electric Company	Baa2	27%	24%	21%	20%	
Virginia Electric and Power Company	Baa1	22%	21%	19%	18%	
Wisconsin Electric Power Company	A1	26%	22%	18%	12%	
Wisconsin Power and Light Company	A2	37%	29%	30%	29%	
Wisconsin Public Service Corporation	A1	30%	26%	21%	23%	

\* senior secured

## U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

Transmission & Distribution Utilities (T&D cos)	Sr. Unsec. or Equivlv.	CFO pre-w/c / Debt			
		Average		Actual 2007	LTM Mar-08
		5-year ( '03 - '07)	3-year ( '05 - '07)		
AEP Texas Central Company	Baa2	6%	3%	1%	4%
AEP Texas North Company	Baa1	26%	26%	N/A	26%
Atlantic City Electric Company	Baa1	17%	19%	21%	25%
Baltimore Gas and Electric Company	Baa2	18%	14%	8%	18%
CenterPoint Energy Houston Electric	Baa3	13%	15%	17%	15%
Central Hudson Gas & Electric Co	A2	20%	16%	15%	16%
Central Illinois Light Company	Ba1	34%	36%	30%	30%
Central Illinois Public Service	Ba1	15%	16%	10%	9%
Central Maine Power Company	A3	22%	21%	23%	22%
Cleveland Electric Illuminating	Baa3	10%	8%	-4%	0%
Commonwealth Edison Company	Ba1	17%	15%	14%	14%
Connecticut Light and Power Company	Baa1	13%	12%	16%	15%
Consolidated Edison Company of NY	A1	19%	16%	14%	16%
Delmarva Power & Light Company	Baa2	18%	14%	14%	19%
Duquesne Light Company	Baa2	25%	30%	56%	N/A
Illinois Power Company	Ba1	16%	14%	11%	10%
Jersey Central Power & Light Company	Baa2	20%	20%	23%	26%
Metropolitan Edison Company	Baa2	14%	12%	11%	11%
New York State Electric and Gas	Baa1	23%	23%	18%	15%
Niagara Mohawk Power Corporation	A3	21%	25%	N/A	N/A
NSTAR Electric Company	A1	18%	14%	18%	19%
Ohio Edison Company	Baa2	32%	27%	15%	18%
Oncor Electric Delivery Company	Ba1	17%	17%	16%	16%
Orange and Rockland Utilities	A2	27%	19%	N/A	N/A
PECO Energy Company	A3	22%	25%	30%	29%
Pennsylvania Electric Company	Baa2	12%	12%	11%	12%
Pennsylvania Power Co.	Baa2	48%	38%	28%	N/A
Potomac Edison Company (The)	Baa3	18%	15%	-2%	N/A
Potomac Electric Power Company	Baa2	24%	29%	47%	49%
PPL Electric Utilities Corporation	Baa1	25%	30%	38%	39%
Public Service Electric and Gas	Baa1	14%	15%	16%	17%
Rochester Gas & Electric Corporation	Baa1	22%	23%	24%	23%
San Diego Gas & Electric Company	A2	39%	34%	31%	30%
Texas-New Mexico Power Company	Baa3	14%	11%	13%	14%
Toledo Edison Company	Baa3	58%	75%	132%	139%
United Illuminating Company	Baa2	22%	21%	19%	N/A
West Penn Power Company	Baa3	29%	26%	25%	N/A
Western Massachusetts Electric	Baa2	12%	9%	20%	19%

## U.S. Investor-Owned Electric Utilities: Six-Month Industry Update

Report Number: 109675

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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-14)**

# Quantitative Profiles

## Monthly insights for equity management

Quantitative Strategy | United States  
11 August 2008



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### Big reversals from first half

July was similar to January 08 in that strategies saw some dramatic reversals: some of the worst performers for 1H 08 rebounded, and vice versa. On average, value strategies gained 1.1 percentage points, whereas growth strategies lost 2.4 percentage points. Year-to-date, growth still maintained its edge, and outperformed value by 6.2 percentage points. Sector overweights, particularly in Financials and Energy, played a large explanatory role in these factor swings.

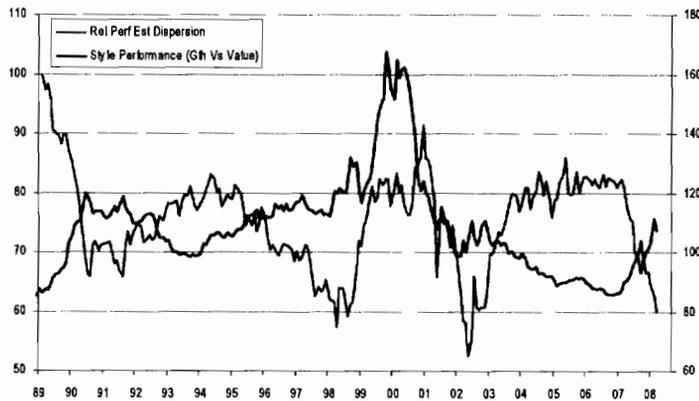
### Best/Worst for July

Low Price/Free Cash Flow (4.4%) and Low Price (3.6%) had the best performance among our models in July, whereas Relative Strength (-11.6%) and Estimate Revisions (-10.1%) suffered the steepest losses. All value strategies except EV/EBITDA outperformed the market.

### Wait for dispersion to call cycle turn

Does July's performance herald the end of a growth cycle, and the beginning of a value cycle? We do not believe we are yet at that inflection point. One sign: our dispersion factor (stocks with high estimate dispersion) continues to underperform. Dispersion and style rotation are correlated in that, excluding the Tech bubble/deflation period, value cycles have generally been accompanied by outperformance of stocks with high estimate dispersion. Thus until we see this factor start to *outperform*, there may be risks to calling a style cycle shift.

**Chart 1: Stocks with high estimation dispersion tend to act like value – and the strategy continues to underperform**



Source: ML US Quantitative Strategy

**Table 1: Top 5 Screens for July 08**

Strategy	July 08 Perf	1H08 Perf
Price/Free Cash Flow	4.4%	-18.4%
Low Price	3.6%	-17.2%
Small Size	3.3%	-18.6%
Share Repurchase	3.0%	-11.1%
Negative EPS Surprise	2.3%	-13.6%
S&P 500	-1.0%	-12.8%

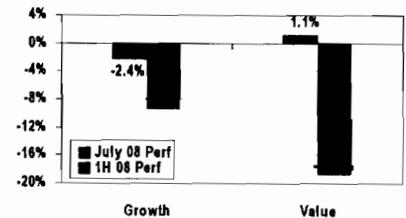
Source: ML US Quantitative Strategy

**Table 2: Btm 5 Screens for July 08**

Strategy	July 08 Perf	1H08 Perf
Relative Strength	-11.6%	-1.4%
Upward EPS Est. Revision	-10.1%	-2.9%
Beta	-6.6%	-13.4%
Proj. 5-YR EPS Growth	-6.1%	-9.0%
Dividend Growth	-5.3%	-8.5%
S&P 500	-1.0%	-12.8%

Source: ML US Quantitative Strategy

**Chart 2: Style Reversal in July 08**



Source: ML US Quantitative Strategy

**Disclaimer:** The valuations and screens contained herein are useful in assessing comparative valuations and comparative earnings prospects and are not intended to recommend transactions relating to any specific security. These indicators should be used in investment decisions only with other factors including financial risk, investment risk, management strategies and operating and financial outlooks.

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Refer to important disclosures on page 50 to 51.

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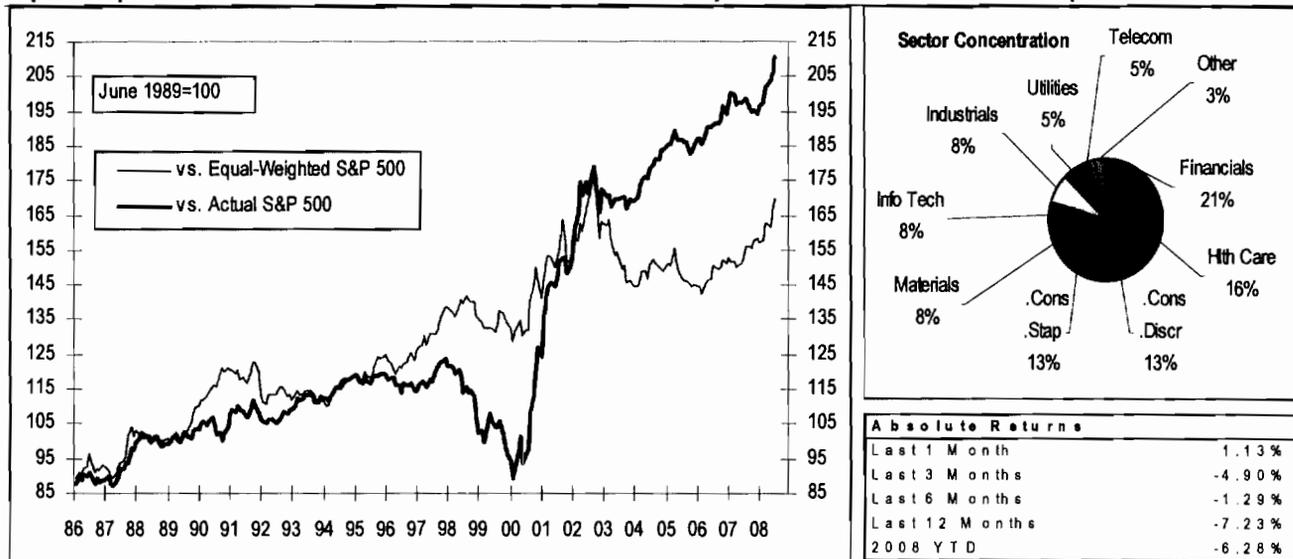
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# Alpha Surprise Model

## Top 50 S&P 500 Companies By Alpha Surprise Model

Alpha Surprise Model: a 25%/75% combination of the DDM "Alpha" and the Positive EPS "Surprise" Models.

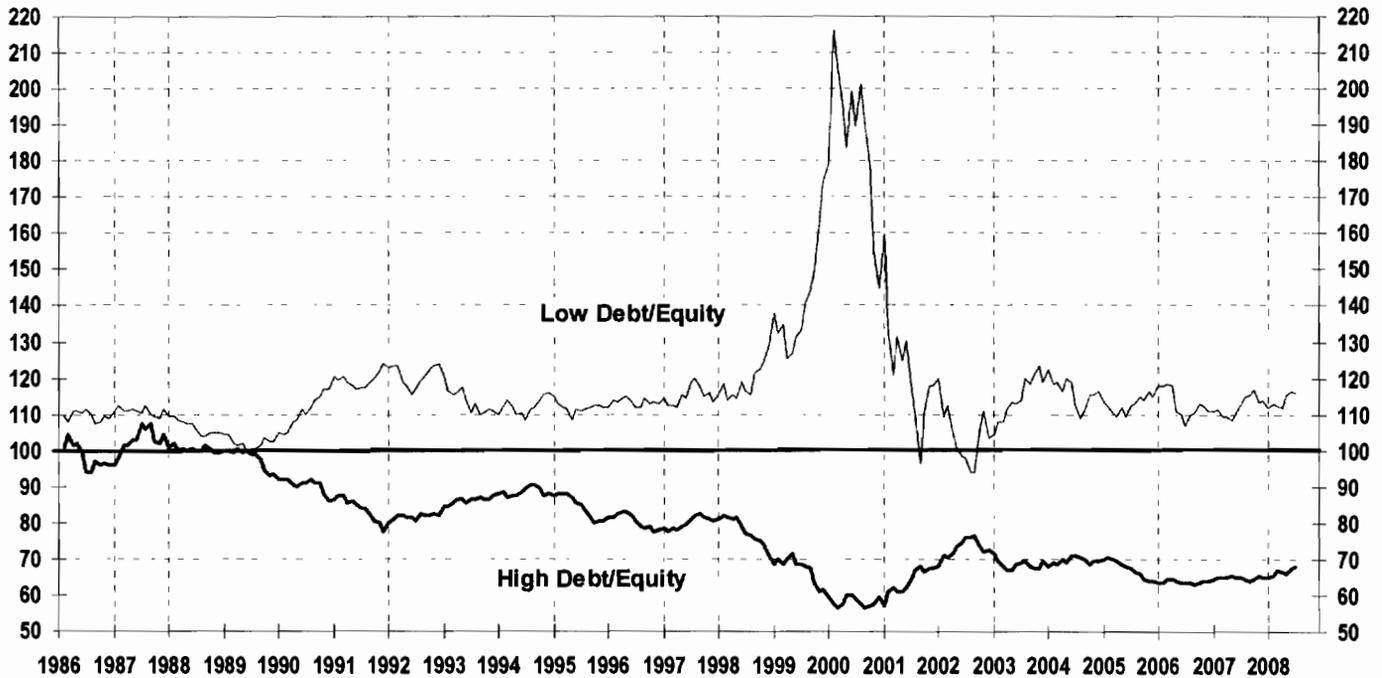


### Screen for August

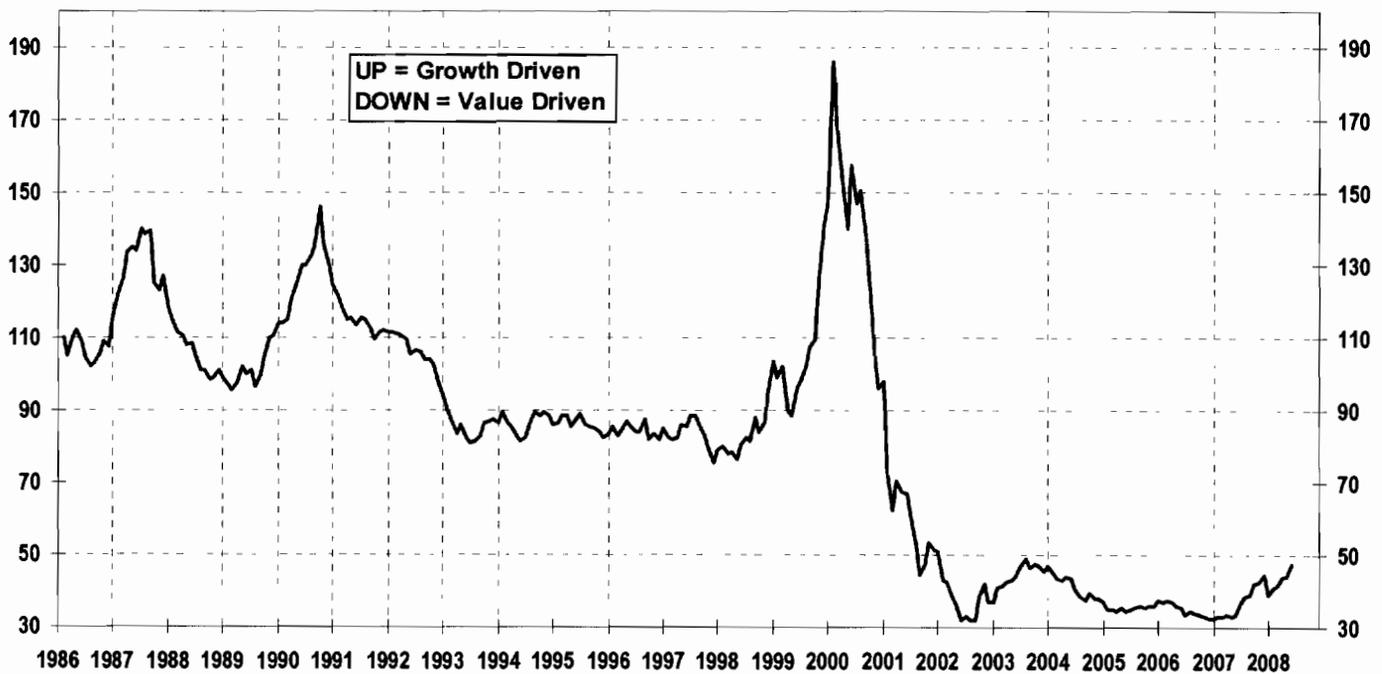
Mo. In	Alpha Surprise	Price	Mo. In	Alpha Surprise	Price
Scrn Company	Score	07/31/2008 S&P	Scrn Company	Score	07/31/2008 S&P
33 AVON PRODUCTS AVP	1.00	42.400 A	3 TECO ENERGY INC TE	2.00	18.550 B
4 XEROX CORP XRX	1.00	13.640 B	New LABORATORY CP OF AMER HLDGS LH	2.25	67.580 B+
New AIR PRODUCTS & CHEMICALS INC APD	1.25	95.210 A	3 LAUDER (ESTEE) COS INC -CL A EL	2.25	44.100 A-
2 HARTFORD FINANCIAL SERVICES HIG	1.25	63.390 B+	3 MONSANTO CO MON	2.25	119.110 NA
New APOLLO GROUP INC -CL A APOL	1.50	62.290 B+	4 SOUTHWEST AIRLINES LUV	2.25	15.590 B+
3 HEWLETT-PACKARD CO HPQ	1.50	44.800 B+	New AMERICAN INTERNATIONAL GROU I AIG	2.50	26.050 A
12 MILLIPORE CORP MIL	1.50	70.350 B	3 CATERPILLAR INC CAT	2.50	69.520 A
5 NORTHROP GRUMMAN CORP NOC	1.50	67.390 A-	New COMCAST CORP CMCSA	2.50	20.620 B-
7 SOUTHERN CO SO	1.50	35.390 A-	10 DU PONT (E I) DE NEMOURS DD	2.50	43.810 B
10 TORCHMARK CORP TMK	1.50	58.050 A	New EXPRESS SCRIPTS INC ESRX	2.50	70.540 B+
5 DARDEN RESTAURANTS INC DRI	1.75	32.570 A	New FISERV INC FISV	2.50	47.820 B+
9 DIRECTV GROUP INC DTV	1.75	27.020 B-	New GENERAL MILLS INC GIS	2.50	64.390 A-
New FEDERATED INVESTORS INC FII	1.75	32.860 A	10 THERMO FISHER SCIENTIFIC INC TMO	2.50	60.520 B-
4 JOHNSON & JOHNSON JNJ	1.75	68.470 A+	7 UST INC UST	2.50	52.610 B+
3 SPRINT NEXTEL CORP S	1.75	8.140 B	4 VERIZON COMMUNICATIONS INC VZ	2.50	34.040 B
New STARWOOD HOTELS&RESORTS WF HOT	1.75	34.290 NA	New WAL-MART STORES INC WMT	2.50	58.620 A+
7 ZIMMER HOLDINGS INC ZMH	1.75	68.910 NA	New ENSCO INTERNATIONAL INC ESV	2.75	69.140 B+
3 APARTMENT INVT &MGMT -CL A AIV	2.00	34.170 B-	New PNC FINANCIAL SVCS GROUP INC PNC	2.75	71.290 B+
New HUDSON CITY BANCORP INC HCBK	2.00	18.260 A	5 PROGRESSIVE CORP-OHIO PGR	2.75	20.250 B+
New METLIFE INC MET	2.00	50.770 NA	9 QUEST DIAGNOSTICS INC DGX	2.75	53.160 B

# MLQS Financial Confidence & Thematic Indicators

## Financial Confidence



## Thematic (High 5-Year Projected Growth vs. High EPS Yield)



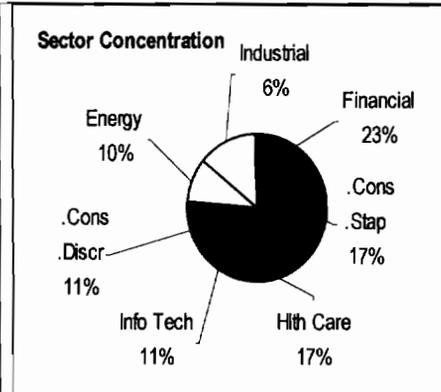
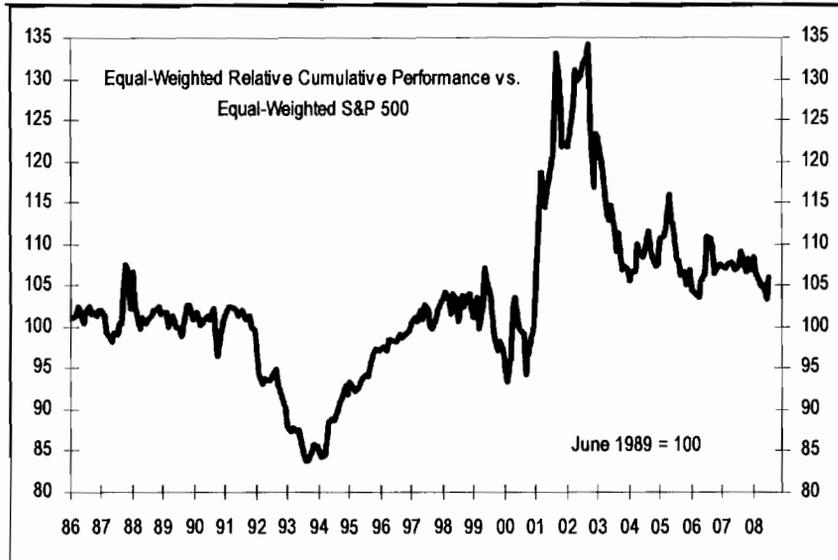


11 August 2008

# Dividend Discount Model Alpha

## Top S&P 500 Companies By DDM ALPHA

Dividend Discount Model Alpha: The implied return from the Merrill Lynch Quantitative Strategy three-stage dividend discount model less the required return from a Capital Asset Pricing Model. Presented as a decile rank.



Absolute Returns	
Last 1 Month	2.14%
Last 3 Months	-7.75%
Last 6 Months	-10.49%
Last 12 Months	-17.03%
2008 YTD	-13.32%

### Screen for August

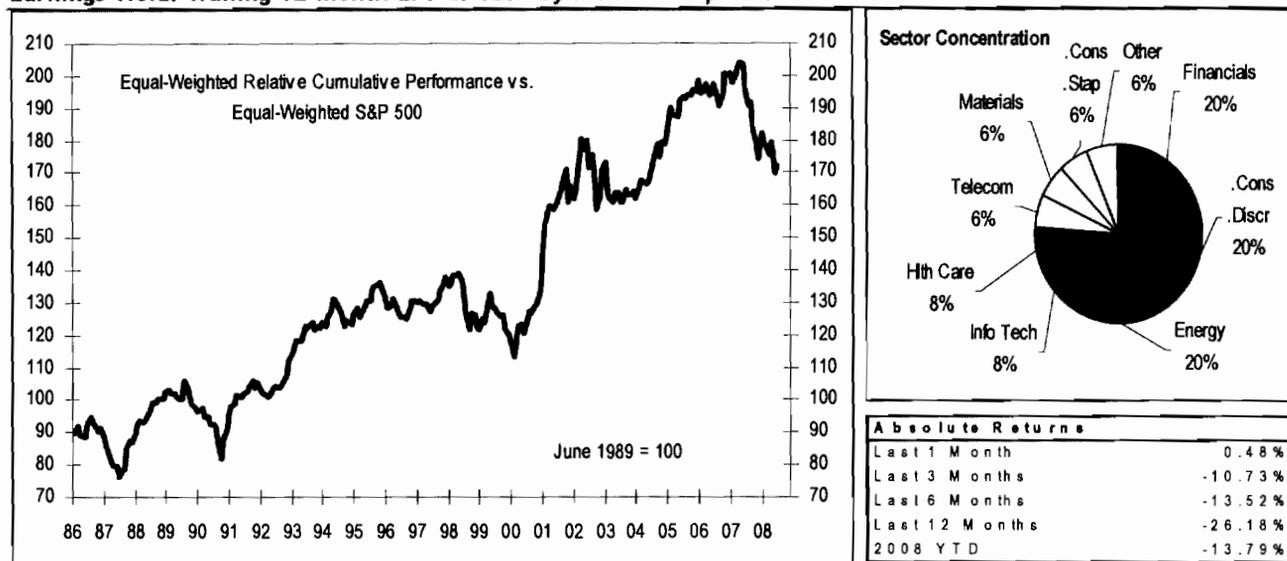
M.o.	In	DDM	Price
Scr	Company	Alpha	07/31/2008
11	ALTRIA GROUP INC	MO	1 20.350
17	AVON PRODUCTS	AVP	1 42.400
6	BAXTER INTERNATIONAL INC	BAX	1 88.610
2	CABOT OIL & GAS CORP	COG	1 44.010
7	CELGENE CORP	CELG	1 75.490
5	CHUBB CORP	CB	1 48.040
58	COLGATE-PALMOLIVE CO	CL	1 74.270
19	COMCAST CORP	CMCSA	1 20.620
5	DIRECTV GROUP INC	DTV	1 27.020
4	GENERAL ELECTRIC CO	GE	1 28.290
64	GENERAL MILLS INC	GIS	1 64.390
17	HUMANA INC	HUM	1 43.910
6	JOHNSON & JOHNSON	JNJ	1 68.470
New	LIZ CLAIBORNE INC	LIZ	1 13.070
9	MEDTRONIC INC	MDT	1 52.830
17	PEPSICO INC	PEP	1 66.560
New	RANGE RESOURCES CORP	RRC	1 48.560
4	SPRINT NEXTEL CORP	S	1 8.140
6	TRANSOCEAN INC	RIG	1 136.030
15	UST INC	UST	1 52.610
New	WAL-MART STORES INC	WMT	1 58.620
46	WELLS FARGO & CO	WFC	1 30.270
4	XEROX CORP	XRXX	1 13.640
4	XL CAPITAL LTD	XL	1 17.890
4	XILINX INC	XLNX	1 24.830
New	AIR PRODUCTS & CHEMICALS INC	APD	2 95.210
19	ALLSTATE CORP	ALL	2 46.220
8	ALTERA CORP	ALTR	2 21.930
7	AMERISOURCEBERGEN CORP	ABC	2 41.870
2	APPLIED MATERIALS INC	AMAT	2 17.320
5	AUTOMATIC DATA PROCESSING	ADP	2 42.710

M.o.	In	DDM	Price
Scr	Company	Alpha	07/31/2008
19	BANK OF AMERICA CORP	BAC	2 32.900
2	BJ SERVICES CO	BJS	2 29.400
3	CBS CORP	CBS	2 16.360
10	CLOROX CO/DE	CLX	2 54.500
New	DEVELOPERS DIVERSIFIED RLTY	DDR	2 31.960
2	DUKE ENERGY CORP	DUK	2 17.580
5	DISNEY (WALT) CO	DIS	2 30.350
10	ECOLAB INC	ECL	2 44.700
2	ENSCO INTERNATIONAL INC	ESV	2 69.140
17	FEDEX CORP	FDX	2 78.840
5	FOREST LABORATORIES -CL A	FRX	2 35.510
3	GAP INC	GPS	2 16.120
2	HARTFORD FINANCIAL SERVICES	HIG	2 63.390
10	HOSPIRA INC	HSP	2 38.160
18	HUDSON CITY BANCORP INC	HCBK	2 18.260
19	KELLOGG CO	K	2 53.060
8	MCCORMICK & COMPANY INC	MKC	2 40.100
19	MEDCO HEALTH SOLUTIONS INC	MHS	2 49.580
3	MICROSOFT CORP	MSFT	2 25.720
2	NABORS INDUSTRIES LTD	NBR	2 36.460
16	PAYCHEX INC	PAYX	2 32.920
17	PNC FINANCIAL SVCS GROUP INC	PNC	2 71.290
2	PPL CORP	PPL	2 46.960
89	PROCTER & GAMBLE CO	PG	2 65.480
18	PROGRESSIVE CORP-OHIO	PGR	2 20.250
3	PITNEY BOWES INC	PBI	2 31.690
19	QUEST DIAGNOSTICS INC	DGX	2 53.160
2	TECO ENERGY INC	TE	2 18.550
7	TRAVELERS COS INC	TRV	2 44.120
New	VF CORP	VFC	2 71.580
2	WYETH	WYE	2 40.520
8	ZIONS BANCORPORATION	ZION	2 29.270

# Earnings Yield

## Top 50 S&P 500 Companies By EARNINGS YIELD

Earnings Yield: Trailing 12-month EPS divided by month-end price.



### Screen for August

Mo.	In	Earnings	Price	Mo.	In	Earnings	Price
Scr	Company	Yield	07/31/2008	Scr	Company	Yield	07/31/2008
10	QWEST COMMUNICATION INTL INC Q	40.73%	3.830	New	MANITOWOC CO	12.10%	26.360
14	GANNETT CO	21.69%	18.120	29	GOLDMAN SACHS GROUP INC	12.07%	184.040
New	CORNING INC	17.79%	20.010	3	NEWS CORP	11.82%	14.130
6	WINDSTREAM CORP	16.95%	11.920	5	HUMANA INC	11.48%	43.910
3	REGIONS FINANCIAL CORP	15.19%	9.480	New	TRANSOCEAN INC	11.43%	136.030
4	TEREX CORP	15.11%	47.330	New	CBS CORP	11.43%	16.360
18	TRAVELERS COS INC	15.10%	44.120	6	WYNDHAM WORLDWIDE CORP	11.32%	17.940
5	ALTRIA GROUP INC	14.89%	20.350	New	ROWAN COS INC	11.21%	39.800
9	ANADARKO PETROLEUM CORP	14.56%	57.910	New	SUPERVALU INC	11.20%	25.620
10	PENNEY (J C) CO	14.43%	30.830	4	MEREDITH CORP	11.19%	25.560
New	FIDELITY NATIONAL INFO SVCS	14.25%	18.950	3	ZIONS BANCORPORATION	11.17%	29.270
14	CAPITAL ONE FINANCIAL CORP	14.12%	41.860	4	BB&T CORP	11.17%	28.020
31	CHUBB CORP	13.84%	48.040	New	APACHE CORP	11.09%	112.170
New	CONOCOPHILLIPS	13.71%	81.620	New	EMBARQ CORP	11.03%	45.770
2	ALLEGHENY TECHNOLOGIES INC	13.64%	47.290	2	OFFICE DEPOT INC	10.88%	6.800
30	SUNOCO INC	13.42%	40.610	New	ENSCO INTERNATIONAL INC	10.82%	69.140
34	VALERO ENERGY CORP	13.35%	33.410	New	TYCO ELECTRONICS LTD	10.80%	33.140
New	DOMINION RESOURCES INC	13.29%	44.180	New	CHEVRON CORP	10.80%	84.560
New	NVIDIA CORP	13.23%	11.440	19	HARTFORD FINANCIAL SERVICES	10.73%	63.390
12	CINCINNATI FINANCIAL CORP	13.00%	27.840	5	UNITEDHEALTH GROUP INC	10.72%	28.080
3	ARCHER-DANIELS-MIDLAND CO	12.89%	28.630	11	COMERICA INC	10.69%	28.720
9	LIMITED BRANDS INC	12.80%	16.490	New	OCCIDENTAL PETROLEUM CORP	10.58%	78.830
2	AUTONATION INC	12.31%	10.320	5	WELLPOINT INC	10.51%	52.450
7	BLACK & DECKER CORP	12.28%	60.020	2	COVENTRY HEALTH CARE INC	10.40%	35.370
New	TITANIUM METALS CORP	12.17%	11.260	New	NUCOR CORP	10.40%	57.220

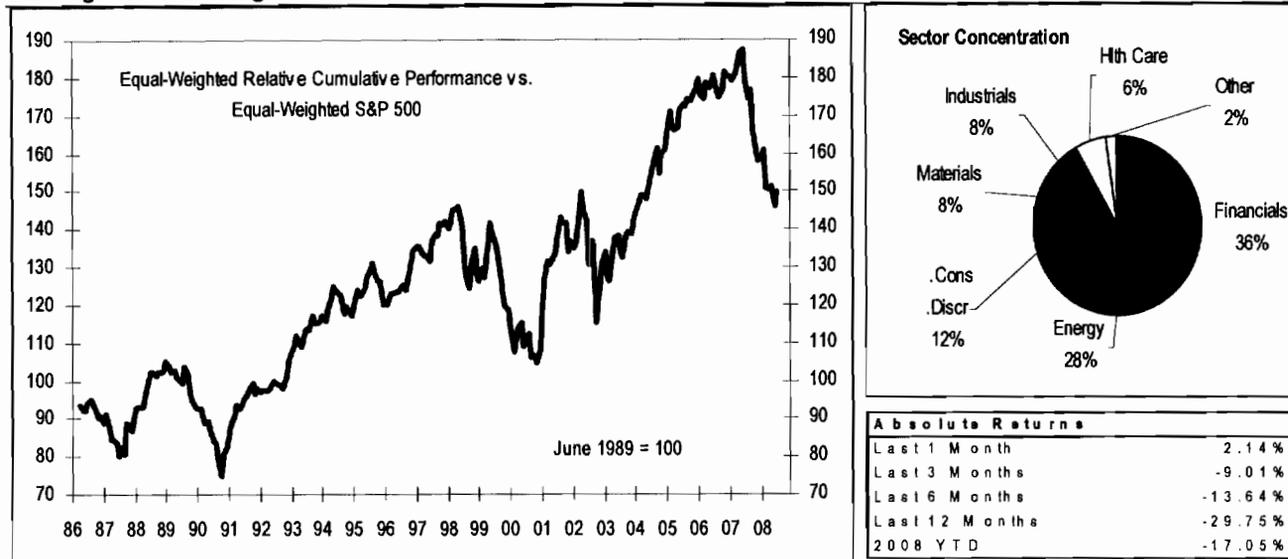


11 August 2008

# Forward Earnings Yield

## Top 50 S&P 500 Companies By FORWARD EARNINGS YIELD

Earnings Yield: Rolling 12-month Forward EPS divided by month-end price.



### Screen for August

Mo. In Scrn	Company	Ticker	Forward Earnings Yield	Price 07/31/2008	Mo. In Scrn	Company	Ticker	Forward Earnings Yield	Price 07/31/2008
41	XL CAPITAL LTD	XL	28.24%	17.890	35	VALERO ENERGY CORP	VLO	12.90%	33.410
12	GANNETT CO	GCI	18.79%	18.120	New	NOBLE CORP	NE	12.88%	51.870
41	CONOCOPHILLIPS	COP	17.05%	81.620	New	MURPHY OIL CORP	MUR	12.79%	79.730
22	GENWORTH FINANCIAL INC	GNW	17.03%	15.970	3	EXXON MOBIL CORP	XOM	12.73%	80.430
12	HUNTINGTON BANCSHARES	HBAN	16.34%	7.020	2	AUTONATION INC	AN	12.66%	10.320
7	TEREX CORP	TEX	15.44%	47.330	4	METLIFE INC	MET	12.55%	50.770
41	HARTFORD FINANCIAL SERVICES	HIG	15.39%	63.390	New	ENSCO INTERNATIONAL INC	ESV	12.54%	69.140
7	CHEVRON CORP	CVX	15.35%	84.560	New	CB RICHARD ELLIS GROUP INC	CBG	12.47%	14.050
3	REGIONS FINANCIAL CORP	RF	15.11%	9.480	New	FREEMPORT-MCMORAN COP&GOLD	FCX	12.45%	96.750
41	MARATHON OIL CORP	MRO	15.00%	49.470	41	ALLSTATE CORP	ALL	12.37%	46.220
19	AMERICAN INTERNATIONAL GROU	AIG	14.89%	26.050	New	ROWAN COS INC	RDC	12.37%	39.800
New	AMERICAN CAPITAL LTD	ACAS	14.83%	20.320	2	DONNELLEY (R R) & SONS CO	RRD	12.29%	26.700
New	APACHE CORP	APA	14.67%	112.170	8	LINCOLN NATIONAL CORP	LNC	12.27%	47.700
New	DEVON ENERGY CORP	DVN	14.11%	94.890	5	CIGNA CORP	CI	12.27%	37.020
8	GOODYEAR TIRE & RUBBER CO	GT	14.00%	19.630	31	CHUBB CORP	CB	12.21%	48.040
2	MANITOWOC CO	MTW	13.96%	26.360	New	SUPERVALU INC	SVU	12.21%	25.620
New	UNITED STATES STEEL CORP	X	13.94%	160.360	3	ZIONS BANCORPORATION	ZION	12.13%	29.270
2	OCCIDENTAL PETROLEUM CORP	OXY	13.94%	78.830	4	PRUDENTIAL FINANCIAL INC	PRU	12.02%	68.970
New	NOBLE ENERGY INC	NBL	13.67%	73.870	New	CBS CORP	CBS	11.76%	16.360
20	MORGAN STANLEY	MS	13.39%	39.480	New	TRANSOCEAN INC	RIG	11.67%	136.030
18	TRAVELERS COS INC	TRV	13.37%	44.120	New	EATON CORP	ETN	11.65%	71.040
7	PFIZER INC	PFE	13.16%	18.670	2	HUMANA INC	HUM	11.58%	43.910
New	NUCOR CORP	NUE	13.09%	57.220	New	LIZ CLAIBORNE INC	LIZ	11.57%	13.070
2	ALLEGHENY TECHNOLOGIES INC	ATI	13.07%	47.290	New	ASSURANT INC	AIZ	11.49%	60.120
6	WYNDHAM WORLDWIDE CORP	WYN	12.96%	17.940	25	CAPITAL ONE FINANCIAL CORP	COF	11.48%	41.860

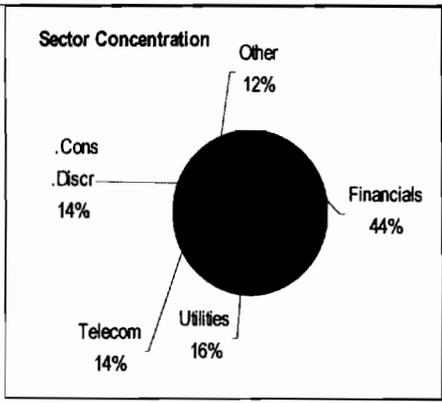
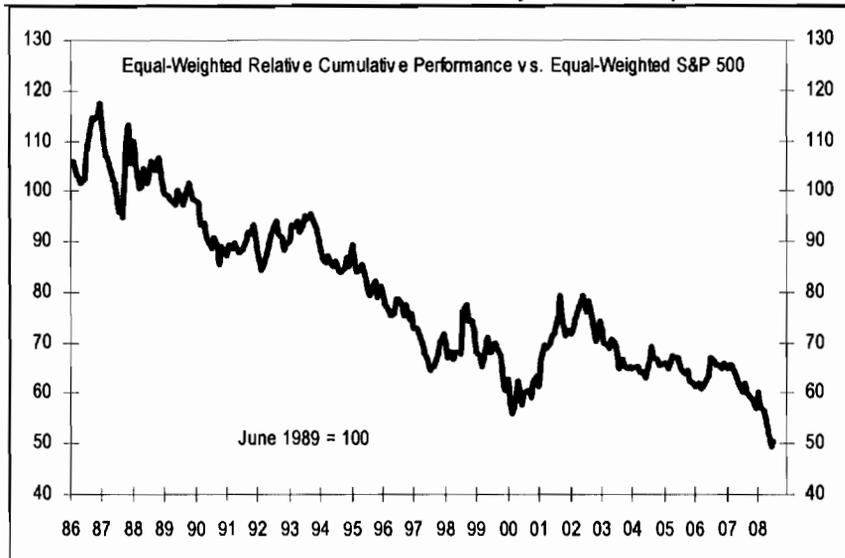


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# Dividend Yield

## Top 50 S&P 500 Companies By DIVIDEND YIELD

Dividend Yield: Indicated dividend divided by month-end price.



Absolute Returns	
Last 1 Month	1.96%
Last 3 Months	-15.79%
Last 6 Months	-22.94%
Last 12 Months	-29.48%
2008 YTD	-22.22%

### Screen for August

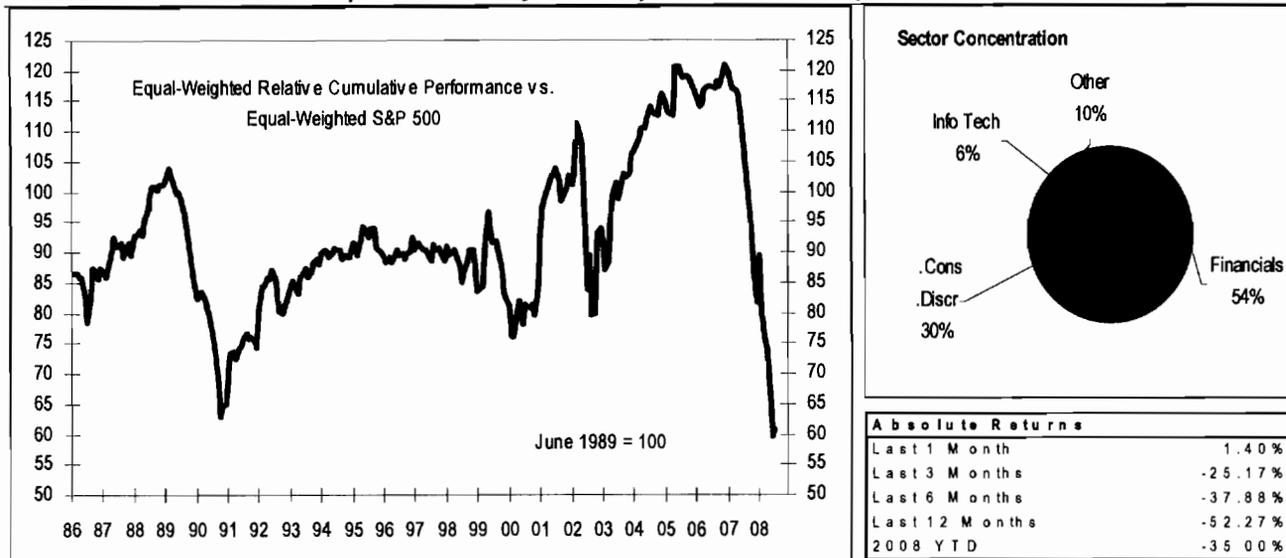
Mo.	In	Price		Mo.	In	Price	
Scr	Company	Yield	07/31/2008	Scr	Company	Yield	07/31/2008
2	FEDERAL HOME LOAN MORTG COF FRE	12.24%	8.170	9	HOST HOTELS & RESORTS INC	6.10%	13.110
6	FANNIE MAE	12.17%	11.500	48	REYNOLDS AMERICAN INC	6.09%	55.830
34	COMERICA INC	9.19%	28.720	25	EMBARQ CORP	6.01%	45.770
7	GANNETT CO	8.83%	18.120	128	CONSOLIDATED EDISON INC	5.89%	39.700
New	FRONTIER COMMUNICATIONS COF FTR	8.65%	11.560	2	ZIONS BANCORPORATION	5.88%	29.270
17	DEVELOPERS DIVERSIFIED RLTY	8.64%	31.960	8	BRISTOL-MYERS SQUIBB CO	5.87%	21.120
6	FIRST HORIZON NATIONAL CORP	8.51%	9.400	92	PROGRESS ENERGY INC	5.81%	42.310
8	MARSHALL & ILSLEY CORP	8.42%	15.200	5	ALTRIA GROUP INC	5.70%	20.350
25	WINDSTREAM CORP	8.39%	11.920	3	KB HOME	5.69%	17.590
8	QWEST COMMUNICATION INTL INC Q	8.36%	3.830	2	CINCINNATI FINANCIAL CORP	5.60%	27.840
60	BANK OF AMERICA CORP	7.78%	32.900	4	MASCO CORP	5.58%	16.490
31	HUNTINGTON BANCSHARES	7.55%	7.020	44	U S BANCORP	5.55%	30.610
New	CENTURYTEL INC	7.53%	37.190	88	NISOURCE INC	5.39%	17.080
18	SUNTRUST BANKS INC	7.50%	41.060	2	LENNAR CORP	5.29%	12.100
2	XL CAPITAL LTD	7.43%	17.890	New	MERRILL LYNCH & CO INC	5.25%	26.650
17	NEW YORK TIMES CO -CL A	7.31%	12.590	18	INTEGRYS ENERGY GROUP INC	5.25%	51.060
9	GENERAL GROWTH PPTYS INC	7.30%	27.410	28	DUKE ENERGY CORP	5.23%	17.580
45	KEYCORP	7.11%	10.550	New	AT&T INC	5.19%	30.810
29	APARTMENT INVT &MGMT -CL A	7.02%	34.170	New	DTE ENERGY CO	5.17%	40.980
29	PFIZER INC	6.86%	18.670	9	LEGGETT & PLATT INC	5.13%	19.500
31	CITIGROUP INC	6.85%	18.690	New	NEWELL RUBBERMAID INC	5.08%	16.530
26	BB&T CORP	6.71%	28.020	New	VERIZON COMMUNICATIONS INC	5.05%	34.040
4	CBS CORP	6.60%	16.360	5	HCP INC	5.05%	36.070
81	PINNACLE WEST CAPITAL CORP	6.26%	33.570	New	DOW CHEMICAL	5.04%	33.310
126	AMEREN CORP	6.18%	41.090	New	KIMCO REALTY CORP	4.99%	35.290

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# Price/Book Value

## Top 50 S&P 500 Companies By LOW PRICE/BOOK

Price/Book Value: Month-end price divided by latest reported book value per share.



### Screen for August

Mo.	In	Company	Ticker	Price/Book	Price 07/31/2008	Mo.	In	Company	Ticker	Price/Book	Price 07/31/2008
	15	NATIONAL CITY CORP	NCC	0.23	4.730		6	FIRST HORIZON NATIONAL CORP	FHN	0.68	9.400
	14	CIT GROUP INC	CIT	0.26	8.480		53	MBIA INC	MBI	0.68	5.930
	36	MGIC INVESTMENT CORP/WI	MTG	0.28	6.400		10	TELLABS INC	TLAB	0.71	5.140
	121	DILLARDS INC -CL A	DDS	0.30	10.110		New	AMERICAN CAPITAL LTD	ACAS	0.72	20.320
	21	REGIONS FINANCIAL CORP	RF	0.33	9.480		15	JONES APPAREL GROUP INC	JNY	0.72	16.740
	45	XL CAPITAL LTD	XL	0.35	17.890		2	TESORO CORP	TSO	0.72	15.440
	12	WASHINGTON MUTUAL INC	WM	0.40	5.330		35	SOVEREIGN BANCORP INC	SOV	0.78	9.520
	12	HUNTINGTON BANCSHARES	HBAN	0.44	7.020		28	CENTEX CORP	CTX	0.79	14.680
	14	GANNETT CO	GCI	0.46	18.120		18	ASHLAND INC	ASH	0.80	41.770
	31	CBS CORP	CBS	0.50	16.360		5	MACY'S INC	M	0.81	18.810
	3	LEHMAN BROTHERS HOLDINGS INC	LEH	0.50	17.340		2	AMERICAN INTERNATIONAL GROU	AIG	0.82	26.050
	2	FANNIE MAE	FNM	0.51	11.500		4	CINCINNATI FINANCIAL CORP	CINF	0.83	27.840
	59	AUTONATION INC	AN	0.53	10.320		4	SUNTRUST BANKS INC	STI	0.83	41.060
	32	GENWORTH FINANCIAL INC	GNW	0.54	15.970		5	COMERICA INC	CMA	0.85	28.720
	27	LENNAR CORP	LEN	0.55	12.100		2	LIZ CLAIBORNE INC	LIZ	0.85	13.070
	22	MICRON TECHNOLOGY INC	MU	0.56	4.830		27	D R HORTON INC	DHI	0.86	11.120
	19	WACHOVIA CORP	WB	0.56	17.270		3	FIFTH THIRD BANCORP	FITB	0.86	13.970
	3	OFFICE DEPOT INC	ODP	0.57	6.800		3	LEGG MASON INC	LM	0.86	40.350
	21	IAC/INTERACTIVECORP	IACI	0.59	17.460		43	TIME WARNER INC	TWX	0.87	14.320
	11	E TRADE FINANCIAL CORP	ETFC	0.61	3.020		New	SUPERVALU INC	SVU	0.89	25.620
	9	MARSHALL & ILSLEY CORP	MI	0.61	15.200		2	WYNDHAM WORLDWIDE CORP	WYN	0.90	17.940
	21	CAPITAL ONE FINANCIAL CORP	COF	0.63	41.860		28	PULTE HOMES INC	PHM	0.91	12.210
	6	ZIONS BANCORPORATION	ZION	0.63	29.270		New	NISOURCE INC	NI	0.92	17.080
	3	KEYCORP	KEY	0.64	10.550		3	CITIGROUP INC	C	0.93	18.690
	2	SANDISK CORP	SNDK	0.64	14.100		7	PINNACLE WEST CAPITAL CORP	PNW	0.95	33.570

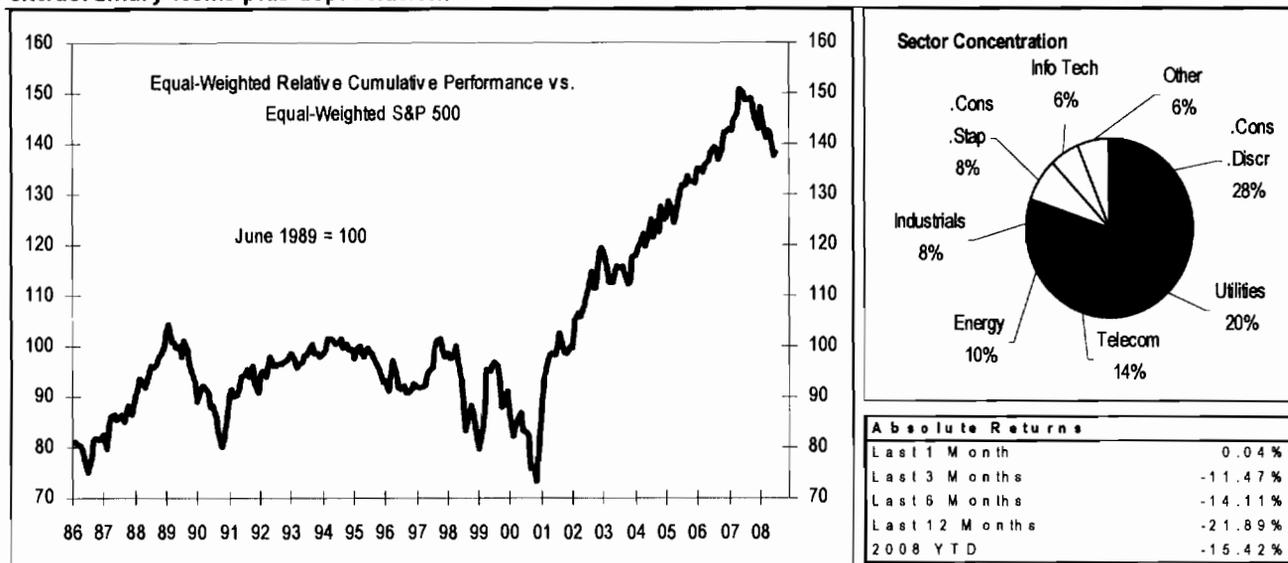


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# Price/Cash Flow

## Top 50 S&P 500 Companies By LOW PRICE/CASH FLOW

Price/Cash Flow: Month-end price divided by latest reported cash flow. Cash flow is defined as earnings post extraordinary items plus depreciation.



### Screen for August

Mo.	In	Price /	Price	Mo.	In	Price /	Price
	Scr. Company	Ticker Cash Flo	07/31/2008		Scr. Company	Ticker Cash Flo	07/31/2008
21	QWEST COMMUNICATION INTL INC Q	1.33	3.830	33	CENTERPOINT ENERGY INC	CNP	4.89 15.770
5	INGERSOLL-RAND CO LTD	IR	2.48 36.000	11	WHIRLPOOL CORP	WHR	4.92 75.700
42	DILLARDS INC -CL A	DDS	2.50 10.110	47	PG&E CORP	PCG	5.00 38.530
6	GOODYEAR TIRE & RUBBER CO	GT	2.76 19.630	New	CORNING INC	GLW	5.05 20.010
19	SUPERVALU INC	SVU	3.34 25.620	New	FRONTIER COMMUNICATIONS CO FTR	5.07	11.560
6	TIME WARNER INC	TWX	3.46 14.320	4	PEPSI BOTTLING GROUP INC	PBG	5.08 27.850
120	RYDER SYSTEM INC	R	3.49 65.960	4	AMERICAN ELECTRIC POWER CO	AEP	5.31 39.500
10	GANNETT CO	GCI	3.54 18.120	3	LIMITED BRANDS INC	LTD	5.36 16.490
18	WINDSTREAM CORP	WIN	3.84 11.920	New	AT&T INC	T	5.47 30.810
21	EMBARQ CORP	EQ	3.88 45.770	18	TRAVELERS COS INC	TRV	5.54 44.120
10	OFFICE DEPOT INC	ODP	3.91 6.800	New	APACHE CORP	APA	5.65 112.170
9	MACYS INC	M	3.91 18.810	New	CONVERGYS CORP	CVG	5.70 12.700
30	ANADARKO PETROLEUM CORP	APC	3.96 57.910	16	INTL PAPER CO	IP	5.70 27.720
6	JONES APPAREL GROUP INC	JNY	3.97 16.740	12	ALLIED WASTE INDUSTRIES INC	AW	5.74 12.100
31	DTE ENERGY CO	DTE	4.17 40.980	New	DOMINION RESOURCES INC	D	5.79 44.180
57	CENTURYTEL INC	CTL	4.19 37.190	New	SAFEWAY INC	SWY	5.79 26.720
24	VALERO ENERGY CORP	VLO	4.22 33.410	7	XCEL ENERGY INC	XEL	5.83 20.060
24	SUNOCO INC	SUN	4.23 40.610	17	FORD MOTOR CO	F	5.84 4.800
2	REGIONS FINANCIAL CORP	RF	4.40 9.480	New	WYNDHAM WORLDWIDE CORP	WYN	5.93 17.940
43	COMPUTER SCIENCES CORP	CSC	4.53 47.370	New	ARCHER-DANIELS-MIDLAND CO	ADM	5.94 28.630
19	PINNACLE WEST CAPITAL CORP	PNW	4.65 33.570	2	AUTONATION INC	AN	5.94 10.320
3	CMS ENERGY CORP	CMS	4.67 13.500	New	TEREX CORP	TEX	6.03 47.330
5	PENNEY (J C) CO	JCP	4.78 30.830	New	NICOR INC	GAS	6.07 39.820
43	VERIZON COMMUNICATIONS INC	VZ	4.82 34.040	New	NISOURCE INC	NI	6.17 17.080
New	CONOCOPHILLIPS	COP	4.83 81.620	2	BLACK & DECKER CORP	BDK	6.22 60.020

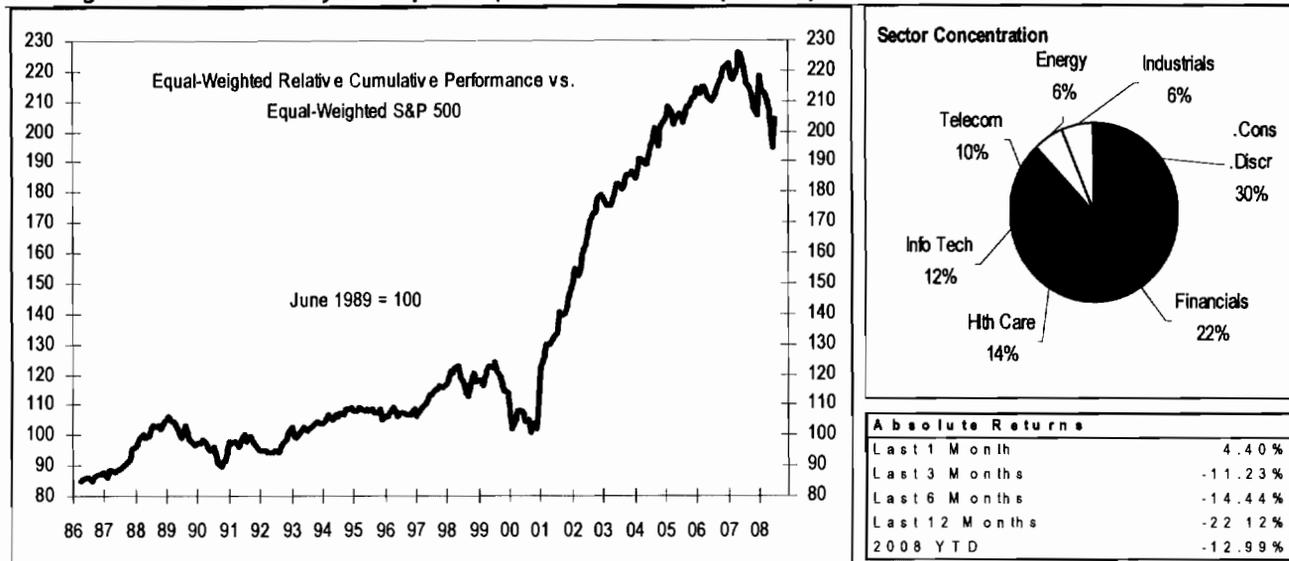


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# Price/Free Cash Flow

## Top 50 S&P 500 Companies By LOW PRICE/FREE CASH FLOW

Price/Free Cash Flow: Month-end price divided by latest reported free cash flow. Free Cash Flow is defined as the earnings after extraordinary items plus depreciation minus capital expenditures.



### Screen for August

Mo.	In	Price / Free Cash Flo	Price 07/31/2008	Mo.	In	Price / Free Cash Flo	Price 07/31/2008
Scr.	Company	Ticker		Scr.	Company	Ticker	
18	QWEST COMMUNICATION INTL INC Q	Q	2.02 3.830	New	FRONTIER COMMUNICATIONS COFTR	FTR	8.75 11.560
5	INGERSOLL-RAND CO LTD	IR	2.54 36.000	8	BB&T CORP	BBT	8.77 28.020
33	GANNETT CO	GCI	4.14 18.120	3	NEWS CORP	NWS.A	8.80 14.130
6	TIME WARNER INC	TWX	4.93 14.320	5	HUMANA INC	HUM	8.92 43.910
7	WINDSTREAM CORP	WIN	5.03 11.920	24	VALERO ENERGY CORP	VLO	8.94 33.410
6	JONES APPAREL GROUP INC	JNY	5.47 16.740	New	CONVERGYS CORP	CVG	9.04 12.700
61	CENTURYTEL INC	CTL	6.44 37.190	New	TYCO ELECTRONICS LTD	TEL	9.07 33.140
New	CORNING INC	GLW	6.62 20.010	7	COMPUTER SCIENCES CORP	CSC	9.08 47.370
3	REGIONS FINANCIAL CORP	RF	6.75 9.480	5	WYNDHAM WORLDWIDE CORP	WYN	9.12 17.940
18	EMBARQ CORP	EQ	7.06 45.770	New	VIACOM INC	VIA.B	9.16 27.930
4	GOODYEAR TIRE & RUBBER CO	GT	7.11 19.630	5	UNITEDHEALTH GROUP INC	UNH	9.20 28.080
45	CHUBB CORP	CB	7.16 48.040	9	LEXMARK INTL INC -CL A	LXK	9.27 35.080
6	MACY'S INC	M	7.17 18.810	6	WATSON PHARMACEUTICALS INC	WPI	9.35 28.910
2	TEREX CORP	TEX	7.23 47.330	5	WELLPOINT INC	WLP	9.39 52.450
18	HARTFORD FINANCIAL SERVICES	HIG	7.23 63.390	11	WHIRLPOOL CORP	WHR	9.42 75.700
New	AON CORP	AOC	7.51 45.800	20	GOLDMAN SACHS GROUP INC	GS	9.49 184.040
5	MARSH & MCLENNAN COS	MMC	7.52 28.250	New	CONOCOPHILLIPS	COP	9.52 81.620
10	RADIOSHACK CORP	RSH	7.77 16.680	New	AUTONATION INC	AN	9.64 10.320
5	MEREDITH CORP	MDP	7.78 25.560	18	KING PHARMACEUTICALS INC	KG	9.66 11.510
27	BLACK & DECKER CORP	BDK	7.81 60.020	New	MANITOWOC CO	MTW	9.88 26.360
14	CINCINNATI FINANCIAL CORP	CINF	8.10 27.840	New	SAFECO CORP	SAF	9.92 66.160
5	COVENTRY HEALTH CARE INC	CVH	8.49 35.370	New	NVIDIA CORP	NVDA	10.07 11.440
17	STANLEY WORKS	SWK	8.51 44.480	New	PFIZER INC	PFE	10.21 18.670
6	ZIONS BANCORPORATION	ZION	8.54 29.270	2	M & T BANK CORP	MTB	10.22 70.380
New	CBS CORP	CBS	8.68 16.360	New	ANADARKO PETROLEUM CORP	APC	10.40 57.910

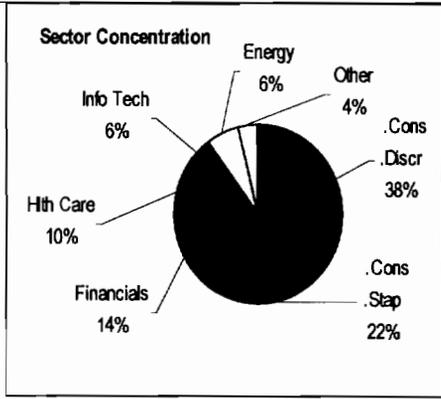
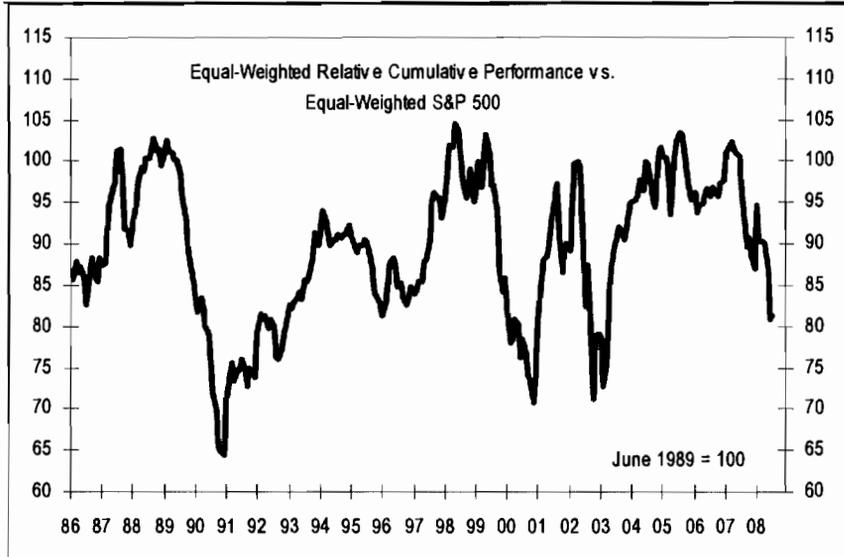


11 August 2008

# Price/Sales

## Top 50 S&P 500 Companies By LOW PRICE/SALES

Price/Sales: Month-end market value divided by reported sales.



Absolute Returns	
Last 1 Month	0.01%
Last 3 Months	-17.71%
Last 6 Months	-21.46%
Last 12 Months	-29.42%
2008 YTD	-18.38%

### Screen for August

Mo.	In	Company	Ticker	Mkt Val / Sales	Price 07/31/2008
144		GENERAL MOTORS CORP	GM	0.03	11.070
96		FORD MOTOR CO	F	0.06	4.800
11		TESORO CORP	TSO	0.08	15.440
85		DILLARDS INC -CL A	DDS	0.08	10.110
66		AUTONATION INC	AN	0.08	10.320
67		AMERISOURCEBERGEN CORP	ABC	0.10	41.870
85		SUNOCO INC	SUN	0.10	40.610
32		SEARS HOLDINGS CORP	SHLD	0.11	81.000
14		OFFICE DEPOT INC	ODP	0.12	6.800
85		SUPERVALU INC	SVU	0.12	25.620
7		FEDERAL HOME LOAN MORTG CO	FRE	0.12	8.170
112		MCKESSON CORP	MCK	0.15	55.990
36		TYSON FOODS INC -CL A	TSN	0.15	14.900
52		VALERO ENERGY CORP	VLO	0.15	33.410
49		CARDINAL HEALTH INC	CAH	0.21	53.730
35		COCA-COLA ENTERPRISES INC	CCE	0.23	16.930
104		GOODYEAR TIRE & RUBBER CO	GT	0.23	19.630
43		UNISYS CORP	UIS	0.24	3.690
29		CENTEX CORP	CTX	0.24	14.680
6		LEHMAN BROTHERS HOLDINGS INC	LEH	0.25	17.340
28		LENNAR CORP	LEN	0.25	12.100
New		FANNIE MAE	FNM	0.26	11.500
80		KROGER CO	KR	0.26	28.280
28		DEAN FOODS CO	DF	0.26	21.300
28		KB HOME	KBH	0.27	17.590

Mo.	In	Company	Ticker	Mkt Val / Sales	Price 07/31/2008
20		JABIL CIRCUIT INC	JBL	0.27	16.260
19		PEPSI BOTTLING GROUP INC	PBG	0.27	27.850
65		SAFeway INC	SWY	0.27	26.720
9		LIZ CLAIBORNE INC	LIZ	0.27	13.070
12		ASHLAND INC	ASH	0.28	41.770
6		HUMANA INC	HUM	0.28	43.910
57		WHIRLPOOL CORP	WHR	0.29	75.700
12		MACY'S INC	M	0.30	18.810
3		ARCHER-DANIELS-MIDLAND CO	ADM	0.31	28.630
20		PULTE HOMES INC	PHM	0.31	12.210
35		TENET HEALTHCARE CORP	THC	0.31	5.790
4		NATIONAL CITY CORP	NCC	0.31	4.730
5		CIT GROUP INC	CIT	0.32	8.480
4		D R HORTON INC	DHI	0.33	11.120
17		BEST BUY CO INC	BBY	0.33	39.720
17		INTEGRYS ENERGY GROUP INC	TEG	0.34	51.060
3		WASHINGTON MUTUAL INC	WM	0.34	5.330
2		PENNEY (J C) CO	JCP	0.35	30.830
21		WAL-MART STORES INC	WMT	0.35	58.620
New		COSTCO WHOLESALE CORP	COST	0.39	62.680
14		JONES APPAREL GROUP INC	JNY	0.40	16.740
3		EASTMAN KODAK CO	EK	0.41	14.640
New		WHOLE FOODS MARKET INC	WFMI	0.41	22.170
New		ADVANCED MICRO DEVICES	AMD	0.41	4.210
New		CB RICHARD ELLIS GROUP INC	CBG	0.42	14.050

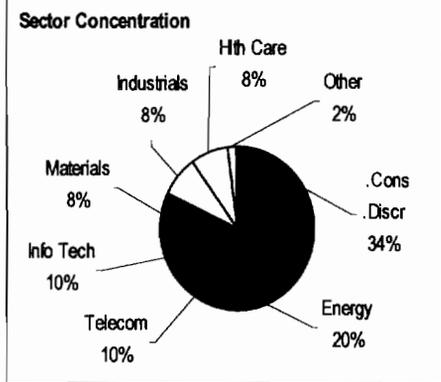
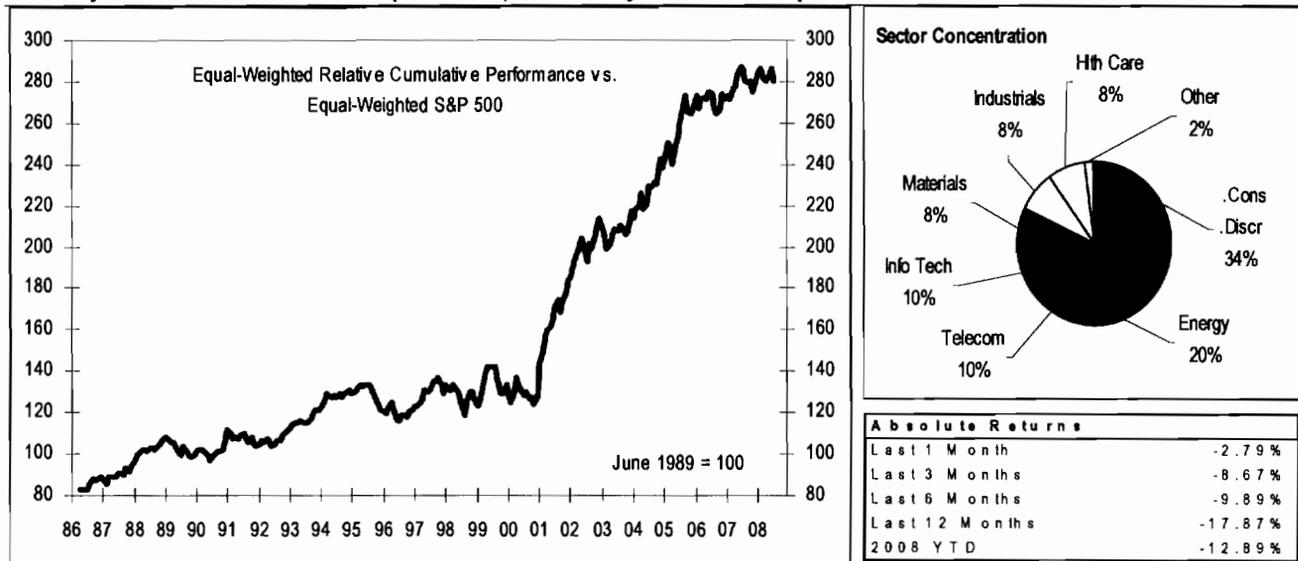


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# EV / EBITDA

## Top 50 S&P Industrials Companies By LOW EV/EBITDA

EV/EBITDA: Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest - Cash & Cash Equivalents) divided by the latest 4-quarter EBITDA



Absolute Returns	
Last 1 Month	-2.79%
Last 3 Months	-8.67%
Last 6 Months	-9.89%
Last 12 Months	-17.87%
2008 YTD	-12.89%

### Screen for August

Mo.	In	EV /	Price	Mo.	In	EV /	Price			
Scrn	Company	EBITDA	07/31/2008	Scrn	Company	EBITDA	07/31/2008			
	43	KING PHARMACEUTICALS INC	KG	2.12	11.510	2	GAP INC	GPS	4.66	16.120
	6	HUMANA INC	HUM	2.35	43.910	21	EMBARQ CORP	EQ	4.73	45.770
	3	GENERAL MOTORS CORP	GM	2.82	11.070	13	CONVERGYS CORP	CVG	4.79	12.700
	65	EASTMAN KODAK CO	EK	3.38	14.640	13	OFFICE DEPOT INC	ODP	4.80	6.800
	12	UNISYS CORP	UIS	3.41	3.690	New	HESS CORP	HES	4.80	101.400
	12	ANADARKO PETROLEUM CORP	APC	3.43	57.910	New	ABERCROMBIE & FITCH -CL A	ANF	4.83	55.220
	39	MOLEX INC	MOLX	3.53	24.530	3	NEWS CORP	NWS.A	4.94	14.130
	59	CONOCOPHILLIPS	COP	3.59	81.620	5	UNITEDHEALTH GROUP INC	UNH	5.04	28.080
	6	SUN MICROSYSTEMS INC	JAVA	3.61	10.630	8	SUPERVALU INC	SVU	5.13	25.620
	6	GOODYEAR TIRE & RUBBER CO	GT	3.68	19.630	New	ROWAN COS INC	RDC	5.14	39.800
	30	SUNOCO INC	SUN	3.83	40.610	New	OCCIDENTAL PETROLEUM CORP	OXY	5.15	78.830
	18	POLO RALPH LAUREN CP -CL A	RL	3.98	59.170	2	COVENTRY HEALTH CARE INC	CVH	5.18	35.370
	27	SPRINT NEXTEL CORP	S	3.99	8.140	22	WHIRLPOOL CORP	WHR	5.22	75.700
	11	RADIOSHACK CORP	RSH	4.06	16.680	New	MURPHY OIL CORP	MUR	5.26	79.730
	62	CHEVRON CORP	CVX	4.06	84.560	New	MONSTER WORLDWIDE INC	MNST	5.28	17.740
New		NVIDIA CORP	NVDA	4.26	11.440	New	LIZ CLAIBORNE INC	LIZ	5.28	13.070
11		GANNETT CO	GCI	4.27	18.120	New	MANITOWOC CO	MTW	5.30	26.360
10		ASHLAND INC	ASH	4.33	41.770	New	FREEMONT-MCMORAN COP&GOLD	FCX	5.30	96.750
New		APACHE CORP	APA	4.33	112.170	New	DILLARDS INC -CL A	DDS	5.30	10.110
6		IAC/INTERACTIVECORP	IACI	4.35	17.460	10	CENTURYTEL INC	CTL	5.32	37.190
31		VALERO ENERGY CORP	VLO	4.36	33.410	New	NUCOR CORP	NUE	5.33	57.220
7		MEREDITH CORP	MDP	4.38	25.560	New	BOEING CO	BA	5.36	61.110
21		QWEST COMMUNICATION INTL INC Q	Q	4.39	3.830	63	VERIZON COMMUNICATIONS INC	VZ	5.38	34.040
2		TEREX CORP	TEX	4.45	47.330	3	CBS CORP	CBS	5.50	16.360
9		TIME WARNER INC	TWX	4.54	14.320	New	EASTMAN CHEMICAL CO	EMN	5.53	59.960

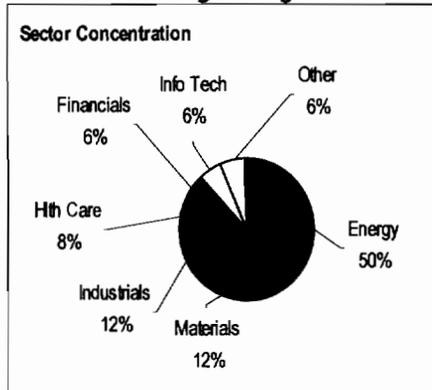
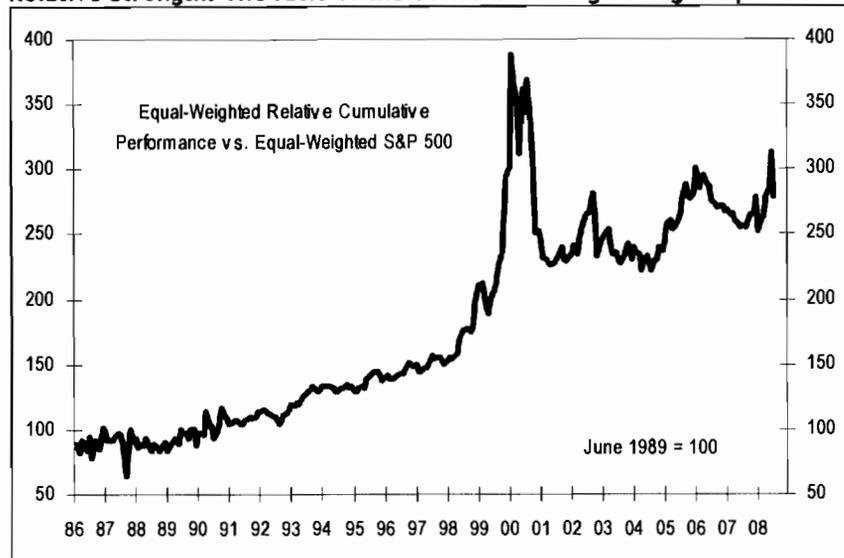


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# Relative Strength

## Top 50 S&P 500 Companies By RELATIVE STRENGTH.

Relative Strength: The ratio of the 30-week moving average of price to the 75-week moving average.



Absolute Returns	
Last 1 Month	-11.55%
Last 3 Months	-8.86%
Last 6 Months	1.17%
Last 12 Months	-8.85%
2008 YTD	-12.82%

### Screen for August

Mo.	In	Relative	Price
Scr.	Company	Ticker	Strength 07/31/2008
2	MASSEY ENERGY CO	MEE	1.45 74.250
8	CONSOL ENERGY INC	CNX	1.36 74.390
2	SOUTHWESTERN ENERGY CO	SWN	1.31 36.310
8	HESS CORP	HES	1.30 101.400
14	MONSANTO CO	MON	1.30 119.110
New	MASTERCARD INC	MA	1.29 244.150
8	RANGE RESOURCES CORP	RRC	1.29 48.560
New	AK STEEL HOLDING CORP	AKS	1.27 63.500
5	EOG RESOURCES INC	EOG	1.26 100.530
2	CABOT OIL & GAS CORP	COG	1.24 44.010
2	INTUITIVE SURGICAL INC	ISRG	1.23 311.290
8	APACHE CORP	APA	1.23 112.170
5	CHESAPEAKE ENERGY CORP	CHK	1.22 50.150
6	PEABODY ENERGY CORP	BTU	1.20 67.650
3	UNITED STATES STEEL CORP	X	1.20 160.360
10	WEATHERFORD INTL LTD	WFT	1.18 37.730
8	OCCIDENTAL PETROLEUM CORP	OXY	1.18 78.830
5	DEVON ENERGY CORP	DVN	1.18 94.890
8	MURPHY OIL CORP	MUR	1.17 79.730
3	CSX CORP	CSX	1.17 67.580
6	ANADARKO PETROLEUM CORP	APC	1.16 57.910
10	NOBLE ENERGY INC	NBL	1.16 73.870
10	FLUOR CORP	FLR	1.16 81.350
3	TRANSOCEAN INC	RIG	1.15 136.030
5	XTO ENERGY INC	XTO	1.15 47.230

Mo.	In	Relative	Price
Scr.	Company	Ticker	Strength 07/31/2008
13	NATIONAL OILWELL VARCO INC	NOV	1.14 78.630
10	JACOBS ENGINEERING GROUP INC	JEC	1.14 77.340
2	RYDER SYSTEM INC	R	1.13 65.960
11	EXPRESS SCRIPTS INC	ESRX	1.13 70.540
5	GILEAD SCIENCES INC	GILD	1.13 53.980
17	DEERE & CO	DE	1.13 70.160
3	HUDSON CITY BANCORP INC	HCBK	1.13 18.260
6	SIGMA-ALDRICH CORP	SIAL	1.12 60.740
7	CAMERON INTERNATIONAL CORP	CAM	1.12 47.760
12	FREEMPORT-MCMORAN COP&GOLD	FCX	1.12 96.750
3	HALLIBURTON CO	HAL	1.11 44.820
11	LEUCADIA NATIONAL CORP	LUK	1.11 44.770
12	SMITH INTERNATIONAL INC	SII	1.11 74.380
New	NABORS INDUSTRIES LTD	NBR	1.11 36.460
8	PRAXAIR INC	PX	1.11 93.730
3	UNION PACIFIC CORP	UNP	1.10 82.440
3	QUESTAR CORP	STR	1.10 52.880
5	AFLAC INC	AFL	1.10 55.610
17	APPLE INC	AAPL	1.10 158.950
4	NOBLE CORP	NE	1.09 51.870
New	WRIGLEY (WM) JR CO	WWY	1.09 78.960
11	VERISIGN INC	VRSN	1.09 32.540
New	ENSCO INTERNATIONAL INC	ESV	1.09 69.140
New	WAL-MART STORES INC	WMT	1.09 58.620
12	MEDCO HEALTH SOLUTIONS INC	MHS	1.08 49.580

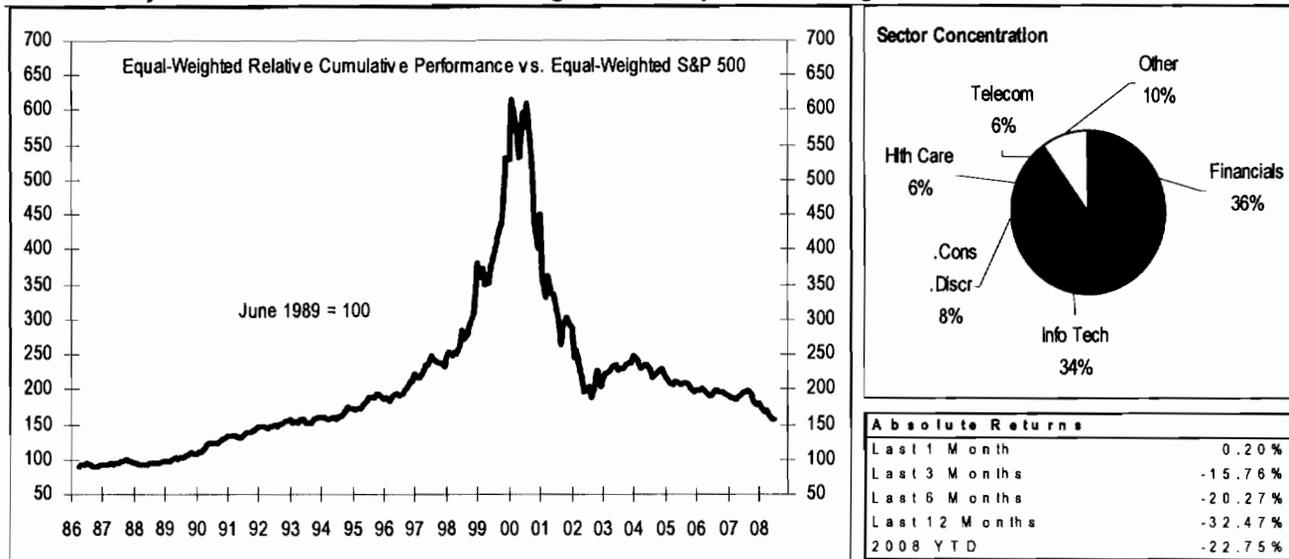


11 August 2008

# Most Active

## Top 50 S&P 500 Companies By Most Actively Traded Stocks.

Most Actively Traded Stocks: Stocks have the highest monthly share trading volume.



### Screen for August

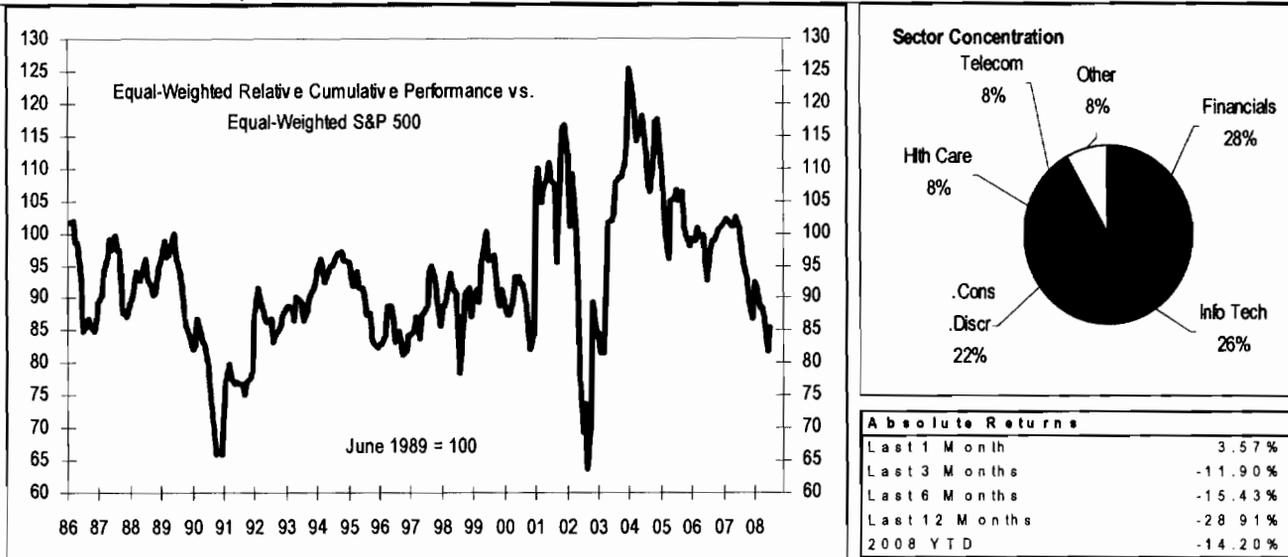
Mo. In	Company	Ticker	Trading Volume (In Mils) 07/31/2008	Price 07/31/2008	Mo. In	Company	Ticker	Trading Volume (In Mils) 07/31/2008	Price 07/31/2008
60	CITIGROUP INC	C	2941	18.690	44	SPRINT NEXTEL CORP	S	671	8.140
10	WASHINGTON MUTUAL INC	WM	2776	5.330	60	QUALCOMM INC	QCOM	661	55.340
48	BANK OF AMERICA CORP	BAC	2724	32.900	60	YAHOO INC	YHOO	661	19.890
12	WACHOVIA CORP	WB	2709	17.270	33	AT&T INC	T	657	30.810
New	FEDERAL HOME LOAN MORTG COFRE		2465	8.170	60	MOTOROLA INC	MOT	624	8.640
6	FANNIE MAE	FNM	2304	11.500	12	E TRADE FINANCIAL CORP	ETFC	623	3.020
60	MICROSOFT CORP	MSFT	1695	25.720	35	ADVANCED MICRO DEVICES	AMD	622	4.210
13	WELLS FARGO & CO	WFC	1693	30.270	60	DELL INC	DELL	599	24.570
60	GENERAL ELECTRIC CO	GE	1562	28.290	7	NVIDIA CORP	NVDA	586	11.440
43	FORD MOTOR CO	F	1549	4.800	58	TIME WARNER INC	TWX	572	14.320
9	LEHMAN BROTHERS HOLDINGS INC	LEH	1519	17.340	60	APPLIED MATERIALS INC	AMAT	567	17.320
60	INTEL CORP	INTC	1430	22.190	2	MORGAN STANLEY	MS	557	39.480
22	JPMORGAN CHASE & CO	JPM	1319	40.630	New	CHESAPEAKE ENERGY CORP	CHK	556	50.150
60	CISCO SYSTEMS INC	CSCO	1301	21.990	4	QWEST COMMUNICATION INTL INC Q		554	3.830
13	MERRILL LYNCH & CO INC	MER	1291	26.650	23	MICRON TECHNOLOGY INC	MU	539	4.830
60	PFIZER INC	PFE	1070	18.670	9	MERCK & CO	MRK	532	32.900
60	EMC CORP/MA	EMC	1009	15.010	45	COMCAST CORP	CMCSA	532	20.620
13	AMERICAN INTERNATIONAL GROU	IAIG	963	26.050	57	WAL-MART STORES INC	WMT	518	58.620
60	ORACLE CORP	ORCL	783	21.530	New	TEXAS INSTRUMENTS INC	TXN	517	24.380
46	APPLE INC	AAPL	730	158.950	2	FIFTH THIRD BANCORP	FITB	517	13.970
5	NATIONAL CITY CORP	NCC	729	4.730	New	SCHERING-PLOUGH	SGP	505	21.080
15	GENERAL MOTORS CORP	GM	722	11.070	3	SUN MICROSYSTEMS INC	JAVA	458	10.630
60	EXXON MOBIL CORP	XOM	712	80.430	New	KRAFT FOODS INC	KFT	452	31.820
2	U S BANCORP	USB	701	30.610	2	CORNING INC	GLW	446	20.010
2	REGIONS FINANCIAL CORP	RF	687	9.480	New	AMERICAN EXPRESS CO	AXP	443	37.120

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# Price

## Top 50 S&P 500 Companies By LOW PRICE

Low Price: Absolute price level of the stock at month-end.



### Screen for August

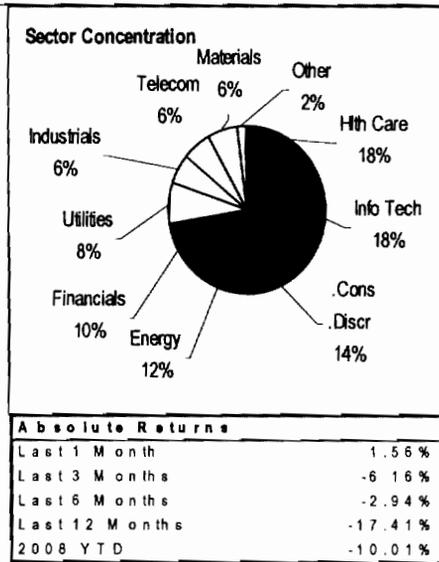
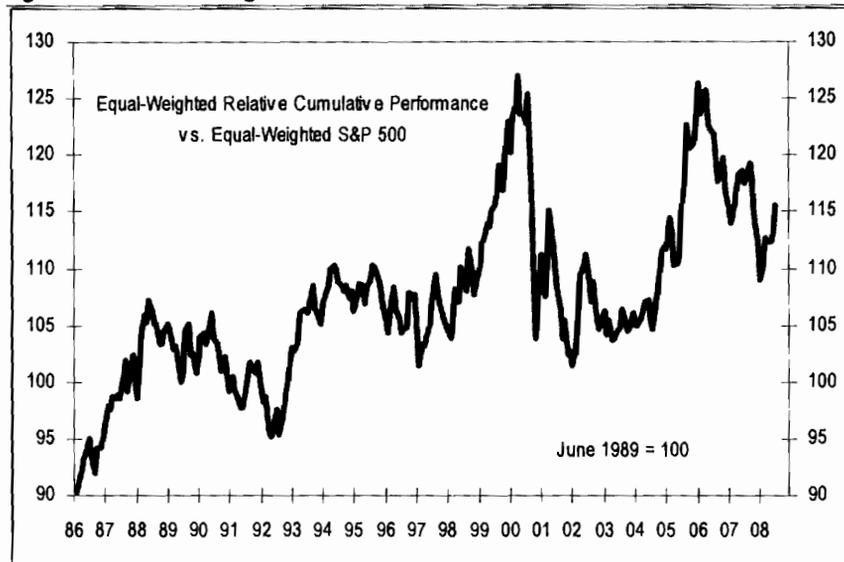
Mo.	In	Price	Mo.	In	Price		
Scrtn.	Company	Ticker	07/31/2008	Scrtn.	Company	Ticker	07/31/2008
13	E TRADE FINANCIAL CORP	ETFC	3.020	14	SOVEREIGN BANCORP INC	SOV	9.520
55	UNISYS CORP	UIS	3.690	2	DILLARDS INC -CL A	DDS	10.110
82	QWEST COMMUNICATION INTL INC	Q	3.830	3	AUTONATION INC	AN	10.320
20	ADVANCED MICRO DEVICES	AMD	4.210	2	KEYCORP	KEY	10.550
5	NATIONAL CITY CORP	NCC	4.730	4	SUN MICROSYSTEMS INC	JAVA	10.630
46	FORD MOTOR CO	F	4.800	22	JDS UNIPHASE CORP	JDSU	10.930
49	MICRON TECHNOLOGY INC	MU	4.830	100	COMPUWARE CORP	CPWR	11.000
78	TELLABS INC	TLAB	5.140	2	GENERAL MOTORS CORP	GM	11.070
6	WASHINGTON MUTUAL INC	WM	5.330	4	DR HORTON INC	DHI	11.120
99	NOVELL INC	NOVL	5.570	New	TITANIUM METALS CORP	TIE	11.260
55	TENET HEALTHCARE CORP	THC	5.790	New	NVIDIA CORP	NVDA	11.440
7	MBIA INC	MBI	5.930	New	FANNIE MAE	FNM	11.500
6	MGIC INVESTMENT CORP/WI	MTG	6.400	24	KING PHARMACEUTICALS INC	KG	11.510
16	DYNEGY INC	DYN	6.730	New	FRONTIER COMMUNICATIONS COFFTR		11.560
10	OFFICE DEPOT INC	ODP	6.800	24	BOSTON SCIENTIFIC CORP	BSX	11.890
76	LSI CORP	LSI	6.940	25	WINDSTREAM CORP	WIN	11.920
13	HUNTINGTON BANCSHARES	HBAN	7.020	66	ALLIED WASTE INDUSTRIES INC	AW	12.100
12	SPRINT NEXTEL CORP	S	8.140	2	LENNAR CORP	LEN	12.100
New	FEDERAL HOME LOAN MORTG COFFRE		8.170	13	PULTE HOMES INC	PHM	12.210
5	CIT GROUP INC	CIT	8.480	New	NEW YORK TIMES CO -CL A	NYT	12.590
19	MOTOROLA INC	MOT	8.640	New	CONVERGYS CORP	CVG	12.700
51	INTERPUBLIC GROUP OF COS	IPG	8.790	15	MYLAN INC	MYL	12.970
41	TERADYNE INC	TER	9.370	New	LIZ CLAIBORNE INC	LIZ	13.070
5	FIRST HORIZON NATIONAL CORP	FHN	9.400	2	HOST HOTELS & RESORTS INC	HST	13.110
2	REGIONS FINANCIAL CORP	RF	9.480	New	CMS ENERGY CORP	CMS	13.500

Mo.	In	Price	Mo.	In	Price		
Scrtn.	Company	Ticker	07/31/2008	Scrtn.	Company	Ticker	07/31/2008
14	SOVEREIGN BANCORP INC	SOV	9.520	14	SOVEREIGN BANCORP INC	SOV	9.520
2	DILLARDS INC -CL A	DDS	10.110	2	DILLARDS INC -CL A	DDS	10.110
3	AUTONATION INC	AN	10.320	3	AUTONATION INC	AN	10.320
2	KEYCORP	KEY	10.550	2	KEYCORP	KEY	10.550
4	SUN MICROSYSTEMS INC	JAVA	10.630	4	SUN MICROSYSTEMS INC	JAVA	10.630
22	JDS UNIPHASE CORP	JDSU	10.930	22	JDS UNIPHASE CORP	JDSU	10.930
100	COMPUWARE CORP	CPWR	11.000	100	COMPUWARE CORP	CPWR	11.000
2	GENERAL MOTORS CORP	GM	11.070	2	GENERAL MOTORS CORP	GM	11.070
4	DR HORTON INC	DHI	11.120	4	DR HORTON INC	DHI	11.120
New	TITANIUM METALS CORP	TIE	11.260	New	TITANIUM METALS CORP	TIE	11.260
New	NVIDIA CORP	NVDA	11.440	New	NVIDIA CORP	NVDA	11.440
New	FANNIE MAE	FNM	11.500	New	FANNIE MAE	FNM	11.500
24	KING PHARMACEUTICALS INC	KG	11.510	24	KING PHARMACEUTICALS INC	KG	11.510
New	FRONTIER COMMUNICATIONS COFFTR		11.560	New	FRONTIER COMMUNICATIONS COFFTR		11.560
24	BOSTON SCIENTIFIC CORP	BSX	11.890	24	BOSTON SCIENTIFIC CORP	BSX	11.890
25	WINDSTREAM CORP	WIN	11.920	25	WINDSTREAM CORP	WIN	11.920
66	ALLIED WASTE INDUSTRIES INC	AW	12.100	66	ALLIED WASTE INDUSTRIES INC	AW	12.100
2	LENNAR CORP	LEN	12.100	2	LENNAR CORP	LEN	12.100
13	PULTE HOMES INC	PHM	12.210	13	PULTE HOMES INC	PHM	12.210
New	NEW YORK TIMES CO -CL A	NYT	12.590	New	NEW YORK TIMES CO -CL A	NYT	12.590
New	CONVERGYS CORP	CVG	12.700	New	CONVERGYS CORP	CVG	12.700
15	MYLAN INC	MYL	12.970	15	MYLAN INC	MYL	12.970
New	LIZ CLAIBORNE INC	LIZ	13.070	New	LIZ CLAIBORNE INC	LIZ	13.070
2	HOST HOTELS & RESORTS INC	HST	13.110	2	HOST HOTELS & RESORTS INC	HST	13.110
New	CMS ENERGY CORP	CMS	13.500	New	CMS ENERGY CORP	CMS	13.500

# Earnings Momentum

## Top 50 S&P 500 Companies By EPS MOMENTUM

Earnings Momentum: The difference between 12-month trailing EPS and year-ago 12-month trailing EPS divided by year-ago 12-month trailing EPS.



### Screen for August

Mo.	In	Scrn. Company	Ticker	EPS Momentum	Price 07/31/2008
6		PUBLIC STORAGE	PSA	12766.7	81.890
6		GENZYME CORP	GENZ	4375.0	76.650
New		TYCO ELECTRONICS LTD	TEL	1890.0	33.140
6		EQUITY RESIDENTIAL	EQR	1850.0	43.170
9		AES CORP. (THE)	AES	936.4	16.140
5		LEUCADIA NATIONAL CORP	LUK	553.8	44.770
9		SUN MICROSYSTEMS INC	JAVA	470.0	10.630
11		SARA LEE CORP	SLE	466.7	13.660
2		JABIL CIRCUIT INC	JBL	437.5	16.260
15		INTERPUBLIC GROUP OF COS	IPG	371.4	8.790
7		DOMINION RESOURCES INC	D	341.4	44.180
3		EL PASO CORP	EP	313.0	17.930
18		QWEST COMMUNICATION INTL INC Q		300.0	3.830
7		GILEAD SCIENCES INC	GILD	289.8	53.980
20		CIENA CORP	CIEN	255.6	20.670
6		MEADWESTVACO CORP	MWV	216.1	26.810
New		AK STEEL HOLDING CORP	AKS	207.4	63.500
9		AMERICAN TOWER CORP	AMT	192.3	41.900
New		CORNING INC	GLW	191.8	20.010
12		WILLIAMS COS INC	WMB	187.5	32.050
New		MCDONALD'S CORP	MCD	180.0	59.790
6		GOODYEAR TIRE & RUBBER CO	GT	175.4	19.630
12		CA INC	CA	173.2	24.020
3		BARR PHARMACEUTICALS INC	BRL	162.7	65.980
3		NOVELL INC	NOVL	150.0	5.570

Mo.	In	Scrn. Company	Ticker	EPS Momentum	Price 07/31/2008
New		TYCO INTERNATIONAL LTD	TYC	143.6	44.560
New		NEWMONT MINING CORP	NEM	142.3	47.960
6		WATSON PHARMACEUTICALS INC	WPI	136.3	28.910
6		JONES APPAREL GROUP INC	JNY	133.9	16.740
6		FLUOR CORP	FLR	124.1	81.350
6		WINDSTREAM CORP	WIN	122.0	11.920
New		SOUTHWESTERN ENERGY CO	SWN	120.4	36.310
7		ABBOTT LABORATORIES	ABT	116.8	56.340
6		NEW YORK TIMES CO -CL A	NYT	114.6	12.590
New		MURPHY OIL CORP	MUR	111.7	79.730
3		CMS ENERGY CORP	CMS	101.5	13.500
10		FIDELITY NATIONAL INFO SVCS	FIS	101.5	18.950
New		APPLIED BIOSYSTEMS INC	ABI	96.8	36.930
10		NYSE EURONEXT	NYX	96.8	47.240
4		HCP INC	HCP	94.1	36.070
6		THERMO FISHER SCIENTIFIC INC	TMO	92.2	60.520
12		DYNEGY INC	DYN	89.9	6.730
6		ALLIED WASTE INDUSTRIES INC	AW	89.1	12.100
2		INTUITIVE SURGICAL INC	ISRG	89.1	311.290
7		AMAZON.COM INC	AMZN	88.0	76.340
9		TRANSOCEAN INC	RIG	87.9	136.030
3		JDS UNIPHASE CORP	JDSU	85.7	10.930
4		FOREST LABORATORIES -CL A	FRX	84.1	35.510
New		GAMESTOP CORP	GME	80.4	40.510
New		APACHE CORP	APA	79.8	112.170

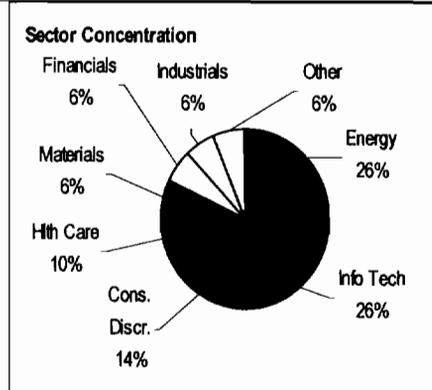
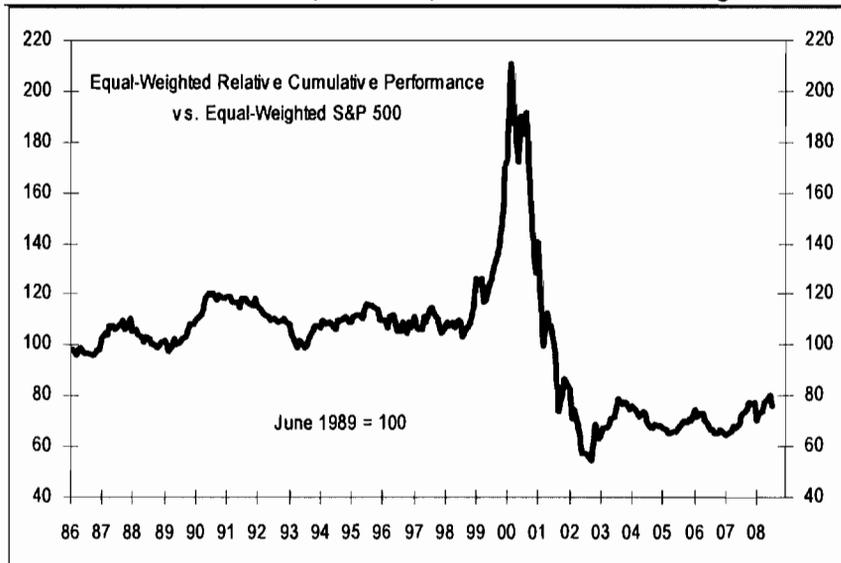


11 August 2008

# Projected Five-Year EPS Growth

## Top 50 S&P 500 Companies By PROJ. 5-YR EPS GROWTH

Projected 5-Year EPS Growth: The five-year EPS growth rate estimated by Merrill Lynch Fundamental Equity Research. If no Merrill estimate exist, MLPF&Ss, then the IBES Mean Long Term Growth Estimate is used.



Absolute Returns	
Last 1 Month	-6.12%
Last 3 Months	-10.50%
Last 6 Months	-1.41%
Last 12 Months	-12.09%
2008 YTD	-14.52%

### Screen for August

Mo.	In	EPS Gr	Price
Scrn	Company	Next 5Yr	07/31/2008
New	RANGE RESOURCES CORP	RRC 130.7	48.560
2	CABOT OIL & GAS CORP	COG 64.8	44.010
41	NATIONAL OILWELL VARCO INC	NOV 45.0	78.630
6	SPRINT NEXTEL CORP	S 43.6	8.140
2	MASSEY ENERGY CO	MEE 40.0	74.250
2	INTUITIVE SURGICAL INC	ISRG 33.8	311.290
6	MANITOWOC CO	MTW 32.3	26.360
6	MURPHY OIL CORP	MUR 31.6	79.730
21	CELGENE CORP	CELG 31.0	75.490
28	GOOGLE INC	GOOG 30.0	473.750
24	MONSANTO CO	MON 30.0	119.110
9	TRANSOCEAN INC	RIG 30.0	136.030
23	APPLE INC	AAPL 27.0	158.950
11	INTERCONTINENTALEXCHANGE INC	ICE 26.5	99.800
5	DIRECTV GROUP INC	DTV 26.2	27.020
98	BROADCOM CORP	BRCM 25.0	24.290
18	HUDSON CITY BANCORP INC	HCBK 25.0	18.260
20	SMITH INTERNATIONAL INC	SII 25.0	74.380
11	CME GROUP INC	CME 24.0	360.130
3	GILEAD SCIENCES INC	GILD 23.8	53.980
4	HARMAN INTERNATIONAL INDS	HAR 22.5	41.170
3	MCDONALD'S CORP	MCD 22.4	59.790
2	SOUTHWESTERN ENERGY CO	SWN 22.3	36.310
13	ALLEGHENY ENERGY INC	AYE 21.8	48.400
New	COMCAST CORP	CMCSA 21.5	20.620

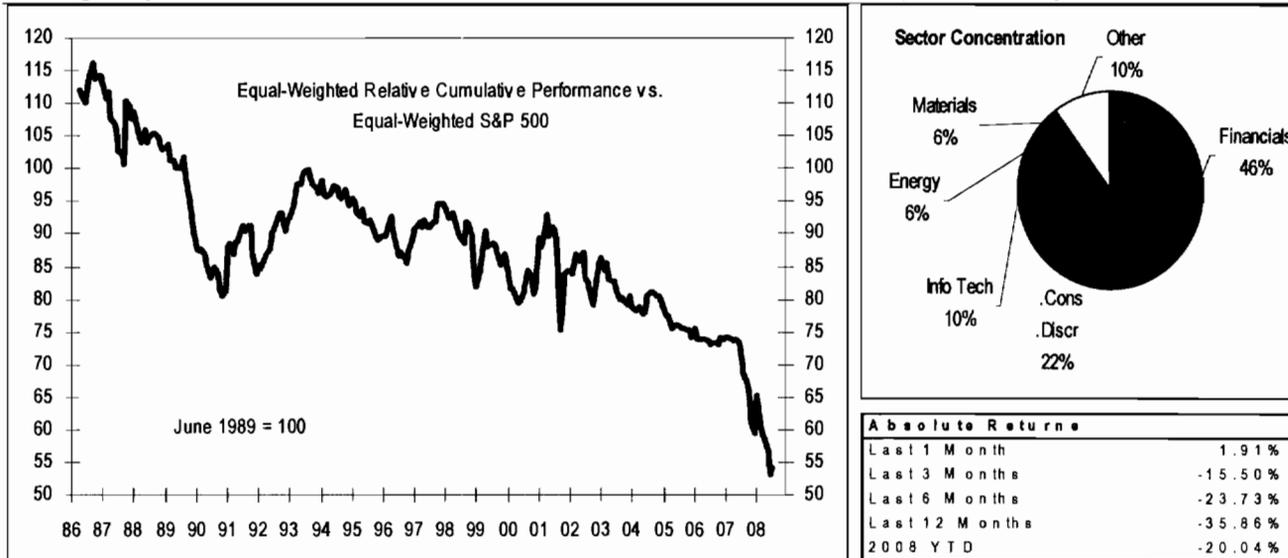
Mo.	In	EPS Gr	Price
Scrn	Company	Next 5Yr	07/31/2008
2	HESS CORP	HES 21.2	101.400
8	GAMESTOP CORP	GME 20.8	40.510
14	JDS UNIPHASE CORP	JDSU 20.8	10.930
12	CUMMINS INC	CMI 20.7	66.340
23	AIR PRODUCTS & CHEMICALS INC	APD 20.0	95.210
42	ALLEGHENY TECHNOLOGIES INC	ATI 20.0	47.290
33	AMAZON.COM INC	AMZN 20.0	76.340
28	BAKER HUGHES INC	BHI 20.0	82.910
23	CIENA CORP	CIEN 20.0	20.670
21	COGNIZANT TECH SOLUTIONS	CTSH 20.0	28.070
7	DYNEGY INC	DYN 20.0	6.730
73	EBAY INC	EBAY 20.0	25.170
34	ELECTRONIC ARTS INC	ERTS 20.0	43.180
32	EXPRESS SCRIPTS INC	ESRX 20.0	70.540
10	EXPEDIA INC	EXPE 20.0	19.570
33	GOODRICH CORP	GR 20.0	49.140
91	JABIL CIRCUIT INC	JBL 20.0	16.260
74	LSI CORP	LSI 20.0	6.940
New	MASTERCARD INC	MA 20.0	244.150
32	MEDCO HEALTH SOLUTIONS INC	MHS 20.0	49.580
15	MEMC ELECTRONIC MATERIALS INC	WFR 20.0	46.210
43	NOBLE CORP	NE 20.0	51.870
34	SCHLUMBERGER LTD	SLB 20.0	101.600
36	WEATHERFORD INTL LTD	WFT 20.0	37.730
104	YAHOO INC	YHOO 20.0	19.890

11 August 2008

# Earnings Torpedo

## Top S&P 500 Companies By LOW EPS TORPEDO

Earnings Torpedo: I/B/E/S FY2 estimate less latest actual annual EPS divided by month-end price.



### Screen for August

Mo.	In	Scrn. Company	Ticker	EPS Torpedo	Price 07/31/2008	Mo.	In	Scrn. Company	Ticker	EPS Torpedo	Price 07/31/2008
7		CIT GROUP INC	CIT	-0.445	8.480	11		SOVEREIGN BANCORP INC	SOV	-0.040	9.520
6		XL CAPITAL LTD	XL	-0.280	17.890	7		PENNEY (J C) CO	JCP	-0.040	30.830
2		GENERAL MOTORS CORP	GM	-0.271	11.070	8		SEARS HOLDINGS CORP	SHLD	-0.039	81.000
5		LEHMAN BROTHERS HOLDINGS INC	LEH	-0.207	17.340	New		FIDELITY NATIONAL INFO SVCS	FIS	-0.038	18.950
2		MBIA INC	MBI	-0.201	5.930	4		NOVELLUS SYSTEMS INC	NVLS	-0.036	20.370
4		WASHINGTON MUTUAL INC	WM	-0.167	5.330	New		NVIDIA CORP	NVDA	-0.030	11.440
4		NATIONAL CITY CORP	NCC	-0.137	4.730	6		HARMAN INTERNATIONAL INDS	HAR	-0.029	41.170
New		FORD MOTOR CO	F	-0.127	4.800	6		QWEST COMMUNICATION INTL INC Q	Q	-0.028	3.830
4		ALTRIA GROUP INC	MO	-0.124	20.350	7		GOLDMAN SACHS GROUP INC	GS	-0.026	184.040
3		TESORO CORP	TSO	-0.112	15.440	5		JPMORGAN CHASE & CO	JPM	-0.025	40.630
4		WACHOVIA CORP	WB	-0.108	17.270	28		DOW CHEMICAL	DOW	-0.025	33.310
7		VALERO ENERGY CORP	VLO	-0.104	33.410	New		MARSHALL & ILSLEY CORP	MI	-0.024	15.200
9		OFFICE DEPOT INC	ODP	-0.104	6.800	New		HOST HOTELS & RESORTS INC	HST	-0.024	13.110
3		KEYCORP	KEY	-0.101	10.550	4		NEW YORK TIMES CO -CL A	NYT	-0.023	12.590
New		SANDISK CORP	SNDK	-0.101	14.100	8		DISCOVER FINANCIAL SVCS INC	DFS	-0.023	14.650
17		SPRINT NEXTEL CORP	S	-0.100	8.140	7		TRAVELERS COS INC	TRV	-0.020	44.120
11		KING PHARMACEUTICALS INC	KG	-0.087	11.510	New		TITANIUM METALS CORP	TIE	-0.019	11.260
5		SUNOCO INC	SUN	-0.083	40.610	9		HOME DEPOT INC	HD	-0.019	23.830
2		REGIONS FINANCIAL CORP	RF	-0.080	9.480	New		ALLEGHENY TECHNOLOGIES INC	ATI	-0.019	47.290
7		GANNETT CO	GCI	-0.067	18.120	New		ZIONS BANCORPORATION	ZION	-0.018	29.270
15		DILLARDS INC -CL A	DDS	-0.066	10.110	New		MEREDITH CORP	MDP	-0.018	25.560
7		COMERICA INC	CMA	-0.059	28.720	New		AMERICAN CAPITAL LTD	ACAS	-0.016	20.320
16		MASCO CORP	MAS	-0.057	16.490	16		LEXMARK INTL INC -CL A	LXK	-0.014	35.080
2		FIFTH THIRD BANCORP	FITB	-0.055	13.970	6		HARTFORD FINANCIAL SERVICES	HIG	-0.014	63.390
6		CINCINNATI FINANCIAL CORP	CINF	-0.041	27.840	New		SUNTRUST BANKS INC	STI	-0.014	41.060

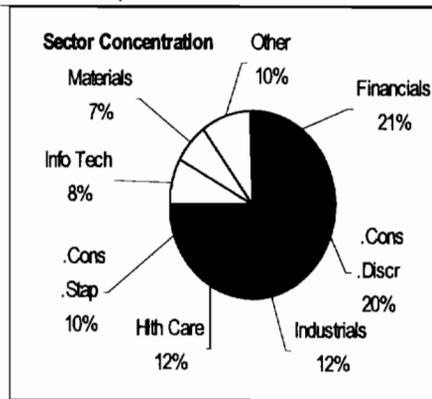
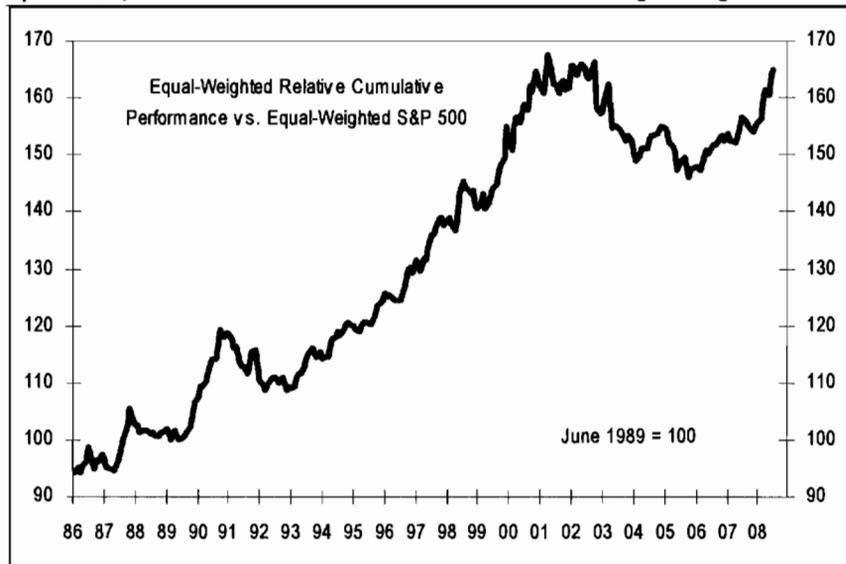


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# Positive Earnings Surprise

## Top S&P 500 Companies By POSITIVE EPS SURPRISE

Earnings Surprise: A forecast earnings surprise variable which compares Merrill Lynch estimates to those of the consensus after adjusting for the range of estimates. Stocks are ranked from 1 to 10, with 1 being among the most optimistic, MLPF&S relative to the consensus. 10 being among the most pessimistic, MLPF&S.



Absolute Returns	
Last 1 Month	0.17%
Last 3 Months	-6.80%
Last 6 Months	-3.07%
Last 12 Months	-11.59%
2008 YTD	-7.07%

### Screen for August

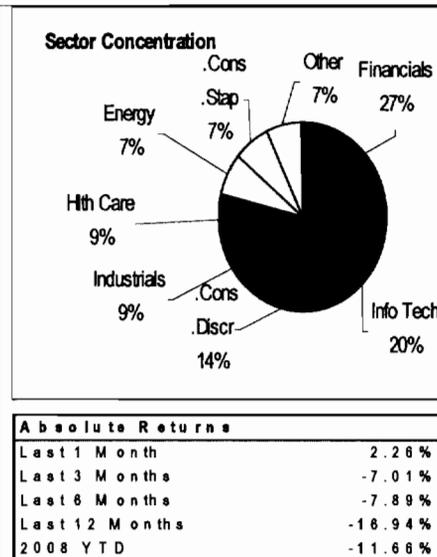
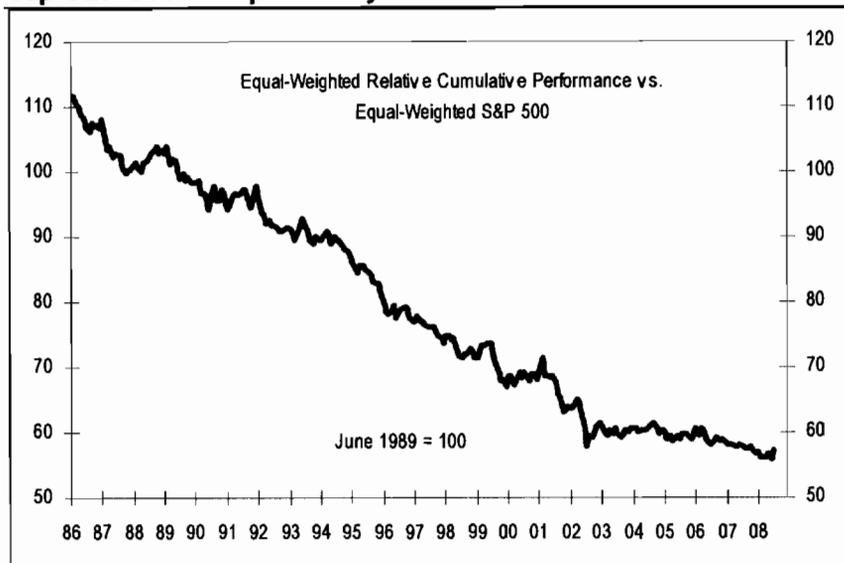
No. In	Scrtn. Company	Ticker	ML vs. Con	Price 07/31/2008
New	AIR PRODUCTS & CHEMICALS INC	APD	1	95.210
3	APARTMENT INVT &MGMT -CL A	AIV	1	34.170
New	APOLLO GROUP INC -CL A	APOL	1	62.290
30	AVON PRODUCTS	AVP	1	42.400
2	BED BATH & BEYOND INC	BBBY	1	27.830
2	BEST BUY CO INC	BBY	1	39.720
16	CATERPILLAR INC	CAT	1	69.520
5	DARDEN RESTAURANTS INC	DRI	1	32.570
New	FEDERATED INVESTORS INC	FII	1	32.860
New	HARTFORD FINANCIAL SERVICES	HIG	1	63.390
3	HEWLETT-PACKARD CO	HPQ	1	44.800
New	LEGG MASON INC	LM	1	40.350
4	MCDONALD'S CORP	MCD	1	59.790
New	METLIFE INC	MET	1	50.770
12	MILLIPORE CORP	MIL	1	70.350
3	MONSANTO CO	MON	1	119.110
New	NATIONAL CITY CORP	NCC	1	4.730
3	NORTHROP GRUMMAN CORP	NOC	1	67.390
New	POLO RALPH LAUREN CP -CL A	RL	1	59.170
New	RADIOSHACK CORP	RSH	1	16.680
New	STARWOOD HOTELS&RESORTS WRHOT	WHOT	1	34.290
7	SOUTHERN CO	SO	1	35.390
12	THERMO FISHER SCIENTIFIC INC	TMO	1	60.520
10	TORCHMARK CORP	TMK	1	58.050
3	UNISYS CORP	UIS	1	3.690
4	VERIZON COMMUNICATIONS INC	VZ	1	34.040
New	WATERS CORP	WAT	1	67.940
7	XEROX CORP	XRX	1	13.640
7	ZIMMER HOLDINGS INC	ZMH	1	68.910

No. In	Scrtn. Company	Ticker	ML vs. Con	Price 07/31/2008
New	AMERICAN INTERNATIONAL GROU	AIG	2	26.050
New	AVALONBAY COMMUNITIES INC	AVB	2	99.710
3	CAMPBELL SOUP CO	CPB	2	36.380
3	DIRECTV GROUP INC	DTV	2	27.020
10	DU PONT (E I) DE NEMOURS	DD	2	43.810
New	EXPRESS SCRIPTS INC	ESRX	2	70.540
2	EXXON MOBIL CORP	XOM	2	80.430
New	EASTMAN KODAK CO	EK	2	14.640
New	FEDERAL HOME LOAN MORTG COFR	FH	2	8.170
New	FRANKLIN RESOURCES INC	BEN	2	100.610
New	FISERV INC	FISV	2	47.820
New	HERSHEY CO	HSY	2	36.770
10	HONEYWELL INTERNATIONAL INC	HON	2	50.840
New	HUDSON CITY BANCORP INC	HCBK	2	18.260
New	INTL GAME TECHNOLOGY	IGT	2	21.710
New	JACOBS ENGINEERING GROUP INC	JEC	2	77.340
4	JOHNSON & JOHNSON	JNJ	2	68.470
New	JONES APPAREL GROUP INC	JNY	2	16.740
New	KLA-TENCOR CORP	KLAC	2	37.590
New	LABORATORY CP OF AMER HLDGS	LH	2	67.580
3	LAUDER (ESTEE) COS INC -CL A	EL	2	44.100
2	MARATHON OIL CORP	MRO	2	49.470
3	MOLSON COORS BREWING CO	TAP	2	53.970
11	PPG INDUSTRIES INC	PPG	2	60.640
4	SOUTHWEST AIRLINES	LUV	2	15.590
3	SPRINT NEXTEL CORP	S	2	8.140
3	TECO ENERGY INC	TE	2	18.550
New	TEREX CORP	TEX	2	47.330
New	TEXTRON INC	TXT	2	43.470
3	TYSON FOODS INC -CL A	TSN	2	14.900

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# Negative Earnings Surprise

## Top S&P 500 Companies By NEGATIVE EPS SURPRISE



### Screen for August

M.o.	In	ML vs.	Price
Scrn.	Company	Con	07/31/2008
4	ADVANCED MICRO DEVICES	AMD	10 4.210
4	AETNA INC	AET	10 41.010
12	AGILENT TECHNOLOGIES INC	A	10 36.060
10	AMERICAN ELECTRIC POWER CO	AEP	10 39.500
4	AMERICAN EXPRESS CO	AXP	10 37.120
New	AT&T INC	T	10 30.810
New	BOEING CO	BA	10 61.110
10	BROADCOM CORP	BRCM	10 24.290
5	CELGENE CORP	CELG	10 75.490
17	CIENA CORP	CIEN	10 20.670
2	CINTAS CORP	CTAS	10 28.440
15	CISCO SYSTEMS INC	CSCO	10 21.990
26	COMERICA INC	CMA	10 28.720
New	CONSOL ENERGY INC	CNX	10 74.390
5	DISCOVER FINANCIAL SVCS INC	DFS	10 14.650
10	EBAY INC	EBAY	10 25.170
4	FIRST HORIZON NATIONAL CORP	FHN	10 9.400
27	GOOGLE INC	GOOG	10 473.750
7	HUNTINGTON BANCSHARES	HBAN	10 7.020
15	JABIL CIRCUIT INC	JBL	10 16.260
3	JOHNSON CONTROLS INC	JCI	10 30.160
2	KOHL'S CORP	KSS	10 41.910
4	LINEAR TECHNOLOGY CORP	LLTC	10 31.050
7	MARSHALL & SILSLEY CORP	MI	10 15.200
New	MCKESSON CORP	MCK	10 55.990
6	NABORS INDUSTRIES LTD	NBR	10 36.460
5	NETAPP INC	NTAP	10 25.550
New	NYSE EURONEXT	NYX	10 47.240
New	PUBLIC STORAGE	PSA	10 81.890
33	QUALCOMM INC	QCOM	10 55.340
New	ROCKWELL COLLINS INC	COL	10 49.690

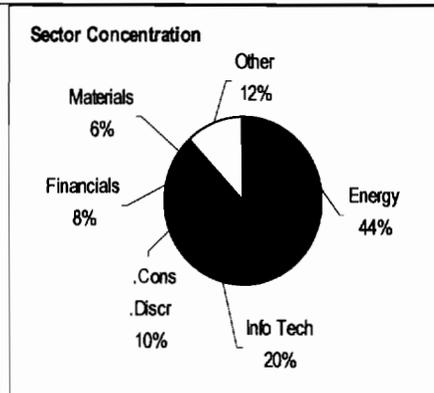
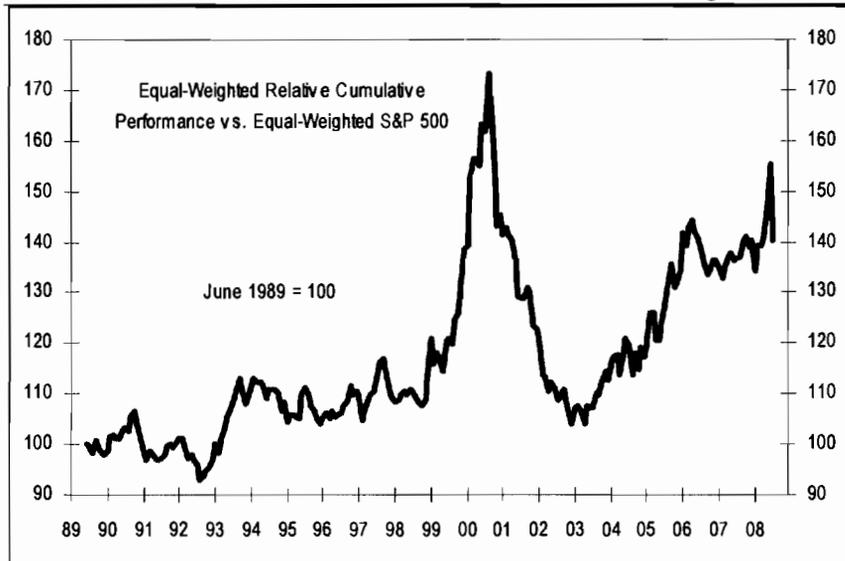
M.o.	In	ML vs.	Price
Scrn.	Company	Con	07/31/2008
4	WEATHERFORD INTL LTD	WFT	10 37.730
2	ARCHER-DANIELS-MIDLAND CO	ADM	9 28.630
3	AON CORP	AOC	9 45.800
New	BANK OF NEW YORK MELLON COR BK	BK	9 35.500
3	CARDINAL HEALTH INC	CAH	9 53.730
New	CLOROX CO/DE	CLX	9 54.500
New	CORNING INC	GLW	9 20.010
New	E TRADE FINANCIAL CORP	ETFC	9 3.020
New	FREEMPORT-MCMORAN COP&GOLD	FCX	9 96.750
3	GAP INC	GPS	9 16.120
New	GENUINE PARTS CO	GPC	9 40.110
New	HOME DEPOT INC	HD	9 23.830
New	HUMANA INC	HUM	9 43.910
New	JANUS CAPITAL GROUP INC	JNS	9 30.340
New	LEHMAN BROTHERS HOLDINGS INC	LEH	9 17.340
3	LIMITED BRANDS INC	LTD	9 16.490
6	LINCOLN NATIONAL CORP	LNC	9 47.700
2	LORILLARD INC	LO	9 67.110
3	MARSH & MCLENNAN COS	MMC	9 28.250
New	NORDSTROM INC	JWN	9 28.740
New	PENNEY (J C) CO	JCP	9 30.830
New	PEPCO HOLDINGS INC	POM	9 24.940
New	PHILIP MORRIS INTERNATIONAL	PM	9 51.650
5	PPL CORP	PPL	9 46.960
New	PRECISION CASTPARTS CORP	PCP	9 93.430
New	ROCKWELL AUTOMATION	ROK	9 44.510
6	ROWAN COS INC	RDC	9 39.800
10	SMITH INTERNATIONAL INC	SII	9 74.380
2	STATE STREET CORP	STT	9 71.640
New	TIFFANY & CO	TIF	9 37.790
2	TELLABS INC	TLAB	9 5.140

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# Earnings Estimate Revision

## Top 50 S&P 500 Companies By UPWARD EPS EST. REVISION

EPS Estimate Revision: The difference between the I/B/E/S FY1 estimate and that of three months ago divided by the absolute value of the I/B/E/S FY1 estimate of three months ago.



Absolute Returns	
Last 1 Month	-10.15%
Last 3 Months	-8.78%
Last 6 Months	-4.25%
Last 12 Months	-13.97%
2008 YTD	-12.73%

### Screen for August

Mo. In	Scrn. Company	Ticker	EPS Est. Revision	Price 07/31/2008
5	TENET HEALTHCARE CORP	THC	1.200	5.790
5	UNITED STATES STEEL CORP	X	0.631	160.360
2	SOUTHWESTERN ENERGY CO	SWN	0.586	36.310
6	ANADARKO PETROLEUM CORP	APC	0.488	57.910
10	OCCIDENTAL PETROLEUM CORP	OXY	0.465	78.830
4	LSI CORP	LSI	0.431	6.940
4	NOBLE ENERGY INC	NBL	0.426	73.870
3	HESS CORP	HES	0.405	101.400
6	PEABODY ENERGY CORP	BTU	0.403	67.650
4	BROADCOM CORP	BRCM	0.370	24.290
6	EOG RESOURCES INC	EOG	0.342	100.530
10	WILLIAMS COS INC	WMB	0.331	32.050
8	APACHE CORP	APA	0.325	112.170
6	DEVON ENERGY CORP	DVN	0.317	94.890
3	EL PASO CORP	EP	0.292	17.930
6	MURPHY OIL CORP	MUR	0.287	79.730
6	CHEVRON CORP	CVX	0.279	84.560
7	CONOCOPHILLIPS	COP	0.245	81.620
2	CABOT OIL & GAS CORP	COG	0.227	44.010
2	MASSEY ENERGY CO	MEE	0.223	74.250
New	AK STEEL HOLDING CORP	AKS	0.199	63.500
3	SPECTRA ENERGY CORP	SE	0.191	27.170
4	MGIC INVESTMENT CORP/WI	MTG	0.178	6.400
2	NATIONAL SEMICONDUCTOR CORP	NSM	0.177	20.950
6	EXXON MOBIL CORP	XOM	0.169	80.430

Mo. In	Scrn. Company	Ticker	EPS Est. Revision	Price 07/31/2008
3	AMERICAN TOWER CORP	AMT	0.164	41.900
3	FLUOR CORP	FLR	0.164	81.350
New	MASTERCARD INC	MA	0.158	244.150
New	QLOGIC CORP	QLGC	0.146	18.840
3	XTO ENERGY INC	XTO	0.144	47.230
10	LEXMARK INTL INC -CL A	LXK	0.132	35.080
New	ALTERA CORP	ALTR	0.130	21.930
New	SCHERING-PLOUGH	SGP	0.129	21.080
6	CHESAPEAKE ENERGY CORP	CHK	0.128	50.150
2	MARATHON OIL CORP	MRO	0.125	49.470
4	EMBARQ CORP	EQ	0.118	45.770
New	GOODRICH CORP	GR	0.114	49.140
2	PROGRESSIVE CORP-OHIO	PGR	0.111	20.250
4	HASBRO INC	HAS	0.111	38.720
New	RADIOSHACK CORP	RSH	0.102	16.680
7	CORNING INC	GLW	0.098	20.010
New	LEGGETT & PLATT INC	LEG	0.098	19.500
New	SYMANTEC CORP	SYMC	0.097	21.070
6	SNAP-ON INC	SNA	0.097	56.290
New	NORTHERN TRUST CORP	NTRS	0.096	78.170
New	HUDSON CITY BANCORP INC	HCBK	0.095	18.260
New	MCDONALD'S CORP	MCD	0.093	59.790
2	RANGE RESOURCES CORP	RRC	0.093	48.560
5	NUCOR CORP	NUE	0.091	57.220
2	CA INC	CA	0.090	24.020

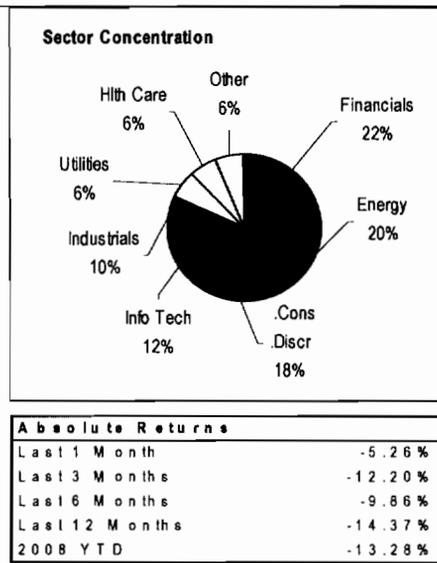
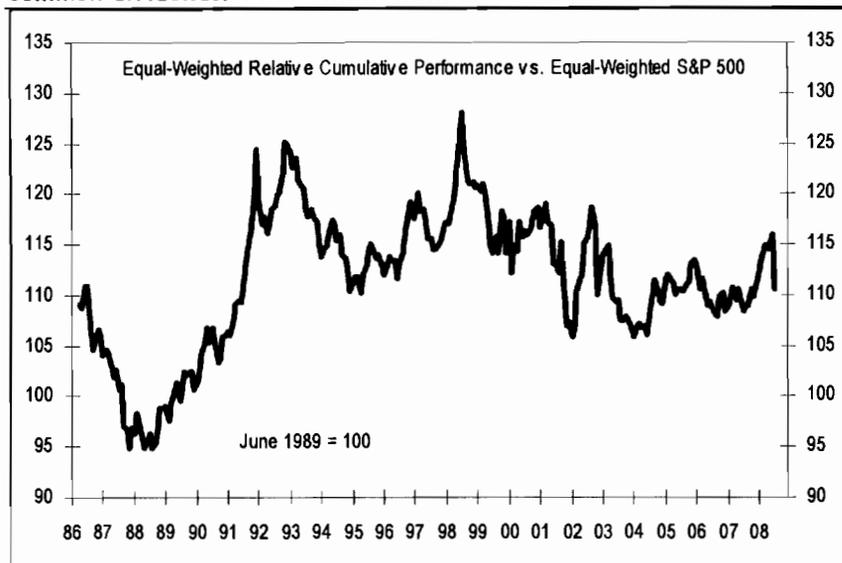


11 August 2008

# Dividend Growth

## Top 50 S&P 500 Companies By Dividend Growth

Dividend Growth: The growth between trailing 4-quarter total common dividends and year-ago trailing 4-quarter total common dividends.



### Screen for August

Mo.	In	Dividend	Price
Scrn	Company	Ticker	Growth 07/31/2008
6	PROGRESSIVE CORP-OHIO	PGR	11213.0%
6	TOTAL SYSTEM SERVICES INC	TSS	1087.6%
6	NOBLE CORP	NE	1036.9%
5	CAPITAL ONE FINANCIAL CORP	COF	645.0%
20	SCHWAB (CHARLES) CORP	SCHW	512.1%
2	NYSE EURONEXT	NYX	321.2%
6	WESTERN UNION CO	WU	289.0%
2	ALTERA CORP	ALTR	283.0%
5	CMS ENERGY CORP	CMS	181.0%
20	MCDONALD'S CORP	MCD	115.8%
12	CME GROUP INC	CME	108.8%
5	SPECTRA ENERGY CORP	SE	105.0%
5	STARWOOD HOTELS&RESORTS WF HOT	HOT	91.7%
6	TEXAS INSTRUMENTS INC	TXN	85.8%
6	APARTMENT INVT &MGMT -CL A	AIV	77.4%
New	PALL CORP	PLL	76.2%
2	INTL GAME TECHNOLOGY	IGT	66.6%
6	BANK OF NEW YORK MELLON COR BK	BK	64.3%
5	CIGNA CORP	CI	63.9%
6	TESORO CORP	TSO	61.0%
6	NOBLE ENERGY INC	NBL	56.6%
8	DARDEN RESTAURANTS INC	DRI	54.5%
6	CVS CAREMARK CORP	CVS	52.6%
6	STRYKER CORP	SYK	51.1%
44	XTO ENERGY INC	XTO	50.5%

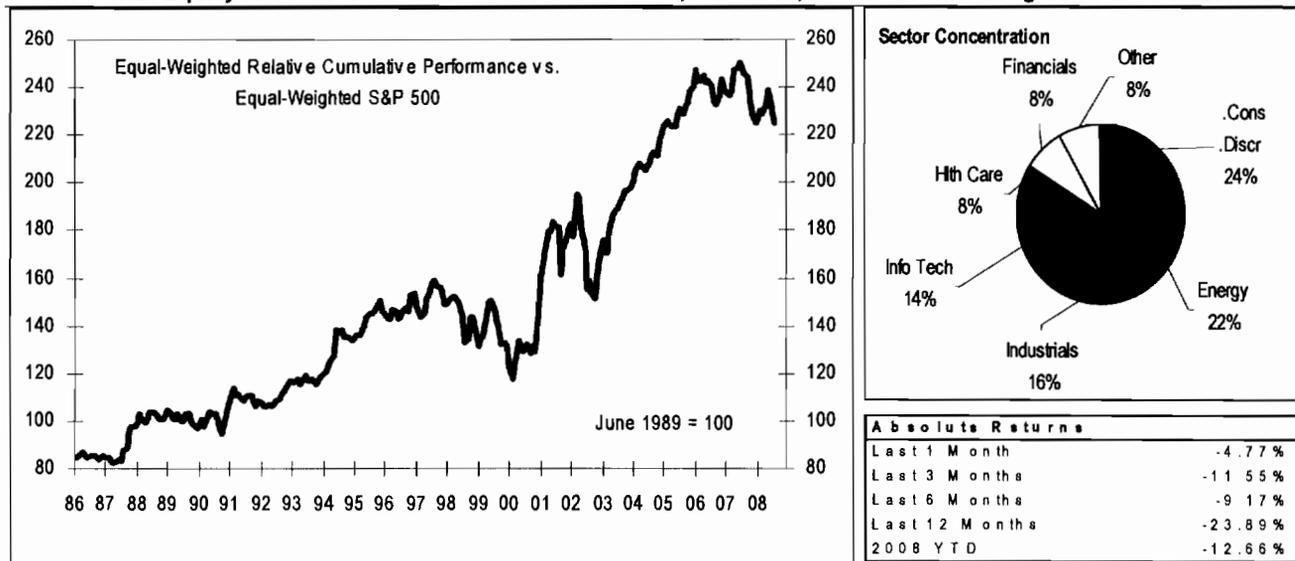
Mo.	In	Dividend	Price
Scrn	Company	Ticker	Growth 07/31/2008
2	YUM BRANDS INC	YUM	48.9%
8	RANGE RESOURCES CORP	RRC	46.9%
6	EOG RESOURCES INC	EOG	46.4%
7	MOLEX INC	MOLX	46.3%
7	MONSANTO CO	MON	45.5%
14	INTEGRYS ENERGY GROUP INC	TEG	45.5%
6	PAYCHEX INC	PAYX	45.3%
New	AMERICAN CAPITAL LTD	ACAS	41.0%
6	HUNTINGTON BANCSHARES	HBAN	39.5%
6	TIFFANY & CO	TIF	39.5%
6	LOWE'S COMPANIES INC	LOW	37.3%
7	DANAHER CORP	DHR	36.8%
7	ALLEGHENY TECHNOLOGIES INC	ATI	36.4%
29	AMERISOURCEBERGEN CORP	ABC	36.1%
6	PRICE (T. ROWE) GROUP	TROW	35.3%
2	CABOT OIL & GAS CORP	COG	34.7%
23	CSX CORP	CSX	34.3%
6	CARNVAL CORP/PLC (USA)	CCL	33.6%
2	ENTERGY CORP	ETR	32.8%
2	CUMMINS INC	CMI	32.3%
2	CONSOL ENERGY INC	CNX	32.2%
6	NORFOLK SOUTHERN CORP	NSC	32.0%
New	STATE STREET CORP	STT	30.7%
2	HARLEY-DAVIDSON INC	HOG	29.9%
7	SCHLUMBERGER LTD	SLB	29.8%

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# P/E-to-Growth

## Top 50 S&P 500 Companies By Low PE to GROWTH

P/E-to-Growth: Trailing twelve months P/E divided by the five-year EPS growth rate estimated by Merrill Lynch Fundamental Equity Research. If no Merrill estimate exist, MLPF&Ss, the IBES Mean Long Term Growth Estimate is used.



### Screen for August

Mo. In	Scrn. Company	Ticker	PE/ Growth	Price 07/31/2008	Mo. In	Scrn. Company	Ticker	PE/ Growth	Price 07/31/2008
6	MANITOWOC CO	MTW	0.26	26.360	4	ABERCROMBIE & FITCH -CL A	ANF	0.67	55.220
9	TRANSOCEAN INC	RIG	0.29	136.030	5	WELLPOINT INC	WLP	0.71	52.450
4	CORNING INC	GLW	0.33	20.010	New	MCDONALD'S CORP	MCD	0.71	59.790
3	MURPHY OIL CORP	MUR	0.33	79.730	New	VIACOM INC	VIA.B	0.71	27.930
40	ALLEGHENY TECHNOLOGIES INC	ATI	0.37	47.290	New	ALLEGHENY ENERGY INC	AYE	0.72	48.400
2	CABOT OIL & GAS CORP	COG	0.37	44.010	5	HUMANA INC	HUM	0.73	43.910
26	NATIONAL OILWELL VARCO INC	NOV	0.41	78.630	43	CUMMINS INC	CMI	0.73	66.340
73	CAPITAL ONE FINANCIAL CORP	COF	0.47	41.860	5	AETNA INC	AET	0.73	41.010
34	NOBLE CORP	NE	0.49	51.870	5	COVENTRY HEALTH CARE INC	CVH	0.74	35.370
4	OCCIDENTAL PETROLEUM CORP	OXY	0.50	78.830	2	PRECISION CASTPARTS CORP	PCP	0.75	93.430
2	NVIDIA CORP	NVDA	0.50	11.440	New	TYCO ELECTRONICS LTD	TEL	0.77	33.140
New	FIDELITY NATIONAL INFO SVCS	FIS	0.50	18.950	New	COACH INC	COH	0.77	25.510
7	GOODRICH CORP	GR	0.50	49.140	New	ARCHER-DANIELS-MIDLAND CO	ADM	0.78	28.630
2	CONOCOPHILLIPS	COP	0.52	81.620	4	BEST BUY CO INC	BBY	0.78	39.720
3	NEWS CORP	NWS.A	0.53	14.130	New	MEMC ELECTRONIC MATRIALS INC WFR	WFR	0.79	46.210
New	TITANIUM METALS CORP	TIE	0.55	11.260	New	TEXAS INSTRUMENTS INC	TXN	0.80	24.380
18	TRAVELERS COS INC	TRV	0.55	44.120	11	OFFICE DEPOT INC	ODP	0.80	6.800
7	PARKER-HANNIFIN CORP	PH	0.57	61.680	New	NABORS INDUSTRIES LTD	NBR	0.80	36.460
2	HESS CORP	HES	0.60	101.400	New	CIENA CORP	CIEN	0.81	20.670
12	LIMITED BRANDS INC	LTD	0.60	16.490	2	AUTONATION INC	AN	0.81	10.320
20	ENSCO INTERNATIONAL INC	ESV	0.62	69.140	14	WHIRLPOOL CORP	WHR	0.81	75.700
2	TEXTRON INC	TXT	0.64	43.470	5	DIRECTV GROUP INC	DTV	0.82	27.020
11	HARMAN INTERNATIONAL INDS	HAR	0.65	41.170	New	BAKER HUGHES INC	BHI	0.83	82.910
24	CHUBB CORP	CB	0.66	48.040	18	GOLDMAN SACHS GROUP INC	GS	0.83	184.040
2	TEREX CORP	TEX	0.66	47.330	New	EATON CORP	ETN	0.84	71.040

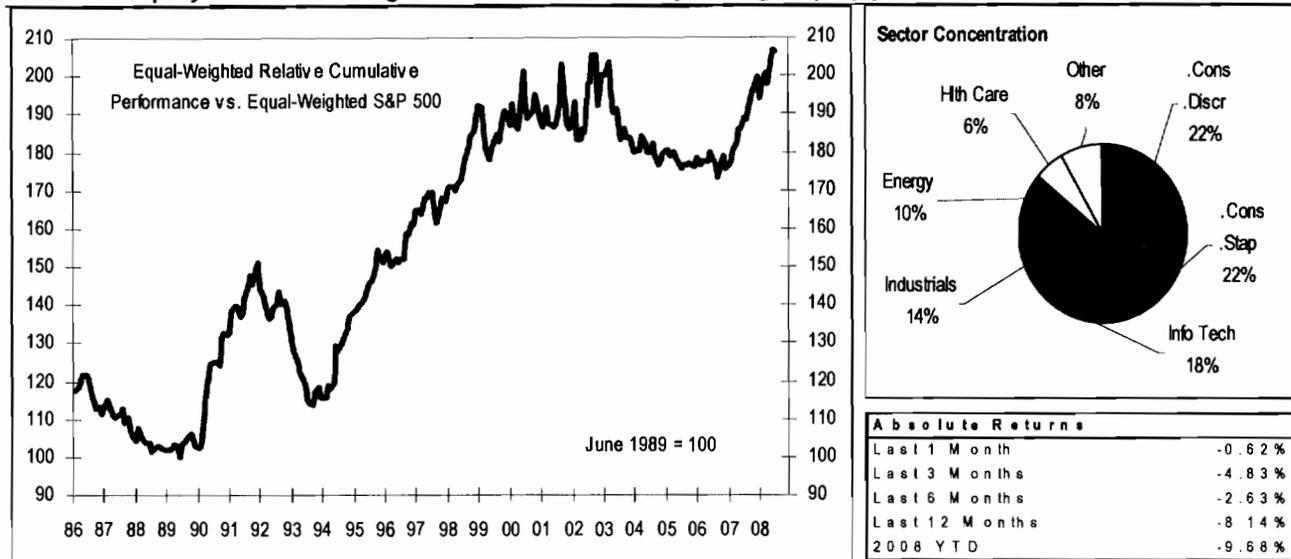


11 August 2008

# One-Year Return On Equity

## Top 50 S&P 500 Companies By ROE (1-Yr Average)

Return on Equity One-Year Average: Net income divided by average equity provided.



### Screen for August

Mo.	In	Price	ROE	07/31/2008	Mo.	In	Price	ROE	07/31/2008
	Scrn. Company	Ticker				Scrn. Company	Ticker		
9	WINDSTREAM CORP	WIN	178.4	11.920	28	AMAZON.COM INC	AMZN	42.3	76.340
74	AUTOZONE INC	AZO	134.4	130.290	12	NORDSTROM INC	JWN	40.1	28.740
2	LORILLARD INC	LO	126.4	67.110	13	HALLIBURTON CO	HAL	38.8	44.820
25	EXPRESS SCRIPTS INC	ESRX	104.2	70.540	16	LOCKHEED MARTIN CORP	LMT	38.5	104.330
72	YUM BRANDS INC	YUM	96.0	35.820	31	FEDERATED INVESTORS INC	FII	37.9	32.860
57	AVON PRODUCTS	AVP	82.2	42.400	8	BLOCK H & R INC	HRB	37.8	24.330
124	COLGATE-PALMOLIVE CO	CL	80.9	74.270	New	HERSHEY CO	HSY	37.6	36.770
61	DELL INC	DELL	68.1	24.570	10	MARRIOTT INTL INC	MAR	37.2	25.910
4	ALTRIA GROUP INC	MO	63.3	20.350	15	MEMC ELECTRONIC MATRIALS INC WFR		36.6	46.210
49	WATERS CORP	WAT	59.0	67.940	28	SCHLUMBERGER LTD	SLB	36.6	101.600
13	BOEING CO	BA	58.0	61.110	8	PAYCHEX INC	PAYX	36.6	32.920
7	GILEAD SCIENCES INC	GILD	55.5	53.980	3	TRANSOCEAN INC	RIG	36.5	136.030
102	PITNEY BOWES INC	PBI	55.3	31.690	66	CAMPBELL SOUP CO	CPB	36.2	36.380
16	MCGRAW-HILL COMPANIES	MHP	54.4	40.670	18	PEPSICO INC	PEP	36.0	66.560
99	ANHEUSER-BUSCH COS INC	BUD	52.9	67.760	6	EXXON MOBIL CORP	XOM	35.6	80.430
16	MICROSOFT CORP	MSFT	52.5	25.720	6	TJX COMPANIES INC	TJX	35.3	33.710
New	CORNING INC	GLW	51.0	20.010	6	NVIDIA CORP	NVDA	34.9	11.440
13	INTL BUSINESS MACHINES CORP	IBM	50.6	127.980	7	NATIONAL SEMICONDUCTOR CORP INSM		34.2	20.950
New	AK STEEL HOLDING CORP	AKS	48.6	63.500	3	LAUDER (ESTEE) COS INC -CL A	EL	33.7	44.100
47	COACH INC	COH	45.7	25.510	4	NOBLE CORP	NE	33.5	51.870
41	APOLLO GROUP INC -CL A	APOL	45.6	62.290	13	HARLEY-DAVIDSON INC	HOG	33.2	37.840
37	CATERPILLAR INC	CAT	45.4	69.520	4	TERADATA CORP	TDC	33.2	23.420
14	HEINZ (H J) CO	HNZ	45.3	50.380	New	DOMINION RESOURCES INC	D	32.9	44.180
102	KELLOGG CO	K	45.2	53.060	New	C H ROBINSON WORLDWIDE INC	CHRW	32.9	48.200
37	ROCKWELL COLLINS INC	COL	43.5	49.690	21	3M CO	MMM	32.8	70.390

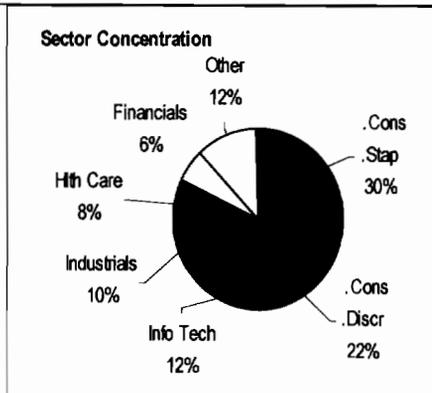
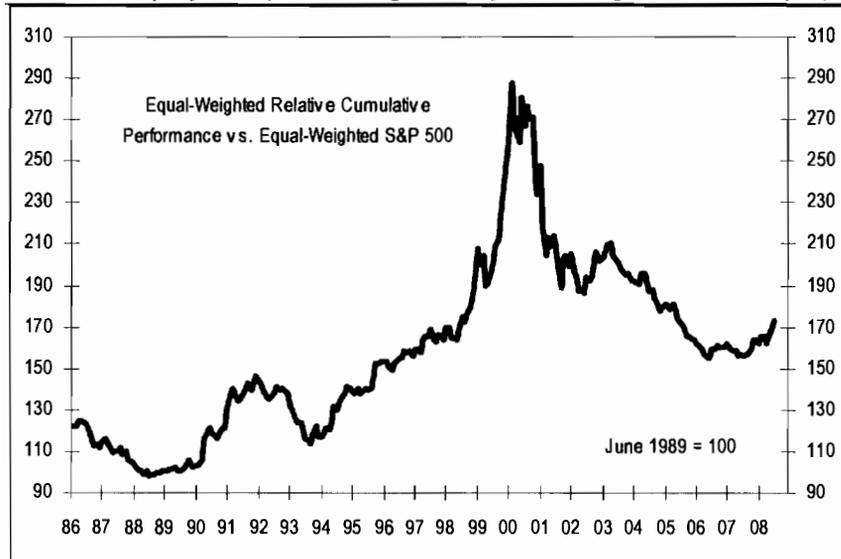


11 August 2008

# Five-Year Return on Equity

## Top 50 S&P 500 Companies By ROE (5-Yr Average)

Return on Equity Five-year Average: Five-year average return on equity.



Absolute Returns	
Last 1 Month	1.54%
Last 3 Months	-2.44%
Last 6 Months	-1.88%
Last 12 Months	-6.50%
2008 YTD	-7.57%

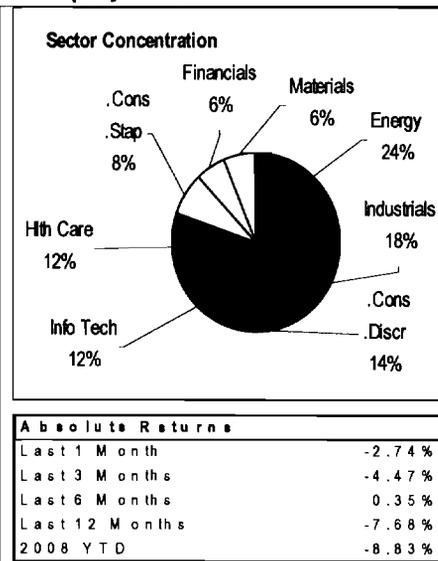
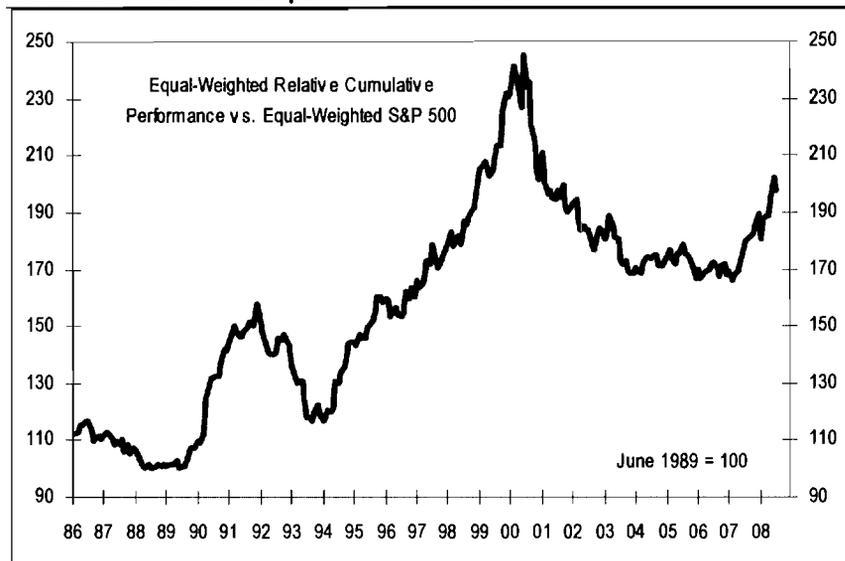
### Screen for August

Mo.	In	5-Yr Avg	Price	Mo.	In	5-Yr Avg	Price	
Scrn	Company	ROE	07/31/2008	Scrn	Company	ROE	07/31/2008	
134	UST INC	987.2	52.610	17	EQUIFAX INC	41.5	35.090	
94	MOODY'S CORP	264.3	34.810	5	PHILIP MORRIS INTERNATIONAL	40.6	51.650	
2	LORILLARD INC	203.4	67.110	64	FEDERATED INVESTORS INC	FII	40.4	32.860
89	AVON PRODUCTS	180.4	42.400	14	SUNOCO INC	SUN	39.8	40.610
21	AUTOZONE INC	155.4	130.290	87	TJX COMPANIES INC	TJX	39.4	33.710
14	CAMPBELL SOUP CO	146.1	36.380	14	HEINZ (H J) CO	HNZ	37.6	50.380
67	COLGATE-PALMOLIVE CO	130.1	74.270	14	BLACK & DECKER CORP	BDK	37.5	60.020
14	GOODYEAR TIRE & RUBBER CO	118.5	19.630	5	HERCULES INC	HPC	37.2	20.050
64	IMS HEALTH INC	105.3	20.900	14	ROCKWELL COLLINS INC	COL	36.8	49.690
15	MEMC ELECTRONIC MATRIALS INCWFR	68.7	46.210	6	EXPRESS SCRIPTS INC	ESRX	35.7	70.540
53	ANHEUSER-BUSCH COS INC	66.0	67.760	14	SLM CORP	SLM	35.4	17.130
14	AES CORP. (THE)	64.6	16.140	6	CATERPILLAR INC	CAT	35.2	69.520
5	WINDSTREAM CORP	63.3	11.920	53	3M CO	MMM	35.0	70.390
14	YUM BRANDS INC	60.9	35.820	14	SYSCO CORP	SYI	34.2	28.360
61	DELL INC	58.8	24.570	14	SARA LEE CORP	SLE	34.2	13.660
22	WESTERN UNION CO	55.9	27.640	14	ALTRIA GROUP INC	MO	34.1	20.350
14	KELLOGG CO	50.6	53.060	10	TERADATA CORP	TDC	34.1	23.420
13	AKAMAI TECHNOLOGIES INC	49.2	23.340	53	PEPSICO INC	PEP	33.8	66.560
14	PITNEY BOWES INC	48.5	31.690	6	CONSOL ENERGY INC	CNX	33.0	74.390
75	APOLLO GROUP INC -CL A	47.9	62.290	5	MCGRAW-HILL COMPANIES	MHP	32.4	40.670
17	HERSHEY CO	46.2	36.770	4	AUTODESK INC	ADSK	32.3	31.890
New	DAVITA INC	46.0	55.850	76	HARLEY-DAVIDSON INC	HOG	32.1	37.840
76	WATERS CORP	46.0	67.940	17	ABERCROMBIE & FITCH -CL A	ANF	32.1	55.220
47	COACH INC	42.9	25.510	14	RADIOSHACK CORP	RSH	32.1	16.680
14	FREEMPORT-MCMORAN COP&GOLD FCX	42.0	96.750	134	COCA-COLA CO	KO	31.5	51.500

# One-Year Return on Equity (Adjusted for Debt)

## Top 50 S&P 500 Companies By ROE (1-Yr Avg. Adj. for Debt)

Return on Equity One-Year Average (Adjusted for Debt): The ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.



### Screen for August

Mo.	In	Debt Adj	Price	
Scrn.	Company	Ticker	ROE 07/31/2008	
3	ALTRIA GROUP INC	MO	51.4	20.350
13	APOLLO GROUP INC -CL A	APOL	45.6	62.290
47	COACH INC	COH	45.6	25.510
19	CORNING INC	GLW	45.5	20.010
55	ROCKWELL COLLINS INC	COL	37.2	49.690
7	GILEAD SCIENCES INC	GILD	36.4	53.980
15	MEMC ELECTRONIC MATERIALS INC WFR	WFR	36.2	46.210
31	FEDERATED INVESTORS INC	FII	35.1	32.860
4	AMAZON.COM INC	AMZN	34.1	76.340
63	EXXON MOBIL CORP	XOM	33.5	80.430
61	DELL INC	DELL	31.7	24.570
18	VARIAN MEDICAL SYSTEMS INC	VAR	30.7	60.000
40	ROBERT HALF INTL INC	RHI	29.4	25.290
16	NOBLE CORP	NE	28.6	51.870
6	FLUOR CORP	FLR	28.0	81.350
22	SCHLUMBERGER LTD	SLB	27.7	101.600
9	MANITOWOC CO	MTW	27.5	26.360
18	ENSCO INTERNATIONAL INC	ESV	25.9	69.140
15	PRECISION CASTPARTS CORP	PCP	25.9	93.430
10	HALLIBURTON CO	HAL	25.7	44.820
27	SHERWIN-WILLIAMS CO	SHW	24.6	53.250
New	AK STEEL HOLDING CORP	AKS	24.3	63.500
89	COCA-COLA CO	KO	24.1	51.500
28	ALLEGHENY TECHNOLOGIES INC	ATI	24.1	47.290
41	OCCIDENTAL PETROLEUM CORP	OXY	24.0	78.830

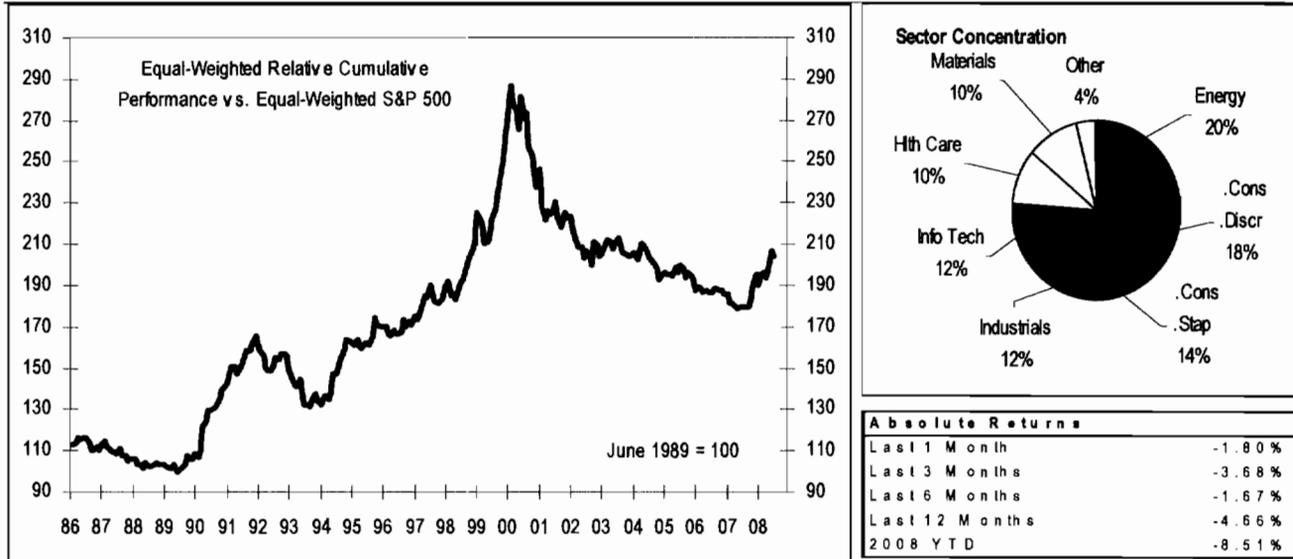
Mo.	In	Debt Adj	Price	
Scrn.	Company	Ticker	ROE 07/31/2008	
16	NIKE INC	NKE	23.9	58.680
48	CHEVRON CORP	CVX	23.5	84.560
16	FRANKLIN RESOURCES INC	BEN	23.4	100.610
89	PEPSICO INC	PEP	23.0	66.560
New	LOCKHEED MARTIN CORP	LMT	22.8	104.330
104	JOHNSON & JOHNSON	JNJ	22.6	68.470
6	AUTOMATIC DATA PROCESSING	ADP	22.5	42.710
4	ST JUDE MEDICAL INC	STJ	22.2	46.580
82	BEST BUY CO INC	BBY	22.2	39.720
76	3M CO	MMM	22.1	70.390
24	BJ SERVICES CO	BJS	21.4	29.400
9	SCHWAB (CHARLES) CORP	SCHW	21.4	22.890
25	BAKER HUGHES INC	BHI	21.2	82.910
5	TITANIUM METALS CORP	TIE	21.2	11.260
116	TJX COMPANIES INC	TJX	21.2	33.710
25	CUMMINS INC	CMI	21.0	66.340
15	CISCO SYSTEMS INC	CSCO	20.8	21.990
New	APACHE CORP	APA	20.5	112.170
3	MERCK & CO	MRK	20.4	32.900
2	BROWN-FORMAN -CL B	BF.B	20.2	71.960
New	LILLY (ELI) & CO	LLY	20.0	47.110
New	JACOBS ENGINEERING GROUP INC	JEC	19.6	77.340
New	MURPHY OIL CORP	MUR	19.4	79.730
18	APPLIED MATERIALS INC	AMAT	19.3	17.320
7	SMITH INTERNATIONAL INC	SII	19.2	74.380

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## Five-Year Return on Equity (Adjusted by Debt)

### Top 50 S&P 500 Companies By ROE (5-Yr Avg. Adj. for Debt)

Return on Equity Five-year Average (Adjusted for Debt): The average five year ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.



#### Screen for August

Mo.	In	Debt	Price	Mo.	In	Debt	Price		
Scrnl.	Company	Adj 5Yr	07/31/2008	Scrnl.	Company	Adj 5Yr	07/31/2008		
	Ticker	ROE			Ticker	ROE			
4	AMAZON.COM INC	AMZN	982.9	76.340	9	BJ SERVICES CO	BJS	21.4	29.400
15	MEMC ELECTRONIC MATRIALS INC	WFR	67.8	46.210	14	BEST BUY CO INC	BBY	21.3	39.720
13	APOLLO GROUP INC -CL A	APOL	47.9	62.290	29	EOG RESOURCES INC	EOG	21.1	100.530
47	COACH INC	COH	42.8	25.510	6	SCHLUMBERGER LTD	SLB	21.1	101.600
13	AKAMAI TECHNOLOGIES INC	AKAM	42.5	23.340	12	CUMMINS INC	CMI	21.0	66.340
52	FEDERATED INVESTORS INC	FII	37.4	32.860	65	NIKE INC	NKE	20.6	58.680
20	ROCKWELL COLLINS INC	COL	31.4	49.690	14	PROCTER & GAMBLE CO	PG	20.1	65.480
54	EXXON MOBIL CORP	XOM	29.3	80.430	5	TITANIUM METALS CORP	TIE	20.1	11.260
18	VARIAN MEDICAL SYSTEMS INC	VAR	28.8	60.000	39	BROWN-FORMAN -CL B	BF.B	20.0	71.960
3	ALTRIA GROUP INC	MO	27.7	20.350	6	ROBERT HALF INTL INC	RHI	19.9	25.290
134	COCA-COLA CO	KO	27.6	51.500	9	CONSOL ENERGY INC	CNX	19.7	74.390
61	DELL INC	DELL	27.3	24.570	79	BARD (C.R.) INC	BCR	19.5	92.840
29	OCCIDENTAL PETROLEUM CORP	OXY	26.3	78.830	6	BAKER HUGHES INC	BHI	19.3	82.910
17	CHEVRON CORP	CVX	24.3	84.560	6	RADIOSHACK CORP	RSH	19.0	16.680
5	ADOBE SYSTEMS INC	ADBE	24.0	41.350	New	CABOT OIL & GAS CORP	COG	18.8	44.010
134	JOHNSON & JOHNSON	JNJ	24.0	68.470	14	ASHLAND INC	ASH	18.6	41.770
21	TJX COMPANIES INC	TJX	23.7	33.710	14	AUTOMATIC DATA PROCESSING	ADP	18.2	42.710
61	3M CO	MMM	23.6	70.390	134	SIGMA-ALDRICH CORP	SIAL	18.2	60.740
14	SHERWIN-WILLIAMS CO	SHW	23.0	53.250	3	HALLIBURTON CO	HAL	18.2	44.820
7	FREEMPORT-MCMORAN COP&GOLD	FCX	23.0	96.750	12	WALGREEN CO	WAG	18.2	34.340
16	MERCK & CO	MRK	23.0	32.900	5	FLUOR CORP	FLR	18.1	81.350
11	INTERCONTINENTALEXCHANGE INC	ICE	22.4	99.800	7	ST JUDE MEDICAL INC	STJ	17.8	46.580
5	PHILIP MORRIS INTERNATIONAL	PM	22.4	51.650	New	NUCOR CORP	NUE	17.7	57.220
New	MASTERCARD INC	MA	22.1	244.150	4	STAPLES INC	SPLS	17.4	22.500
65	PEPSICO INC	PEP	21.6	66.560	3	PRECISION CASTPARTS CORP	PCP	17.4	93.430

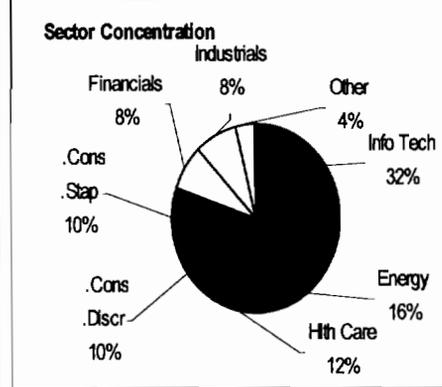
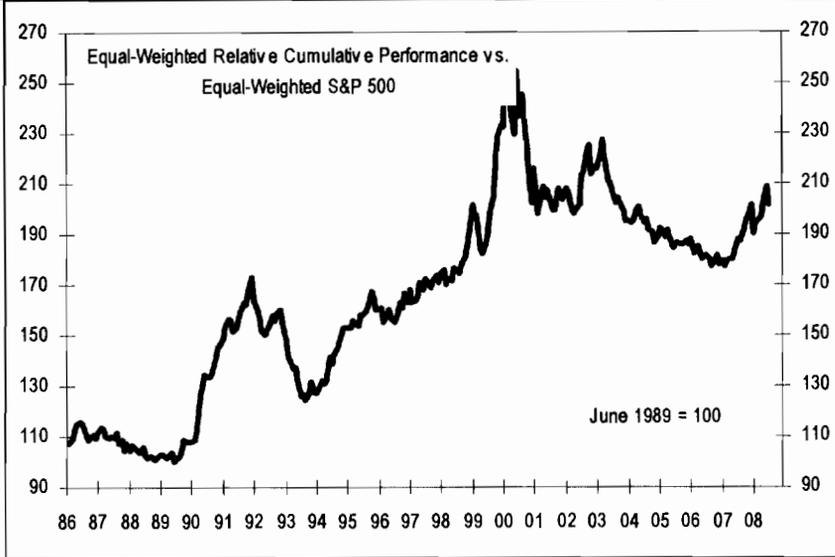


11 August 2008

# Return on Assets

## Top 50 S&P 500 Companies by ROA.

Return on Assets: Net income plus interest and taxes as a percent of average total assets.



Absolute Returns	
Last 1 Month	-3.80%
Last 3 Months	-6.39%
Last 6 Months	-2.81%
Last 12 Months	-9.85%
2008 YTD	-12.70%

### Screen for August

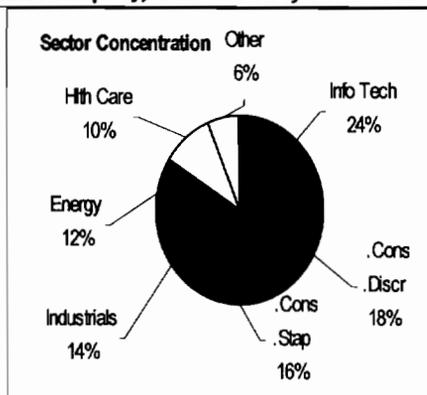
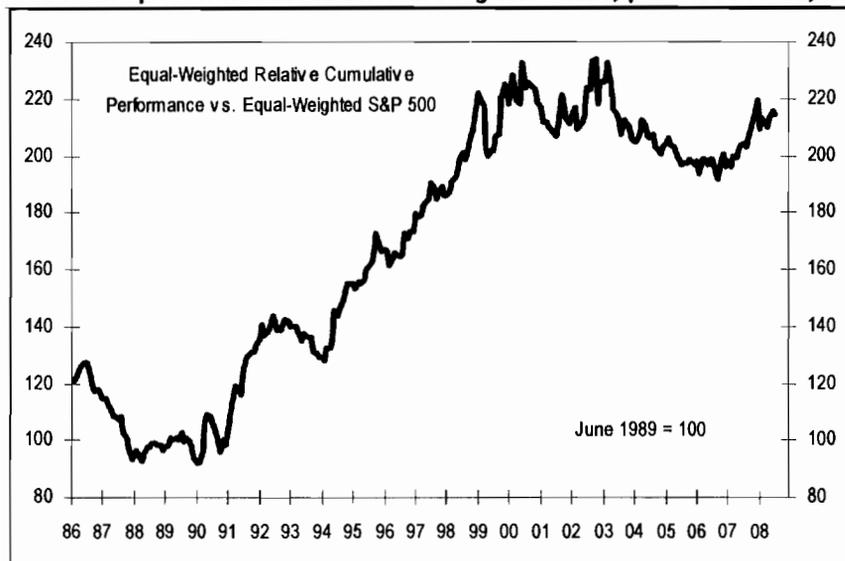
Mo. In	Scr. Company	Ticker	ROA	Price 07/31/2008	Mo. In	Scr. Company	Ticker	ROA	Price 07/31/2008
55	UST INC	UST	36.8	52.610	2	INTUITIVE SURGICAL INC	ISRG	18.2	311.290
4	CORNING INC	GLW	34.1	20.010	4	ALTRIA GROUP INC	MO	18.1	20.350
47	COACH INC	COH	33.2	25.510	52	QUALCOMM INC	QCOM	17.9	55.340
84	MOODY'S CORP	MCO	32.3	34.810	51	AUTODESK INC	ADSK	17.8	31.890
2	LORILLARD INC	LO	31.9	67.110	39	EXXON MOBIL CORP	XOM	17.5	80.430
7	GILEAD SCIENCES INC	GILD	30.7	53.980	19	COLGATE-PALMOLIVE CO	CL	17.3	74.270
58	LINEAR TECHNOLOGY CORP	LLTC	27.7	31.050	6	TERADATA CORP	TDC	17.3	23.420
37	MICROSOFT CORP	MSFT	26.0	25.720	16	APPLE INC	AAPL	17.3	158.950
34	FEDERATED INVESTORS INC	FII	25.8	32.860	10	TITANIUM METALS CORP	TIE	17.1	11.260
33	NVIDIA CORP	NVDA	25.5	11.440	9	PRECISION CASTPARTS CORP	PCP	17.1	93.430
15	MEMC ELECTRONIC MATRIALS INC	WFR	25.4	46.210	22	PEPSICO INC	PEP	17.0	66.560
22	NOBLE CORP	NE	24.7	51.870	19	ROCKWELL COLLINS INC	COL	17.0	49.690
2	FOREST LABORATORIES -CL A	FRX	23.7	35.510	11	NIKE INC	NKE	16.3	58.680
92	PRICE (T. ROWE) GROUP	TROW	22.2	59.850	15	WATERS CORP	WAT	16.3	67.940
20	ENSCO INTERNATIONAL INC	ESV	21.9	69.140	3	TRANSOCEAN INC	RIG	16.1	136.030
21	COGNIZANT TECH SOLUTIONS	CTSH	21.6	28.070	New	VARIAN MEDICAL SYSTEMS INC	VAR	16.1	60.000
31	TEXAS INSTRUMENTS INC	TXN	20.9	24.380	3	OCCIDENTAL PETROLEUM CORP	OXY	16.1	78.830
17	ABERCROMBIE & FITCH -CL A	ANF	20.7	55.220	28	ALLEGHENY TECHNOLOGIES INC	ATI	16.0	47.290
75	APOLLO GROUP INC -CL A	APOL	20.5	62.290	25	BAKER HUGHES INC	BHI	15.9	82.910
13	HALLIBURTON CO	HAL	20.0	44.820	19	WESTERN UNION CO	WU	15.8	27.640
25	SCHLUMBERGER LTD	SLB	19.9	101.600	16	MCGRAW-HILL COMPANIES	MHP	15.7	40.670
40	ROBERT HALF INTL INC	RHI	19.6	25.290	New	ALTERA CORP	ALTR	15.5	21.930
28	GOOGLE INC	GOOG	19.1	473.750	4	NATIONAL SEMICONDUCTOR CORP	NSM	15.3	20.950
18	C H ROBINSON WORLDWIDE INC	CHRW	18.8	48.200	New	STRYKER CORP	SYK	15.2	64.190
16	FRANKLIN RESOURCES INC	BEN	18.3	100.610	New	CISCO SYSTEMS INC	CSCO	15.0	21.990

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# Return on Capital

## Top 50 S&P 500 Companies By ROC

Return on Capital: The sum of net income, interest expense and minority interest, as a percent of average total invested capital which is inclusive of long-term debt, preferred stock, common equity, and minority interest.



Absolute Returns	
Last 1 Month	-0.92%
Last 3 Months	-6.74%
Last 6 Months	-8.18%
Last 12 Months	-11.84%
2008 YTD	-14.48%

### Screen for August

Mo.	In	Ret on	Price
Scrn.	Company	Cap	07/31/2008
55	UST INC	UST	87% 52.610
2	LORILLARD INC	LO	72% 67.110
5	PHILIP MORRIS INTERNATIONAL	PM	68% 51.650
61	DELL INC	DELL	54% 24.570
4	ALTRIA GROUP INC	MO	52% 20.350
31	MICROSOFT CORP	MSFT	52% 25.720
7	GILEAD SCIENCES INC	GILD	46% 53.980
75	APOLLO GROUP INC -CL A	APOL	45% 62.290
47	COACH INC	COH	45% 25.510
New	CORNING INC	GLW	45% 20.010
53	MCGRAW-HILL COMPANIES	MHP	42% 40.670
New	LINEAR TECHNOLOGY CORP	LLTC	39% 31.050
65	ROCKWELL COLLINS INC	COL	38% 49.690
New	APACHE CORP	APA	37% 112.170
15	MEMC ELECTRONIC MATRIALS INC	WFR	36% 46.210
12	PAYCHEX INC	PAYX	36% 32.920
12	AVON PRODUCTS	AVP	35% 42.400
93	COLGATE-PALMOLIVE CO	CL	35% 74.270
31	FEDERATED INVESTORS INC	FII	35% 32.860
8	EXPRESS SCRIPTS INC	ESRX	34% 70.540
45	EXXON MOBIL CORP	XOM	34% 80.430
12	NVIDIA CORP	NVDA	34% 11.440
22	WESTERN UNION CO	WU	34% 27.640
10	TERADATA CORP	TDC	33% 23.420
18	C H ROBINSON WORLDWIDE INC	CHRW	32% 48.200

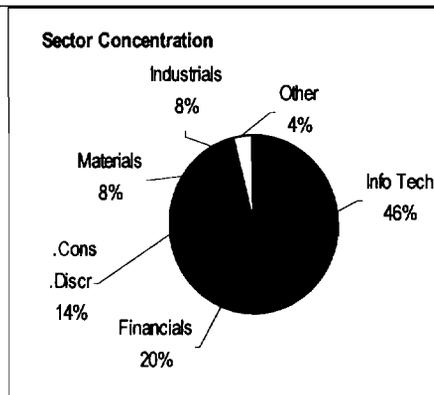
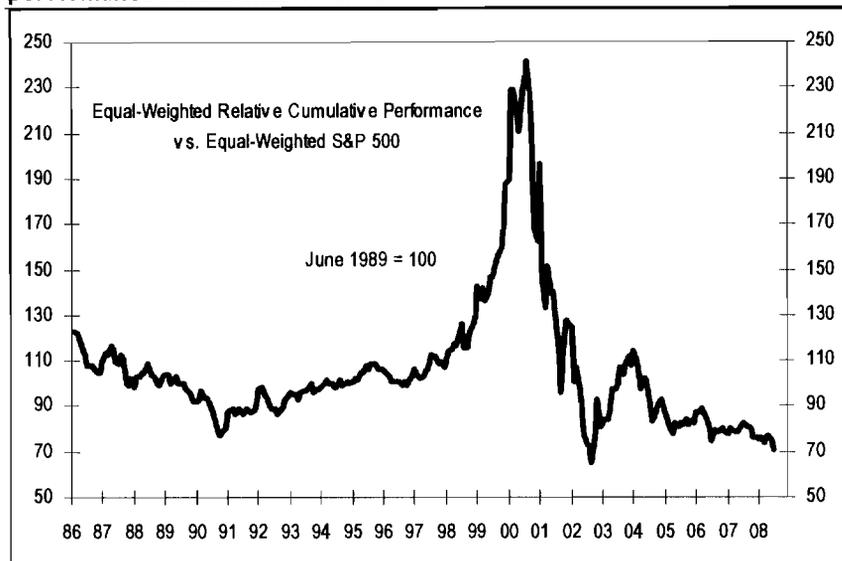
Mo.	In	Ret on	Price
Scrn.	Company	Cap	07/31/2008
65	CLOROX CO/DE	CLX	32% 54.500
2	INTL BUSINESS MACHINES CORP	IBM	32% 127.980
5	YUM BRANDS INC	YUM	32% 35.820
17	ABERCROMBIE & FITCH -CL A	ANF	31% 55.220
7	BOEING CO	BA	31% 61.110
New	AK STEEL HOLDING CORP	AKS	30% 63.500
51	AUTODESK INC	ADSK	30% 31.890
2	AUTOZONE INC	AZO	30% 130.290
10	QWEST COMMUNICATION INTL INC Q	Q	30% 3.830
22	SCHLUMBERGER LTD	SLB	30% 101.600
18	VARIAN MEDICAL SYSTEMS INC	VAR	30% 60.000
4	AMAZON.COM INC	AMZN	29% 76.340
New	HALLIBURTON CO	HAL	29% 44.820
22	PEPSICO INC	PEP	29% 66.560
34	ROBERT HALF INTL INC	RHI	29% 25.290
17	SHERWIN-WILLIAMS CO	SHW	29% 53.250
73	3M CO	MMM	28% 70.390
2	FOREST LABORATORIES -CL A	FRX	28% 35.510
New	LOCKHEED MARTIN CORP	LMT	28% 104.330
7	MANITOWOC CO	MTW	28% 26.360
5	NOBLE CORP	NE	28% 51.870
9	SMITH INTERNATIONAL INC	SII	28% 74.380
10	APPLE INC	AAPL	27% 158.950
New	TJX COMPANIES INC	TJX	27% 33.710
3	WATERS CORP	WAT	27% 67.940

11 August 2008

# Beta

## Top 50 S&P 500 Companies By BETA

**Beta: A measure of non-diversifiable risk. It is calculated using a regression incorporating 60 months of price performance versus that of the S&P 500.**



Absolute Returns	
Last 1 Month	-6.63%
Last 3 Months	-16.09%
Last 6 Months	-14.34%
Last 12 Months	-28.22%
2008 YTD	-19.18%

### Screen for August

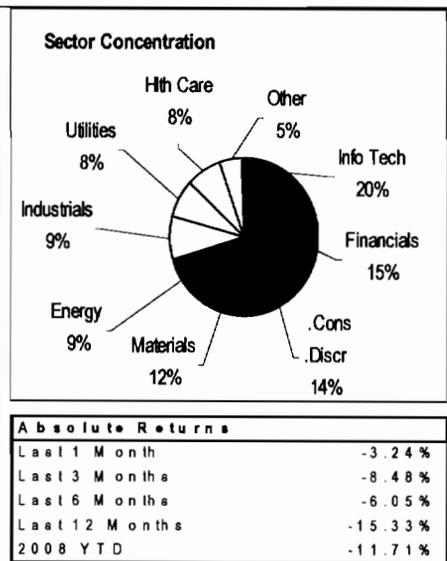
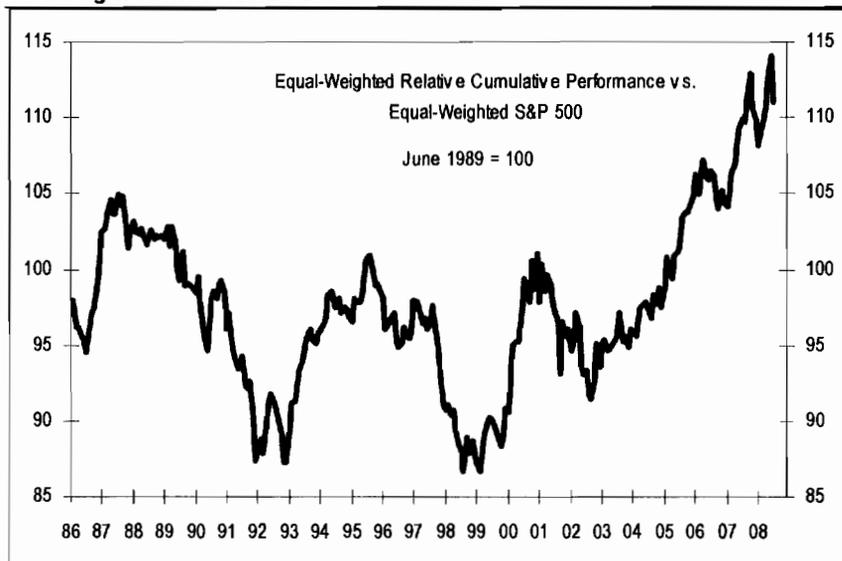
Mo.	In	Price			Mo.	In	Price		
Scrtn.	Company	Ticker	Beta	07/31/2008	Scrtn.	Company	Ticker	Beta	07/31/2008
New	AK STEEL HOLDING CORP	AKS	2.66	63.500	2	FANNIE MAE	FNM	1.72	11.500
81	NVIDIA CORP	NVDA	2.46	11.440	5	GOOGLE INC	GOOG	1.72	473.750
16	ALLEGHENY TECHNOLOGIES INC	ATI	2.37	47.290	2	XL CAPITAL LTD	XL	1.71	17.890
10	INTERCONTINENTALEXCHANGE INC	ICE	2.21	99.800	11	CIT GROUP INC	CIT	1.69	8.480
31	UNITED STATES STEEL CORP	X	2.17	160.360	2	GENERAL MOTORS CORP	GM	1.69	11.070
76	ADVANCED MICRO DEVICES	AMD	2.16	4.210	2	MBIA INC	MBI	1.66	5.930
98	BROADCOM CORP	BRCM	2.06	24.290	7	HARMAN INTERNATIONAL INDS	HAR	1.65	41.170
10	EXPEDIA INC	EXPE	2.06	19.570	2	MOTOROLA INC	MOT	1.65	8.640
13	AKAMAI TECHNOLOGIES INC	AKAM	2.02	23.340	10	JANUS CAPITAL GROUP INC	JNS	1.64	30.340
11	AMAZON.COM INC	AMZN	1.98	76.340	2	MERRILL LYNCH & CO INC	MER	1.64	26.650
New	MASTERCARD INC	MA	1.97	244.150	2	TITANIUM METALS CORP	TIE	1.64	11.260
3	AUTODESK INC	ADSK	1.96	31.890	13	IAC/INTERACTIVECORP	IACI	1.63	17.460
5	MGIC INVESTMENT CORP/WI	MTG	1.93	6.400	131	KLA-TENCOR CORP	KLAC	1.63	37.590
7	APPLE INC	AAPL	1.91	158.950	3	QWEST COMMUNICATION INTL INC Q	Q	1.62	3.830
11	FORD MOTOR CO	F	1.91	4.800	2	TEXTRON INC	TXT	1.61	43.470
2	LEHMAN BROTHERS HOLDINGS INC	LEH	1.89	17.340	98	NOVELLUS SYSTEMS INC	NVLS	1.60	20.370
23	CIENA CORP	CIEN	1.84	20.670	2	PRECISION CASTPARTS CORP	PCP	1.60	93.430
10	GOODYEAR TIRE & RUBBER CO	GT	1.84	19.630	28	UNISYS CORP	UIS	1.59	3.690
2	TESORO CORP	TSO	1.81	15.440	26	JUNIPER NETWORKS INC	JNPR	1.58	26.030
118	LSI CORP	LSI	1.80	6.940	New	MEMC ELECTRONIC MATRIALS INC	WFR	1.58	46.210
8	EBAY INC	EBAY	1.79	25.170	New	SUN MICROSYSTEMS INC	JAVA	1.58	10.630
2	FEDERAL HOME LOAN MORTG CO	FR	1.77	8.170	3	COGNIZANT TECH SOLUTIONS	CTSH	1.57	28.070
105	TERADYNE INC	TER	1.76	9.370	5	NETAPP INC	NTAP	1.57	25.550
2	TEREX CORP	TEX	1.75	47.330	2	PARKER-HANNIFIN CORP	PH	1.57	61.680
3	MICRON TECHNOLOGY INC	MU	1.74	4.830	2	TEXAS INSTRUMENTS INC	TXN	1.57	24.380

11 August 2008

# Variability of Earnings

## Top S&P 500 Companies By HIGH VARIABILITY OF EPS

Variability of EPS: The degree of variability in quarterly EPS over the past 5 years. Stocks are ranked from 10 to 1 with 10 being the most variable.



### Screen for August

No.	In	Company	Ticker	EPS Risk	Price 07/31/2008
5		AES CORP. (THE)	AES	10	16.140
4		AKAMAITECHNOLOGIES INC	AKAM	10	23.340
37		ASHLAND INC	ASH	10	41.770
83		BIG LOTS INC	BIG	10	30.480
42		BIAGEN IDEC INC	BIIB	10	89.780
26		CONSOL ENERGY INC	CNX	10	74.390
53		DILLARDS INC -CL A	DDS	10	10.110
6		EQUITY RESIDENTIAL	EQR	10	43.170
73		FREEMPORT-MCMORAN COP&GOLD	FCX	10	96.750
14		GENERAL GROWTH PPTYS INC	GGP	10	27.410
50		JABIL CIRCUIT INC	JBL	10	16.280
58		JANUS CAPITAL GROUP INC	JNS	10	30.340
81		KING PHARMACEUTICALS INC	KG	10	11.510
34		KROGER CO	KR	10	28.280
4		LEGGETT & PLATT INC	LEG	10	19.500
12		LEUCADIA NATIONAL CORP	LUK	10	44.770
New		MASTERCARD INC	MA	10	244.150
2		MORGAN STANLEY	MS	10	39.480
13		MOTOROLA INC	MOT	10	8.640
46		NUCOR CORP	NUE	10	57.220
10		PUBLIC STORAGE	PSA	10	81.890
67		ROBERT HALF INTL INC	RHI	10	25.290
16		SOVEREIGN BANCORP INC	SOV	10	9.520
11		SARA LEE CORP	SLE	10	13.860
46		TECO ENERGY INC	TE	10	18.550
7		UNITED PARCEL SERVICE INC	UPS	10	83.080
3		AGILENT TECHNOLOGIES INC	A	9	38.080
10		AMAZON.COM INC	AMZN	9	78.340
12		BMC SOFTWARE INC	BMC	9	32.890
70		BOEING CO	BA	9	61.110
54		BAKER HUGHES INC	BHI	9	82.910
2		CABOT OIL & GAS CORP	COG	9	44.010

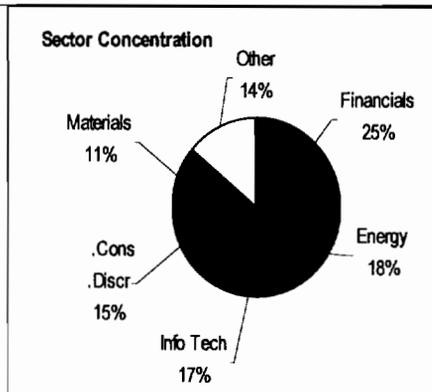
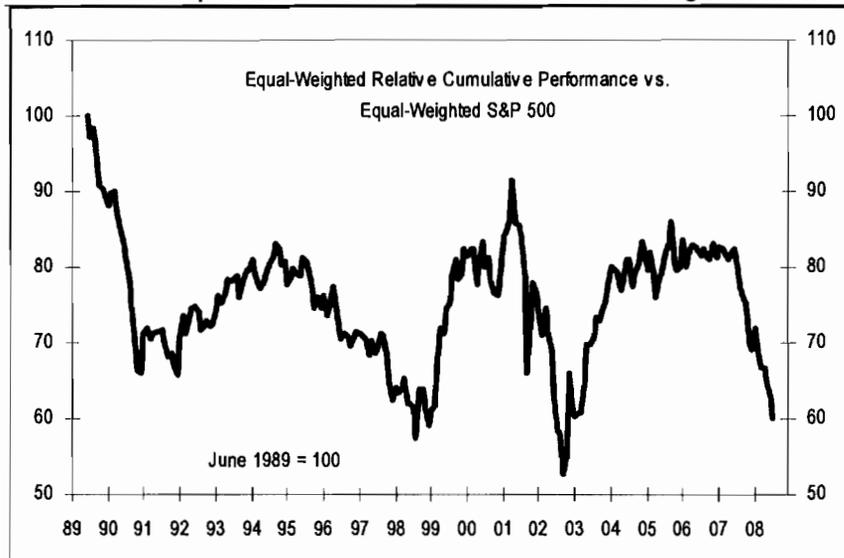
No.	In	Company	Ticker	EPS Risk	Price 07/31/2008
13		CELGENE CORP	CELG	9	75.490
New		CUMMINS INC	CMI	9	68.340
78		DONNELLEY (R R) & SONS CO	RRD	9	26.700
10		EBAY INC	EBAY	9	25.170
60		EDISON INTERNATIONAL	EIX	9	48.340
73		ELECTRONIC ARTS INC	ERTS	9	43.180
22		EXELON CORP	EXC	9	78.820
7		HUNTINGTON BANCSHARES	HBAN	9	7.020
52		HALLIBURTON CO	HAL	9	44.820
New		INTL PAPER CO	IP	9	27.720
New		INTUITIVE SURGICAL INC	ISRG	9	311.290
4		JONES APPAREL GROUP INC	JNY	9	16.740
New		LEGG MASON INC	LM	9	40.350
30		MARSH & MCLENNAN COS	MMC	9	28.250
10		MEADWESTVACO CORP	MWV	9	26.810
42		MONSTER WORLDWIDE INC	MNST	9	17.740
22		NEWELL RUBBERMAID INC	NWL	9	16.530
New		NEWMONT MINING CORP	NEM	9	47.980
54		PG&E CORP	PCG	9	38.530
52		PFIZER INC	PFE	9	18.670
22		RADIOSHACK CORP	RSH	9	16.880
39		ROWAN COS INC	RDC	9	39.800
18		SANDISK CORP	SNDK	9	14.100
New		STARWOOD HOTELS&RESORTS WRHOT	SRWH	9	34.290
65		SYMANTEC CORP	SYMC	9	21.070
3		TESORO CORP	TSO	9	15.440
16		TEXAS INSTRUMENTS INC	TXN	9	24.380
3		TITANIUM METALS CORP	TIE	9	11.260
18		TYSON FOODS INC -CL A	TSN	9	14.900
10		WENDY'S INTERNATIONAL INC	WEN	9	22.950
46		WEYERHAEUSER CO	WY	9	53.460
22		XEROX CORP	XRX	9	13.840
19		YAHOO INC	YHOO	9	19.890

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# Estimate Dispersion

## Top S&P 500 Companies By EPS ESTIMATE DISPERSION

EPS Estimate Dispersion: The coefficient of variation among I/B/E/S FY2 ESTIMATES. Presented as a decile rank



Absolute Returns	
Last 1 Month	-5.02%
Last 3 Months	-17.86%
Last 6 Months	-23.59%
Last 12 Months	-37.65%
2008 YTD	-24.05%

### Screen for August

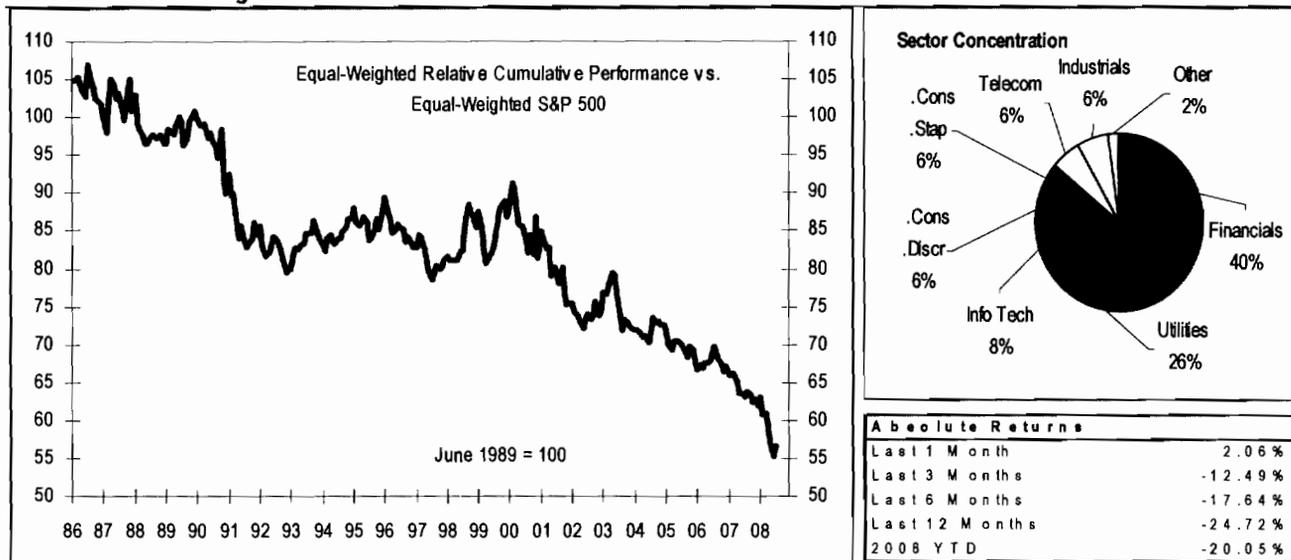
Mo.	In	Company	Ticker	EPS Est. Dispers.	Price	07/31/2008	Mo.	In	Company	Ticker	EPS Est. Dispers.	Price	07/31/2008
	85	ADVANCED MICRO DEVICES	AMD	10	4.210		43	ALCOA INC	AA	9	33.750		
	28	CENTEX CORP	CTX	10	14.680		2	CABOT OIL & GAS CORP	COG	9	44.010		
	26	D R HORTON INC	DHI	10	11.120		5	CONOCOPHILLIPS	COP	9	81.620		
	14	DILLARDS INC -CL A	DDS	10	10.110		4	CITIGROUP INC	C	9	18.690		
	9	E TRADE FINANCIAL CORP	ETFC	10	3.020		9	DEVON ENERGY CORP	DVN	9	94.890		
	12	FANNIE MAE	FNM	10	11.500		7	DYNEGY INC	DYN	9	6.730		
	15	FEDERAL HOME LOAN MORTG COFFRE		10	8.170		6	EASTMAN KODAK CO	EK	9	14.640		
	10	FIRST HORIZON NATIONAL CORP	FHN	10	9.400		19	FREEMONT-MCMORAN COP&GOLD	FCX	9	96.750		
	44	FORD MOTOR CO	F	10	4.800		9	HESS CORP	HES	9	101.400		
	41	GENERAL MOTORS CORP	GM	10	11.070		11	KING PHARMACEUTICALS INC	KG	9	11.510		
	27	KB HOME	KBH	10	17.590		New	KLA-TENCOR CORP	KLAC	9	37.590		
	23	LENNAR CORP	LEN	10	12.100		2	LEHMAN BROTHERS HOLDINGS INC	LEH	9	17.340		
	9	MBIA INC	MBI	10	5.930		7	LEXMARK INTL INC -CL A	LXK	9	35.080		
	13	MGIC INVESTMENT CORP/WI	MTG	10	6.400		New	MARSHALL & ILSLEY CORP	MI	9	15.200		
	112	MICRON TECHNOLOGY INC	MU	10	4.830		6	MASCO CORP	MAS	9	16.490		
	17	MOTOROLA INC	MOT	10	8.640		2	MASSEY ENERGY CO	MEE	9	74.250		
	4	NATIONAL CITY CORP	NCC	10	4.730		New	MERRILL LYNCH & CO INC	MER	9	26.650		
	92	NOVELLUS SYSTEMS INC	NVLS	10	20.370		44	NEWMONT MINING CORP	NEM	9	47.960		
	29	PULTE HOMES INC	PHM	10	12.210		New	NUCOR CORP	NUE	9	57.220		
New		SANDISK CORP	SNDK	10	14.100		New	NVIDIA CORP	NVDA	9	11.440		
3		SEARS HOLDINGS CORP	SHLD	10	81.000		3	OCCIDENTAL PETROLEUM CORP	OXY	9	78.830		
5		SOUTHWEST AIRLINES	LUV	10	15.590		New	SOUTHWESTERN ENERGY CO	SWN	9	36.310		
7		SPRINT NEXTEL CORP	S	10	8.140		3	SOVEREIGN BANCORP INC	SOV	9	9.520		
58		TENET HEALTHCARE CORP	THC	10	5.790		22	SUNOCO INC	SUN	9	40.610		
11		TESORO CORP	TSO	10	15.440		3	TECO ENERGY INC	TE	9	18.550		
New		WACHOVIA CORP	WB	10	17.270		New	TERADYNE INC	TER	9	9.370		
9		WASHINGTON MUTUAL INC	WM	10	5.330		5	TITANIUM METALS CORP	TIE	9	11.260		
18		WEYERHAEUSER CO	WY	10	53.460		31	TYSON FOODS INC -CL A	TSN	9	14.900		

11 August 2008

# Neglect-Institutional Ownership

## Top 50 S&P 500 Companies By Low Institutional holdings

**Neglect:** Those companies with the lowest proportions of float-adjusted shares held by institutional owners are considered more neglected.



### Screen for August

Mo.	In	Scr.	Company	Ticker	% Held By Inst	Price 07/31/2008	Mo.	In	Scr.	Company	Ticker	% Held By Inst	Price 07/31/2008
	New		SCRIPPS NETWORKS INTERCT-SPN	SNI	1.7%	40.540		41		PRINCIPAL FINANCIAL GRP INC	PFG	59.1%	42.510
	4		PHILIP MORRIS INTERNATIONAL	PM	23.9%	51.650		New		XL CAPITAL LTD	XL	59.2%	17.890
	128		BB&T CORP	BBT	38.7%	28.020		22		PROGRESS ENERGY INC	PGN	59.9%	42.310
	31		MOLEX INC	MOLX	44.7%	24.530		21		PPL CORP	PPL	60.3%	46.960
	49		REGIONS FINANCIAL CORP	RF	45.1%	9.480		41		GENERAL ELECTRIC CO	GE	60.6%	28.290
	144		SOUTHERN CO	SO	45.9%	35.390		12		DTE ENERGY CO	DTE	60.6%	40.980
	New		AMERICAN CAPITAL LTD	ACAS	46.0%	20.320		9		DOMINION RESOURCES INC	D	60.8%	44.180
	52		FIRST HORIZON NATIONAL CORP	FHN	46.8%	9.400		9		PEPCO HOLDINGS INC	POM	60.9%	24.940
	3		NETAPP INC	NTAP	48.0%	25.550		14		ANHEUSER-BUSCH COS INC	BUD	61.0%	67.760
	39		UNITED PARCEL SERVICE INC	UPS	48.3%	63.080		18		AT&T INC	T	61.4%	30.810
	89		CONSOLIDATED EDISON INC	ED	50.2%	39.700		92		METLIFE INC	MET	61.4%	50.770
	60		KEYCORP	KEY	50.4%	10.550		7		XCEL ENERGY INC	XEL	61.5%	20.060
	18		INTEGRYS ENERGY GROUP INC	TEG	50.7%	51.060		30		PUBLIC SERVICE ENTRP GRP INC	PEG	61.6%	41.800
	16		PACCAR INC	PCAR	51.9%	42.060		21		BANK OF AMERICA CORP	BAC	61.7%	32.900
	41		EXXON MOBIL CORP	XOM	53.5%	80.430		43		WACHOVIA CORP	WB	61.9%	17.270
	3		TOTAL SYSTEM SERVICES INC	TSS	54.9%	19.580		6		CITIGROUP INC	C	61.9%	18.690
	73		PRUDENTIAL FINANCIAL INC	PRU	56.1%	68.970		25		PROCTER & GAMBLE CO	PG	62.2%	65.480
	9		MARSHALL & ILSLEY CORP	MI	56.5%	15.200		9		U S BANCORP	USB	62.6%	30.610
	39		CINCINNATI FINANCIAL CORP	CINF	57.3%	27.840		4		AMEREN CORP	AEE	62.7%	41.090
	10		NYSE Euronext	NYX	57.7%	47.240		30		COMCAST CORP	CMCSA	62.8%	20.620
	25		DUKE ENERGY CORP	DUK	57.9%	17.580		New		FRONTIER COMMUNICATIONS CO	FTR	63.0%	11.560
	New		MERRILL LYNCH & CO INC	MER	58.5%	26.650		6		INTL BUSINESS MACHINES CORP	IBM	63.2%	127.980
	82		TECO ENERGY INC	TE	58.6%	18.550		35		SUNTRUST BANKS INC	STI	63.3%	41.060
	2		LEHMAN BROTHERS HOLDINGS INC	LEH	59.1%	17.340		9		VERIZON COMMUNICATIONS INC	VZ	63.5%	34.040
	132		HUNTINGTON BANCSHARES	HBAN	59.1%	7.020		9		MARRIOTT INTL INC	MAR	64.3%	25.910

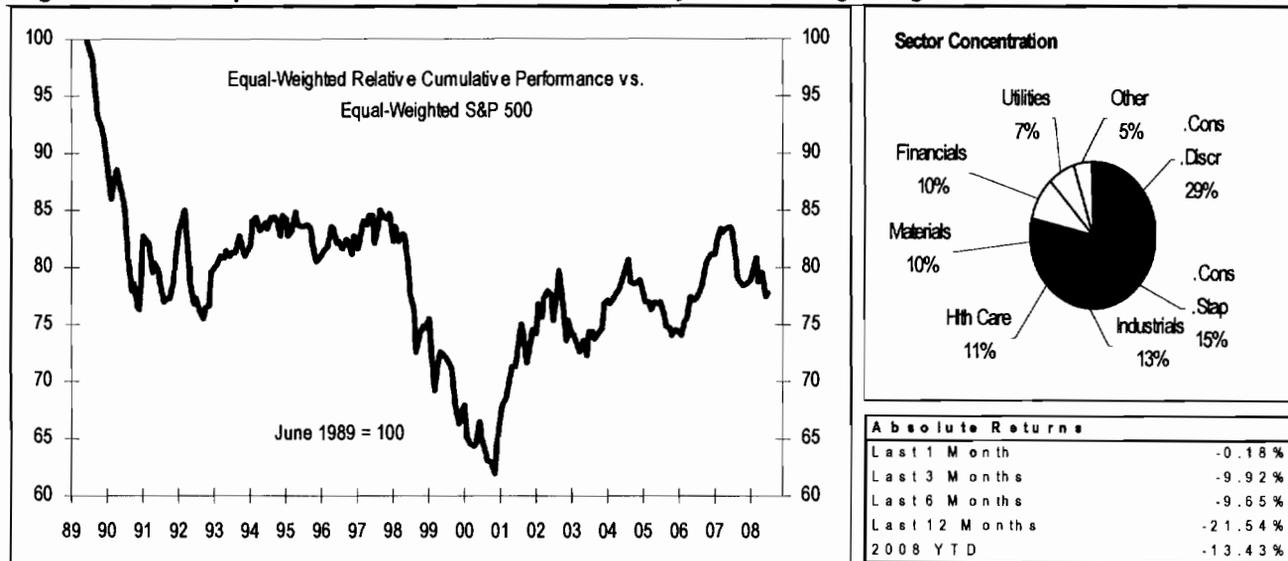


11 August 2008

# Neglect-Analyst Coverage

## Top 50 S&P 500 Companies By Low Analyst Coverage

**Neglect:** Those companies with the lowest number of analysts submitting ratings to FirstCall.



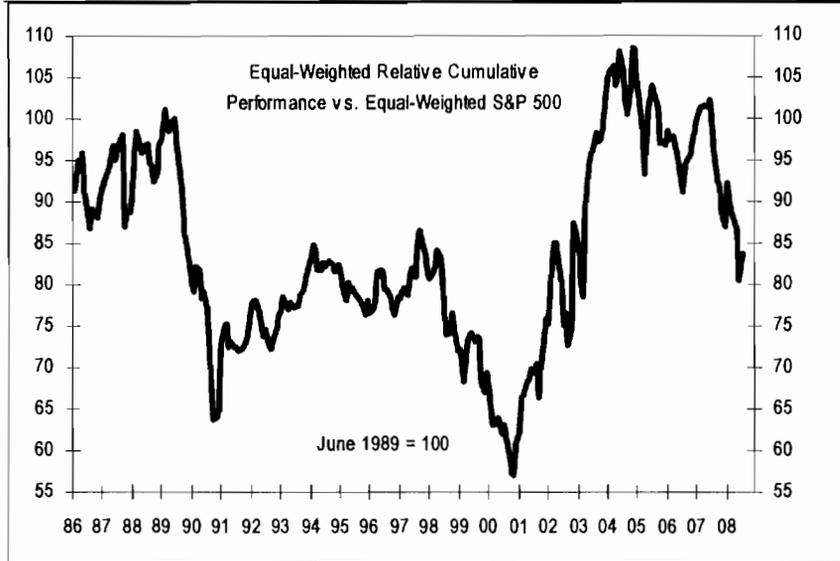
### Screen for August

Mo. In	Scr. Company	Ticker	No. of Analyst Coverage	Price 07/31/2008	Mo. In	Scr. Company	Ticker	No. of Analyst Coverage	Price 07/31/2008
8	WASHINGTON POST -CL B	WPO	1	618.250	6	MOODY'S CORP	MCO	7	34.810
69	COMPUWARE CORP	CPWR	2	11.000	19	PALL CORP	PLL	7	40.420
70	LOEWS CORP	L	3	44.560	53	PITNEY BOWES INC	PBI	7	31.690
70	SNAP-ON INC	SNA	3	56.290	70	RYDER SYSTEM INC	R	7	65.960
43	DILLARDS INC -CL A	DDS	4	10.110	3	SUPERVALU INC	SVU	7	25.620
51	HOSPIRA INC	HSP	4	38.160	4	WRIGLEY (WM) JR CO	WWY	7	78.960
10	TERADATA CORP	TDC	4	23.420	39	AES CORP. (THE)	AES	8	16.140
10	TITANIUM METALS CORP	TIE	4	11.260	New	AK STEEL HOLDING CORP	AKS	8	63.500
70	DONNELLEY (R R) & SONS CO	RRD	5	26.700	New	ALLIED WASTE INDUSTRIES INC	AW	8	12.100
7	HARMAN INTERNATIONAL INDS	HAR	5	41.170	New	ARCHER-DANIELS-MIDLAND CO	ADM	8	28.630
70	INTL FLAVORS & FRAGRANCES	IFF	5	40.220	10	BALL CORP	BLL	8	44.580
41	SEARS HOLDINGS CORP	SHLD	5	81.000	New	BARD (C.R.) INC	BCR	8	92.840
4	WENDY'S INTERNATIONAL INC	WEN	5	22.950	3	BAXTER INTERNATIONAL INC	BAX	8	68.610
32	BLOCK H & R INC	HRB	6	24.330	3	BECTON DICKINSON & CO	BDX	8	84.910
21	CB RICHARD ELLIS GROUP INC	CBG	6	14.050	70	BROWN-FORMAN -CL B	BF.B	8	71.960
5	EQUIFAX INC	EFX	6	35.090	6	CENTERPOINT ENERGY INC	CNP	8	15.770
70	HERCULES INC	HPC	6	20.050	10	CONAGRA FOODS INC	CAG	8	21.680
18	INTEGRYS ENERGY GROUP INC	TEG	6	51.060	63	GOODYEAR TIRE & RUBBER CO	GT	8	19.630
New	MBIA INC	MBI	6	5.930	New	GENUINE PARTS CO	GPC	8	40.110
60	MEREDITH CORP	MDP	6	25.560	5	JONES APPAREL GROUP INC	JNY	8	16.740
51	NICOR INC	GAS	6	39.820	2	LIZ CLAIBORNE INC	LIZ	8	13.070
New	SCRIPPS NETWORKS INTERCT-SP	SNI	6	40.540	New	LORILLARD INC	LO	8	67.110
7	UNISYS CORP	UIS	6	3.690	5	NEW YORK TIMES CO -CL A	NYT	8	12.590

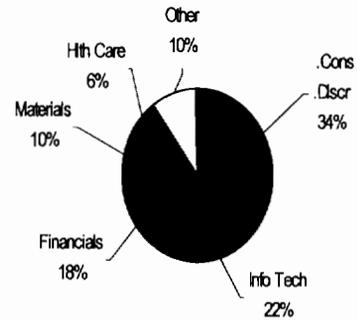
11 August 2008

# Size

## Top 50 S&P 500 Companies By SMALL SIZE Firm Size: Month-end market value.



### Sector Concentration



### Absolute Returns

Last 1 Month	3.26%
Last 3 Months	-12.76%
Last 6 Months	-16.91%
Last 12 Months	-29.44%
2008 YTD	-15.98%

### Screen for August

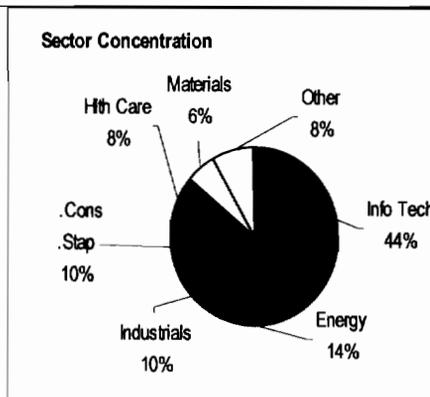
Mo.	In	Market Value	Price	Mo.	In	Market Value	Price		
Scr.	Company	Ticker	07/31/2008	Scr.	Company	Ticker	07/31/2008		
70	DILLARDS INC -CL A	DDS	576	10.110	13	RADIOSHACK CORP	RSH	2185	16.680
13	MGIC INVESTMENT CORP/WI	MTG	800	6.400	5	MONSTER WORLDWIDE INC	MNST	2200	17.740
60	MEREDITH CORP	MDP	946	25.560	92	HERCULES INC	HPC	2266	20.050
10	TITANIUM METALS CORP	TIE	1103	11.260	18	ASHLAND INC	ASH	2339	41.770
15	LIZ CLAIBORNE INC	LIZ	1242	13.070	7	HARMAN INTERNATIONAL INDS	HAR	2388	41.170
8	MBIA INC	MBI	1257	5.930	5	CIT GROUP INC	CIT	2400	8.480
43	UNISYS CORP	UIS	1314	3.690	New	CB RICHARD ELLIS GROUP INC	CBG	2445	14.050
17	KB HOME	KBH	1354	17.590	69	BIG LOTS INC	BIG	2498	30.460
17	AUTONATION INC	AN	1383	10.320	38	QLOGIC CORP	QLGC	2506	18.840
9	E TRADE FINANCIAL CORP	ETFC	1428	3.020	22	JDS UNIPHASE CORP	JDSU	2514	10.930
25	JONES APPAREL GROUP INC	JNY	1456	16.740	New	ADVANCED MICRO DEVICES	AMD	2555	4.210
58	CONVERGYS CORP	CVG	1575	12.700	3	HUNTINGTON BANCSHARES	HBAN	2569	7.020
44	TERADYNE INC	TER	1612	9.370	4	PULTE HOMES INC	PHM	2613	12.210
11	LENNAR CORP	LEN	1694	12.100	26	TENET HEALTHCARE CORP	THC	2773	5.790
11	FIRST HORIZON NATIONAL CORP	FHN	1758	9.400	40	BEMIS CO INC	BMS	2816	28.160
73	NICOR INC	GAS	1792	39.820	12	KING PHARMACEUTICALS INC	KG	2843	11.510
12	CENTEX CORP	CTX	1806	14.680	4	FEDERATED INVESTORS INC	FII	2859	32.860
29	NEW YORK TIMES CO -CL A	NYT	1813	12.590	32	COMPUWARE CORP	CPWR	2882	11.000
2	OFFICE DEPOT INC	ODP	1856	6.800	32	WATSON PHARMACEUTICALS INC	WPI	3007	28.910
8	CIENA CORP	CIEN	1860	20.670	New	CMS ENERGY CORP	CMS	3038	13.500
30	NOVELL INC	NOVL	1972	5.570	2	DR HORTON INC	DHI	3058	11.120
21	WENDY'S INTERNATIONAL INC	WEN	2020	22.950	New	APARTMENT INVT &MGMT -CL A	AIV	3075	34.170
16	NOVELLUS SYSTEMS INC	NVLS	2037	20.370	New	WHOLE FOODS MARKET INC	WFMI	3104	22.170
9	TELLABS INC	TLAB	2041	5.140	4	PACTIV CORP	PTV	3158	24.110
2	TESORO CORP	TSO	2131	15.440	New	IAC/INTERACTIVECORP	IACI	3160	17.460

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# Foreign Exposure

## Top 50 S&P 500 Companies By FOREIGN EXPOSURE

Foreign Exposure: The ratio of foreign sales to total sales.



Absolute Returns

Last 1 Month	-4.35%
Last 3 Months	-6.57%
Last 6 Months	1.43%
Last 12 Months	-9.55%
2008 YTD	-8.00%

### Screen for August

Mo.	In	Foreign	Price	
Scr.	Company	Exposure	07/31/2008	
5	PHILIP MORRIS INTERNATIONAL	PM	100.0%	51.650
137	INTEL CORP	INTC	95.6%	22.190
81	NVIDIA CORP	NVDA	91.7%	11.440
125	ADVANCED MICRO DEVICES	AMD	87.4%	4.210
113	TEXAS INSTRUMENTS INC	TXN	87.3%	24.380
81	QUALCOMM INC	QCOM	86.9%	55.340
99	APPLIED MATERIALS INC	AMAT	84.0%	17.320
36	COLGATE-PALMOLIVE CO	CL	80.3%	74.270
33	TRANSCOCEAN INC	RIG	80.3%	136.030
77	ALTERA CORP	ALTR	80.0%	21.930
10	EXPEDITORS INTL WASH INC	EXPD	79.6%	35.510
99	NATIONAL SEMICONDUCTOR CORP	NSM	79.6%	20.950
118	AES CORP. (THE)	AES	79.4%	16.140
30	HARMAN INTERNATIONAL INDS	HAR	78.6%	41.170
75	NOBLE CORP	NE	77.3%	51.870
15	SCHLUMBERGER LTD	SLB	77.0%	101.600
52	TERADYNE INC	TER	76.9%	9.370
129	KLA-TENCOR CORP	KLAC	76.3%	37.590
105	MOLEX INC	MOLX	76.0%	24.530
5	MEMC ELECTRONIC MATERIALS INC	WFR	76.0%	46.210
17	ENSCO INTERNATIONAL INC	ESV	75.3%	69.140
78	ANALOG DEVICES	ADI	74.4%	30.510
94	AVON PRODUCTS	AVP	73.6%	42.400
99	INTL FLAVORS & FRAGRANCES	IFF	72.3%	40.220
42	AFLAC INC	AFL	71.1%	55.610

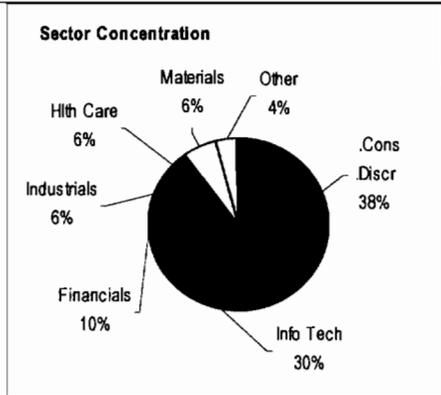
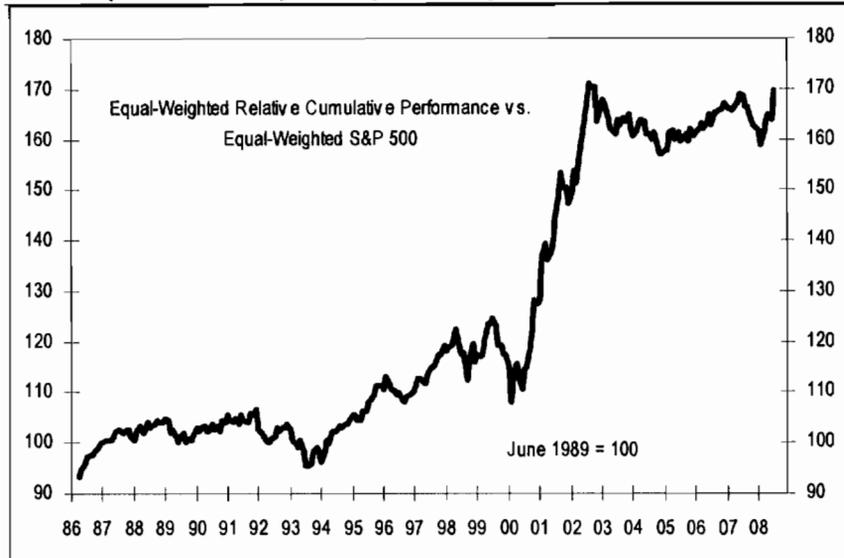
Mo.	In	Foreign	Price	
Scr.	Company	Exposure	07/31/2008	
99	COCA-COLA CO	KO	71.1%	51.500
16	NEWMONT MINING CORP	NEM	71.0%	47.960
16	SPECTRA ENERGY CORP	SE	70.6%	27.170
11	MICROCHIP TECHNOLOGY INC	MCHP	70.6%	31.930
33	MICRON TECHNOLOGY INC	MU	69.8%	4.830
20	TEREX CORP	TEX	69.6%	47.330
2	EXXON MOBIL CORP	XOM	69.0%	80.430
5	NOVELLUS SYSTEMS INC	NVLS	68.9%	20.370
111	AUTODESK INC	ADSK	68.6%	31.890
5	SANDISK CORP	SNDK	68.5%	14.100
41	WATERS CORP	WAT	67.9%	67.940
45	WRIGLEY (WM) JR CO	WWY	67.4%	78.960
13	TYCO ELECTRONICS LTD	TEL	67.2%	33.140
5	LSI CORP	LSI	67.0%	6.940
99	HEWLETT-PACKARD CO	HPQ	66.6%	44.800
111	DOW CHEMICAL	DOW	65.9%	33.310
7	AGILENT TECHNOLOGIES INC	A	65.6%	36.060
27	PALL CORP	PLL	65.5%	40.420
144	MCDONALD'S CORP	MCD	65.3%	59.790
5	SCHERING-PLOUGH	SGP	63.8%	21.080
5	PACCAR INC	PCAR	63.8%	42.060
139	BAKER HUGHES INC	BHI	63.5%	82.910
99	MILLIPORE CORP	MIL	63.4%	70.350
18	3M CO	MMM	63.3%	70.390
20	PERKINELMER INC	PKI	63.1%	29.100

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# Share Repurchase

## Top 50 S&P 500 Companies By Large Share Repurchase

Share Repurchase: The year-to-year change in shares outstanding.



**Absolute Returns**

Last 1 Month	3.04%
Last 3 Months	-5.48%
Last 6 Months	-3.83%
Last 12 Months	-15.44%
2008 YTD	-8.37%

### Screen for August

Mo.	In	Share	Price
Scrn	Company	Repurchase	07/31/2008
11	NATIONAL SEMICONDUCTOR CORP	NSM	-25.0% 20.950
8	BIG LOTS INC	BIG	-20.8% 30.460
9	JONES APPAREL GROUP INC	JNY	-20.6% 16.740
8	VERISIGN INC	VRSN	-20.3% 32.540
5	NOVELLUS SYSTEMS INC	NVLS	-19.3% 20.370
9	DOMINION RESOURCES INC	D	-17.2% 44.180
3	NEWS CORP	NWS.A	-16.3% 14.130
21	COMPUWARE CORP	CPWR	-16.0% 11.000
6	MICROCHIP TECHNOLOGY INC	MCHP	-15.7% 31.930
8	HOME DEPOT INC	HD	-14.2% 23.830
19	SAFECO CORP	SAF	-13.7% 66.160
5	ALTERA CORP	ALTR	-13.6% 21.930
2	COMPUTER SCIENCES CORP	CSC	-13.4% 47.370
5	HASBRO INC	HAS	-13.3% 38.720
10	BEST BUY CO INC	BBY	-13.1% 39.720
5	WELLPOINT INC	WLP	-12.6% 52.450
2	LSI CORP	LSI	-12.5% 6.940
8	NORDSTROM INC	JWN	-12.4% 28.740
New	PATTERSON COMPANIES INC	PDCO	-12.4% 31.230
5	CB RICHARD ELLIS GROUP INC	CBG	-11.8% 14.050
10	AUTONATION INC	AN	-11.6% 10.320
9	SUN MICROSYSTEMS INC	JAVA	-11.5% 10.630
9	QLOGIC CORP	QLGC	-11.2% 18.840
3	KLA-TENCOR CORP	KLAC	-11.1% 37.590
3	CUMMINS INC	CMI	-11.1% 66.340

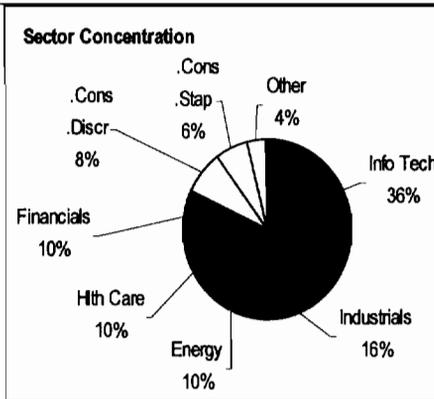
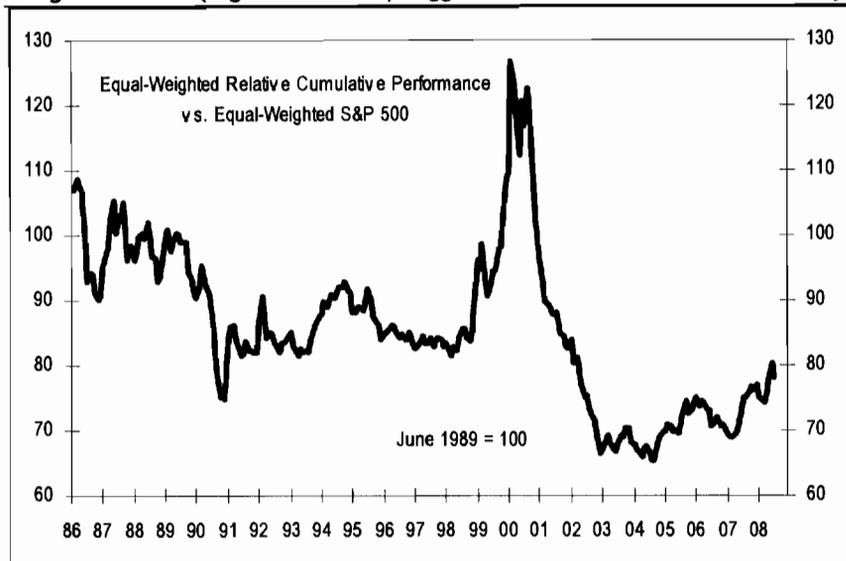
Mo.	In	Share	Price
Scrn	Company	Repurchase	07/31/2008
20	AMERISOURCEBERGEN CORP	ABC	-10.8% 41.870
3	HARMAN INTERNATIONAL INC	HAR	-10.7% 41.170
3	SHERWIN-WILLIAMS CO	SHW	-10.2% 53.250
4	GAP INC	GPS	-10.2% 16.120
6	STARWOOD HOTELS&RESOR	HOT	-10.1% 34.290
2	EQUIFAX INC	EFX	-9.9% 35.090
9	INTL FLAVORS & FRAGRANC	IFF	-9.8% 40.220
2	ADOBE SYSTEMS INC	ADBE	-9.8% 41.350
New	TRAVELERS COS INC	TRV	-9.8% 44.120
2	GRAINGER (W W) INC	GWW	-9.7% 89.510
2	DELL INC	DELL	-9.6% 24.570
4	TELLABS INC	TLAB	-9.4% 5.140
3	EASTMAN CHEMICAL CO	EMN	-9.3% 59.960
9	CLOXOX CO/DE	CLX	-8.9% 54.500
4	YUM BRANDS INC	YUM	-8.8% 35.820
5	TERADYNE INC	TER	-8.8% 9.370
9	ROHM AND HAAS CO	ROH	-8.7% 75.000
2	MATTEL INC	MAT	-8.7% 20.050
2	BLACK & DECKER CORP	BDK	-8.7% 60.020
8	SEARS HOLDINGS CORP	SHLD	-8.6% 81.000
New	APOLLO GROUP INC -CL A	APOL	-8.5% 62.290
2	SCHWAB (CHARLES) CORP	SCHW	-8.5% 22.890
2	COACH INC	COH	-8.4% 25.510
8	LIMITED BRANDS INC	LTD	-8.4% 16.490
6	MOODY'S CORP	MCO	-8.3% 34.810

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# Equity Duration

## Top 50 S&P 500 Companies By HIGH DURATION

Equity Duration: An adaptation of our Dividend Discount Model that measures the interest-rate sensitivity of a stock. Longer duration (higher numbers) suggests more interest-rate sensitivity.



Absolute Returns	
Last 1 Month	-3.29%
Last 3 Months	-5.64%
Last 6 Months	-4.82%
Last 12 Months	-12.80%
2008 YTD	-11.45%

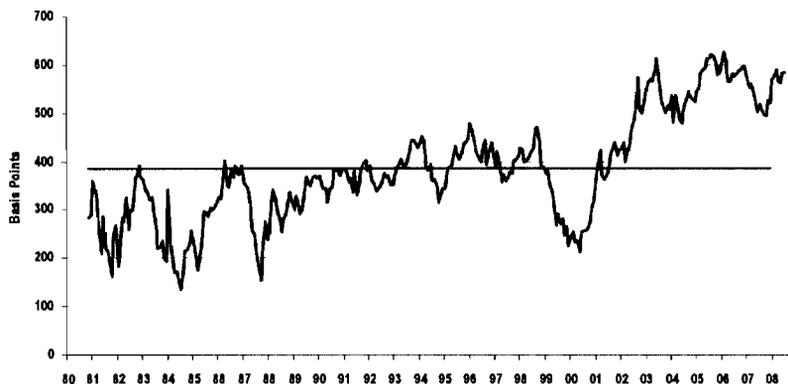
### Screen for August

Mo.	In	Equity	Price
Scr.	Company	Ticker	Duration 07/31/2008
17	SOUTHWEST AIRLINES	LUV	71.3
New	LSI CORP	LSI	66.4
17	TYSON FOODS INC -CL A	TSN	53.9
10	PEABODY ENERGY CORP	BTU	52.1
10	CONSOL ENERGY INC	CNX	50.5
19	UNISYS CORP	UIS	50.4
17	INTEL CORP	INTC	49.2
18	FLUOR CORP	FLR	48.6
7	TELLABS INC	TLAB	46.2
17	TEXAS INSTRUMENTS INC	TXN	44.1
6	VERISIGN INC	VRSN	43.8
5	EMC CORP/MA	EMC	42.7
3	MOTOROLA INC	MOT	41.8
17	UNION PACIFIC CORP	UNP	41.3
5	APPLE INC	AAPL	40.8
17	PALL CORP	PLL	40.5
6	BIOGEN IDEC INC	BIIB	40.5
21	AMAZON.COM INC	AMZN	40.3
New	WAL-MART STORES INC	WMT	40.3
6	SYMANTEC CORP	SYMC	39.7
2	NORDSTROM INC	JWN	39.4
New	JANUS CAPITAL GROUP INC	JNS	39.3
4	EOG RESOURCES INC	EOG	39.1
5	HEWLETT-PACKARD CO	HPQ	38.7
6	BAXTER INTERNATIONAL INC	BAX	38.1

Mo.	In	Equity	Price
Scr.	Company	Ticker	Duration 07/31/2008
6	ALTERA CORP	ALTR	37.4
9	DANAHER CORP	DHR	37.3
3	AON CORP	AOC	37.1
4	ANADARKO PETROLEUM CORP	APC	36.8
4	PROGRESSIVE CORP-OHIO	PGR	36.5
5	PRAXAIR INC	PX	36.2
8	MILLIPORE CORP	MIL	35.6
3	LEGG MASON INC	LM	35.5
6	WATSON PHARMACEUTICALS IN WPI		35.4
3	UNITED STATES STEEL CORP	X	35.3
5	SUN MICROSYSTEMS INC	JAVA	35.2
13	GENERAL DYNAMICS CORP	GD	35.2
17	MOLSON COORS BREWING CO	TAP	35.1
11	CSX CORP	CSX	34.9
New	MASTERCARD INC	MA	34.5
2	WESTERN UNION CO	WU	34.5
4	BROADCOM CORP	BRCM	34.4
2	STATE STREET CORP	STT	34.3
New	GRAINGER (W W) INC	GWV	33.9
New	APOLLO GROUP INC -CL A	APOL	33.9
New	POLO RALPH LAUREN CP -CL A RL		33.6
4	XTO ENERGY INC	XTO	33.5
New	ST JUDE MEDICAL INC	STJ	33.5
3	YAHOO INC	YHOO	33.5
New	QUALCOMM INC	QCOM	33.4

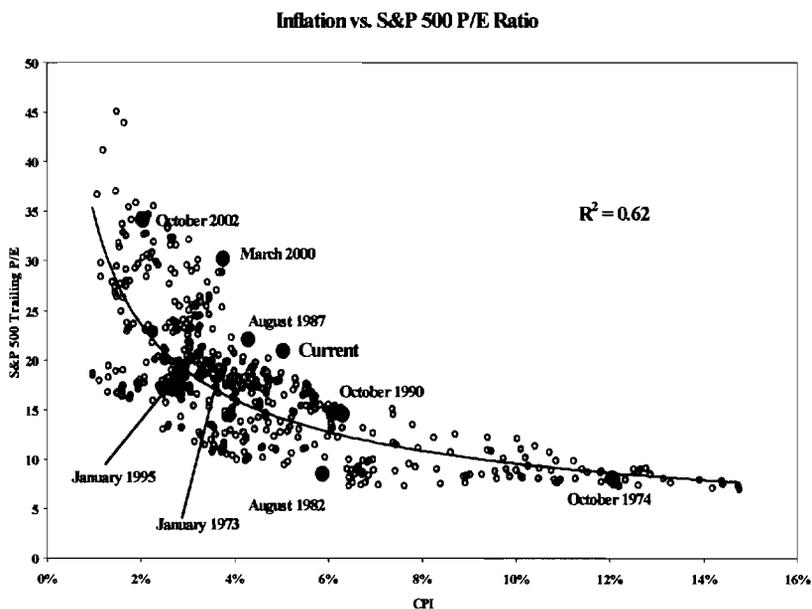
# Valuation Backdrop

**Chart 3: S&P 500 Risk Premium (DDM Expected Return less AAA Corporate Bond Rate)**



Merrill Lynch Quantitative Strategy

**Inflation vs. P/E Model (1965 to present)**



Source: Merrill Lynch Quantitative Strategy



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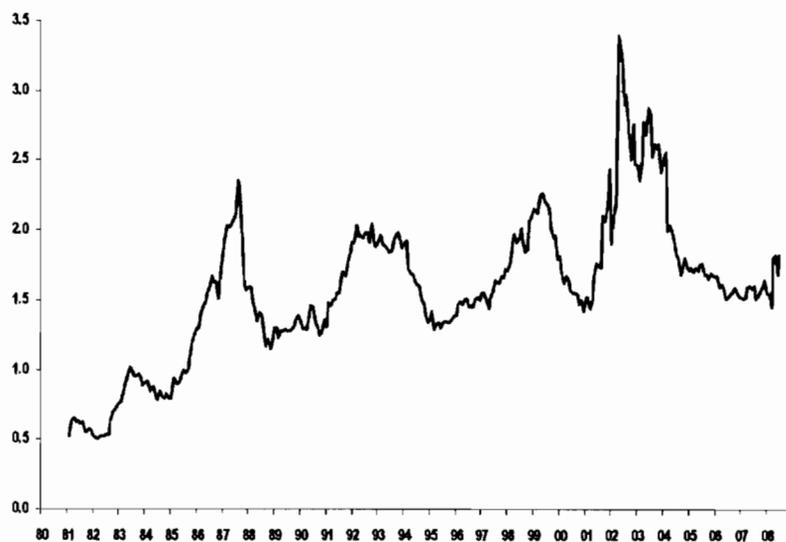
Quantitative Profiles

**S&P 500 Real PE-to-Growth Ratio (Trailing P/E Divided by Proj. 5-Yr EPS Growth less Inflation)**



Source: Merrill Lynch Quantitative Strategy

**S&P 500 PE-to-Growth Ratio (Trailing P/E Divided by Proj. 5-Yr EPS Growth)**



Source: Merrill Lynch Quantitative Strategy



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Quantitative Profiles

Merrill Lynch Universe Sector/Industry Factor Evaluation

	Valuation Analysis										Expectation Analysis							
	# of Comp	% ML Univ	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	ML Adj Beta	P/E Ratio	Price/Book	Yield	Surprise	Earnings (Decile)			PR 5yr Growth	EPS Growth 2008E	EPS Growth 2009E	
												Risk	Torp	Disp				Est. Rev.
<b>Economic Sectors</b>																		
Energy	107	13.9	10.9	11.2	-0.3	28.2	1.0	8.7	2.7	1.7	4	6	9	7	2	16.9	43	8
Materials	39	4.0	10.9	13.0	-2.1	28.1	1.2	12.1	3.1	2.1	4	6	7	7	4	13.6	44	22
Industrials	125	11.2	11.1	11.6	-0.5	26.7	1.0	13.8	2.7	2.3	5	4	5	3	4	12.6	4	18
Consumer Discr.	194	9.0	12.1	12.5	-0.4	26.9	1.1	14.7	1.9	1.5	5	4	5	5	6	15.3	31	17
Consumer Staples	60	10.2	11.6	9.1	2.5	27.9	0.7	15.3	3.5	2.5	6	2	5	2	4	10.5	3	12
Health Care	136	12.0	11.4	9.5	1.9	29.1	0.8	13.9	3.1	1.9	5	5	5	3	4	10.4	9	12
Financials	239	16.0	11.8	12.3	-0.5	22.5	1.1	13.0	1.3	3.8	6	5	4	6	7	8.9	-30	66
Information Tech	187	17.0	11.8	14.1	-2.3	32.0	1.3	16.0	3.5	0.8	6	5	6	4	4	15.4	21	17
Telecommunication	22	3.2	10.9	12.5	-1.6	18.0	1.1	12.8	1.9	4.1	6	6	6	4	6	9.3	4	10
Utilities	53	3.7	9.7	9.4	0.3	24.6	0.7	14.1	1.9	3.4	7	5	5	4	5	8.0	6	12
<b>Capitalization Sectors (\$ Million)</b>																		
0 To 833	232	0.8	11.3	13.7	-2.4	25.9	1.3	49.8	1.1	1.8	5	7	6	7	6	13.9	nm	300
837 To 2040	233	2.6	11.0	13.2	-2.2	26.5	1.2	17.9	1.5	2.2	6	6	5	6	6	18.9	4	75
2063 To 4277	232	5.8	10.9	12.2	-1.3	25.4	1.1	13.9	1.6	2.1	5	5	5	5	5	16.1	34	39
4279 To 11721	233	13.1	11.2	12.5	-1.3	26.7	1.1	15.3	2.1	2.0	5	5	5	5	5	14.8	9	32
11805 To 424992	232	77.8	11.5	11.4	0.1	27.5	1.0	12.5	2.5	2.2	5	5	6	4	4	11.8	8	16
<b>Risk Sectors</b>																		
-0.20 To 0.80	224	25.4	11.3	8.6	2.7	27.9	0.6	14.5	2.9	2.6	5	4	5	3	4	10.8	6	12
0.81 To 0.99	223	27.3	11.8	10.9	0.9	25.7	0.9	10.8	2.5	2.4	5	4	6	5	4	10.8	22	7
1.00 To 1.16	220	20.4	11.3	12.1	-0.8	25.4	1.1	11.8	2.0	2.2	5	5	6	4	5	14.6	12	15
1.17 To 1.46	228	16.4	11.0	14.0	-3.0	29.1	1.3	14.0	1.9	1.8	6	5	6	5	5	11.6	-17	67
1.47 To 2.77	222	8.7	12.1	17.7	-5.6	30.9	1.8	23.6	2.2	1.0	6	7	6	6	6	20.3	20	106
Uncoded	45	1.9	11.3			23.6		14.2	3.0	2.1	7	6	8	3	3	18.5	22	-16
<b>DDM Alpha</b>																		
Most Undervalued	142	21.0	12.8	9.4	3.4	25.7	0.7	13.4	2.4	2.8	5	4	5	3	5	15.3	-2	10
Undervalued	142	16.3	11.7	10.7	1.0	26.0	0.9	12.4	2.1	2.5	5	5	5	4	5	10.6	-4	22
Fair Value	142	15.1	11.0	11.7	-0.7	25.8	1.0	12.4	2.3	2.2	6	5	6	4	5	11.6	10	11
Overvalued	142	10.6	11.2	13.8	-2.6	30.7	1.3	13.9	2.4	1.8	5	5	6	4	4	12.2	8	13
Most Overvalued	142	11.8	9.5	15.2	-5.7	31.1	1.5	16.1	2.6	1.2	7	5	7	5	5	14.4	7	51
Uncoded	452	25.3	11.3	11.6	-0.3	23.6	1.0	12.1	2.2	2.1	5	5	7	6	4	11.5	30	27



Quantitative Profiles

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Merrill Lynch Universe Sector/Industry Factor Evaluation (cont'd)

	Valuation Analysis										Expectation Analysis							
	# of Comp	% ML Univ	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	ML Adj Beta	P/E Ratio	Price/Book	Yield	Surprise	Earnings (Decile)			PR 5yr Growth	EPS Growth 2008E	EPS Growth 2009E	
												Risk	Torp	Disp				Est. Rev.
<b>Duration</b>																		
7.41 To 20.44	142	14.6	12.8	11.3	1.5	18.0	1.0	10.9	1.6	4.4	6	5	4	5	6	11.2	-12	13
20.46 To 23.60	142	10.7	12.0	12.8	-0.8	22.3	1.2	11.6	1.9	2.2	6	5	5	4	5	13.3	2	12
23.61 To 27.21	143	14.4	11.4	11.4	0.0	25.6	1.0	13.5	2.6	2.5	6	4	6	4	5	11.4	0	29
27.26 To 31.90	142	18.7	11.0	10.8	0.2	29.1	0.9	15.3	3.1	1.4	6	4	6	3	4	12.8	14	13
31.94 To 71.30	142	17.0	10.5	12.4	-1.9	37.7	1.1	15.7	3.2	1.1	5	5	6	4	4	11.9	29	15
Uncoded	451	24.7		11.6			1.0	12.0	2.1	2.1	4	5	7	6	4	14.3	22	nm
<b>Growth Sectors</b>																		
480	38.8	11.7	12.1	12.1	-0.4	27.7	1.1	14.6	2.6	1.8	6	5	6	4	5	14.4	3	19
<b>Growth Cyclical</b>	283	20.2	11.8	12.2	-0.4	26.6	1.1	13.8	2.0	2.3	5	5	5	5	6	14.3	-3	41
<b>Growth Defensive</b>	150	11.2	11.4	9.6	1.8	28.2	0.8	13.4	2.5	2.2	5	3	5	3	5	10.7	23	17
<b>Cyclical</b>	161	12.0	10.2	13.0	-2.8	29.1	1.2	12.9	1.8	2.1	5	5	6	6	5	10.7	4	28
<b>Defensive</b>	88	17.9	11.0	10.3	0.7	24.6	0.9	10.0	2.5	2.9	5	5	7	5	3	9.0	26	5
<b>EPS Surprise</b>																		
Most Optimistic	167	16.4	11.7	11.5	0.2	27.5	1.0	11.0	2.5	2.1	2	4	7	5	4	11.8	19	16
Optimistic	168	17.0	11.2	11.3	-0.1	28.7	1.0	12.6	2.7	1.9	4	5	6	4	4	14.2	16	13
Neutral	168	21.7	11.8	11.4	0.4	25.9	1.0	11.8	2.0	2.5	5	5	6	5	5	11.7	1	16
Less Optimistic	168	19.6	11.4	11.7	-0.3	28.2	1.0	15.0	2.3	2.7	7	4	5	4	5	11.1	-3	26
Not Optimistic	168	14.2	11.0	12.8	-1.8	25.9	1.2	14.6	2.3	1.9	10	5	6	4	5	13.2	9	37
Uncoded	323	11.2	12.1	11.5	0.6	27.2	1.0	15.5	2.3	1.6						15.2	23	25
<b>Quality Rank</b>																		
A+	43	16.4	11.8	9.8	2.0	28.3	0.8	12.0	3.1	2.4	5	2	5	3	4	8.9	16	7
A	77	11.2	11.8	11.2	0.6	25.0	1.0	13.4	1.9	3.5	5	4	6	5	6	9.9	-25	55
A-	91	11.0	10.5	10.9	-0.4	26.1	0.9	11.8	2.1	2.5	5	4	6	5	4	10.7	18	20
B+	202	24.1	11.3	11.7	-0.4	29.0	1.0	11.8	2.5	2.3	6	5	6	4	5	10.3	8	15
B	199	15.4	11.4	12.9	-1.5	27.5	1.2	13.6	2.0	2.0	6	7	5	5	5	14.0	-1	17
B-	150	5.8	11.5	12.8	-1.3	28.9	1.2	15.7	2.1	0.8	6	8	6	6	4	19.1	5	23
C & D	62	1.4	9.3	13.7	-4.4	34.3	1.3	nm	2.2	0.1	6	9	7	8	5	17.1	101	nm
Not Rated	338	14.5	11.6	12.7	-1.1	25.0	1.2	14.5	2.3	1.4	6	6	7	5	4	20.2	36	22
B+ or Better	413	62.8	11.4	11.0	0.4	27.5	0.9	12.1	2.4	2.6	5	4	6	4	5	9.9	5	19
B or Worse	749	37.2	11.4	12.8	-1.4	26.9	1.2	14.9	2.2	1.5	6	7	6	5	5	17.3	16	23
<b>ML Universe</b>	1162	100.0	11.4	11.7	-0.3	27.3	1.0	14.7	2.3	2.2						12.4	9	20
<b>S&amp;P 500</b>	500	89.2	11.5	11.5	0.0	27.4	1.0	14.7	2.4	2.3						11.5	7	23



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	Valuation Analysis											Expectation Analysis										
	# of Comp	% ML Univ	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	ML Adj Beta	PIE Ratio	Price/Book	Yield	Surprise	Risk	Earnings (Decile)	Disp	Est. Rev.	PR 5yr Growth	EPS Growth 2008E	EPS Growth 2009E				
																			Torp	Disp	Est. Rev.	PR 5yr Growth
ENERGY	107	13.9	10.9	11.2	-0.3	28.2	1.0	8.7	2.7	1.7	4	6	9	7	2	16.8	43	8				
ENERGY EQUIP & SVS	24	3.3	12.2	11.3	0.9	24.4	1.0	13.0	4.0	0.5	5	7	8	5	4	21.2	25	20				
OIL & GAS	83	10.6	8.8	11.1	-2.3	33.9	1.0	7.9	2.4	2.1	4	5	9	8	1	15.4	47	5				
MATERIALS	39	4.0	10.9	13.0	-2.1	28.1	1.2	12.1	3.1	2.1	4	6	7	4	4	10.5	44	22				
CHEMICALS	18	2.4	11.2	11.5	-0.3	26.7	1.0	13.7	3.9	1.8	3	5	6	6	3	12.4	36	24				
CONSTR MATERIALS	2	0.0		19.2			1.9	17.0	2.1	1.7		8	4	6	9	9.9	nm	7				
CONTAINERS & PCKG	4	0.1	11.5	11.5	0.0	22.7	1.0	14.2	1.9	1.7	6	3	4	4	7	10.9	-1	11				
METALS & MINING	13	1.4	10.5	15.5	-5.0	30.3	1.5	9.5	2.6	2.4	6	8	9	9	4	7.7	65	17				
PAPER & FOREST PROD	2	0.1		13.4			1.2	134.4	1.5	4.4	8	9	2	10	10	5.5	nm	285				
INDUSTRIALS	125	11.2	11.1	11.6	-0.5	26.7	1.0	13.8	2.7	2.3	5	4	5	3	4	12.6	4	18				
AEROSPACE & DEF	15	2.5	11.1	12.0	-0.9	27.6	1.1	11.9	2.8	1.9	5	4	7	1	4	10.9	12	13				
BLDGS PRODUCTS	3	0.1		12.5			1.1	41.4	1.2	2.7		8	1	9	7	8.9	-81	115				
CONSTR. & ENGR	8	0.3	9.3	14.8	-5.5	43.6	1.4	18.7	3.0	0.2	5	5	7	4	2	15.0	38	29				
ELECTRICAL EQUIP	12	0.8	12.1	12.1	0.0	26.2	1.1	16.8	4.2	1.4	3	2	6	4	3	22.3	17	17				
IND CONGLOMERATES	4	2.9	12.5	10.2	2.3	20.4	0.8	12.2	2.4	3.9	7	1	4	2	5	10.5	3	10				
MACHINERY	22	1.7	10.8	13.4	-2.6	27.7	1.2	11.5	2.7	1.6	3	4	7	4	4	11.9	17	14				
TRADING COMPANIES	3	0.1	11.9	13.2	-1.3	31.3	1.2	14.2	3.2	1.7	7	1	6	3	4	11.5	14	12				
COMMERCIAL SVS	23	0.6	10.6	11.3	-0.7	27.9	1.0	14.2	2.7	1.9	5	5	5	3	4	12.2	8	6				
AIR FREIGHT & LOGIS	4	0.8	12.0	10.8	1.2	23.3	0.9	16.1	3.6	2.2	5	8	3	6	8	14.1	-11	14				
AIRLINES	14	0.2	8.5	9.4	-0.9	64.6	0.7	nm	1.1	0.1	3	5	2	9	9	16.7	nm	nm				
MARINE	4	0.1	10.9	11.4	-0.5	27.5	1.0	10.0	3.2	3.0	3	2	8	6	3	27.1	62	40				
ROAD & RAIL	12	1.2	7.3	11.9	-4.6	34.9	1.1	16.7	2.8	1.4	7	6	7	4	3	13.2	16	20				
TRANSPORT INFRA	1	0.0	7.9	14.4	-6.5	20.7	1.4	69.7	1.1	11.5			10	9	1	10.0	124	6				
CONSUMER DISCR	194	9.0	12.1	12.5	-0.4	26.9	1.1	14.7	1.9	1.5	5	4	5	5	6	14.6	31	17				
AUTO COMP	11	0.3	12.5	13.9	-1.4	17.7	1.3	15.0	1.4	1.7	9	4	6	6	7	10.9	-15	9				
AUTOMOBILES	4	0.2		16.3			1.6	nm	2.0	1.2	6	2	1	8	9	4.0	-17	nm				
HOUSEHOLD DURABLES	12	0.3	11.1	13.5	-2.4	24.1	1.3	60.2	1.3	2.7	7	6	6	7	9	8.5	nm	177				
LEISURE EQUIP & PROD	3	0.1	11.0	15.1	-4.1	32.0	1.4	13.6	1.3	3.7	2	5	4	8	8	6.6	-33	102				
TEXTILES, APPAREL	14	0.4	10.9	12.4	-1.5	28.1	1.1	13.0	2.7	1.3	6	2	6	3	6	11.9	14	12				
HOTELS, REST & LEISURE	32	1.7	11.5	13.7	-2.2	25.5	1.3	16.4	3.2	1.8	3	5	4	4	5	18.6	4	9				
DIV CONSUMER SVS	11	0.2	9.9	11.9	-2.0	31.3	1.1	17.5	4.0	0.7	3	7	6	4	4	17.1	22	19				
MEDIA	45	3.2	13.2	11.4	1.8	25.4	1.0	11.2	1.3	1.2	5	5	6	6	5	16.7	135	-6				
DISTRIBUTORS	1	0.1	12.3	10.8	1.5	22.9	0.9	13.6	2.4	3.9	9	1	4	4	6	10.0	1	-3				
INTERNET & CATALOG RETAIL	8	0.4	8.4	17.6	-9.2	40.7	1.8	23.3	2.5	0.0	7	9	6	6	4	16.8	55	17				
MULTILINE RETAIL	10	0.6	10.6	11.5	-0.9	29.5	1.0	12.1	1.8	1.4	6	2	4	4	6	7.2	-10	13				
SPECIALTY RETAIL	43	1.6	12.0	11.5	0.5	25.8	1.0	12.9	2.3	1.9	7	3	4	5	6	12.6	-9	9				



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	Valuation Analysis											Expectation Analysis						
	# of Comp	% ML Univ	Impl. Return	Reqd Return	DDM Alpha	Duration	Eqty.	ML Adj Beta	P/E Ratio	Price/Book	Yield	Earnings (Decile)			PR 5yr Growth	EPS Growth		
												Surprise	Risk	Torp Disp			Est. Rev.	2008E
CONSUMER STAPLES	60	10.2	11.6	9.1	2.5	27.9	0.7	15.3	3.5	2.5	6	2	5	2	4	10.4	3	12
FOOD & STAPLES RETAILING	15	2.5	11.1	8.9	2.2	36.8	0.7	15.2	2.7	1.4	4	2	6	2	5	11.3	12	15
BEVERAGES	7	2.2	11.5	8.9	2.6	28.5	0.7	16.4	5.3	2.6	5	2	5	2	4	10.1	12	11
FOOD PRODUCTS	23	1.6	10.1	9.6	0.5	28.3	0.8	14.7	2.3	2.6	6	4	5	4	4	8.7	10	11
TOBACCO	5	1.5	12.7	8.9	3.8	18.6	0.7	13.3	7.1	4.2	7	5	7	1	4	10.8	-26	11
HOUSEHOLD PRODUCTS	5	2.2	12.2	9.3	2.9	27.1	0.7	16.4	3.4	2.5	7	2	5	1	5	10.7	11	11
PERSONAL PRODUCTS	5	0.2	11.3	7.8	3.5	28.7	0.6	16.2	7.5	1.7	2	5	8	3	4	11.4	28	16
HEALTH CARE	136	12.0	11.4	9.5	1.9	29.1	0.8	13.9	3.1	1.9	5	5	5	3	4	10.3	9	12
HEALTH CARE EQUIP	24	1.8	11.5	8.8	2.7	31.8	0.7	18.0	3.4	0.8	6	5	6	2	4	13.8	18	16
HEALTH CARE PROV	36	1.9	11.8	10.7	1.1	25.3	0.9	11.7	2.2	0.2	6	3	6	4	5	13.9	2	12
HEALTH CARE TECH	5	0.1	12.4	12.7	-0.3	23.1	1.1	15.3	3.0	0.2	10	5	6	4	4	19.8	14	15
BIOTECH	33	1.9	10.0	8.9	1.1	30.8	0.7	26.8	5.2	0.0	7	6	5	5	4	18.3	27	28
PHARMACEUTICALS	26	5.7	11.6	9.3	2.3	29.3	0.7	11.5	3.2	3.6	5	6	5	2	5	4.5	8	9
LIFE SCIENCES	12	0.5	10.1	11.3	-1.2	30.8	1.0	20.1	2.5	0.1	2	5	6	2	4	16.9	19	16
FINANCIALS	239	16.0	11.8	12.3	-0.5	22.5	1.1	13.0	1.3	3.8	6	5	4	6	7	8.8	-30	66
BANKS	53	2.8	11.7	10.8	0.9	24.0	0.9	15.3	1.1	4.6	6	4	2	7	8	4.2	-54	62
THRIFTS & MORTGAGE	12	0.4	11.6	13.9	-2.3	21.6	1.3	nm	0.7	5.9	6	5	7	9	8	12.3	nm	nm
DIV FINANCIALS	10	3.6	11.8	11.9	-0.1	19.2	1.1	15.1	1.1	5.5	6	7	4	7	9	9.1	-58	159
CONSUMER FINANCE	4	0.6	13.2	13.6	-0.4	21.3	1.3	12.4	1.6	2.1	9	3	4	7	9	12.7	-17	8
CAPITAL MARKETS	42	3.0	10.7	13.9	-3.2	26.6	1.3	11.9	1.7	1.8	5	5	5	5	6	11.4	-18	45
INSURANCE	45	3.6	13.3	12.4	0.9	22.1	1.1	8.2	1.1	2.4	4	6	5	5	7	10.5	-16	35
REITS	72	2.1	10.6	12.0	-1.4	22.0	1.1	12.0	2.1	5.2	6	6	3	3	6	5.9	6	4
REAL ESTATE MGMT & DEV	1	0.0		15.6			1.5	nm	2.8	0.0						8.0	nm	nm
INFO TECH	187	17.0	11.8	14.1	-2.3	32.0	1.3	16.0	3.5	0.8	6	5	6	4	4	15.4	21	17
INTERNET SOFTWARE	8	1.4	12.0	16.7	-4.7	25.0	1.6	23.8	4.1	0.0	9	8	6	4	4	25.9	17	23
IT SERVICES	32	1.6	10.6	12.3	-1.7	31.5	1.1	17.7	3.5	0.8	5	4	7	3	4	15.7	24	18
SOFTWARE	39	3.8	11.4	12.6	-1.2	28.9	1.1	14.3	4.5	0.8	6	4	6	3	3	13.4	19	14
COMMUNICA. EQUIP	18	2.5	10.0	14.2	-4.2	31.1	1.3	16.5	3.3	0.6	9	3	6	3	4	13.2	13	16
COMPUTERS & PERIPH	19	4.5	13.6	14.1	-0.5	34.2	1.3	15.1	4.3	0.7	5	5	7	4	4	16.1	19	14
ELECTR EQUIP & INSTR	21	0.6	12.0	13.5	-1.5	24.5	1.2	11.9	1.5	0.5	8	6	7	3	4	16.0	15	14
OFFICE ELECTR	1	0.1		10.8			0.9	9.6	1.5	1.2	1	9	6	5	7	15.0	12	12
SEMICONDUCTORS	49	2.6	11.3	15.6	-4.3	40.1	1.5	18.2	2.7	1.7	6	6	6	6	5	12.9	46	34
TELECOMMUNICATION	22	3.2	10.9	12.5	-1.6	18.0	1.1	12.8	1.9	4.1	6	6	6	4	6	9.2	4	10
DIVERSIFIED TELECOM SVS	11	2.5	10.9	12.0	-1.1	18.0	1.1	11.0	1.8	5.2	7	6	6	3	6	6.1	11	9
WIRELESS TELECOM SVS	11	0.7		14.6			1.4	52.7	2.1	0.1	3	10	5	9	5	21.0	-59	39
UTILITIES	53	3.7	9.7	9.4	0.3	24.6	0.7	14.1	1.9	3.4	7	5	5	4	5	7.9	6	12
ELECTRIC UTILITIES	17	2.0	9.6	8.9	0.7	24.6	0.7	14.7	2.1	3.5	7	5	4	3	5	7.7	6	9
GAS UTILITIES	10	0.3	9.0	9.4	-0.4	25.7	0.8	15.3	2.3	2.5	4	3	5	5	4	7.8	15	12
MULTI-UTILITIES	20	1.1	10.1	9.3	0.8	22.8	0.7	13.0	1.6	4.2	6	5	4	3	5	6.3	3	11
INDEP POWER PROD	1	0.0	9.9			24.7		14.6	0.8	4.2	9	10	5	5	5	9.0	10	34
ML UNIVERSE	1162	100.0	11.4	11.7	-0.3	27.3	1.0	14.7	2.3	2.2						12.4	9	20
S&P 500	500	89.2	11.5	11.5	0.0	27.4	1.0	14.7	2.4	2.3						11.5	7	23

## Definitions

**Absolute return:** It is calculated based on monthly returns and reflects simple price appreciation (depreciation) over the stated period of the screened stocks. For purposes of this calculation, the stocks in the screen are assumed to be equally weighted. Returns do not reflect dividend or costs.

**Dividend Discount Model Alpha:** The implied return from the Merrill Lynch Quantitative Strategy three-stage dividend discount model less the required return from a Capital Asset Pricing Model. Presented as a decile rank.

**Dividend Yield:** Indicated dividend divided by month-end price.

**Price/Book Value:** Month-end price divided by latest reported book value per share.

**Price/Cash Flow:** Month-end price divided by latest reported cash flow. Cash flow is defined as earnings post extraordinary items plus depreciation.

**Price/Free Cash Flow:** Month-end price divided by latest reported free cash flow. Free Cash flow is defined as earnings post extraordinary items plus depreciation minus capital expenditures.

**Price/Sales:** Month-end market value divided by reported sales.

**EV/EBITDA:** Enterprise Value (Equity Market Capitalization + Long Term Debt + Short Term Debt + Preferred Stock + Minority Interest – Cash & Cash Equivalents) divided by EBITDA (Reported Net Income + Special Items – Minority Interest + Interest Expense + Income Tax Expense + Depreciation and Amortization).

**Relative Strength:** The ratio of the 30-week moving average of price to the 75-week moving average.

**Most Active:** Stocks have the highest monthly share trading volume.

**Low Price:** Absolute price level of the stock at month-end.

**Earnings Momentum:** The difference between 12-month trailing EPS and year-ago 12-month trailing EPS divided by year-ago 12-month trailing EPS.

**Projected 5-Year EPS Growth:** The five-year EPS growth rate estimated by Merrill Lynch Fundamental Equity Research. If no Merrill estimate exist, MLPF&Ss, the I/B/E/S Mean Long Term Growth Estimate is used.

**Earnings Torpedo:** I/B/E/S FY2 estimate less latest actual annual EPS divided by month-end price.

**Earnings Surprise:** A forecast earnings surprise variable which compares Merrill Lynch estimates to those of the consensus after adjusting for the range of estimates. Stocks are ranked from 1 to 10, with 1 being among the most optimistic, MLPF&S relative to the consensus, 10 being among the most pessimistic, MLPF&S. Consensus estimated earnings data are courtesy of I/B/E/S.



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**EPS Estimate Revision:** The difference between the I/B/E/S FY1 estimate and that of three months ago divided by the absolute value of I/B/E/S FY1 estimate of three months ago.

**Beta:** A measure of non-diversifiable risk. It is calculated using regression Strategy incorporating 60 months of price performance versus that of the S&P 500.

**Variability of EPS:** The degree of variability in quarterly EPS over the past 5 years. Stocks are ranked from 10 to 1 with 10 being the most variable.

**EPS Estimate Dispersion:** The coefficient of variation among I/B/E/S FY2 estimates. Presented as a decile rank.

**Dividend Growth:** The growth between trailing 4-quarter total common dividends and year-ago trailing 4-quarter total common dividends.

**Neglect-Institutional Ownership:** Those companies with the lowest proportions of float-adjusted shares held by institutional owners are considered more neglected.

**Neglect-Analyst Coverage:** Those companies with the lowest number of analysts submitting ratings to FirstCall.

**Firm Size:** Month-end market value.

**Foreign Exposure:** The ratio of foreign sales to total sales.

**Equity Duration:** An adaptation of our Dividend Discount Model which measures the interest-rate sensitivity of a stock. Longer durations (higher numbers) suggest more interest-rate sensitivity.

**P/E-to-Growth:** Trailing twelve months P/E divided by the five-year EPS growth rate estimated by Merrill Lynch Fundamental Equity Research. If no Merrill estimate exist, MLPF&Ss, then the IBES Mean Long Term Growth Estimate is used.

**Return on Equity One-Year Average:** Net income divided by average equity provided.

**Return on Equity Five-Year Average:** Five-year average return on equity.

**Return on Assets:** Net income plus interest and taxes as a percent of average total assets.

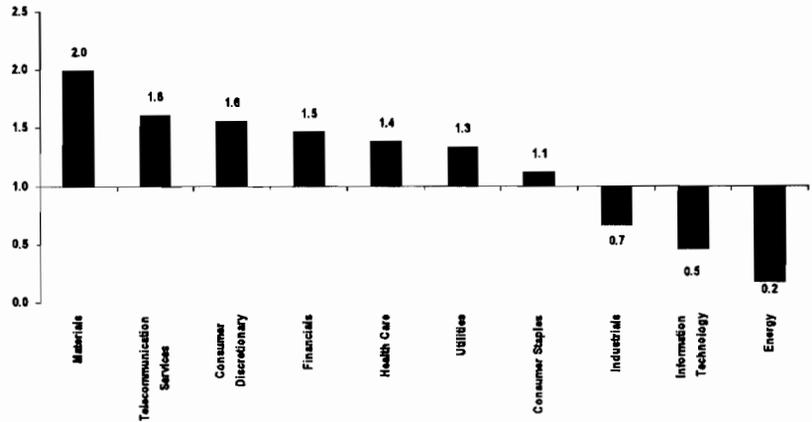
**Return on Capital:** The sum of net income, interest expense and minority interest, as a percent of average total invested capital which is inclusive of long-term debt, preferred stock, common equity, and minority interest.

**Return on Equity One-Year Average (Adjusted for Debt):** The ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

**Return on Equity Five-Year Average (Adjusted for Debt):** The average five year ROE of companies with higher debt levels are considered lower than those of companies with lower debt levels based on their debt-to-equity ratios.

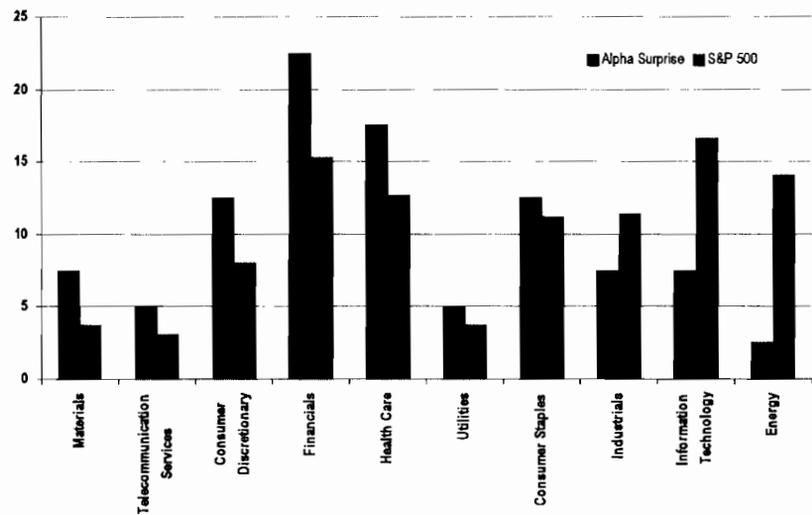
## Alpha Surprise Sector Weights

**Chart 4: Alpha Surprise Model vs. S&P 500 (ratio of Screen Weight to the S&P 500 Weight)**



Merrill Lynch Quantitative Strategy

**Chart 5: Sector Weights: Alpha Surprise Screen vs. S&P 500**



Merrill Lynch Quantitative Strategy

## Important Disclosures

**FUNDAMENTAL EQUITY OPINION KEY:** Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of a stock's: (i) absolute total return potential and (ii) attractiveness for investment relative to other stocks within its *Coverage Cluster* (defined below). There are three investment ratings: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

\* Ratings dispersions may vary from time to time where Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

**INCOME RATINGS**, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. *Coverage Cluster* is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent Merrill Lynch Comment referencing the stock.

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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-15)**

# The Shrinking Equity Premium

*Historical facts and future forecasts.*

Jeremy J. Siegel

Few conundrums have caught the imagination of economists and practitioners as much as the "Equity Premium Puzzle," the title chosen by Rajneesh Mehra and Edward Prescott for their seminal 1985 article in the *Journal of Monetary Economics*. Mehra and Prescott show that the historical return on stocks has been too high in relation to the return on risk-free assets to be explained by the standard economic models of risk and return without invoking unreasonably high levels of risk aversion.<sup>1</sup> They calculate the margin by which stocks outperformed safe assets — the *equity premium* — to be in excess of 6 percentage points per year, and claim that the profession is at a loss to explain its magnitude.

There have been many attempts since to explain the size of the equity premium by variations of the standard finance model. I shall not enumerate them here, but refer readers to reviews by Abel [1991], Kocherlakota [1996], Cochrane [1997], and Siegel and Thaler [1997].

~~I now have a re-estimate of the equity premium derived from the same data and to get some sense why I believe that in fact the historical data underestimates the real return on risk-free income and overestimates the expected return on stocks. I shall also offer some reasons why, given the current high level of the stock market relative to corporate earnings, the forward-looking equity premium may be considerably lower than the historical average.~~

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## REAL RETURNS ON "RISK-FREE" ASSETS

From 1889 through 1978, Mehra and Prescott estimate the real return on short-dated fixed-income

assets (commercial paper until 1920 and Treasury bills thereafter) to have been 0.8%. In 1976 and again in 1982, Roger Ibbotson and Rex Sinquefeld formally estimated the real risk-free rate to be even lower — at zero, based on historical data analyzed from 1926. This extremely low level of the short-term real rate is by itself puzzling, and has been termed the “real rate puzzle” by Weil [1989]. The essence of this puzzle is that, given the historical growth of per capita income, it is surprising that the demand to borrow against tomorrow’s higher consumption has not resulted in higher borrowing rates.

The low measured level of the risk-free rate may in fact be in part an artifact of the time period examined. There is abundant evidence that the real rate both during the nineteenth century and after 1982 has been substantially higher. Exhibit 1, based on Siegel [1998], indicates that over the entire period from 1802 through 1998, the real compound annual return on Treasury bills (or equivalent safe assets) has been 2.9%, while the realized return on long-term government bonds has been 3.5%. Exhibit 2 presents the historical equity premium

**EXHIBIT 1**  
**COMPOUND ANNUAL REAL RETURNS (%)**  
**U.S. DATA, 1802-1998**

	Stocks	Bonds	Bills	Gold	Inflation
1802-1998	7.0	3.5	2.9	-0.1	1.3
1802-1870	7.0	4.8	5.1	0.2	0.1
1871-1925	6.6	3.7	3.2	-0.8	0.6
1926-1998	7.4	2.2	0.7	0.2	3.1
1946-1998	7.8	1.3	0.6	-0.7	4.2

Source: Siegel [1998] updated.

for selected time periods for both bonds and bills based on the same data.<sup>2</sup>

The danger of using historical averages — even over long periods — to make forecasts is readily illustrated by noting Ibbotson and Sinquefeld’s long-term predictions made in 1976 and again in 1982 on the basis of their own analysis of the historical data. In 1976, they made predictions for the twenty-five-year period from

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**EXHIBIT 2**  
**EQUITY PREMIUMS (%) — U.S. DATA, 1802-1998**

	Equity Premium with Bonds		Equity Premium with Bills	
	Geometric	Arithmetic	Geometric	Arithmetic
1802-1998	3.5	4.7	5.1	5.5
1802-1870	2.2	3.2	1.9	2.9
1871-1925	2.9	4.0	3.4	4.6
1926-1998	5.2	6.7	6.7	8.6
1946-1998	6.5	7.3	7.2	8.6

Source: Siegel [1998] updated.

1976 through 2000, and in 1982 they made predictions for the twenty-year period from 1982 through 2001. Their forecasts are shown in Exhibit 3. Since we now have data for most of these forecast periods, it is of interest to assess their estimates.

The last two decades have been extremely good for financial assets, so it is not surprising that Ibbotson and Sinquefeld underestimate all their real returns. But their most serious underestimation is for fixed-income assets, where they forecast the real bill rate to average essentially zero and the real return on bonds to be less than 2%. Given the standard deviation of estimates, realized annual real bond and bill returns have been 9.9% and 2.9%, respectively, significantly above their estimates. Since negative real returns on fixed-income assets persisted between the two surveys, Ibbotson and Sinquefeld more seriously underestimate long-term real bill rates in their 1982 forecasts than they did in 1976.<sup>3</sup>

My purpose here is not to highlight errors in Ibbotson's and Sinquefeld's past forecasts. Their analysis was state-of-the-art, and their data have rightly

formed the benchmark for the risk and return estimates used by both professional and academic economists. I bring these forecasts to light to show that even the fifty-year history of financial returns available to economists at that time was insufficient to estimate future real fixed-income returns.

It is not well understood why the real rate of returns on fixed-income assets was so low during the 1926-1980 period. The bursts of unanticipated inflation following the end of World War II and during the 1970s certainly had a negative effect on the realized real returns from long-term bonds. Perhaps the shift from a gold standard to a paper monetary standard had a negative effect on these real returns until investors fully adjusted to the inflationary bias inherent in the new monetary standard.<sup>4</sup>

Whatever the reasons, the current yields on the Treasury inflation-protected securities, or TIPS, first issued in 1997 support the assertion that the future real returns on risk-free assets will be substantially above the level estimated over the Ibbotson-Sinquefeld period. This is so even when the estimating period includes the higher real rates of the past two decades. In August 1999, the ten- and thirty-year TIPS bond yielded 4.0%, nearly twice the realized rate of return on long-dated government bonds over the past seventy-five years.<sup>5</sup>

The market projects real returns on risk-free assets to be substantially higher in the future than they have been over most of this century. It is also likely that the expected returns in the past are substantially greater than they have turned out *ex post*, especially for longer-dated securities. If one uses a 3.5% real return on fixed-income assets, the geometric equity premium for a 7.0% real stock return falls to 3.5%.

**HISTORICAL EQUITY RETURNS AND SURVIVORSHIP BIAS**

The real return on stocks, as I have emphasized [1998], has displayed a remarkable long-term stability. Over the entire 196-year period that I examine, the long-term after-inflation geometric annual rate of return on equity averages 7.0%. In the 1926-1998 period, the real return has been 7.4%, and since 1946 (when virtually all the thirteenfold increase in the consumer price index over the past two hundred years has taken place) the real return on equity has been 7.8%. The relative stability of long-term real equity returns is in marked contrast to the unstable real returns on fixed-income assets.

Some economists believe the 7% historical real

**EXHIBIT 3**  
**LONG-TERM FORECASTS OF REAL RETURNS — COMPOUND ANNUAL RATES OF RETURN**

Forecast Period		Stocks	Bonds	Bills	Inflation
1976-2000	Forecast	6.3 (23.5)	1.5 (8.0)	0.4 (4.6)	6.4 (4.8)
	Actual*	11.0	5.3	2.1	4.8
1982-2001	Forecast	7.6 (21.9)	1.8 (8.3)	0.0 (4.4)	12.8 (5.1)
	Actual*	14.6	9.9	2.9	3.3

\*Data through 1998.

Standard deviations of annual returns in parentheses.

Source: Ibbotson and Sinquefeld [1976, 1982].

return on equities very likely overstates the true expected return on stocks. They claim that using the ex post equity returns in the United States to represent returns expected by shareholders is misleading. This is because no investor in the nineteenth or early twentieth century could know for certain that the United States would be the most successful capitalist country in history and experience the highest equity returns.

This "survivorship bias" hypothesis, as it has been called, is examined by Jorion and Goetzmann [1999] in "Global Stock Markets in the Twentieth Century." They conclude that of thirty-nine equity markets that existed in 1921, none of them show as high a real capital appreciation as the United States, and most of them have had substantial disruptions in their operations or have disappeared altogether. They report that the median real capital appreciation of non-U.S. markets has been only 0.8% per year as opposed to 4.3% in the U.S.<sup>6</sup>

But this evidence may be misleading. Total returns of a portfolio, especially over long periods of time, are a very non-linear function of the returns of the individual components. Mathematically it can be shown that if individual stock returns are lognormal, the performance of the median stock is almost always worse than the market portfolio performance.<sup>7</sup>

So, it is not surprising that the median performance of individual countries will not match the "world portfolio" or the returns in the dominant market. Jorion and Goetzmann recognize this near the end of their study when they show that compound annual real return on a GDP-weighted portfolio of equities in all countries falls only 28 basis points short of the U.S. return. In fact, because of the real depreciation of the dollar over this time, the compound annual dollar return on a GDP-weighted world is actually 30 basis points higher than the return on U.S. equities.<sup>8</sup>

But examining international stock returns alone does not give us a better measure of the equity premium. The equity premium measures the difference between the returns on stocks and safe bonds. Although stock returns may be lower in foreign countries than the U.S., the real returns on foreign bonds are substantially lower. Almost all disrupted markets experienced severe inflation, in some instances wiping out the value of fixed-income assets. (One could say that the equity premium in Germany covering any period including the 1922-1923 hyperinflation is over 100%, since the real value of fixed-income assets fell to zero while equities did not.)

Even investors who purchased bonds that

promised precious metals or foreign currency experienced significant defaults. It is my belief that if one uses a world portfolio of stocks and bonds, the equity premium will turn out higher, not lower, than found in the U.S."

## TRANSACTION COSTS AND DIVERSIFICATION

I believe that 7.0% per year does approximate the long-term real return on equity indexes. But the return on equity indexes does not necessarily represent the realized return to the equityholder. There are two reasons for this: transaction costs and the lack of diversification.<sup>10</sup>

Mutual funds and, more recently, low-cost "index funds" were not available to investors of the nineteenth or early twentieth century. Prior to 1975, brokerage commissions on buying and selling individual stocks were fixed by the New York Stock Exchange, and were substantially higher than today. This made the accumulation and maintenance of a fully diversified portfolio of stocks quite costly.

The advent of mutual funds has substantially lowered the cost of maintaining a diversified portfolio. And the cost of investing in mutual funds has declined over the last several decades. Rea and Reid [1998] report a decline of 76 basis points (from 225 to 149) in the average annual fee for equity mutual funds from 1980 to 1997 (see also Bogle [1999, p. 69]). Index funds with a cost of less than 20 basis points per year are now available to small investors.

Furthermore, the risk experienced by investors unable to fully diversify their portfolios made the risk-return trade-off less desirable than that calculated from stock indexes. On a risk-adjusted basis, a less-than-fully diversified portfolio has a lower expected return than the total market.

Given transaction costs and inadequate diversification, I assume that equity investors experienced real returns more in the neighborhood of 5% to 6% over most of the nineteenth and twentieth century rather than the 7% calculated from indexes. Assuming a 3.5% real return on bonds, the historical equity premium may be more like 1.5 to 2.5 percentage points, rather than the 6.0 percentage points recorded by Mehra and Prescott.

## PROJECTING FUTURE EQUITY RETURNS

Future stock returns should not be viewed independently of current fundamentals, since the price of

stocks is the present discounted value of all expected future cash flows. Earnings are the source of these cash flows, and the average price-to-earnings (P-E) ratio in the U.S. from 1871 through 1998 is 14 (see Shiller [1989] for an excellent source for this series).

Using data from August 13, 1999, the S&P 500 stock index is 1327, and the mean 1999 estimate for operating earnings of the S&P 500 stock index of fifteen analysts polled by Bloomberg News is \$48.47.<sup>11</sup> This yields a current P-E ratio on the market of 27.4. But due to the increased number of write-offs and other special charges taken by management over the last several years, operating earnings have exceeded total earnings by 10% to 15%.<sup>12</sup> On the basis of reported earnings, which is what most historical series report (including Shiller's), the P-E ratio of the market is currently about 32.<sup>13</sup>

There are two long-term consequences of the high level of stock prices relative to fundamentals. Either 1) future stock returns are going to be lower than historical averages, or 2) earnings (and hence other fundamentals such as dividends or book value) are going to rise at a more rapid rate in the future. A third possibility, that P-E ratios will rise continually without bound, is ruled out since this would cause an unstable bubble in stock prices that must burst.

If future dividends grow no faster than they have in the past, forward-looking real stock returns will be lower than the 7% historical average. As is well known from the dividend discount model, the rate of return on stocks can be calculated by adding the current dividend yield to the expected rate of growth of future dividends. The current dividend yield on the S&P 500 index is 1.2%. Since 1871, the growth of real per share dividends on the index has been 1.3%. ~~but the current investment rate, growth has risen to 2.1%.~~ If we assume future growth of real per share dividends to be close to the most recent average of 2.1%, we obtain a 3.3% real return on equities, less than one-half the historical average.

A second method of calculating future real returns yields a similar figure. If the rate of return on capital equals the return investors require on stocks, the *earnings yield*, or the reciprocal of the price-earnings ratio, equals the forward-looking real long-term return on equity (see Phillips [1999] for a more formal development of this proposition). Long-term data support this contention; a 14 price-to-earnings ratio corresponds to a 7.1% earnings yield, which approximates the long-term real return on equities. The current P-E ratio on the S&P 500 stock

index is between 27 to 32, depending on whether total or operating earnings are considered. This indicates a current earnings yield, and hence a future long-term and real return, of between 3.1% to 3.7% on equities.

One way to explain these projected lower future equity returns is that investors are bidding up the price of stocks to higher levels as the favorable historical data about the risks and returns in the equity market become incorporated into investor decisions.<sup>14</sup> Lower transaction costs further enable investors to assemble diversified portfolios of stocks to take advantage of these returns. The desirability of stocks may be further reinforced by the perception that the business cycle has become less severe over time and has reduced the inherent risk in equities.<sup>15</sup>

If these factors are the cause of the current bull market, then the revaluation of equity prices is a one-time adjustment. This means that future expected equity returns should be lower, not higher, than in the past. During this period of upward price adjustment, however, equity returns will be higher than average, increasing the historical measured returns in the equity market.

This divergence between increased historical returns and lower future returns could set the stage for some significant investor disappointment, as survey evidence suggests that many investors expect future returns to be higher, not lower, than in the past (see "PaineWebber Index of Investor Optimism" [1999]).

#### SOURCES OF FASTER EARNINGS GROWTH

Although the increased recognition of the risks and returns to equity may be part of the explanation for the bull market in stocks, there must be other reasons. This is because the forward-looking rates of return we derive for equities fall below the current 4.0% yield on inflation-protected government bonds. Although one could debate whether in the long run stocks or *nominal* bonds are riskier in real terms, there should be no doubt that the inflation-protected bonds are safer than equities and should have a lower expected return.

Hence, some part of the current bull market in stocks must be due to the expectations that future earnings (and dividend) growth will be significantly above the historical average. Optimists frequently cite higher growth of real output and enhanced productivity, enabled by the technological and communications revolution, as the source of this higher growth. Yet the long-run relation between the growth of real output and *per share* earn-

ings growth is quite weak on both theoretical and empirical grounds. Per share earnings growth has been primarily determined by the reinvestment rate of the firm, or the earnings yield minus the dividend yield, not the rate of output growth.<sup>16</sup>

The reason why output growth does not factor into per share earnings growth is that new shares must be issued (or debt floated) to cover the expansion of productive technology needed to increase output. Over the long run, the returns to technological progress have gone to workers in the form of higher real wages, while the return per unit of capital has remained essentially unchanged. Real output growth could spur growth in per share earnings only if it were "capital-enhancing," in the growth terminology, which is contrary to the labor-augmenting and wage-enhancing technological change that has marked the historical data (see Diamond [1999] for a discussion of growth and real return).

But there are factors that may contribute to higher future earnings growth of U.S. corporations, at least temporarily. The United States has emerged as the leader in the fastest-growing segments of the world economy: technology, communications, pharmaceuticals, and, most recently, the Internet and Internet technology. Furthermore, the penetration of U.S. brand names such as Coca-Cola, Procter & Gamble, Disney, Nike, and others into the global economy can lead to temporarily higher profit growth for U.S. firms.

Nonetheless, the level of corporate earnings would have to double to bring the P-E ratio down to the long-term average, or to increase by 50% to bring the P-E ratio down to 20. A 20 price-to-earnings yield corresponds to a 5% earnings yield or a 3% real return, a return that I believe approximates realized historical equity returns after transaction costs are subtracted. For per share earnings to temporarily grow to a level 50% above the long-term trend is clearly possible in a world economy where the U.S. plays a dominant role, but it is by no means certain.

## CONCLUSION

The degree of the equity premium calculated from data estimated from 1926 is unlikely to persist in the future. The real return on fixed-income assets is likely to be significantly higher than that estimated on earlier data. This is confirmed by the yields available on Treasury inflation-linked securities, which currently exceed 4%. Furthermore, despite the acceleration in earnings

growth, the return on equities is likely to fall from its historical level due to the very high level of equity prices relative to fundamentals.<sup>17</sup>

All of this makes it very surprising that Ivo Welch [1999] in a survey of over 200 academic economists finds that most estimate the equity premium at 5 to 6 percentage points over the next thirty years. Such a premium would require a 9% to 10% real return on stocks, given the current real yield on Treasury inflation-indexed securities. This means that real per share dividends would have to grow by nearly 8.0% to 9.0% per year, given the current 1.2% dividend yield, to prevent the P-E ratio from rising farther from its current record levels. This growth rate is more than six times the growth rate of real dividends since 1871 and more than triple their growth rate since the end of World War II.

Unless there is a substantial increase in the productivity of capital, dividend growth of this magnitude would mean an ever-increasing share of national income going to profits. This by itself might cause political ramifications that could be negative for shareholders.

## ENDNOTES

This article is adapted from a paper delivered at the UCLA Conference, "The Equity Premium and Stock Market Valuations," and a Princeton Center for Economic Policy Studies Conference, "What's Up with the Stock Market?" both held in May 1999. The author thanks participants in these seminars and particularly Jay Ritter, Robert Shiller, and Peter L. Bernstein for their comments.

<sup>1</sup>A few economists believe these high levels of risk aversion are not unreasonable; see, e.g., Kandel and Stambaugh [1991].

<sup>2</sup>In the capital asset pricing model, equity risk premiums are derived from the *arithmetic* and not *geometric* returns. Compound annual geometric returns are almost universally used in characterizing long-term returns.

<sup>3</sup>Their wildly high 12.8% long-term inflation estimate in 1982 is derived by subtracting their low historical real yield from the high nominal bond rate. This overprediction has no effect on their estimated *real* returns.

<sup>4</sup>But real rates on *short-dated* bonds, for which unanticipated inflation should have been less important, were also extremely low between 1926 and 1980.

<sup>5</sup>I am very persuaded by the research of Campbell and Viceira [1998], who argue that in a multiperiod world the proper risk-free asset is an inflation-indexed annuity rather than the short-dated Treasury bill. This conclusion comes from intertemporal models where agents desire to hedge against unanticipated changes in the real rate of interest. The duration of such an indexed annuity is closely approximated by the ten-year inflation-indexed bonds.

<sup>6</sup>They are unable to construct dividend series for most foreign countries, but they make a not-unreasonable assumption that dividend yields in the U.S. were at least as high as abroad.

<sup>7</sup> Intuitively, the return of the winners more than compensates for the lower returns of the more numerous losers.

<sup>8</sup> Furthermore, the dollar return on the foreign portfolio is much better measured than the real return. These data are taken from Jorion and Goetzmann [1991], Tables VI and VII.

<sup>9</sup> To avoid the problems with default, gold is considered the "risk-free" alternative in many countries. But gold's long-term real returns are negative in the U.S. even before one considers storage and insurance costs. And precious metals are far from risk-free in real terms. The real return on gold since 1982 has been a negative 7% per year.

<sup>10</sup> I abstract from taxes, which reduce the return on both bonds and stocks.

<sup>11</sup> These data were taken from the Bloomberg terminal on August 16, 1999.

<sup>12</sup> From 1970 through 1989, operating earnings exceeded reported earnings by an average of 2.29%. Since 1990, the average has been 12.93%.

<sup>13</sup> There are other factors that distort reported earnings, some upward (underreporting option costs: see Murray, Smithers, and Emerson [1998]) and some downward (overexpensing R&D; see Nakamura [1999]). No clear bias is evident.

<sup>14</sup> This is particularly true on a long-term, after-inflation basis. See Siegel [1998, Chapter 2].

<sup>15</sup> Bernstein [1998] has emphasized the role of economic stability in stock valuation. Also see Zarnowitz [1999] and Romer [1999]. Other reasons given for the high price of equities rely on demographic factors, specifically the accumulations of "baby boomers." This should, however, reduce both stock and bond returns, yet we see real bond returns as high if not higher than historically.

<sup>16</sup> From 1871 to 1998, the growth of real per share earnings is only 1.7% per year, slightly less than obtained by subtracting the median dividend yield of 4.8% from the median earnings yield of 7.2%.

<sup>17</sup> This should not be construed as predicting that equity prices need fall significantly, or that the expected returns on equities are not higher, even at current levels, than those on fixed-income investments.

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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-16)**



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# Estimating the market risk premium<sup>☆</sup>

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## Abstract

This paper provides a method for estimating the market risk premium that accounts for shifts in investment opportunities by explicitly modeling the underlying process governing the level of market volatility. I find that approximately 50% of the measured risk premium is related to the risk of future changes in investment opportunities. Evidence of a structural shift in the underlying volatility process suggests that the simple historical average of excess market returns may substantially overstate the magnitude of the market risk premium for the period since the Great Depression.

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## 1. Introduction

The market risk premium is one of the most important numbers in finance. Unfortunately, estimating and understanding its value has proven difficult.

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Although a substantial body of research shows that expected returns vary over time, the static approach of estimating the risk premium as the simple average of historical excess stock returns remains the most commonly employed method in practice.<sup>1</sup> Merton (1980) suggests estimating the risk premium based on the theoretical relationship between expected returns and the contemporaneous variance of returns. Although this theoretical approach is appealing, empirical research has failed to document a significant positive relationship between expected returns and the level of market volatility.<sup>2</sup> Scruggs (1998) provides evidence suggesting the failure to find a positive relationship between excess returns and market volatility may result from not controlling for shifts in investment opportunities. Lettau and Ludvigson (2001) make a similar point, showing that rejections of the consumption capital asset pricing model may also be due to a failure to control for shifts in investment opportunities. In this paper, I develop a method for estimating the market risk premium based on the equilibrium relationship between volatility and expected returns when there are discrete shifts in investment opportunities—specifically, changes in the level of market volatility. I use this method to demonstrate the importance of accounting for the dynamic nature of market risk when estimating the risk premium from ex post market returns.

The volatility of market returns during the past century has varied significantly. Schwert (1989a, b) studies historical variations in market volatility and relates the fluctuations to changes in economic and financial market conditions. My results suggest that, as a result of changes in the level of market volatility, the simple historical average of excess market returns obscures significant variation in the market risk premium and that over half of the measured risk premium is associated with the risk of future changes in investment opportunities. My analysis also suggests that, as a result of a structural shift in the likelihood of future high-volatility periods, the simple historical average of excess market returns may substantially overstate the magnitude of the market risk premium for the period since the Great Depression.

In my model, market risk is characterized by periodic episodes of high market volatility followed by a return to a lower, more typical level. I assume that the evolution of these volatility states follows a Markov process, and I model the market risk premium as a function of the underlying process governing the evolution of the two volatility states.<sup>3</sup> The expression for the equilibrium risk premium in my model is a special case of the Merton (1973) intertemporal capital asset pricing model. Because individuals anticipate future changes in the volatility state and corresponding

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<sup>1</sup>For examples of research showing that expected returns vary over time, see Fama and Schwert (1977), Shiller (1984), Campbell and Shiller (1988), Fama and French (1988, 1989), Campbell (1991), Hodrick (1992), and Lamont (1998). Bruner et al. (1998) survey a sample of 27 “highly regarded corporations” and find that the estimates of the risk premium are generally based on either the arithmetic or geometric average of historical excess market returns.

<sup>2</sup>See Campbell (1987), French et al. (1987), Baillie and DeGennaro (1990), Glosten et al. (1993).

<sup>3</sup>Many researchers, including Schwert (1989a), Turner et al. (1989), Cecchetti et al. (1990), Pagan and Schwert (1990), Hamilton and Susmel (1994), Hamilton and Lin (1996), Schaller and Van Norden (1997), and Kim et al. (2000) have used a two-state Markov-switching model to describe the time series properties of market returns.

changes in the level of stock prices, ex post measured returns are not equal to ex ante expected returns.<sup>4</sup> When individuals place a nonzero probability on the likelihood of a future change in volatility state, expected returns include the expected change in stock prices associated with a change in volatility state. While the economy remains in the low-volatility state, actual ex post returns are higher on average than expected returns. Conversely, while the economy remains in the high-volatility state, actual ex post returns will be lower on average than expected returns. Within each state, the difference between ex post returns and expected returns is similar to the peso-type problem discussed in Rietz (1988). My model generates periods of low-volatility and high ex post returns alternating with periods of high-volatility and low ex post returns, reconciling the empirical finding that returns are lower in periods of high volatility with the theoretical intuition that expected returns should be positively related to the level of market volatility.

My theoretical model maps directly into a standard empirical framework for estimating time variation in market volatility, providing a foundation for interpreting these earlier empirical results and a structural basis for estimating the market risk premium in a dynamic setting. Given the Markov structure of my model, its parameters can be estimated using the Hamilton (1989) Markov-switching model. Consistent with previous studies that use the Markov-switching model to describe the time series properties of stock market returns, my analysis shows that market returns can be described as having been drawn from two significantly different distributions: a low-volatility/high-return distribution, from which about 88% of the returns are drawn, and a high-volatility/low-return distribution, from which about 12% of the returns are drawn. In the low-volatility state, the annual standard deviation of returns is 13.0% and the mean annualized excess return is 12.4%. In contrast, the annual standard deviation of returns in the high-volatility state is 38.2% and the mean annualized excess return is -17.9%.<sup>5</sup>

My equilibrium expression for the risk premium allows the estimated moments of the two conditional return distributions to be mapped directly to preference parameters. Using this mapping, I decompose the unconditional risk premium into two state-dependent risk premia as well as into premia required for intrastate diffusion risk and interstate jump risk. My estimates for the annualized state-dependent risk premia in the low- and high-volatility states are 5.2% and 32.5%, respectively. Based on the estimated preference parameters, my analysis suggests that about 50% of the unconditional risk premium is related to the risk of future changes in the level of market volatility.

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<sup>4</sup>The negative relationship between volatility and market prices, referred to as volatility-feedback, is examined in Malkiel (1979), Pindyck (1984), Poterba and Summers (1986), French et al. (1987), Campbell and Hentschel (1992), and Kim et al. (2000).

<sup>5</sup>When transitional months associated with changes in volatility states are excluded, the estimated standard deviation of returns in each volatility state remains essentially unchanged. The empirical method for identifying changes in volatility states tends to treat the jumps in stock prices associated with changes in volatility states as high-volatility returns, and the magnitude of the stock price changes during transitional months is comparable to the standard deviation of returns within the identified high-volatility periods.

Recent studies provide historical evidence of a structural shift in the market risk premium. Siegel (1992) documents that the market premium has not been constant over the past century and that excess stock returns during the mid-1900s are abnormally large. Pastor and Stambaugh (2001) use a Bayesian analysis to test for structural breaks in the distribution of historical returns and to relate those breaks to changes in the market risk premium. Fama and French (2002) provide evidence of a structural shift in the market risk premium by comparing the ex ante risk premium from a Gordon growth model with the ex post risk premium based on the historical average of excess market returns. Evidence of a structural shift in the volatility of market returns is also provided in earlier studies. Officer (1973) and Schwert (1989b) argue that market returns during the Great Depression era were unusually volatile, and Pagan and Schwert (1990) show that the volatility of market returns during the Great Depression was inconsistent with stationary models of conditional heteroskedastic returns. My model provides a structural basis for estimating the impact of such a structural shift on the market risk premium. Consistent with Pagan and Schwert (1990) and Pastor and Stambaugh (2001), I find evidence of a statistically significant shift in the underlying volatility process that governs the evolution of volatility states following the 1930s. Because of the structural shift in the Markov transition probabilities, the likelihood of entering into the high-volatility state falls from about 39% before 1940 to less than 5% after 1940. Given the lower likelihood of entering the high-volatility state, the risk premium falls from about 20.1% before 1940 to 7.1% after 1940.

Because of the structural shift in the underlying volatility process and the associated reduction in the market risk premium, ex post returns during the period following 1940 are not an unbiased estimate of ex ante expected returns. As investors learn that market risk has fallen because of the structural shift, stock prices will be bid up and ex post returns will be greater than ex ante expected returns. Elton (1999) stresses the importance of distinguishing between ex ante and ex post returns when average realized returns are used as a proxy for ex ante expected returns. Brown et al. (1995) make a related point, arguing that economies that survive ex post must have higher returns on average than the ex ante expected return of all economies. When I correct for this potential bias in my sample of ex post realized returns, my estimate of the market risk premium for the period after 1940 is 5.6%, suggesting that the simple historical average of excess market returns may substantially overstate the magnitude of the risk premium for the period since the Great Depression.

The remainder of the paper is structured as follows. Section 2 presents the analytical model of the risk premium with discrete volatility states. Section 3 describes the empirical framework used to identify and estimate the parameters of the model and reports the resulting decomposition of the unconditional risk premium. In Section 4, I test for a structural shift in the process governing the evolution of volatility states and show the impact on the market risk premium of such a shift. Section 5 summarizes the main findings of the paper.

## 2. A two-state model of the market risk premium

My analysis begins with the assumption that the variance of market returns follows a two-state Markov process. Defining  $s_t \in (L, H)$  to represent the state of the economy at time  $t$ , the variance of returns at each instant is given by the equation

$$\sigma_t^2 = \begin{cases} \sigma_L^2, & \text{if } s_t = L, \\ \sigma_H^2, & \text{if } s_t = H, \end{cases} \quad (1)$$

where  $\sigma_L^2$  is the variance of returns in the normal low-volatility state and  $\sigma_H^2$  is the variance of returns in the abnormal high-volatility state. To focus on the risk of future changes in market volatility, I assume that investors know the current volatility state with certainty but face the possibility of a change in the volatility state at each point in time.<sup>6</sup> Because the variance process is Markov, the probability of a change in market volatility is a function of the current state only, such that

$$\pi_t = \begin{cases} \pi_L, & \text{if } s_t = L, \\ \pi_H, & \text{if } s_t = H. \end{cases} \quad (2)$$

In this environment, the risk premium must compensate investors for the current volatility of market returns as well as the risk associated with a change in volatility state.

I derive the expression for the equilibrium risk premium in a continuous-time, representative agent model in which preferences are described by power utility. The mathematical derivation of the equilibrium risk premium is provided in the appendix.<sup>7</sup> The equilibrium risk premium is given by the expression

$$E[R_t] - R_t^f = \gamma\sigma_t^2 + \pi_t J_t [1 - (1 + K_t^*)^{-\gamma}], \quad (3)$$

where  $E[R_t]$  is the expected return on the market at time  $t$ ,  $R_t^f$  is the contemporaneous risk-free rate of return,  $\gamma$  is the coefficient of relative risk aversion,  $\pi_t$  is the instantaneous probability of a change in volatility state,  $J_t$  is the percentage change in wealth associated with a change in volatility state, and  $K_t^*$  is the percentage change in the optimal level of consumption resulting from a change in volatility state. Using Eq. (3), I decompose the risk premium into two components. The first term on the right-hand side of Eq. (3) is the component that accounts for current volatility risk, which I refer to as the intrastate risk premium. The second term is the component that accounts for changes in the level of market volatility, which I refer to as the interstate risk premium. Because there are only two volatility states, no uncertainty exists over the magnitude of the future change in volatility. Instead, uncertainty exists only over the time at which the level of volatility will change. Eq. (3) is a special case of Merton's (1973) intertemporal capital asset pricing

<sup>6</sup>Turner et al. (1989) study the inference problem faced by investors when the current state is not known and must, instead, be learned. My model is more in the spirit of the Merton (1980) model, in which agents have access to continuous return data over a discrete interval of time such that they are able to estimate the variance of the underlying data generating process to any degree of precision required.

<sup>7</sup>George Chacko provided helpful insights for formulating the state-dependent structure of the programming problem.

model in which changes in investment opportunities are restricted to unpredictable, state-dependent changes in the level of market volatility.<sup>8</sup>

In my formulation of the investor’s problem, I allow for constraints on consumption that may limit the degree to which individuals are able to adjust their consumption when the economy switches volatility state. In the appendix, I show that the interstate component of the risk premium is a function of the optimal change in the level of consumption associated with the change in volatility state, even when the ability of investors to adjust their consumption is constrained. The intuition behind this result is that, around the optimum, the loss in utility from being constrained away from the optimum is equal to the loss in utility associated with the optimal change in consumption resulting from a change in volatility state. Assuming that the constraint binds only in the high-volatility state, the distortion in consumption is summarized by the value of the Lagrange multiplier  $\lambda_H$  and is given by the expression

$$\lambda_H = 1 - \left( \frac{1 + K_L^*}{1 + \tilde{K}_L} \right), \tag{4}$$

where  $\tilde{K}_L$  is the actual change in consumption associated with a switch to the high-volatility state. Using Eq. (4) and the estimated value of  $K_L^*$ , the value of the Lagrange multiplier  $\lambda_H$  can be inferred from the actual change in consumption  $\tilde{K}_L$  observed during periods when the economy enters the high-volatility state.

Because volatility levels are discrete, wealth and optimal consumption levels change in a discontinuous fashion when the economy changes state. However, given that there are only two volatility states, the wealth and consumption effects of a change in state are negated after every two changes in state, such that

$$W_t'' = (1 + J_t')(1 + J_t)W_t = W_t \tag{5}$$

and

$$C_t^{*''} = (1 + K_t^{*'}) (1 + K_t^*) C_t^* = C_t^*, \tag{6}$$

where  $W_t''$  and  $C_t^{*''}$  are the wealth and optimal consumption levels after two state changes and  $J_t'$  and  $K_t^{*'}$  are the changes in wealth and optimal consumption associated with switching out of the alternate volatility state. For this reason, the change in the levels of wealth and optimal consumption associated with the alternate volatility state can be written in terms of the changes associated with the current volatility state, such that

$$J_t' = \frac{1}{1 + J_t} - 1 \tag{7}$$

and

$$K_t^{*'} = \frac{1}{1 + K_t^*} - 1. \tag{8}$$

<sup>8</sup>Schwert (1989a, b) documents that changes in market volatility are correlated with changes in economic and financial market conditions.

From Eqs. (7) and (8), the magnitude of the jumps in wealth and consumption associated with changes in state are summarized by the two parameters  $J_t$  and  $K_t^*$ .

The percentage change in the optimal level of consumption  $K_t^*$  is determined by the change in the optimal consumption–wealth ratio together with the percentage change in wealth associated with a change in state  $J_t$ . The equilibrium consumption–wealth ratio in each state is given by the expression

$$\frac{C_t^*}{W_t} = \frac{\rho + (\gamma - 1)\mu_t - \frac{1}{2}\gamma(\gamma - 1)\sigma_t^2}{\gamma} + \frac{\pi_t}{\gamma} \left[ 1 - \left( \frac{1 + J_t}{1 + K_t^*} \right)^\gamma \right], \quad (9)$$

where  $C_t^*$  is optimal consumption at time  $t$ ,  $W_t$  is wealth at time  $t$ ,  $\rho$  is the investor's subjective discount rate, and  $\mu_t$  is the expected return conditional on remaining in the current state. Consistent with my terminology for the two components of the risk premium, I refer to  $\mu_t$  as the expected intrastate return. Because the optimal consumption–wealth ratio is itself a nonlinear function of  $K_t^*$ , when the model parameters are estimated, I solve numerically for the value of  $K_t^*$  that solves Eq. (9). In the appendix, I show that Eq. (9) collapses to the formula for the consumption–wealth ratio derived in Merton (1969) for the infinite horizon lifetime portfolio selection problem under uncertainty when a single volatility state is assumed.

Because wealth changes when the economy changes state, the expected return on the market is not equal to the expected intrastate return. The expected return on the market is given by the equation

$$E[R_t] = \mu_t + \pi_t J_t. \quad (10)$$

When the economy is in the low-volatility state, investors expect a reduction in wealth when the economy enters the high-volatility state. For this reason, in the low-volatility state, the expected return on the market is less than the expected intrastate return. Similarly, when the economy is in the high-volatility state, investors expect an increase in wealth when the economy reenters the low-volatility state and the expected return on the market is greater than the expected intrastate return.

Fig. 1 depicts the distinction between state-dependent risk premia and expected intrastate excess returns. For each state, the slope of the line labeled “Expected market return” shows required returns and the slope of the line labeled “Expected intrastate return” shows expected returns conditional on the economy remaining in the current state. The vertical line segments at the boundary of low- and high-volatility states represent the jump in wealth associated with a change in volatility state. The figure is drawn such that expected intrastate returns are constant while required returns vary with changes in volatility state. Because of expected changes in wealth associated with changes in volatility state, expected intrastate returns vary by less than state-dependent expected returns. In the low-volatility state, expected intrastate returns are greater than required returns, and in the high-volatility state, expected intrastate returns are less than required returns. If the expected increase in wealth associated with a return to the low-volatility state is sufficiently large, then expected intrastate returns in the high-volatility state can be negative even though the risk premium is positive. My model provides a plausible explanation for reconciling the empirical observation that returns are lower in periods of high

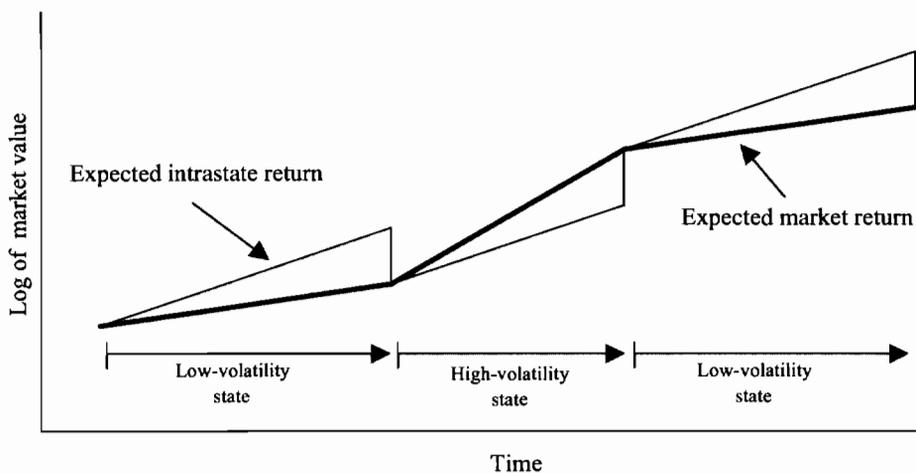


Fig. 1. Expected return on the market versus expected intrastate returns. The vertical axis depicts the log of market value and the horizontal axis represents time. The economy is initially in the low-volatility state, switches into the high-volatility state, and returns to the low-volatility state. The slope of the bold line labeled “Expected market return” is equal to the required return in each volatility state. The slope of the thin line labeled “Expected intrastate return” is equal to the expected return conditional on the economy remaining in each state. The vertical line segment at the boundary of low- and high-volatility states represents the jump in wealth associated with a change in state.

volatility with the theoretical intuition that expected returns should be positively related to the level of market volatility.

### 3. Model estimation

This section presents the results from estimating the theoretical model.

#### 3.1. Data

The model described in Section 2 is estimated using data from the Center for Research in Security Prices (CRSP). I use monthly value-weighted returns including dividends for NYSE, Amex, and Nasdaq stocks (VWRETD) over the period from 1926 through 2000 as my proxy for market returns. Excess returns are calculated using the contemporaneous yield on one-month Treasury bills from the risk-free rate file provided with the CRSP government bond data.

Table 1 reports summary statistics for monthly excess returns. The average annualized excess return over the sample period is 8.3%, and the annualized standard deviation of returns is 19.0%. The largest and smallest one-month returns are 38.2% and -29.0%, respectively. The reported skewness measure is negative and statistically significant, indicating that large negative returns are more frequent than large positive returns. Finally, the reported measure of excess kurtosis indicates that large returns occur more frequently than would be the case if returns were normally

Table 1

Summary statistics for monthly excess returns, 1926–2000

Excess returns are constructed as the monthly value-weighted return including dividends for NYSE, Amex, and Nasdaq stocks in excess of the contemporaneous yield on one-month Treasury bills. Data were obtained from the Center for Research in Security Prices stock and government bond files. The first column reports the sample statistics, and the second column shows the associated *p*-value for a test that the true value of the statistic equals zero.

Statistic	Estimate	<i>p</i> -value
Mean (annualized)	8.3%	0.0039
Standard deviation (annualized)	19.0%	
Maximum	38.2%	
Minimum	–29.0%	
Skewness (ln returns)	–0.512	<0.0001
Excess kurtosis (ln returns)	7.043	<0.0001
Number of observations	900	

distributed. As Fama (1965) points out, time variation in market volatility will produce excess kurtosis in stock returns.

### 3.2. Methodology

To estimate the components of the market risk premium in each volatility state, I map the fundamental parameters of the model to the expected intrastate excess returns by combining Eqs. (3) and (10). This yields the expression

$$\mu_t - R_t^f = \gamma\sigma_t^2 - \pi_t J_t (1 + K_t^*)^{-\gamma}. \quad (11)$$

Because the model is estimated using holding-period returns, the instantaneous transition probabilities  $\pi_t$  are converted to their discrete time equivalents. To do this, I write the instantaneous expected change in wealth associated with a change in volatility state in terms of the equivalent holding-period expected change in wealth, such that

$$\pi_t J_t = \pi'_t \ln(1 + J_t), \quad (12)$$

where  $\pi'_t$  is the discrete time transition probability. Eq. (12) requires that, over the expected duration of each volatility state, the continuously compounded expected change in wealth is equal to the actual change in wealth associated with a change in state.<sup>9</sup> Combining Eqs. (11) and (12) yields

$$\mu_t - R_t^f = \gamma\sigma_t^2 - \pi'_t \ln(1 + J_t)(1 + K_t^*)^{-\gamma}. \quad (13)$$

Eq. (13) is the basis for my estimation method, which has three steps. In the first step, I use the Hamilton (1989) Markov-switching model to estimate the moments of the two state-dependent return distributions  $\mu_t$  and  $\sigma_t$  as well as the transition

<sup>9</sup>The mathematical derivation of Eq. (11) comes from the requirement that  $e^{(\pi_t J_t)D_t} - 1 = J_t$ , where the expected duration of each volatility state  $D_t$  is given by the formula  $D_t = 1/\pi'_t$ .

probabilities  $\pi'_t$  that govern the dynamics of the underlying volatility process. In the second step, I use Eq. (13) together with Eqs. (7)–(9) to find the corresponding values of  $\gamma$ ,  $J_t$ , and  $K_t^*$  that are consistent with the estimated moments of the two state-dependent return distributions.<sup>10</sup> Because there are only two free parameters,  $\gamma$  and  $J_L$ , available to match the two state-dependent means,  $\mu_L$  and  $\mu_H$ , the model is exactly identified. In the third step, I use the expression for the risk premium given by Eq. (3) together with the estimated model parameters to calculate the intrastate and interstate components of the risk premium in each volatility state.

### 3.3. Results

Table 2 presents the empirical results from my three-step method. Panel A provides the results from applying the Markov-switching model to my sample of returns. I assume that each monthly return is drawn from one of two state-dependent distributions and that returns are log-normally distributed in each state. Parameter estimates are obtained via maximum likelihood using the method described in Berndt et al. (1974). Standard errors are reported in parentheses. Panel B reports the estimated values of the preference parameters  $\gamma$ ,  $J_t$ , and  $K_t^*$  that are consistent with the estimated time series model presented in Panel A. Finally, Panel C reports the implied decomposition of the market risk premium. Because of the nonlinear nature of the model, the standard errors of the coefficients reported in Panels B and C are simulated based on 500 random draws of the time series model parameters from a multivariate normal distribution with mean-vector and variance-covariance matrix equal to those reported in Panel A.

Panel A reports the time series model parameter estimates. The return distributions in the two volatility states are significantly different. The estimated annualized standard deviation of returns varies from 13.0% in the low-volatility state to approximately 38.2% in the high-volatility state. The annualized mean return in the low-volatility state is 12.4% and is significantly different from zero. The annualized mean return in the high-volatility state is –17.9% but is not significantly different from zero. The two volatility states are persistent. The point estimates of the transition probabilities  $\pi'_L$  and  $\pi'_H$  indicate a 0.017 and 0.119 probability of switching out of the low- and high-volatility states, respectively. Both estimated transition probabilities are significantly less than 0.5, indicating that both volatility states tend to persist over time. Based on the estimated transition probabilities, the expected durations of the low- and high-volatility states are approximately 59.2 and 8.4 months, respectively. These results are consistent with previous studies that use the Markov-switching model to describe the time series properties of returns, including Schwert (1989a), Turner et al. (1989), Pagan and Schwert (1990), and Schaller and Van Norden (1997).

<sup>10</sup> Eq. (9) also requires that the subjective discount rate  $\rho$  be specified. I set the value of  $\rho$  equal to the value estimated in Campbell and Cochrane (1999) of 0.1165. I also test a variety of alternative values for  $\rho$  and find that my results are not sensitive to the specific value of  $\rho$  chosen.

**Table 2**  
Parameter estimates and implied risk premium decomposition  
Estimates are based on 900 monthly excess returns from January 1926 through December 2000. Panel A reports the parameter estimates for the two-state Markov switching model based on Eq. (13). Panel B reports the estimated values of the preference parameters  $\gamma$ ,  $J_t$ , and  $K_t^*$  from Eqs. (7)–(9) that are consistent with the estimated time series model. Panel C shows the implied decomposition of the market risk premium based on Equation (3) and the estimated model parameters. Standard errors are reported in parentheses. Because of the nonlinear nature of the model, the standard errors reported in Panels B and C are simulated.

Volatility state	Time series parameters					Preference parameters			Risk premium decomposition			
	$\mu_t - r_t$		$\sigma_t$	$\pi_t$	$\gamma$	$J_t$	$K_t^*$	State probability		State-dependent premium		Total
								Intrastate	Interstate			
Low volatility ( $s_t = L$ )	0.124 (0.017)	0.130 (0.004)	0.017 (0.007)	1.129 (0.565)	-0.296 (0.088)	-0.2488 (0.108)	0.876 (0.037)	0.019 (0.010)	0.033 (0.011)	0.052 (0.016)		
High volatility ( $s_t = H$ )	-0.179 (0.140)	0.382 (0.022)	0.119 (0.038)	1.129 (0.565)	0.421 (0.218)	0.404 (0.289)	0.124 (0.037)	0.165 (0.078)	0.160 (0.077)	0.325 (0.116)		
Unconditional mean	0.086 (0.023)							0.037 (0.018)	0.049 (0.016)	0.086 (0.023)		
Log-likelihood value	1,491.0											
Number of observations	900											

Panel B reports the preference parameter estimates. The estimated values of the two free parameters  $\gamma$  and  $J_L$  are presented in italics. The other parameters are simultaneously determined using Eqs. (7)–(9) but are not independently estimated. The point estimate for  $\gamma$  equals 1.129 and is significantly different from zero at the 5% level based on a one-tailed test. The point estimate for the jump parameter  $J_L$  equals  $-29.6\%$  and is significantly different from zero. The corresponding value of  $J_H$  is 42.1%. The implied values for the optimal percent change in consumption  $K_t^*$  in the low- and high-volatility states are  $-28.8\%$  and  $40.4\%$ , respectively. Although the estimate of  $K_t^*$  for the low-volatility state is significant, given the high volatility of returns in the high-volatility state, the estimate of  $K_t^*$  for the high-volatility state is not significantly different from zero.

Panel C reports the implied decomposition of the market risk premium. The first column of the Panel C reports the unconditional probability of each volatility state based on the estimated transition probabilities presented in Panel A. The second and third columns of Panel C show the intrastate and interstate components of the two state-dependent risk premia. The fourth column of Panel C reports the state-dependent risk premium for each volatility state. For each component of the risk premium, the unconditional estimate is calculated as the probability weighted average of the two state-dependent estimates. The estimated values of the unconditional components of the risk premia are reported in the fourth row of the panel. Based on the estimated transition probabilities, the unconditional probability of the economy being in the low- and high-volatility states is 0.876 and 0.124, respectively. The point estimate of the risk premium in the low-volatility state is 5.2%. About 330 basis points, or 64% of the low-volatility state risk premium, are associated with the risk of a change in state. The point estimate of the risk premium in the high-volatility state is 32.5%. About 1,600 basis points, or 49% of the high-volatility state risk premium, are associated with the risk of a change in state. The unconditional risk premium is equal to 8.6%. About 490 basis points, or 57% of the unconditional risk premium, are associated with the risk of changes in state. These results suggest that more than half of the measured market risk premium is related to the risk of future changes in the level of market volatility.

### 3.4. Statistical tests

I perform a series of statistical tests of the estimated model reported in Table 2. My statistical analysis is presented in two parts: tests of the time series model and tests of the theoretical model. In my analysis of the time series model, I test whether the two volatility states are statistically different as well as whether the assumption of only two volatility states is reasonable. I also test the assumption that returns are independently, log-normally distributed within each state. In my analysis of the theoretical model, I use the low- and high-volatility episodes identified in the time series analysis to test the predictions of the theoretical model, including the statistical properties of returns in each identified state and the extent to which market prices jump when the economy switches between states.

The two volatility states are statistically different. I test the estimated model against the null hypothesis that both the mean and variance of returns is constant.

The likelihood ratio statistic for the test is 155.4 and the corresponding  $p$ -value is less than 0.0001, indicating that the null hypothesis can be rejected at any reasonable level of confidence. I also test the extent to which the explanatory power of the model is improved by the inclusion of a third volatility state. Although the inclusion of a third state increases the value of the estimated likelihood function, the increase is not statistically significant. The likelihood ratio statistic for a test of three states against a null hypothesis of two states is 8.82. The corresponding  $p$ -value of 0.1816 indicates that the null hypothesis of two states cannot be rejected at standard levels of significance.

The assumption that returns are independent within each volatility state is reasonable. I augment the time series model to allow for first-order serial correlation in returns within each volatility state. The point estimates for the serial correlation coefficients in the low- and high-volatility states are 0.28 and 1.26, respectively. Neither estimated coefficient is statistically significant. The likelihood ratio statistic for a test of the null hypothesis that both coefficients are zero is 0.82 and the corresponding  $p$ -value is 0.9915, indicating that the null hypothesis cannot be rejected at any reasonable level of confidence.

The assumption that returns are log-normally distributed within each volatility state is reasonable. Fig. 2 compares the cumulative distribution function (CDF) for the estimated model with the sampled cumulative distribution of returns. I also show the CDF for the assumption that the data are unconditionally log-normal. The top panel of the figure shows each of the cumulative distribution functions, and the bottom panel shows the difference between the estimated and sampled CDFs. To assess the reasonableness of the distributional assumptions, I perform a Kolmogorov-Smirnov test of the difference between the estimated and sample distributions.<sup>11</sup> Consistent with the two volatility states being statistically different, the null hypothesis that the data are unconditionally log-normal can be rejected at the 1% level. In contrast, the null hypothesis that the data are log-normally distributed within each volatility state cannot be rejected at the 5% level.

The results of these statistical tests of the estimated time series model suggest that a simple two-state model provides a reasonable description of monthly market returns. Based on the high-volatility periods identified by the two-state time series model, I perform statistical tests of the main predictions from the theoretical model. I define high-volatility periods as those months for which the implied probability of being in the high-volatility state is greater than 0.5. Based on this criteria, there are 21 high-volatility periods during the period from 1926 through 2000. Of the 900 months in the sample, 804 months are categorized as low volatility and 96 months are categorized as high volatility. Descriptive statistics for these low- and high-volatility periods are provided in Table 3.

<sup>11</sup>The Kolmogorov-Smirnov (K-S) statistic for a test of the null hypothesis that the data are unconditionally log-normal is 0.0708. The critical value of the K-S statistic for a 1% test with 900 observations is 0.0543, indicating that the null hypothesis can be rejected. In contrast, the K-S statistic for a test of the null hypothesis that the data are log-normally distributed within each volatility state is 0.0211. The critical value of the K-S statistic for a 5% test with 900 observations is 0.0453, indicating that the null hypothesis cannot be rejected.

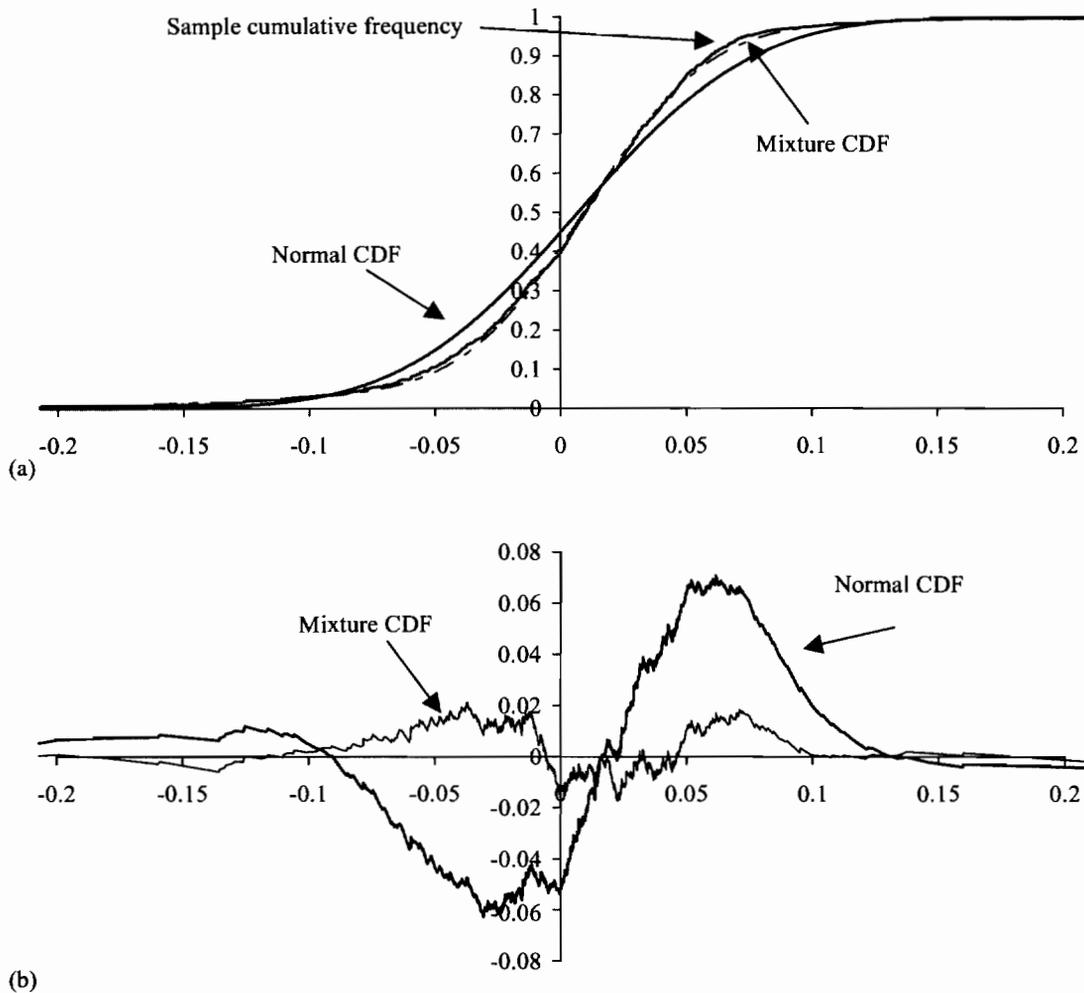


Fig. 2. Sample cumulative frequency distribution versus cumulative distribution functions (CDFs) for estimated mixture distribution and normal models. The mixture distribution is the implied distribution from the estimated two-state model presented in Table 2. The normal distribution is for the comparable static model with constant mean and variance. Panel A shows the cumulative distribution functions, and Panel B shows the corresponding errors between the actual and predicted CDFs.

The top panel of Table 3 groups returns into four categories: the first month of high-volatility periods, subsequent high-volatility months, the first month of low-volatility periods, and subsequent low-volatility months. For each category, I report the mean excess return and the associated  $p$ -value for a test of the null hypothesis that the true mean is zero. In addition, I report the standard deviation of returns, the average probability of being in the high-volatility state, and the number of observations for each category. The bottom panel of the table reports the results of hypothesis tests related to the predictions of the theoretical model.

Market returns are substantially more volatile during the identified high-volatility periods than low-volatility periods. Excluding the first month of each episode, the

Table 3

Statistical tests of categorized excess returns

Each monthly excess return is categorized as having been from one of two major categories: low- and high-volatility periods. A high-volatility period is defined as a continuous series of months for which the inferred probability of being in the high-volatility state is greater than 0.5. All other months are categorized as low volatility. Over the historical period, 21 high-volatility periods are identified. To test the predictions from the theoretical model regarding the transition between volatility states, returns are further categorized as having been from the first month or subsequent months of either a low- or high-volatility period. The top panel reports descriptive statistics for each category, and the bottom panel reports the results of a series of hypothesis tests.

Category	Monthly returns				
	Mean	<i>p</i> -value	Standard deviation	$Pr(s_t = H)$	<i>N</i> obs
<i>Categorized returns</i>					
All months	0.0069	0.0002	0.0549	0.1300	900
<i>High-volatility periods</i>					
First month	-0.1262	0.0000	0.0707	0.8844	21
Subsequent months	0.0114	0.4164	0.1212	0.8485	75
<i>Low-volatility periods</i>					
First month	0.0221	0.0004	0.0246	0.3694	22
Subsequent months	0.0096	0.0000	0.0379	0.0346	782
<i>Hypothesis tests<sup>a</sup></i>					
First month of high-volatility periods	<i>t</i> -statistic	<i>p</i> -value			
equal to subsequent months of high-volatility periods	6.6075	<0.0001			
First month of low-volatility periods	2.3113	0.0301			
equal to subsequent months of low-volatility periods					
First month of high-volatility periods (ln returns)	6.5194	<0.0001			
equal to negative of first month of low-volatility periods (ln returns)					
Subsequent months of high-volatility periods	0.1295	0.8973			
equal to subsequent months of low-volatility periods					

<sup>a</sup> Based on the Smith-Satterhwaite test for difference in population means with unequal variances, Miller and Freund (1977).

annualized standard deviation of returns during the identified low- and high-volatility periods is 13.1% and 42.0%, respectively. Although the level of volatility in the two states is significantly different, the average excess return is not. Excluding the first month of each episode, the annualized average excess return during low- and high-volatility episodes is 13.7% and 11.5%, respectively. The *p*-value for a test of the null hypothesis that average excess returns in the low- and high-volatility periods are equal is 0.8973, indicating that the null hypothesis cannot be rejected at any reasonable level of

confidence. This result is consistent with the time path of expected returns depicted by Fig. 1 in the theoretical discussion of the model. In addition, returns during the transition between volatility states are also generally consistent with those depicted in Fig. 1.

The average first month of low- and high-volatility episodes is significantly different from subsequent months. High-volatility periods start with a substantial loss in market value. The average excess return during the first month of the high-volatility periods equals  $-12.6\%$  and is significantly different from zero. In contrast, the average excess return during subsequent high-volatility months is positive  $1.1\%$  but is not significantly different from zero. The  $p$ -value for a test of the null hypothesis that the mean of the first month of high-volatility periods equals the mean of subsequent high-volatility months is less than  $0.0001$ , indicating that the null hypothesis can be rejected at any reasonable level of confidence. Low-volatility periods start with a significant increase in market value. The average excess return during the first month of the low-volatility periods is  $2.2\%$  and is significantly different from zero. The average excess return during subsequent low-volatility months equals  $0.96\%$  and is also significantly different from zero. Although the difference between the first-month and subsequent months of low-volatility periods is less pronounced than that of high-volatility periods, the average return during the first month of each low-volatility period is more than twice that of subsequent months and the difference in the mean returns is statistically significant. The  $p$ -value for a test of the null hypothesis that the mean of the first month of low-volatility periods equals the mean of subsequent low-volatility months is  $0.0301$ , indicating that the null hypothesis can be rejected at the  $5\%$  level.

One aspect of the theoretical model is not supported by the data. Because the theoretical model assumes that there are only two states and that investors always correctly know the current state, the magnitude of the jump in log market value when the economy switches from the low-volatility state to the high-volatility state equals the magnitude of the jump in log market value when the economy returns to the low-volatility state. Although the point estimates of the average excess monthly returns low- and high-volatility periods are of the correct sign, the magnitude of the loss in market value when the economy enters the high-volatility state is significantly greater than the magnitude of the increase in market value when the economy returns to the low-volatility state. The  $p$ -value for a test of the null hypothesis that the magnitude of the mean excess log return during the first month of high-volatility periods is equal to the magnitude of the mean excess log return during the first month of low-volatility periods is less than  $0.0001$ , indicating that the null hypothesis can be rejected at any reasonable level of confidence.

One explanation for the difference in first-month returns is that investors do not have perfect knowledge of the current state and so they must infer the volatility state from the returns they observe.<sup>12</sup> In this case, investors' ability to infer the current state is asymmetric. When the economy is in the low-volatility state, the standard deviation of returns is small and determining whether the economy has switched to

<sup>12</sup>Turner et al. (1989) explicitly incorporate learning into a Markov-switching model in which investors are uncertain of the true state.

the high-volatility state is easy. Large returns are unlikely to occur in the low-volatility state, so their occurrence quickly reveals to investors that the economy is in the high-volatility state. However, the inference problem is more difficult when the economy is in the high-volatility state. In the high-volatility state, small returns do not immediately reveal that the economy has switched states because a reasonable chance of getting a small return exists even though the standard deviation of returns is high. Instead, investors learn that the economy has returned to the low-volatility state over time by failing to observe enough large returns—or, in other words, by observing more small returns than are likely to occur in the high-volatility state. When investors have to learn whether the economy has switched states, the increase in market value associated with a return to the low-volatility state likely will occur over a longer period of time than the decrease in market value associated with a switch to the high-volatility state. In addition to the assumption that investors have perfect knowledge of the true volatility state, another important issue regarding the estimated model presented in Table 3 is whether the process governing the evolution of volatility states is constant over the estimation period.

Fig. 3 plots the historical returns on which the model is estimated along with the identified high-volatility periods represented by the shaded areas. Visual inspection of the figure suggests that the average duration of high-volatility periods is shorter during the later part of the sample than during the first part. The average duration of high-volatility periods is 7.2 months for the period from 1926 to 1940 versus only 2.6 months for the period after 1940. In addition, the average duration of low-volatility periods appears longer during the later part of the sample than during the first part of the sample. The average duration of low-volatility periods is only 11.3 months for the period from 1926 to 1940 versus 58.4 months for the period after 1940. The

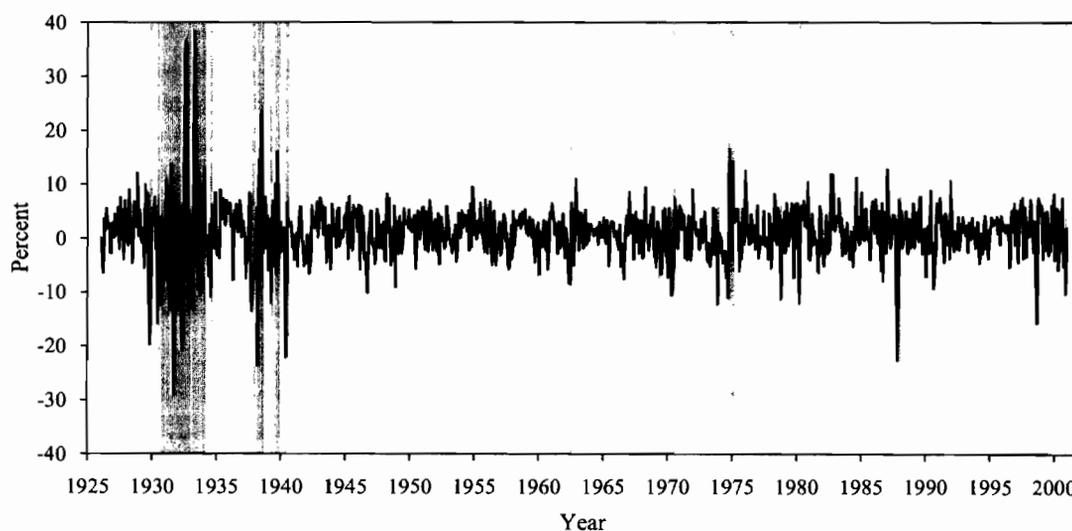


Fig. 3. Monthly excess returns and high-volatility state probability. The solid line plots the monthly excess returns for the period 1926 through 2000. The shaded areas correspond to the high-volatility episodes identified in Table 3. A high-volatility period is defined as a continuous series of months for which the inferred probability of being in the high-volatility state is greater than 0.5.

differences in the average durations of low- and high-volatility periods suggest that the transition probabilities governing the evolution of volatility states may not be constant over the historical period. A shift in the underlying volatility process is consistent with previous studies by Schwert (1989b), Pagan and Schwert (1990), and Pastor and Stambaugh (2001) that find evidence of structural shifts in the volatility of market returns. In my two-state model of the market risk premium, a shift in the transition probabilities governing the underlying volatility process would result in a change in the likelihood of the low- and high-volatility states and lead to a change in the unconditional market risk premium.

#### 4. The effect of a structural shift in the volatility process

In this section of the paper, I augment the model to allow for a structural shift in the transition probabilities governing the evolution of the two volatility states. I assume there is a single structural break during the estimation period and test the estimated model against the null hypothesis of no structural break. To determine the most likely date for a structural shift in the volatility process, I estimate the augmented model for all possible annual breakpoints from 1927 through 1999 and select the breakpoint that maximizes the value of the estimated likelihood function. The analysis is then structured around the two subperiods defined by the most likely date for the structural shift in the volatility process.

Consistent with the approach presented in Section 3, the estimation method has three steps. In the first step, I estimate the time series model parameters allowing for a structural shift in the transition probabilities  $\pi_t$  and the means of the two state-dependent distributions  $\mu_t$ .<sup>13</sup> I assume that the volatility of returns in each state remains constant over the estimation period. In the second step, I use Eq. (13) together with Eqs. (7)–(9) to find the corresponding values of  $\gamma$ ,  $J_t$ , and  $K_t^*$  for each subperiod. I assume the value of  $\gamma$  is constant over the estimation period, but that the parameters  $J_t$  and  $K_t^*$  shift to correspond to the new transition probabilities. In the state-dependent model with a structural break, there are three free parameters,  $\gamma$ ,  $J_{L,pre}$ , and  $J_{L,post}$ , available to match the four state-dependent means,  $\mu_{L,pre}$ ,  $\mu_{H,pre}$ ,  $\mu_{L,post}$ , and  $\mu_{H,post}$ . In contrast to the model presented in Section 3, the augmented model is no longer exactly identified. To find the values of the preference parameters that are consistent with the estimated moments of the two state-dependent distribution functions, I solve for the values of  $\gamma$ ,  $J_{L,pre}$ , and  $J_{L,post}$  that minimize the probability-weighted sum of the squared standardized errors over the entire estimation period. In the third step, I use the expression for the risk premium given by Eq. (3) together with the estimated model parameters to decompose the risk premium for each subperiod. These results are reported in Table 4.

<sup>13</sup>Diebold et al. (1994) discuss the estimation of time-varying transition probabilities in Markov-switching models.

Table 4

Parameter estimates and implied risk premium decomposition allowing for a structural shift in the underlying volatility process. Estimates are based on 900 monthly excess returns from January 1926 through December 2000. The most likely date for the structural shift in the volatility process is 1940. Panel A reports the parameter estimates for the augmented time series model based on Eq. (13). The augmented model allows for a shift in the transition probabilities  $\pi_t$  and the means  $\mu_t$  of the two state-dependent distributions. The risk aversion coefficient  $\gamma$  and the standard deviation of returns within each state  $\sigma_t$  are assumed to remain constant, such that the intrastate risk premia are constant over the entire estimation period. For each of the two subperiods defined by the date for the structural shift, Panel B reports the estimated values of the preference parameters  $\gamma$ ,  $J_t$ , and  $K_t^*$  from Eqs. (7)–(9) that are consistent with the estimated time series model. Panel C shows the implied decomposition of the market risk premium based on Eq. (3) and the estimated model parameters. Standard errors are reported in parentheses. Because of the nonlinear nature of the model, the standard errors reported in Panels B and C are simulated.

Volatility state	Time series parameters					Preference parameters			Risk premium decomposition			
	$\mu_t - r_t$		$\sigma_t$	$\pi_t$	$\gamma$	$J_t$	$K_t^*$	State probability		State-dependent risk		Total
								Intrastate	Interstate			
<i>Pre-1940 (1926–1939)</i>												
Low volatility	0.243	0.127	0.033	1.703	-0.265	-0.289	0.611	0.028	0.097	0.124		
( $s_t = L$ )	(0.052)	(0.004)	(0.029)	(0.762)	(0.133)	(0.151)	(0.075)	(0.011)	(0.053)	(0.057)		
High volatility	-0.076	0.373	0.052	1.703	0.360	0.407	0.389	0.238	0.085	0.322		
( $s_t = H$ )	(0.138)	(0.020)	(0.035)	(0.762)	(0.439)	(0.496)	(0.075)	(0.099)	(0.037)	(0.103)		
Unconditional mean	0.119							0.109	0.092	0.201		
	(0.0270)							(0.045)	(0.044)	(0.064)		
<i>Post-1940 (1940–2000)</i>												
Low volatility	0.118	0.127	0.027	1.703	-0.175	-0.152	0.955	0.028	0.020	0.048		
( $s_t = L$ )	(0.018)	(0.004)	(0.016)	(0.762)	(0.111)	(0.127)	(0.022)	(0.011)	(0.013)	(0.014)		
High volatility	-0.574	0.373	0.571	1.703	0.213	0.179	0.045	0.238	0.322	0.560		
( $s_t = H$ )	(0.487)	(0.020)	(0.158)	(0.762)	(0.268)	(0.361)	(0.022)	(0.099)	(0.294)	(0.273)		
Unconditional mean	0.087							0.037	0.034	0.071		
	(0.025)							(0.017)	(0.020)	(0.019)		
Log-likelihood value	1,505.3											
Number of observations	900											

Panel A of Table 4 reports the results of the augmented time series model. After testing all possible annual breakpoints from 1927 to 1999, the date of the most likely breakpoint is 1940. The structural shift in the volatility process is statistically significant. The  $p$ -value for a likelihood ratio test of the null hypothesis of no structural shift is 0.0064, indicating that the null hypothesis can be rejected at standard levels of significance.<sup>14</sup> I also perform a test for structural change, which does not rely on the assumption that a structural shift has taken place. Based on the Andrews (1993) Lagrange multiplier test for regime changes, the null hypothesis that market returns during the 1930s were drawn from the same regime as the other returns can be rejected at the 1% level.<sup>15</sup> These results are consistent with results in Pagan and Schwert (1990) and Pastor and Stambaugh (2001) showing that the 1930s were a period of unusually high market volatility that cannot be explained by a single process over the complete historical period.

As a result of the structural shift in the volatility process, the expected duration of the high-volatility state falls dramatically after 1940. Before 1940, the point estimates of the transition probabilities  $\pi_t$  indicate that both volatility states are persistent. After 1940, however, only the low-volatility state is persistent. The expected duration of the low-volatility state increases marginally from 30.2 months for the period before 1940 to 37.2 months for the period after 1940. In contrast, the expected duration of the high-volatility state falls significantly from 19.2 months for the period before 1940 to only 1.8 months for the period after 1940.<sup>16</sup> The reduction in the length of time the economy is expected to remain in the high-volatility state dramatically reduces the unconditional probability of the economy being in the high-volatility state. As a result of the shift in the volatility process, the probability of the economy being in the high-volatility state falls from 38.9% for the period before 1940 to only 4.5% for the period after 1940.

Panel B reports the preference parameter estimates consistent with the augmented time series model. The point estimate of  $\gamma$  equals 1.703 and is larger than the estimate in the model with no structural shift. The point estimate of  $J_L$  equals  $-26.5\%$  for the period before 1940 and  $-17.5\%$  for the period after 1940. Because the higher discount rates associated with the high-volatility state are expected to be applied for a shorter period of time during the period after 1940, the point estimates for the expected change in market value when the economy enters the high-volatility state are consistent with the shortening of the expected duration of the high-volatility state.

<sup>14</sup>The likelihood ratio statistic for the null hypothesis of no structural shift equals 14.3 and is distributed as a chi-square with 4 degrees of freedom.

<sup>15</sup>The sup(LM) equals 29.62. The 1930s period corresponds to  $\pi \in (0.0544, 0.1878)$  and a critical value of 22.54 for a 1% test.

<sup>16</sup>The reduction in the persistence of the high-volatility state is consistent with the results in Poterba and Summers (1986) showing that volatility is not persistent enough for volatility-feedback to be the sole cause of the changes in market value that are observed. However, my results suggest that volatility-feedback may have played a much larger role during the period before 1940.

Panel C reports the implied risk premium decomposition for the periods before and after the 1940 structural shift. Because of the dramatic reduction in the likelihood of being in the high-volatility state, the unconditional risk premium falls significantly after 1940. For the period before 1940, the point estimate of the unconditional risk premium is 20.1%. In contrast, for the period after 1940, the point estimate of the unconditional risk premium is only 7.1%. Although the magnitude of the individual components of the risk premium changes as a result of the structural shift, the proportion of the risk premium associated with the risk of future changes in volatility state remains relatively constant at about 45%.

Given the estimated reduction in the market risk premium, the average of ex post returns during the period following 1940 is likely to be a biased proxy of the ex ante expected return during the period since 1940. As investors learn that market risk has fallen because of the structural shift in the volatility process, stock prices will be bid up and ex post realized returns will be greater than ex ante expected returns. Assuming a real risk-free rate of 1%, a reduction in the market risk premium from 20% to 7% would cause the value of a perpetuity growing at a real rate of 2% per year to increase by approximately 213%. However, it is unlikely that investors would instantaneously realize that the transition probabilities governing the evolution of the two volatility states had changed. Given the expected duration of the low- and high-volatility periods, learning the values of the new transition probabilities would not be a trivial exercise and could easily take many years to uncover. For example, if this learning process took place over a period of 20 years, ex post returns would exceed ex ante expected returns during this period by approximately 5.9%. For this reason, I test for evidence of positive abnormal returns during the period following the 1940 structural shift in the underlying volatility process. Table 5 reports these results.

Table 5 presents actual excess returns for alternative subperiods from 1940 to 2000. I group the data by decade and report the average excess return for two periods: the decades immediately following the 1940 structural shift and the subsequent decades. The estimates in Table 5 show that the average excess return during the period from 1940 to 1959 is significantly greater than that during the subsequent 41-year period from 1960 through 2000. Consistent with the hypothesis of a structural shift in the volatility process following the 1930s, the  $p$ -value for a one-tailed test of the null hypothesis that the mean excess returns during these two periods are equal is 0.0458, indicating that the null hypothesis can be rejected at the 5% level. The magnitude of the excess return from 1940 to 1959 is also consistent with change in the market risk premium reported in Table 4. The average excess return during the 20-year period following the structural shift of 6.5% is comparable to the amortized percentage change in the value of a growing perpetuity implied by the reduction in the market risk premium of 5.9%. These results are consistent with the hypothesis that investors may have updated their beliefs regarding the level of market risk at some point during the period from 1940 to 1960. Given the evidence of abnormal returns after 1940, I re-estimate the model presented in Table 4 allowing for an abnormal return during the period following the structural shift.

Table 5

Analysis of excess returns during the period following the 1940 structural shift in the volatility process. Excess returns are grouped by decade into two subperiods following the structural shift: the period immediately following 1940 structural shift and the subsequent period. For each subperiod, the annualized mean excess return is reported along with the annualized standard deviation in returns and the difference in the means of the two subperiods. The last column reports the  $p$ -value for a one-tailed test of the null hypothesis of equal mean excess returns in the two subperiods.

Post-1940 subperiod	Mean	Standard deviation	Difference in means	$p$ -value <sup>a</sup>
1: 1940–1949	10.0%	15.4%		
2: 1950–2000	8.2	14.5	1.8%	0.3662
1: 1940–1959	12.8	13.4		
2: 1960–2000	6.4	15.2	6.5	0.0458
1: 1940–1969	10.3	13.2		
2: 1970–2000	6.8	15.9	3.5	0.1775
1: 1940–1979	8.1	14.2		
2: 1980–2000	9.3	15.4	–1.2	0.6185
1: 1940–1989	8.2	14.7		
2: 1990–2000	9.9	14.2	–1.8	0.6438

<sup>a</sup>Based on Smith-Satterhwaite test for difference in population means with unequal variances, Miller and Freund (1977).

Table 6 reports the results from re-estimating the augmented model, allowing for abnormal returns during the 20-year period subsequent to the 1940 structural shift. The model is identical to that reported in Table 4 except for the inclusion of a dummy variable in the equations for the mean of each state-dependent distribution. The dummy variable equals one during the period from 1940 through 1959 and zero otherwise. The coefficient on the dummy variable provides an estimate of the mean abnormal return during the period following the structural shift. The point estimate of the average abnormal return during this period equals 5%, indicating that realized returns following the structural shift exceeded those required based on the underlying volatility process. The  $p$ -value for a one-tailed test that the estimated coefficient equals zero is 0.0941, indicating that the null hypothesis that there were no abnormal returns during this period can be rejected at the 10% level.

The estimated value of the market risk premium is substantially lower as a result of controlling for the presence of abnormal returns subsequent to the shift in the underlying volatility process. The point estimate of the unconditional risk premium for the period since 1940 is 5.6%, about 270 basis points lower than the historical average of excess market returns. Consistent with Brown et al. (1995) and Elton (1999), these results suggest that the simple historical average of excess market returns may substantially overstate the market risk premium for the period after the Great Depression. In addition, my results are consistent with the empirical finding in Fama and French (2002) that actual returns during the past 50 years have been much higher than expected. However, my method provides a structural basis for controlling for the extent of this bias and, as a result, provides an unbiased estimate of the market risk premium.



## 5. Summary

This paper presents a method for estimating the market risk premium that incorporates shifts in investment opportunities and demonstrates the importance of accounting for the dynamic nature of market risk. Because of peso-type problems similar to that discussed in Rietz (1988), when investors anticipate changes in market value associated with future changes in the level of market risk, the ex post observed relationship between volatility and excess returns may severely distort the true ex ante relationship between risk and expected returns. My results suggest that the simple historical average of excess market volatility obscures significant variation in the market risk premium and that about half of the measured risk premium is associated with the risk of future changes in the level of market volatility.

The results presented in this paper also highlight the importance of distinguishing between ex post realized and ex ante expected returns as emphasized in Elton (1999). My analysis suggests that because of a structural shift in the volatility process underlying market returns and a reduction in the market risk premium, ex post returns during the period following the 1930s are not an unbiased estimate of ex ante expected returns. The bias in ex post returns is closely related to the survival bias discussed in Brown et al. (1995). My method provides a structural basis for controlling for the extent of this bias and allows for an unbiased estimate of the market risk premium. My corrected estimates suggest that the simple historical average of excess market returns substantially overstates the magnitude of the market risk premium for the period since the Great Depression.

## Appendix A

Here, I derive the expression for the equilibrium risk premium given by Eq. (3) in Section 2. In the first section, I lay out the details of the investor's utility maximization problem and define the model parameters and assumptions. In the second section, I outline the steps involved in finding the equilibrium solution to this stochastic programming problem. And in the third section, I show that my solution collapses to the Merton (1969) solution to optimal lifetime portfolio selection under uncertainty when there are no changes in volatility states.

### A.1. Model parameters and assumptions

I solve the utility maximization problem for a representative investor in an infinite horizon, continuous-time model with discrete volatility states. I assume that preferences are described by a power utility function parameterized by  $\gamma$ , the coefficient of relative risk aversion. I also assume that there are only two assets in which the investor can invest: a risk-free asset yielding a certain rate of return equal to  $r_t$  and a risky asset denoted  $S_t$  with an uncertain rate of return equal to  $dS_t/S_t$ . The standard deviation  $\sigma_t$  of the returns on the risky asset varies over time and is assumed to take on only two values,  $\sigma_L$  and  $\sigma_H$ . The simple average of the two

volatility levels is denoted by the parameter  $\bar{\sigma}$ . Correspondingly, the expected drift in the price of the risky asset  $\mu_t$  varies with state and takes on two values,  $\mu_L$  and  $\mu_H$ . The simple average of the two means is denoted by the parameter  $\bar{\mu}$ . In each volatility state, the probability that the economy will switch to the alternative volatility state is determined by the parameter  $\pi_t$ . Because the evolution of volatility states is assumed to follow a Markov process,  $\pi_t$  takes on two values,  $\pi_L$  and  $\pi_H$ . The simple average of the two values for  $\pi_t$  is denoted by the parameter  $\bar{\pi}$ . At each instant, the investor chooses an amount of consumption  $C_t$  and a fraction  $\omega_t$  of his wealth  $W_t$  to invest in the risky asset. The investor's problem is given as

$$\max_{C_t, \omega_t} E_v \int_v^\infty e^{-\rho t} \frac{C_t^{1-\gamma}}{1-\gamma} dt, \tag{A.1}$$

$$\text{s.t. } dW_t = \omega_t W_t \frac{dS_t}{S_t} + (1 - \omega_t)r_t W_t dt - C_t dt, \tag{A.2}$$

$$dS_t = \mu_t S_t dt + \sigma_t S_t dZ + J_t S_t dN(\pi_t), \tag{A.3}$$

$$d\mu_t = 2(\bar{\mu} - \mu_t) dN(\pi_t), \tag{A.4}$$

$$d\sigma_t = 2(\bar{\sigma} - \sigma_t) dN(\pi_t), \tag{A.5}$$

$$d\pi_t = 2(\bar{\pi} - \pi_t) dN(\pi_t), \tag{A.6}$$

$$dJ_t = 2(\bar{J} - J_t) dN(\pi_t), \tag{A.7}$$

$$d\hat{\lambda}_t = 2(\bar{\lambda} - \hat{\lambda}_t) dN(\pi_t), \tag{A.8}$$

and

$$C_t > \bar{C}_t, \tag{A.9}$$

where  $dZ$  is a standard Weiner process and  $dN(\pi_t)$  is a Poisson process that is equal to either zero or one. When  $dN(\pi_t) = 1$ , Eqs. (A.4)–(A.6) cause the drift, volatility, and transition parameters to jump to the alternative state. Given the discrete jumps in these state variables, the equation describing the evolution of the stock price  $S_t$  includes the term  $J_t S_t dN(\pi_t)$ , which allows the stock price to jump when the economy switches between volatility states. The parameter  $J_t$  is the magnitude of the jump in stock price that occurs when the economy switches state. The value of the jump parameter  $J_t$  takes on two values,  $J_L$  and  $J_H$ . The simple average of the two jump values is denoted by the parameter  $\bar{J}$ . Finally, Eqs. (A.8) and (A.9) allow for the possibility that consumption may be constrained in one of the volatility states. The value of the Lagrange multiplier associated with this constraint is given by the parameter  $\hat{\lambda}_t$ , which takes on two values,  $\hat{\lambda}_L$  and  $\hat{\lambda}_H$ . The simple average of the two Lagrange multipliers is denoted by the parameter  $\bar{\lambda}$ .

### A.2. Derivation of the equilibrium solution

Given the problem described above, the indirect utility function at time  $v$  is defined as a function of the state variables at time  $v$ , such that

$$I_v = \max E_v \int_v^\infty e^{-\rho t} \frac{C_t^{1-\gamma}}{1-\gamma} dt, \quad (\text{A.10})$$

where  $I_v = I(W_v, \mu_v, \sigma_v, \pi_v, J_v, \hat{\lambda}_v)$ . From the principle of optimality,

$$\begin{aligned} 0 = & \frac{C_t^{1-\gamma}}{1-\gamma} - \rho I + [(\omega_t(\mu_t - r_t) + r_t)W_t - C_t] \frac{\partial I}{\partial W} \\ & + \frac{1}{2} \omega_t^2 \sigma_t^2 W_t^2 \frac{\partial^2 I}{\partial W^2} + \pi_t E_t [I'_t - I_t] + \hat{\lambda}_t C_t, \end{aligned} \quad (\text{A.11})$$

where  $I'_t$  is the value of the indirect utility function subsequent to the next change of state and is equal to

$$I'_t = I \left( \begin{array}{l} W_t + \omega_t J_t W_t, \mu_t + 2(\bar{\mu} - \mu_t), \sigma_t + 2(\bar{\sigma} - \sigma_t), \\ \pi_t + 2(\bar{\pi} - \pi_t), J_t + 2(\bar{J} - J_t), \hat{\lambda}_t + 2(\bar{\lambda} - \hat{\lambda}_t) \end{array} \right). \quad (\text{A.12})$$

The first-order conditions for the investor's problem with respect to  $C_t$  and  $\omega_t$  are given by the expressions

$$0 = C_t^{-\gamma} - \frac{\partial I}{\partial W} + \hat{\lambda}_t \quad (\text{A.13})$$

and

$$0 = (\mu_t - r_t)W_t \frac{\partial I}{\partial W} + \omega_t \sigma_t^2 W_t^2 \frac{\partial^2 I}{\partial W^2} + \pi_t E_t \left[ J_t W_t \frac{\partial I'}{\partial W} \right]. \quad (\text{A.14})$$

Defining  $\hat{\lambda}_t$  in terms of the marginal utility of wealth, such that

$$\hat{\lambda}_t = \lambda_t \frac{\partial I}{\partial W}, \quad (\text{A.15})$$

consumption at each instant is given by the expression

$$C_t = \left[ (1 - \lambda_t) \frac{\partial I}{\partial W} \right]^{-1/\gamma}. \quad (\text{A.16})$$

Because the net supply of the risk-free asset must equal zero in general equilibrium, the risk-free rate adjusts such that  $\omega_t = 1$ . Substituting Eq. (A.16) into Eq. (A.11), setting  $\omega_t = 1$ , and simplifying yields

$$\begin{aligned} 0 = & \frac{1}{1-\gamma} (1 - \lambda_t)^{(\gamma-1)/\gamma} \left( \frac{\partial I}{\partial W} \right)^{(\gamma-1)/\gamma} - \rho I + \mu_t W_t \frac{\partial I}{\partial W} \\ & - (1 - \lambda_t)^{(\gamma-1)/\gamma} \left( \frac{\partial I}{\partial W} \right)^{(\gamma-1)/\gamma} + \frac{1}{2} \sigma_t^2 W_t^2 \frac{\partial^2 I}{\partial W^2} + \pi_t E_t [I'_t - I_t]. \end{aligned} \quad (\text{A.17})$$

To solve Eq. (A.17), I guess the solution to be of the form

$$I_t = f_t \frac{W_t^{1-\gamma}}{1-\gamma}, \quad (\text{A.18})$$

where  $f_t = f(\mu_t, \sigma_t, \pi_t, J_t, \lambda_t)$ . Because Eq. (A.18) must hold in each volatility state, the solution for the indirect utility function subsequent to the next change of state,  $I'_t$ , is given by the expression

$$I'_t = f'_t \frac{(W'_t)^{1-\gamma}}{1-\gamma}, \quad (\text{A.19})$$

where  $f'_t$  and  $W'_t$  equal the values of  $f_t$  and  $W_t$ , respectively, in the subsequent volatility state. Given this solution, the first and second partial derivatives of  $I_t$  with respect to wealth are

$$\frac{\partial I}{\partial W} = f_t W_t^{-\gamma} \quad (\text{A.20})$$

and

$$\frac{\partial^2 I}{\partial W^2} = -\gamma f_t W_t^{-(1+\gamma)}. \quad (\text{A.21})$$

Substituting Eqs. (A.20) and (A.21) into Eq. (A.17), yields

$$\begin{aligned} 0 = & \frac{1}{1-\gamma} (1-\lambda_t)^{(\gamma-1)/\gamma} [f_t W_t^{-\gamma}]^{(\gamma-1)/\gamma} - \rho \left[ f_t \frac{W_t^{1-\gamma}}{1-\gamma} \right] \\ & + \mu_t f_t W_t^{1-\gamma} - (1-\lambda_t)^{(\gamma-1)/\gamma} [f_t W_t^{-\gamma}]^{(\gamma-1)/\gamma} \\ & + \frac{1}{2} \sigma_t^2 W_t^2 [-\gamma f_t W_t^{-(1+\gamma)}] + \pi_t E_t \left[ f'_t \frac{(W'_t)^{1-\gamma}}{1-\gamma} - f_t \frac{W_t^{1-\gamma}}{1-\gamma} \right]. \end{aligned} \quad (\text{A.22})$$

In general equilibrium,  $\omega_t = 1$  such that all wealth is held in the form of the risky asset. For this reason, the expression Eq. (A.22) can be simplified by substituting the expression  $W'_t = (1 + J_t)W_t$ . This yields the expression

$$\begin{aligned} 0 = & f_t^{-1/\gamma} \gamma (1-\lambda_t)^{(\gamma-1)/\gamma} - \rho + (1-\gamma)\mu_t \\ & - \frac{1}{2} \gamma (1-\gamma) \sigma_t^2 + \pi_t E_t [(1 + \varepsilon_t)(1 + J_t)^{1-\gamma} - 1], \end{aligned} \quad (\text{A.23})$$

where  $1 + \varepsilon_t = f'_t/f_t$ . From Eqs. (A.16) and (A.20),  $(1 + \varepsilon_t)$  is given by the expression

$$(1 + \varepsilon_t) = \frac{(1-\lambda_t)(1 + J_t)^\gamma}{(1-\lambda'_t)(1 + K_t)^\gamma} \quad (\text{A.24})$$

Substituting Eq. (A.24) into Eq. (A.23) and solving for  $f(\mu_t, \sigma_t, \pi_t, J_t, \lambda_t)$  yields

$$\begin{aligned} f_t = & \left[ \frac{\rho + (\gamma-1)\mu_t - \frac{1}{2} \gamma (\gamma-1) \sigma_t^2}{\gamma (1-\lambda_t)^{1-\gamma}} \right. \\ & \left. + \frac{\pi_t}{\gamma (1-\lambda_t)^{1-\gamma}} \left( 1 - \frac{(1-\lambda_t)(1 + J_t)^\gamma}{(1-\lambda'_t)(1 + K_t)^\gamma} \right) \right]^{-\gamma}, \end{aligned} \quad (\text{A.25})$$

where  $K_t$  is the jump in consumption that is expected conditional on switching state. Because  $\lambda'_t$  can be expressed in terms of  $\lambda_t$  using Eqs. (A.8), (A.25) verifies that Eq. (A.18) is the solution to Eq. (A.17).

Using Eqs. (A.16), (A.20), and (A.25), the equilibrium consumption–wealth ratio in the model is given by

$$\frac{C_t}{W_t} = \frac{\rho + (\gamma - 1)\mu_t - \frac{1}{2}\gamma(\gamma - 1)\sigma_t^2}{\gamma(1 - \lambda_t)} + \frac{\pi_t}{\gamma(1 - \lambda_t)} \left( 1 - \frac{(1 - \lambda_t)(1 + J_t)^\gamma}{(1 - \lambda'_t)(1 + K_t)^\gamma} \right). \quad (\text{A.26})$$

In Section A.3, I show that, when there are no changes in volatility states, the second term of Eq. (A.26) equals zero and the first term is equivalent to the Merton (1969) solution to the infinite horizon lifetime portfolio selection problem under uncertainty.

The expression for the equilibrium risk premium is found by taking the mathematical expectation of  $dS_t/S_t$  and substituting the equilibrium within-state excess return implied by the first-order condition for  $\omega_t$ . From Eq. (A.3), the expected excess return on the risky asset is given by the expression

$$E_t \left[ \frac{dS_t}{S_t} \right] - r_t = \mu_t + \pi_t J_t - r_t. \quad (\text{A.27})$$

The expression for the within-state excess return  $\mu_t - r_t$  is derived by substituting Eqs. (A.20) and (A.21) into Eq. (A.14), setting  $\omega_t = 1$ , and simplifying, such that

$$\mu_t - r_t = \gamma\sigma_t^2 - \pi_t J_t (1 + \varepsilon_t)(1 + J_t)^{-\gamma}. \quad (\text{A.28})$$

Combining Eqs. (A.27) and (A.28), substituting Eq. (A.24), and simplifying yields the expression for the equilibrium risk premium

$$E_t \left[ \frac{dS_t}{S_t} \right] - r_t = \gamma\sigma_t^2 + \pi_t J_t \left( 1 - \frac{(1 - \lambda_t)}{(1 - \lambda'_t)(1 + K_t)^\gamma} \right). \quad (\text{A.29})$$

If the constraint on consumption does not bind in either state, then Eq. (A.29) can be simplified as

$$E_t \left[ \frac{dS_t}{S_t} \right] - r_t = \gamma\sigma_t^2 + \pi_t J_t [1 - (1 + K_t)^{-\gamma}]. \quad (\text{A.30})$$

Eq. (A.30) is the expression for the market risk premium provided in the text as Eq. (3). Eq. (A.30) shows that the equilibrium risk premium in each state can be decomposed into two state-dependent risk premia, an intrastate risk premium and an interstate risk premium. The first term,  $\gamma\sigma_t^2$ , describes the required intrastate risk premium required to compensate for diffusion risk within the current state. The second term,  $\pi_t J_t [1 - (1 + K_t)^{-\gamma}]$ , describes the required interstate risk premium required to compensate for potential jump risk arising from a change in volatility state.

Eq. (A.29) can also be used to show that the equilibrium risk premium is invariant to the actual jumps in consumption that occur when the economy changes state. For example, if the constraint on consumption does not bind in either state, such that  $\lambda_L = \lambda_H = 0$ , then the risk premium in the low-volatility state is given by the

expression

$$E_t[R_L] - r_L = \gamma\sigma_L^2 + \pi_L J_L [1 - (1 + K_L^*)^{-\gamma}], \quad (\text{A.31})$$

where  $K_L$  is the optimal change in the level of consumption when the economy switches from the low- to the high-volatility state. Alternatively, if consumption is unable to adjust when the economy enters the high-volatility state, then the constraint on consumption will bind in the high-volatility state, such that  $\lambda_H > \lambda_L = 0$ . In this case, the expression for the risk premium in the low-volatility state is given by the expression

$$E_t[R_L] - r_L = \gamma\sigma_L^2 + \pi_L J_L [1 - (1 - \lambda_H)^{-1}(1 + \tilde{K}_L)^{-\gamma}], \quad (\text{A.32})$$

where  $\tilde{K}_L$  is the constrained change in the level of consumption when the economy switches from the low- to the high-volatility state. As a result of the constraint on consumption, the shadow price increases to reflect the fact that the actual level of consumption is no longer equal to the optimal level. The shadow price on the consumption constraint in the high-volatility state is given by the expression

$$\lambda_H = 1 - \left( \frac{1 + K_L^*}{1 + \tilde{K}_L} \right)^\gamma. \quad (\text{A.33})$$

Eq. (A.33) is the expression for the Lagrange multiplier on the consumption constraint in the high-volatility state provided in the text as Eq. (4).

### A.3. The special case of no changes in volatility state

This section shows that, when there are no changes in volatility state, my solution collapses to the Merton (1969) solution to the lifetime portfolio selection problem under uncertainty. Eqs. (A.26) and (A.30) summarize my solution to the investor's utility maximization problem when there are two discrete volatility states. Eq. (A.26) describes the optimal consumption–wealth ratio and Eq. (A.30) describes the equilibrium risk premium. If, instead, a single volatility state is assumed, then the dynamics associated with changes in volatility states can be turned off by setting  $\pi_t = 0$  and  $\lambda_t = 0$ . By setting  $\pi_t = 0$ , only one volatility state is possible. With only one volatility state, there are no wealth jumps associated with changes in state and  $E_t[dS_t/S_t] = \mu_t$ . Also, because there are no jumps in wealth, there are no jumps in optimal consumption, so that  $\lambda_t = 0$ . Thus, for the special case of a single volatility state, Eqs. (A.26) and (A.30) can be rewritten as

$$\frac{C_t}{W_t} = \frac{\rho}{\gamma} + (\gamma - 1) \left[ \frac{\mu_t}{\gamma} - \frac{\sigma_t^2}{2} \right] \quad (\text{A.34})$$

and

$$\mu_t - r_t = \gamma\sigma_t^2. \quad (\text{A.35})$$

Rearranging Eq. (A.34) yields

$$\frac{C_t}{W_t} = \frac{\rho}{\gamma} - (1 - \gamma) \left[ \frac{\sigma_t^2}{2} + \frac{\mu_t - \gamma\sigma_t^2}{\gamma} \right]. \quad (\text{A.36})$$

Using Eq. (A.35) to simplify the term  $\mu_t - \gamma\sigma_t^2$ , Eq. (A.36) can be rewritten as

$$\frac{C_t}{W_t} = \frac{\rho}{\gamma} - (1 - \gamma) \left[ \frac{\sigma_t^2}{2} + \frac{r_t}{\gamma} \right]. \quad (\text{A.37})$$

Eq. (A.35) can also be used to express  $\sigma_t^2$  in terms of excess returns, such that

$$\frac{C_t}{W_t} = \frac{\rho}{\gamma} - (1 - \gamma) \left[ \frac{\mu_t - r_t}{2\gamma} + \frac{r_t}{\gamma} \right]. \quad (\text{A.38})$$

Finally, Eq. (A.35) can be used to rewrite the first term in brackets in a manner similar to that in Merton (1969)

$$\begin{aligned} \frac{C_t}{W_t} &= \frac{\rho}{\gamma} - (1 - \gamma) \left[ \frac{\mu_t - r_t}{2\gamma} \left( \frac{\mu_t - r_t}{\gamma\sigma_t^2} \right) + \frac{r_t}{\gamma} \right] \\ &= \frac{\rho}{\gamma} - (1 - \gamma) \left[ \frac{(\mu_t - r_t)^2}{2\gamma\sigma_t^2} + \frac{r_t}{\gamma} \right]. \end{aligned} \quad (\text{A.39})$$

Eq. (A.39) is equivalent to the Merton (1969) expression for the optimal consumption–wealth ratio in the infinite horizon lifetime portfolio selection problem.<sup>17</sup> This demonstrates that my model solution contains the Merton (1969) solution as a special case when there are no changes in volatility state.

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<sup>17</sup>The optimal consumption–wealth ratio for the infinite horizon problem is provided as Eq. (42) in the original Merton (1969) article.

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**CASE 08-E-0539**  
**Exhibit \_\_ (FP-17)**

2008 Electric Rate Decisions - Per RRA Database

Case 08-E-0539  
Exhibit (FP-17)  
Page 1 of 2

State	Company	S&P Rating	Moody's Rating	Date	Rate Incr (\$M)	Return on		Return on		Test Year End	Rate Base (\$M)	Rate Base Valuation Method
						Rate (%)	Equity	Equity / Total Cap	Rate Base (\$M)			
Arizona	UNS Electric Inc.	A	A2	5/27/2008	4.0	9.02	10.00	48.85	06/2006	130.70	Year-end	
California	San Diego Gas & Electric Co.	BBB	Baa1	7/31/2008	131.0	8.23	10.70	49.00	12/2008	2,938.20	Average	
Connecticut	Connecticut Light & Power Co.	BBB	Baa2	1/28/2008	98.0	7.72	9.40	48.99	12/2006	2,438.40	Year-end	
District of Columbia	Potomac Electric Power Co.	BBB	Baa2	1/30/2008	28.3	7.96	10.00	46.55	02/2007	978.30	Average	
Hawaii	Hawaiian Electric Co.	BBB	Baa1	5/1/2008	44.9	8.66	10.70	55.79	12/2005	1,060.00	Average	
Idaho	Idaho Power Co.			5/30/2008	8.9	8.10	NA	NA	NA	NA	NA	
Idaho	Idaho Power Co.			2/28/2008	32.1	8.10	NA	NA	NA	NA	NA	
Massachusetts	Fitchburg Gas & Electric Light Consumers Energy Co.	BBB-	Baa2	2/29/2008	2.1	8.38	10.25	42.80	12/2006	50.50	Year-end	
Michigan	Consumers Energy Co.	BBB-	Baa2	6/10/2008	221.0	6.93	10.70	41.75	12/2008	5,013.90	Average	
Minnesota	Other Tail Corp.	BBB+	A3	7/10/2008	3.8	8.33	10.43	50.00	12/2006	204.90	Average	
Missouri	Empire District Electric Co.	BBB-	Baa2	7/30/2008	22.0	8.92	10.80	50.78	06/2007	704.00	Year-end	
Montana	MDU Resources Group Inc.	BBB+	A3	4/22/2008	4.1	8.58	10.25	50.67	12/2006	NA	Average	
Montana	NorthWestern Energy Division	BBB		7/1/2008	10.0	NA	NA	NA	NA	NA	NA	
New Mexico	Public Service Co. of NM	BB-	Baa3	4/24/2008	34.4	8.24	10.10	51.37	09/2006	1,191.60	Year-end	
New Mexico	Southwestern Public Service Co	BBB+	Baa1	8/26/2008	10.8	NA	10.18	NA	12/2006	NA	Year-end	
Nevada	Sierra Pacific Power Co.	BB	Baa3	6/27/2008	87.1	8.41	10.60	43.49	06/2007	1,524.30	Year-end	
New York	Consolidated Edison Co. of NY			3/25/2008	425.3	7.34	9.10	47.98	03/2009	12,586.90	Average	
New York	Orange & Rockland Utills Inc.			7/16/2008	15.6	7.69	9.40	48.00	06/2009	504.00	Average	
Texas	Oncor Electric Delivery Co.	BBB-	Ba1	6/30/2008	0.0	NA	NA	NA	12/2006	NA	NA	
Utah	PacifiCorp	A-	Baa1	8/11/2008	33.4	8.29	10.25	50.40	12/2008	4,129.30	Average	
Vermont	Central Vermont Public Service	BB+	Baa2	1/31/2008	6.4	8.50	10.71	50.02	12/2006	343.90	Average	
Wisconsin	Northern States Power Co-WI	A-	A3	1/8/2008	39.4	9.67	10.75	52.51	12/2008	552.10	Average	
Wisconsin	Wisconsin Electric Power Co.	A-	A1	1/17/2008	148.4	9.26	10.75	54.36	12/2008	3,018.50	Average	
West Virginia	Appalachian Power Co.	BBB	Baa2	6/27/2008	106.1	7.65	10.50	41.54	12/2007	1,972.00	Year-end	
Wyoming	PacifiCorp	A-	Baa1	3/12/2008	23.0	8.29	10.25	50.80	NA	NA	NA	
Average:											10.28	48.78

Count = 25

2008 Electric Rate Decisions - Per RRA Database  
 (Excluding cases where ROE not specified and New York decisions)

State	Company	S&P Rating	Moody's Rating	Date	Rate Incr (\$/M)	Return on Rate Base (%)	Return on Equity	Comm Equity /Total Cap	Test Year End	Rate Base (\$M)	Rate Base Valuation Method	Sett ?
Arizona	UNS Electric Inc.	n/a	Baa3	5/27/2008	4.0	9.02	10.00	48.85	06/2006	130.70	Year-end	Sett
California	San Diego Gas & Electric Co.	A	A2	7/31/2008	131.0	8.23	10.70	49.00	12/2006	2,938.20	Average	Sett
Connecticut	Connecticut Light & Power Co.	BBB	Baa1	1/26/2008	98.0	7.72	9.40	48.99	12/2006	2,438.40	Year-end	Sett
District of Columbia	Potomac Electric Power Co.	BBB	Baa2	1/30/2008	28.3	7.96	10.00	46.55	02/2007	978.30	Average	Sett
Hawaii	Hawaiian Electric Co.	BBB	Baa1	5/1/2008	44.9	8.66	10.70	55.79	12/2005	1,060.00	Average	Sett
Massachusetts	Fitchburg Gas & Electric Light Consumers Energy Co.	n/a	n/a	2/29/2008	2.1	8.36	10.25	42.80	12/2006	50.50	Year-end	Sett
Michigan	Other Tail Corp.	BBB-	Baa2	6/10/2008	221.0	8.93	10.70	41.75	12/2008	5,013.90	Average	Sett
Minnesota	Empire District Electric Co.	BBB+	A3	7/10/2008	3.8	8.33	10.43	50.00	12/2006	204.90	Average	Sett
Missouri	MDU Resources Group Inc.	BBB-	Baa2	7/30/2008	22.0	8.92	10.80	50.78	06/2007	704.00	Year-end	Sett
Montana	Public Service Co. of NM	BBB+	A3	4/22/2008	4.1	8.56	10.25	50.67	12/2006	NA	Average	Sett
New Mexico	Sierra Pacific Power Co.	BB-	Baa3	4/24/2008	34.4	8.24	10.10	51.37	09/2006	1,191.60	Year-end	Sett
Nevada	PacificCorp	BB	Ba3	6/27/2008	87.1	8.41	10.60	43.49	06/2007	1,524.30	Year-end	Sett
Utah	Central Vermont Public Service	A-	Baa1	8/11/2008	33.4	8.29	10.25	50.40	12/2008	4,129.30	Average	Sett
Vermont	Northern States Power Co-WI	A-	A3	1/8/2008	39.4	9.67	10.75	50.02	12/2006	343.90	Average	Sett
Wisconsin	Appalachian Electric Power Co.	A-	A1	1/17/2008	148.4	9.26	10.75	54.36	12/2008	3,018.50	Average	Sett
West Virginia	Appalachian Power Co.	BBB	Baa2	6/27/2008	106.1	7.65	10.50	41.54	12/2008	1,972.00	Year-end	Sett
Wyoming	PacifiCorp	A-	Baa1	3/12/2008	23.0	8.29	10.25	50.80	12/2007	NA	Year-end	Sett
Count =18	Average:	BBB	Baa1 - Baa2		8.9	8.5	10.40	48.87				

LEGEND

S&P	Moody's	Score
AAA	Aaa	1
AA+	Aa1	2
AA	Aa2	3
AA-	Aa3	4
A+	A1	5
A	A2	6
A-	A3	7
BBB+	Baa1	8
BBB	Baa2	9
BBB-	Baa3	10
BB+	Ba1	11
BB	Ba2	12
BB-	Ba3	13