

S&P 500 Relative Value Cheat Sheet

Nobody is talking about why the equity risk premium is too high

There is at least one argument for a lower ERP

The S&P 500 is up 7% YTD, largely driven by lower rates (-30bps in 10-yr real rates) and better than expected economic data amid very conservative positioning. Despite the financial turmoil in March and recent macro weakness, the equity risk premium (ERP) ticked lower in the first quarter by 6bps (based on trailing earnings yield – 10-yr real rates). Equity risk premia generally rise during recessions. But if March's shock was a one-off and idiosyncratic, and if earnings recover stronger in 2024 as history would suggest (Exhibit 4), an even lower ERP could be justified on trough earnings (more below). The S&P 500 appears expensive on most measures we track, but when earnings are in the process of bottoming, valuation can be a false negative (Exhibit 6).

Peak multiples on trough EPS puts S&P 500 at 4000

Bears argue the ERP is too low and doesn't reflect recession risk. But risk premia have been lower at trough earnings (on average, 370bps) as the market begins to anticipate better earnings growth (and ERP have been higher on peak earnings – on average 510bps for the opposite reasons). Our estimates suggest that earnings trough at \$200 by the end of the year (Exhibit 3), arguing for a lower ERP from here. An ERP at its trough average of 370bps accompanied by real rates of 1.3% (current levels) implies a fair value of about 4000 on the S&P 500, in line with our year-end target.

Old economy cyclicals reflect lots of risk, TMT does not

Cyclical industries saw ERP rising over the past month, where Financials saw the biggest increase (Exhibit 5). Consumer Services is starting to crack, as are some capex beneficiaries like Industrials and Materials. But Information Technology, Media and Telecom industries saw risk premia fall after March's bank events, indicating perceived safe haven status relative to other cyclicals. We think this bifurcation between TMT - likely more cyclical than investors expect, especially given the demand pull forward during COVID) and traditional cyclicals – likely less risky given capital and supply discipline as well as potential for a long overdue traditional capex cycle - offers opportunities for investors.

Value traps vs. opportunities

Banks and Office REITs are the biggest laggards YTD (-7% and -16%), and screen as value traps in our tactical sector framework – prices have fallen faster than analysts have taken down earnings expectations (Exhibit 50). But solid results and guidance from banks last week could shift the narrative (see [earnings Week 1 recap](#)). At the sector level, Communication Services remains #1 in our tactical sector framework – good momentum, attractive valuation and positive revisions, whereas Health Care screens as the worst sector for the second month running.

19 April 2023

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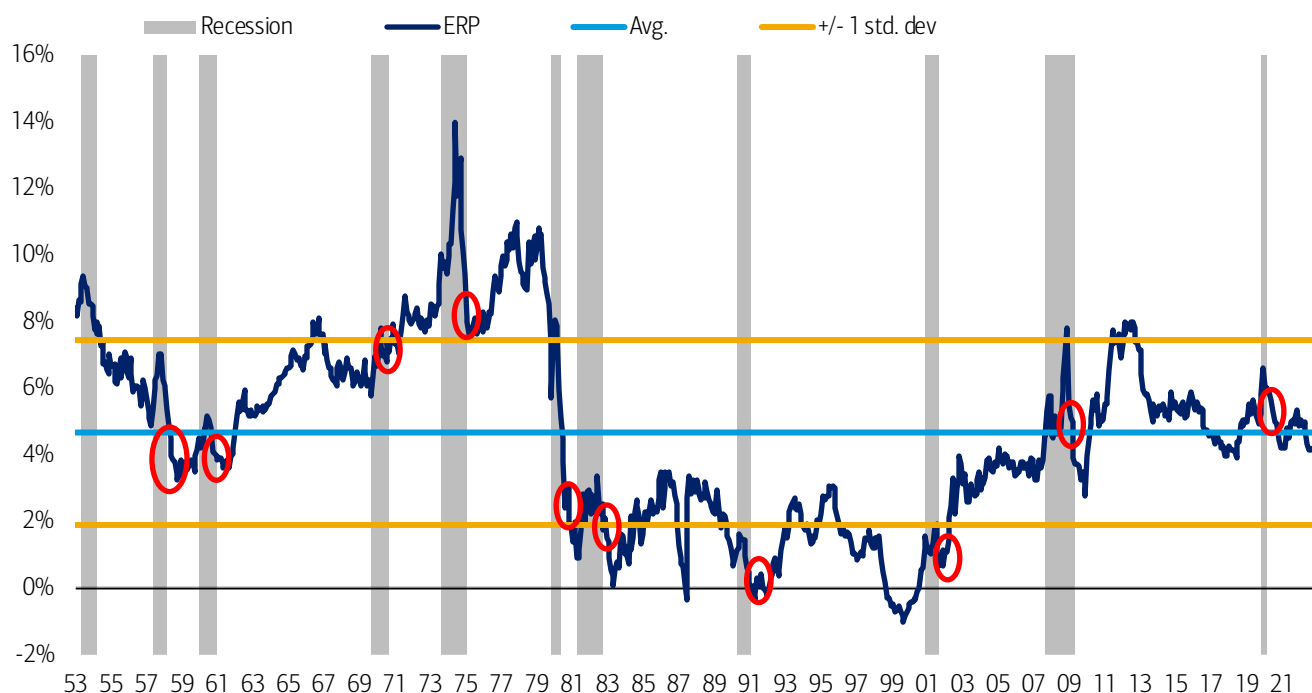
Refer to important disclosures on page 27 to 29.

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Exhibit 1: Equity risk premium typically falls when earnings trough (red circles = EPS troughs in prior recessions)

S&P 500 equity risk premium (trailing earnings yield – 10-yr real rates); 1953-3/23



Source: BofA US Equity & Quant Strategy, FactSet, Bloomberg; 10-yr real rates prior to 1999 are based on actual forward 10-year CPI

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Exhibit 2: At historical EPS troughs in recessions, the equity risk premium averaged 370bps

Equity risk premium at peak vs. trough EPS during historical recessions; peak & trough EPS are based on TTM EPS

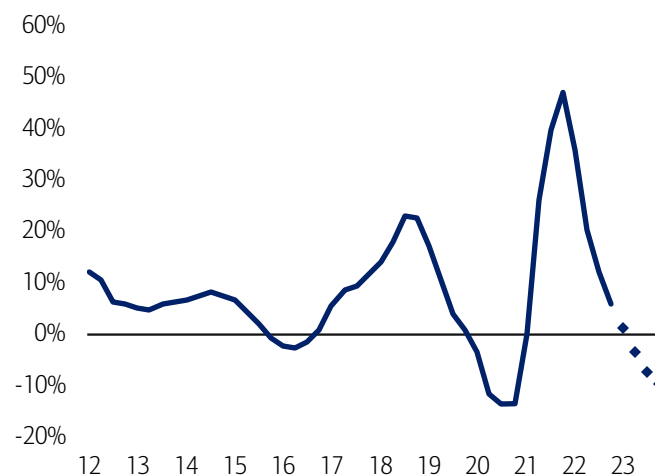
Peak EPS	Trough EPS	ERP at peak EPS	ERP at trough EPS	Chg.
Mar-56	Sep-58	6.5%	4.0%	(2.5%)
Sep-59	Jun-61	3.7%	3.9%	0.2%
Sep-69	Dec-70	6.1%	7.1%	1.1%
Sep-74	Sep-75	14.0%	7.9%	(6.1%)
Mar-80	Mar-81	7.2%	1.9%	(5.4%)
Dec-81	Mar-83	2.3%	1.5%	(0.8%)
Jun-89	Dec-91	2.9%	0.4%	(2.5%)
Sep-00	Mar-02	(0.1%)	0.6%	0.8%
Jun-07	Sep-09	3.2%	3.7%	0.5%
Dec-19	Sep-20	5.0%	5.7%	0.7%
Avg.		5.1%	3.7%	(1.4%)
Median		4.4%	3.8%	(0.3%)

Source: BofA US Equity & Quant Strategy, FactSet, Bloomberg

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Exhibit 3: We expect earnings to trough by 4Q23

S&P 500 EPS growth (dots = BofA strategy forecast); 2012-present

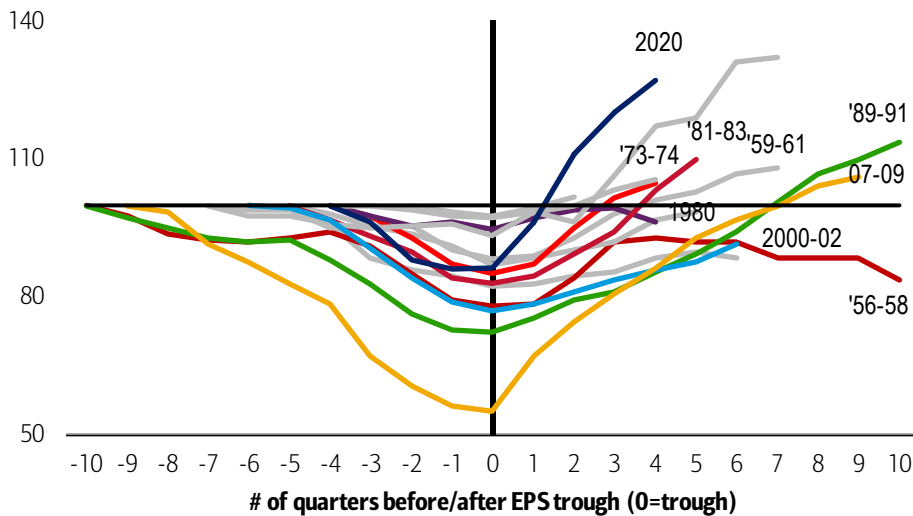


Source: BofA US Equity & Quant Strategy, FactSet

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Exhibit 4: Earnings typically recover stronger than they fall

S&P 500 TTM EPS before/after earnings troughs (same number of quarters leading to the trough and following the trough; 100=pre-recession peak; 1950-present)

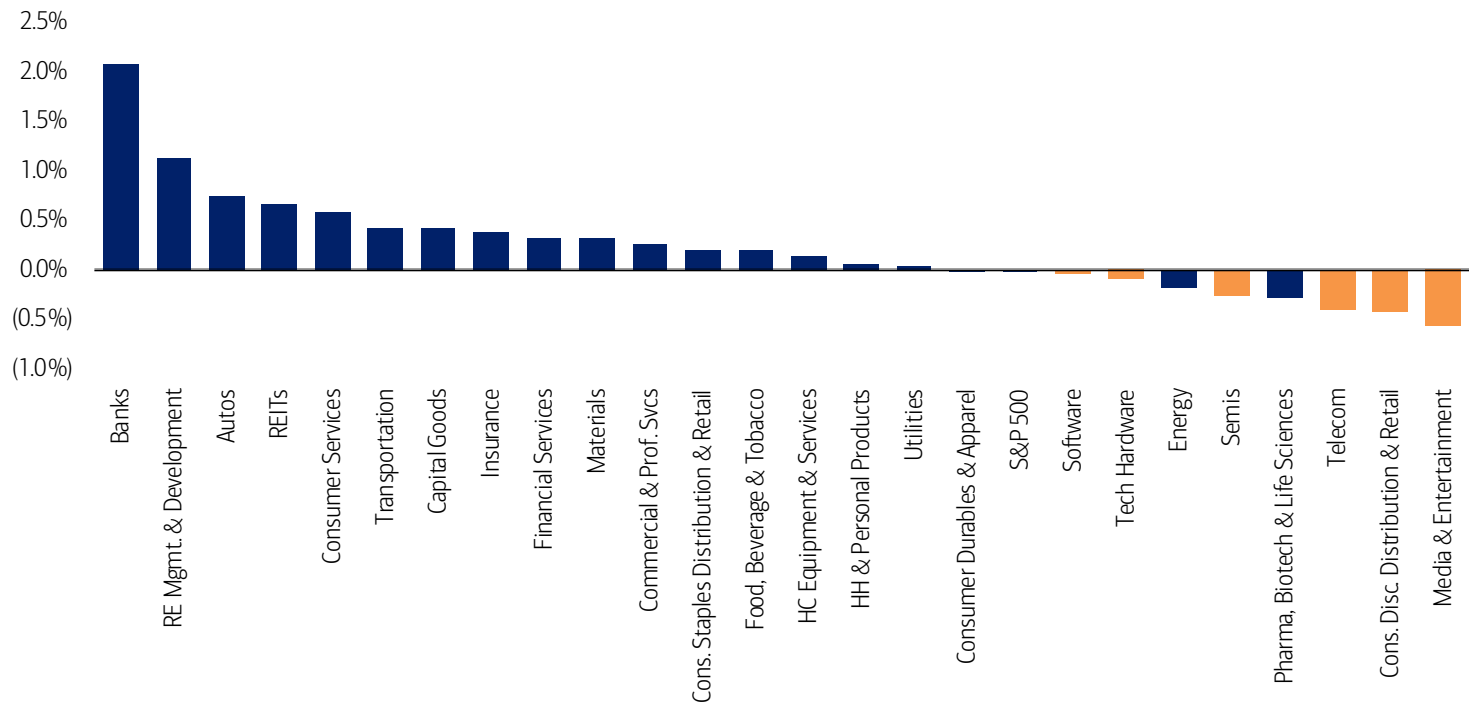


Source: BofA US Equity & US Quant Strategy, FactSet, Haver Analytics

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Exhibit 5: Traditional cyclicals saw the biggest increase in ERP since Feb, but TMT sectors are still seen defensive with ERP falling since Feb

Change in equity risk premium (ERP = trailing earnings yield – 10-yr real rates) since 2/28/23 (as of 4/16/23); orange = TMT industry groups



Source: FactSet, Bloomberg, BofA US Equity & Quant Strategy; 50%+ of Consumer Discretionary Distribution & Retail is AMZN

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S&P 500: cheap or expensive?

Exhibit 6: S&P 500 Valuations – shading indicates that metric is statistically expensive relative to history (as of 3/23)

S&P 500 valuation metrics

Metric	Current	Average	Avg. ex. Tech		Max	% Above (below) avg	Z-Score	History
			Bubble	Min				
Trailing PE	18.5	16.5	15.9	6.7	30.5	11.8%	0.4	1960-present
Trailing GAAP PE	23.8	15.1	14.7	4.2	122.4	57.7%	1.0	1832-present
Forward Consensus PE	18.5	15.7	14.9	9.8	25.1	17.9%	0.8	1986-present
Trailing Normalized PE	22.8	19.5	18.3	9.2	33.9	16.9%	0.7	9/1987-present
Median Forward P/E	17.9	15.4	15.2	9.7	22.0	16.0%	1.1	1986-present
Shiller PE	30.4	17.4	16.8	4.8	44.2	75.1%	1.8	1881-present
P/BV	4.14	2.64	2.47	0.98	5.34	56.7%	1.5	1978-present
EV/EBITDA	13.2	10.5	10.1	6.0	17.1	26.2%	1.2	1986-present
Trailing PEG	2.11	1.64	1.61	1.07	2.90	28.2%	1.5	1986-present
Forward PEG	2.11	1.40	1.38	0.92	3.36	50.2%	2.2	1986-present
P/OCF	15.6	11.2	10.6	5.4	19.6	39.0%	1.3	1986-present
P/FCF	27.3	27.9	25.0	12.9	65.7	-1.9%	-0.1	1986-present
EV/Sales	2.62	1.96	1.90	0.86	3.38	33.4%	1.1	1986-present
ERP (trailing E/P - real rates)	427	467	493	-102	1398	-8.7%	-0.1	4/1953-present
ERP (Market-Based)	614	503	520	136	880	21.9%	-0.6	11/1980-present
Normalized ERP	491	323	363	-91	965	52.2%	-0.8	1987-present
S&P 500 Div. Yld. vs. 10yr Tsy. Yld.	0.43	1.23	1.25	0.17	4.20	-65.0%	1.3	1792-present
S&P 500 in WTI terms	56.0	26.5	24.2	2.7	175.3	111.4%	1.6	1960-present
S&P 500 in Gold terms	2.08	1.64	1.41	0.17	5.48	26.8%	0.4	1968-present
S&P 500 vs. R2000 Fwd. P/E	1.41	1.03	0.98	0.76	1.70	36.7%	1.9	1986-present
S&P 500 Market Cap/GDP	1.31	0.65	0.62	0.22	1.66	101.1%	2.0	1964-present

*Above average implied equities are attractive relative to bonds. Note: Trailing P/E based on GAAP EPS from 1960-77, Operating EPS from 1978-87, Pro forma EPS 1988-now. Trailing GAAP P/E based on GAAP P/E for entire series. Market-based ERP based on DDM-implied S&P 500 return less AAA corp bond yield. Normalized ERP based on normalized EPS yield less normalized real risk-free rate.

Source: S&P, Compustat, Bloomberg, FactSet/First Call, BofA US Equity & Quant Strategy

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Exhibit 7: Relative valuation (vs. S&P 500) by sector (based on data from 1986 - 3/23)

Relative price to book, price to operating cash flow, price to earnings by sector

Sector	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
S&P 500 (absolute metrics)	4.14	2.93	-29%	15.62	11.19	-28%	18.16	15.74	-13%
Consumer Discretionary	2.13	1.35	-37%	1.34	0.91	-32%	1.43	1.05	-26%
Consumer Staples	1.47	1.69	15%	1.26	1.28	1%	1.13	1.13	0%
Energy	0.57	0.78	37%	0.36	0.73	105%	0.56	1.06	91%
Financials	0.45	0.59	32%	N/A	N/A	N/A	0.71	0.77	8%
Health Care	1.16	1.70	47%	1.03	1.57	53%	0.95	1.09	15%
Industrials	1.30	1.16	-11%	1.06	1.01	-4%	1.03	1.01	-1%
Information Technology	2.37	1.48	-38%	1.45	1.22	-16%	1.36	1.12	-17%
Materials	0.71	0.90	27%	0.76	0.89	18%	0.92	1.04	12%
Real Estate	0.68	0.88	29%	N/A	N/A	N/A	0.92	1.55	68%
Communication Services	0.79	1.00	27%	0.70	0.84	21%	0.91	1.18	29%
Utilities	0.51	0.60	18%	0.82	0.64	-21%	0.98	0.89	-9%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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See page 19 for definitions of valuation measures.

Consumer Discretionary

Exhibit 8: Relative Valuation (vs. S&P 500) for Consumer Discretionary industries (based on data from 1986-3/23)

Consumer Discretionary relative price to book, price to operating cash flow, price to earnings by industry

Consumer Discretionary (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Automobile Components (2)	0.63	0.78	24%	0.95	0.78	-18%	0.92	0.82	-11%
Automobiles (3)	1.28	0.84	-35%	1.40	0.28	-80%	1.50	0.67	-56%
Distributors (3)	1.23	1.10	-10%	1.05	1.14	9%	0.94	1.01	8%
Hotels Restaurants & Leisure (17)	96.04	1.49	-98%	1.51	1.14	-24%	1.36	1.22	-10%

Exhibit 8: Relative Valuation (vs. S&P 500) for Consumer Discretionary industries (based on data from 1986-3/23)

Consumer Discretionary relative price to book, price to operating cash flow, price to earnings by industry

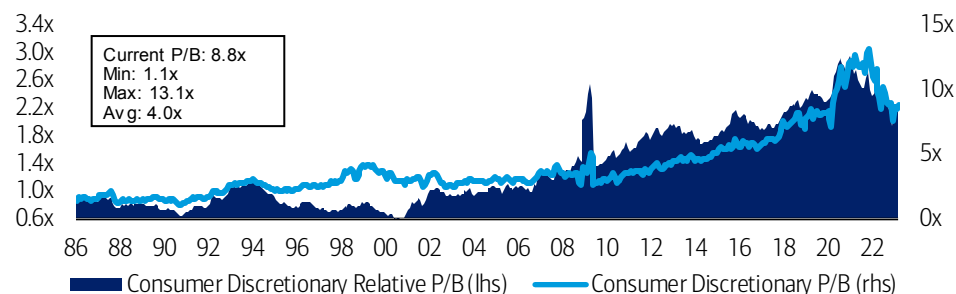
Consumer Discretionary (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Household Durables (8)	0.43	0.74	72%	1.01	1.05	3%	0.61	0.81	32%
Broadline Retail (3)	1.76	1.01	-43%	1.42	1.05	-26%	3.01	1.14	-62%
Leisure Products (1)	0.64	1.16	82%	1.28	0.96	-25%	0.65	0.92	41%
Specialty Retail (12)	29.81	1.64	-95%	1.11	1.28	15%	0.99	1.12	13%
Textiles Apparel & Luxury Goods (4)	2.29	1.21	-47%	10.14	1.32	-87%	1.40	1.01	-28%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 9: Consumer Discretionary P/B at 8.8x vs. 4.0x historical average, 1986-3/23

Consumer Discretionary price-to-book and relative price-to-book vs. S&P 500

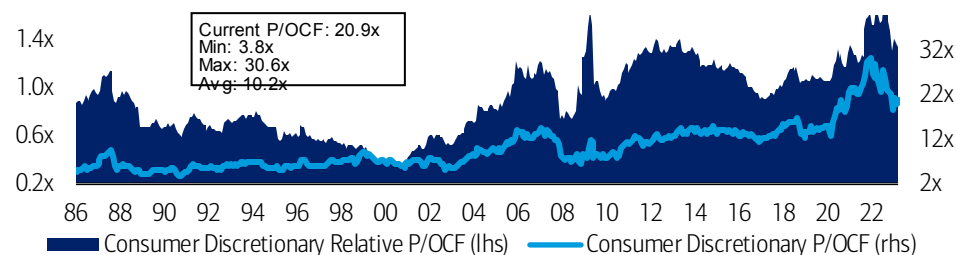


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 10: Consumer Discretionary P/OCF at 20.9x vs. 10.2x historical average, 1986-3/23

Consumer Discretionary price-to-operating cash flow and relative price-to-op. cash flow vs. S&P 500

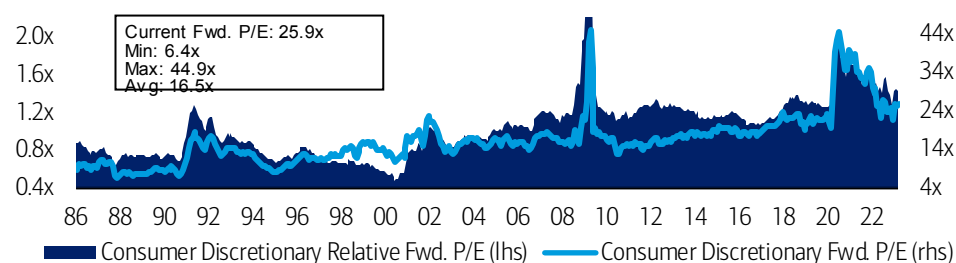


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 11: Consumer Discretionary fwd P/E at 25.9x vs. 16.5x historical average, 1986-3/23

Consumer Discretionary price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Consumer Staples

Exhibit 12: Relative Valuation (vs. S&P 500) for Consumer Staples industries (based on data from 1986-3/23)

Consumer Staples relative price to book, price to operating cash flow, price to earnings by industry

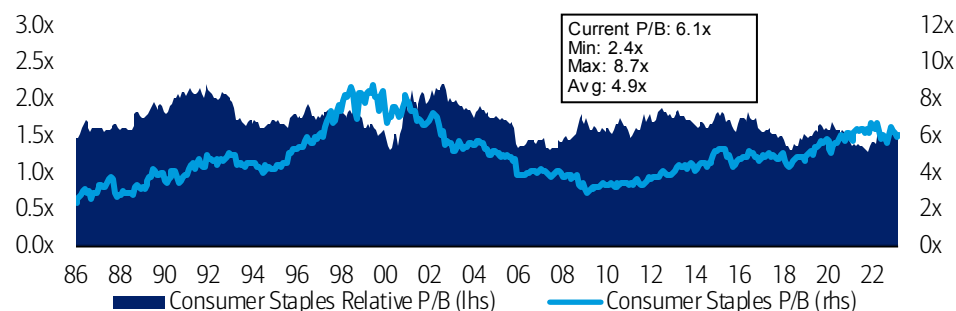
Consumer Staples (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Beverages (7)	1.78	2.08	17%	1.52	1.49	-2%	1.31	1.29	-1%
Consumer Staples Distribution & Retail (8)	1.36	1.38	1%	1.02	1.09	7%	1.17	1.16	-1%
Food Products (14)	0.62	1.22	95%	1.54	1.22	-21%	0.95	1.07	13%
Household Products (5)	2.56	1.79	-30%	1.53	1.35	-11%	1.33	1.18	-11%
Personal Care Products (1)	3.65	2.92	-20%	2.92	1.74	-41%	2.02	1.37	-32%
Tobacco (2)	-4.32	2.43	NM	0.78	0.96	24%	0.66	0.75	13%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 13: Consumer Staples P/B at 6.1x vs. 4.9x historical average, 1986-3/23

Consumer Staples price-to-book and relative price-to-book vs. S&P 500

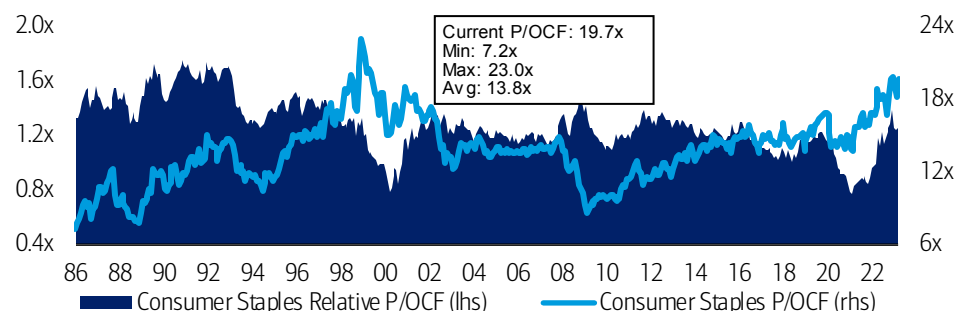


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 14: Consumer Staples P/OCF at 19.7x vs. 13.8x historical average, 1986-3/23

Consumer Staples price-to-op. cash flow and relative price-to-op. cash flow vs. S&P 500

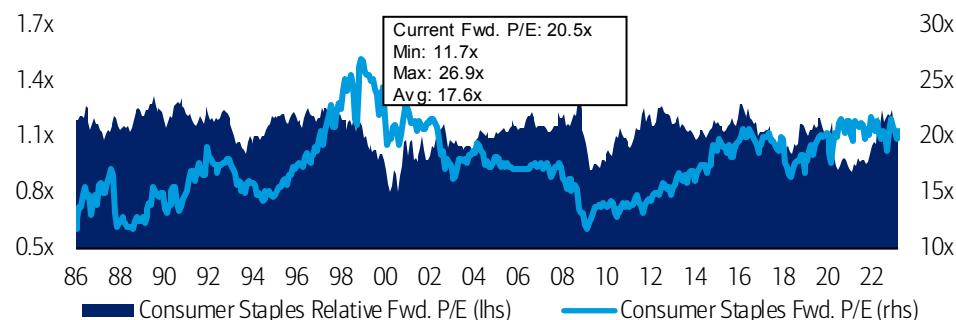


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 15: Consumer Staples fwd P/E at 20.5x vs. 17.6x historical average, 1986-3/23

Consumer Staples price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Energy

Exhibit 16: Relative Valuation (vs. S&P500) for Energy industries (based on data from 1986-3/23)

Energy relative price to book, price to operating cash flow, price to earnings by industry

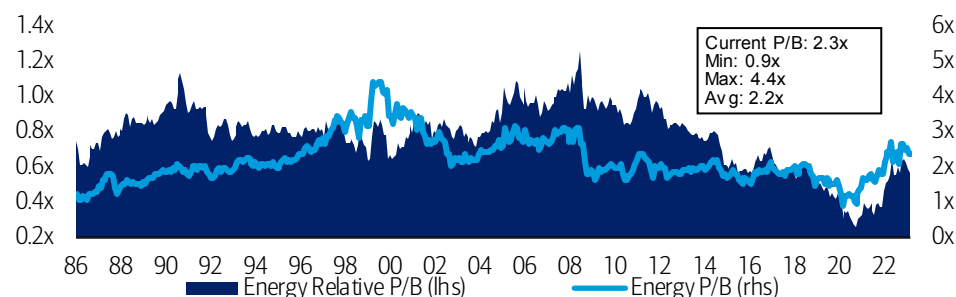
Energy (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Energy Equipment & Services (3)	0.77	0.83	8%	1.05	1.23	17%	0.77	1.32	72%
Oil Gas & Consumable Fuels (20)	0.55	0.71	28%	0.34	0.66	95%	0.54	0.93	71%

Source: Compustat, First Call, BofA US Equity & Quant Strategy

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Exhibit 17: Energy P/B at 2.3x vs. 2.2x historical average, 1986-3/23

Energy price-to-book and relative price-to-book vs. S&P 500

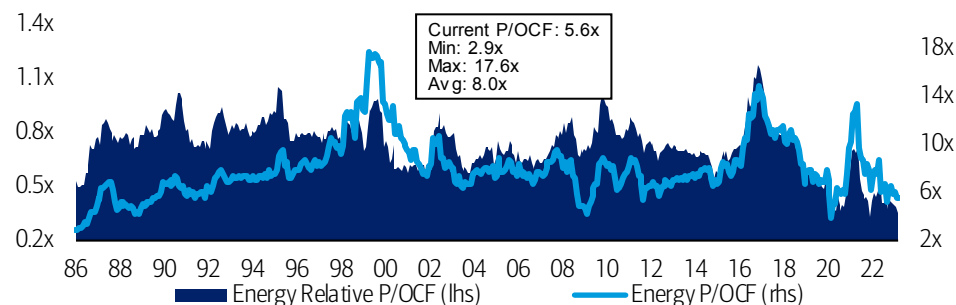


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 18: Energy P/OCF at 5.6x vs. 8.0x historical average, 1986-3/23

Energy price-to-op. cash flow and relative price-to-op. cash flow vs. S&P 500

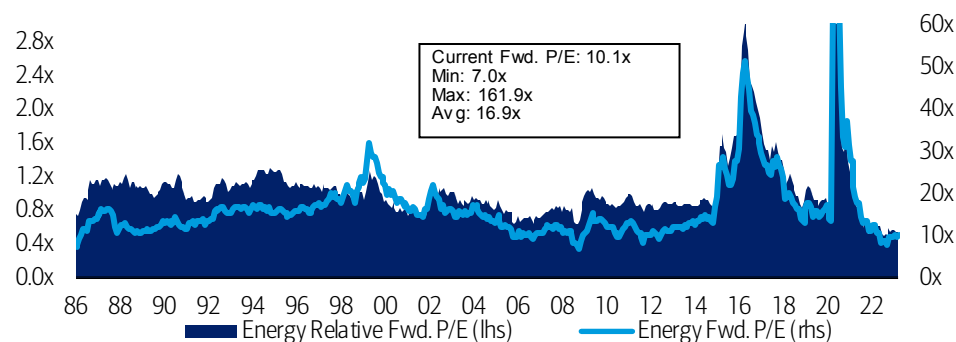


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 19: Energy fwd P/E at 10.1x vs. 16.9x historical average, 1986-3/23

Energy price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Financials

Exhibit 20: Relative Valuation (vs. S&P 500) for Financials industries (based on data from 1986-3/23)

Financials relative price to book, price to operating cash flow, price to earnings by industry

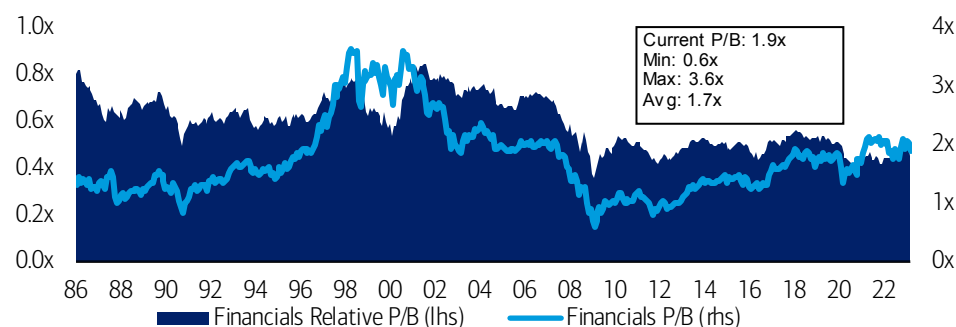
Financials (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Capital Markets (21)	0.54	0.56	3%	N/A	N/A	N/A	0.80	0.75	-7%
Banks (16)	0.24	0.50	107%	N/A	N/A	N/A	0.46	0.69	50%
Consumer Finance (4)	0.50	0.76	52%	N/A	N/A	N/A	0.54	0.80	47%
Financial Services (9)	0.69	0.68	-2%	N/A	N/A	N/A	1.12	0.85	-24%
Insurance (23)	0.57	0.50	-12%	N/A	N/A	N/A	0.66	0.75	13%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 21: Financials P/B at 1.9x vs. 1.7x historical average, 1986-3/23

Financials price-to-book and relative price-to-book vs. S&P 500

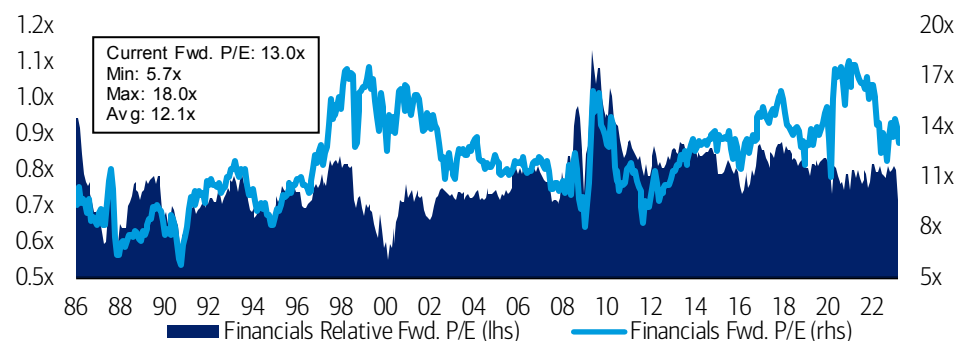


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 22: Financials fwd P/E at 13.0x vs. 12.1x historical average, 1986-3/23

Financials price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Health Care

Exhibit 23: Relative Valuation (vs. S&P 500) for Health Care industries (based on data from 1986 – 3/23)

Health Care relative price to book, price to operating cash flow, price to earnings by industry

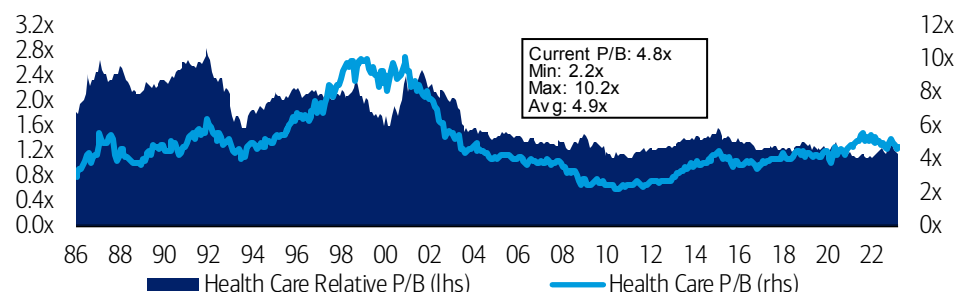
Health Care (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		P/E
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Biotechnology (8)	1.70	2.26	33%	0.86	1.46	69%	0.92	1.15	26%
Health Care Equipment & Supplies (20)	1.08	1.33	24%	1.83	1.63	-11%	1.38	1.22	-12%
Health Care Providers & Services (16)	0.92	1.07	17%	0.72	1.07	49%	0.77	0.90	18%
Life Sciences Tools & Services (12)	1.18	0.94	-20%	1.65	1.42	-14%	1.41	1.13	-20%
Pharmaceuticals (9)	1.24	1.65	34%	0.99	1.47	48%	0.81	1.01	24%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 24: Health Care P/B at 4.8x vs. 4.9x historical average, 1986-3/23

Health Care price-to-book and relative price-to-book vs. S&P 500

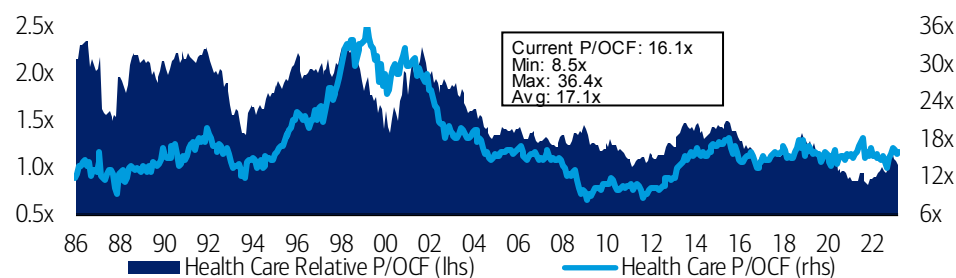


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 25: Health Care P/OCF at 16.1x vs. 17.1x historical average, 1986-3/23

Health Care price-to-op. cash flow and relative price-to-op. cash flow vs. S&P 500

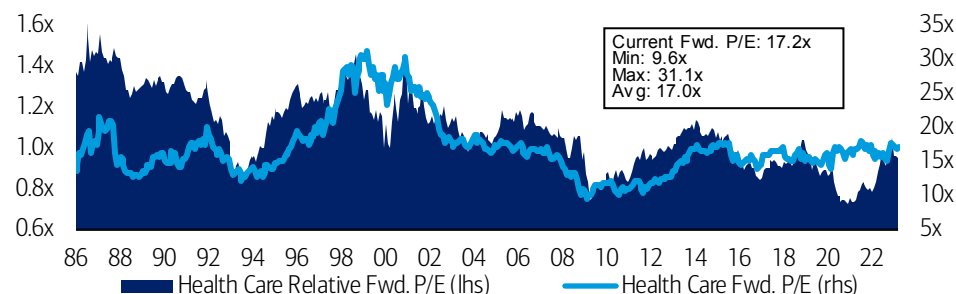


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 26: Health Care fwd P/E at 17.2x vs. 17.0x historical average, 1986-3/23

Health Care price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

BofA GLOBAL RESEARCH

Industrials

Exhibit 27: Relative Valuation (vs. S&P 500) for Industrials industries (based on data from 1986-3/23)

Industries relative price to book, price to operating cash flow, price to earnings by industry

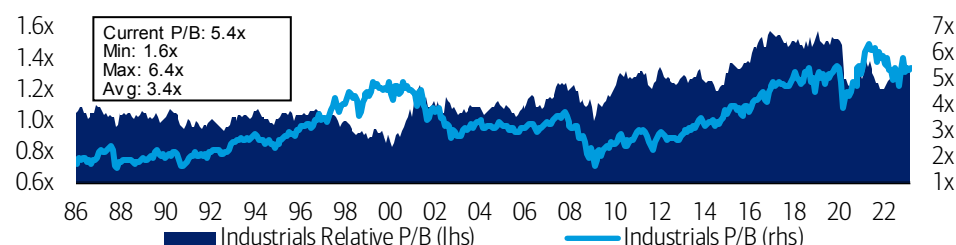
Industrials (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Aerospace & Defense (10)	1.22	1.01	-17%	1.29	1.03	-20%	1.23	0.89	-28%
Air Freight & Logistics (4)	1.28	1.07	-16%	0.61	0.73	19%	0.88	0.99	13%
Passenger Airlines (5)	0.79	0.70	-11%	0.23	0.52	121%	0.37	1.07	190%
Building Products (6)	1.18	1.07	-9%	1.59	1.10	-31%	0.98	0.94	-4%
Commercial Services & Supplies (5)	1.95	1.27	-35%	1.24	0.95	-23%	1.60	1.14	-29%
Construction & Engineering (1)	1.11	0.76	-31%	1.39	1.30	-6%	1.25	0.83	-34%
Electrical Equipment (5)	1.17	1.13	-3%	1.67	1.23	-26%	1.17	1.03	-12%
Industrial Conglomerates (3)	1.05	1.22	16%	1.11	0.99	-11%	1.16	1.10	-5%
Machinery (17)	1.24	0.99	-20%	1.35	1.03	-24%	0.90	0.91	1%
Professional Services (9)	2.00	1.59	-20%	1.73	1.54	-11%	1.36	1.33	-2%
Ground Transportation (5)	1.60	0.76	-52%	0.82	0.71	-14%	0.95	0.89	-7%
Trading Companies & Distributors (3)	1.80	1.17	-35%	0.89	1.10	23%	0.89	0.98	11%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 28: Industrials P/B at 5.4x vs. 3.4x historical average, 1986-3/23

Industrials price-to-book and relative price-to-book vs. S&P 500

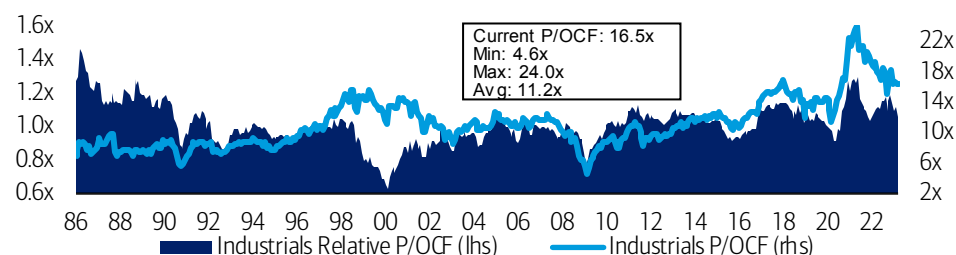


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 29: Industrials P/OCF at 16.5x vs. 11.2x historical average, 1986-3/23

Industrials price-to-op. cash flow and relative price-to-op. cash flow vs. S&P 500

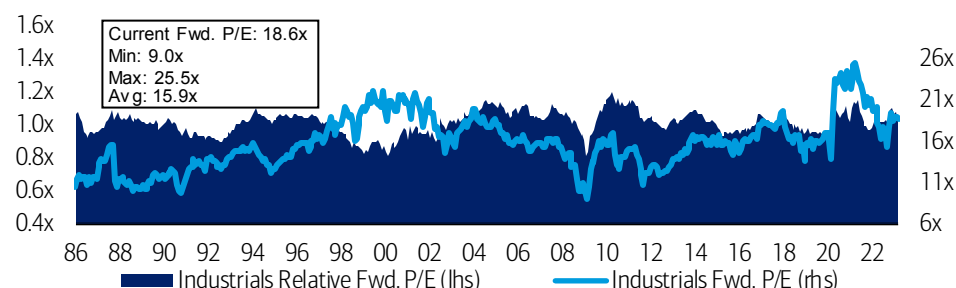


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 30: Industrials fwd P/E at 18.6x vs. 15.9x historical average, 1986-3/23

Industrials price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Information Technology

Exhibit 31: Relative Valuation (vs. S&P500) for information Technology industries (based on data from 1986-3/23)

Information Technology relative price to book, price to operating cash flow, price to earnings by industry

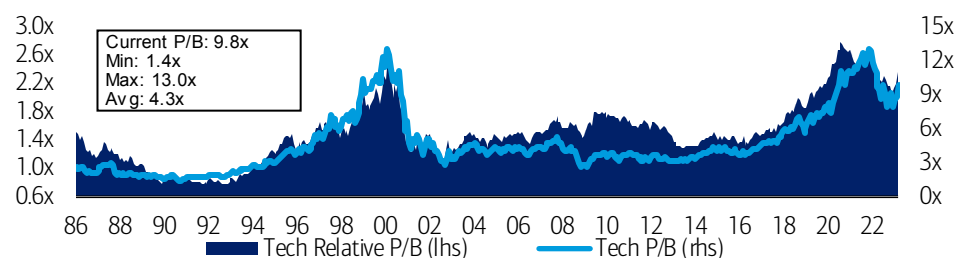
Information Technology (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Communications Equipment (5)	1.53	1.24	-19%	1.14	1.37	21%	0.86	1.16	35%
Electronic Equipment Instruments & Components (8)	1.08	0.97	-10%	1.30	1.30	0%	1.10	1.13	3%
IT Services (8)	1.47	1.38	-6%	0.97	0.87	-11%	1.00	0.92	-8%
Semiconductors & Semiconductor Equipment (21)	1.42	1.24	-12%	1.41	1.11	-22%	1.39	1.08	-22%
Software (18)	2.62	2.13	-19%	1.64	1.61	-1%	1.48	1.30	-12%
Technology Hardware Storage & Peripherals (6)	7.78	1.29	-83%	1.46	1.19	-19%	1.38	1.03	-25%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 32: Tech P/B at 9.8x vs. 4.3x historical average, 1986-3/23

Information Technology price-to-book and relative price-to-book vs. S&P 500

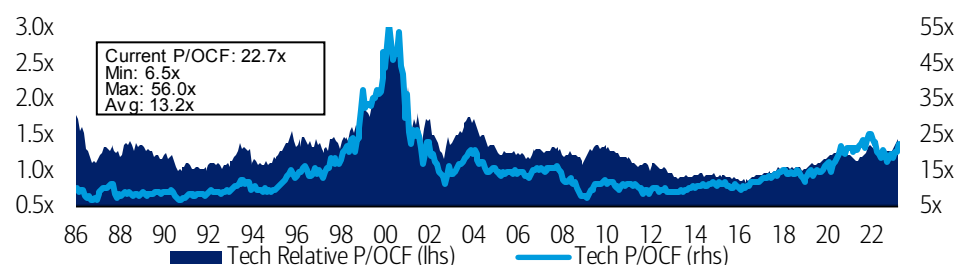


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 33: Tech P/OCF at 22.7x vs. 13.2x historical average, 1986-3/23

Information Technology price-to-op. cash flow and relative price-to-op. cash flow vs. S&P 500

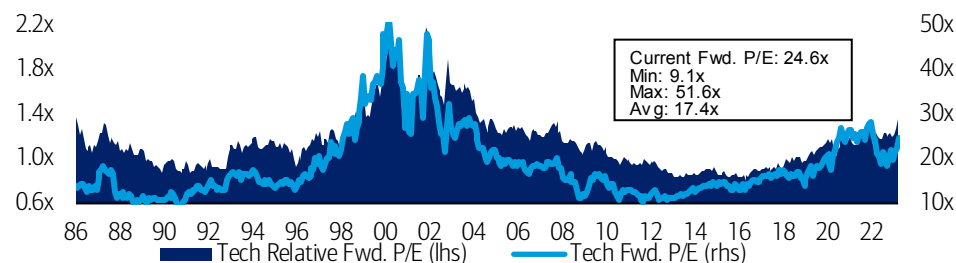


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 34: Tech fwd P/E at 24.6x vs. 17.4x historical average, 1986-3/23

Information Technology price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Materials

Exhibit 35: Relative Valuation (vs. S&P 500) for Materials industries (based on 1986-3/23)

Materials relative price to book, price to operating cash flow, price to earnings by industry

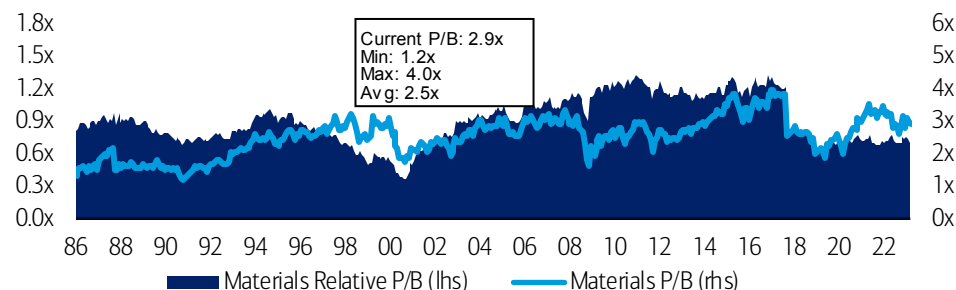
Materials (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Chemicals (16)	0.74	1.04	41%	0.91	0.94	3%	0.95	1.07	12%
Construction Materials (2)	0.77	0.75	-3%	1.35	1.27	-6%	1.37	1.60	17%
Containers & Packaging (7)	0.64	0.81	27%	0.64	0.77	19%	0.79	0.88	11%
Metals & Mining (4)	0.63	0.62	-1%	0.44	0.72	65%	0.82	0.92	13%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 36: Materials P/B at 2.9x vs. 2.5x historical average, 1986-3/23

Materials price-to-book and relative price-to-book vs. S&P 500

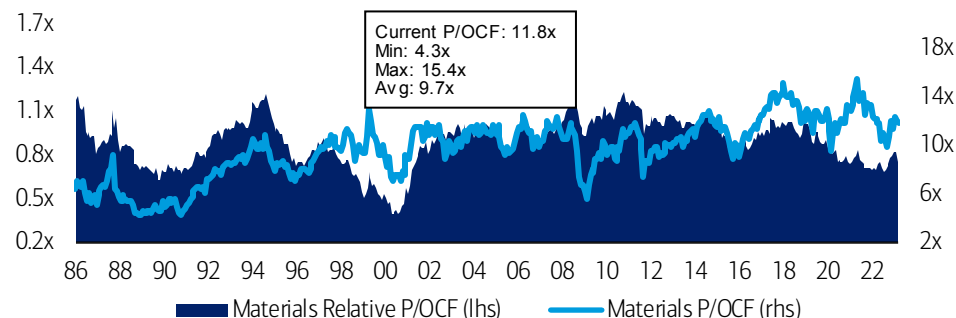


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 37: Materials P/OCF at 11.8x vs. 9.7x historical average, 1986-3/23

Materials price-to-op. cash flow and relative price-to-op. cash flow vs. S&P 500

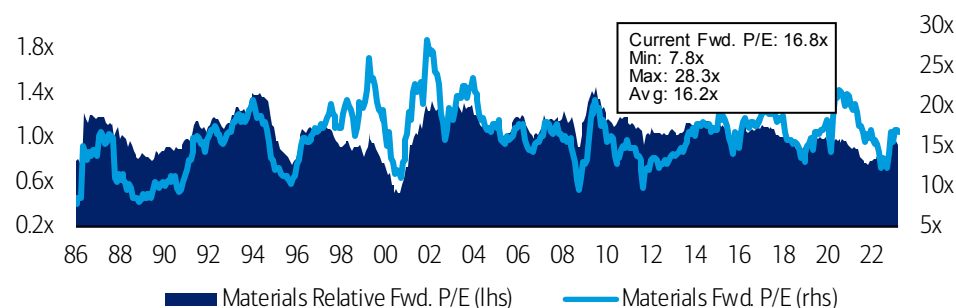


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 38: Materials fwd P/E at 16.8x vs. 16.2x historical average, 1986-3/23

Materials price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Real Estate

Exhibit 39: Relative Valuation (vs. S&P 500) for Real Estate industries (based on data from 2001-3/23)

Real Estate relative price to book, price to operating cash flow, price to earnings by industries

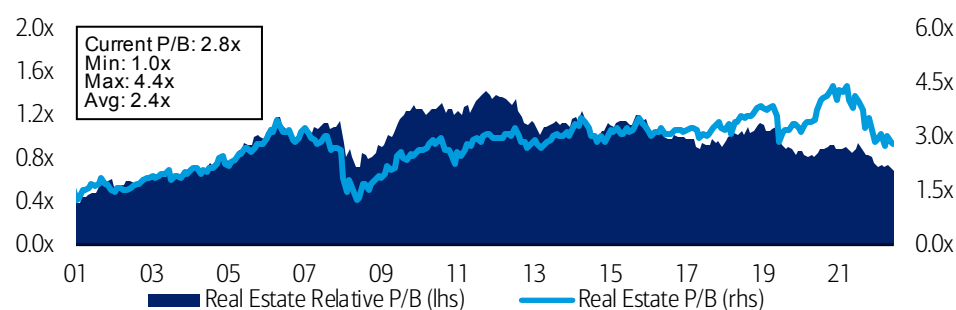
Real Estate (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)**		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Health Care Reits (3)	0.41	0.62	53%	N/A	N/A	N/A	0.90	0.97	8%
Hotel & Resort Reits (1)	0.43	0.74	73%	N/A	N/A	N/A	0.51	1.00	96%
Industrial Reits (1)	0.46	0.53	15%	N/A	N/A	N/A	1.24	1.52	23%
Office Reits (2)	0.28	0.80	188%	N/A	N/A	N/A	0.61	1.12	84%
Real Estate Management & Development (1)	0.73	0.92	26%	N/A	N/A	N/A	0.77	0.99	29%
Residential Reits (7)	0.55	0.82	50%	N/A	N/A	N/A	0.87	1.12	28%
Retail Reits (5)	0.51	1.14	123%	N/A	N/A	N/A	0.67	0.86	29%
Specialized Reits (10)	1.29	0.84	-35%	N/A	N/A	N/A	1.04	1.63	56%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 40: Real Estate P/B at 2.8x vs. 2.4x historical average, 1986-3/23

Real Estate price-to-book and relative price-to-book vs. S&P 500

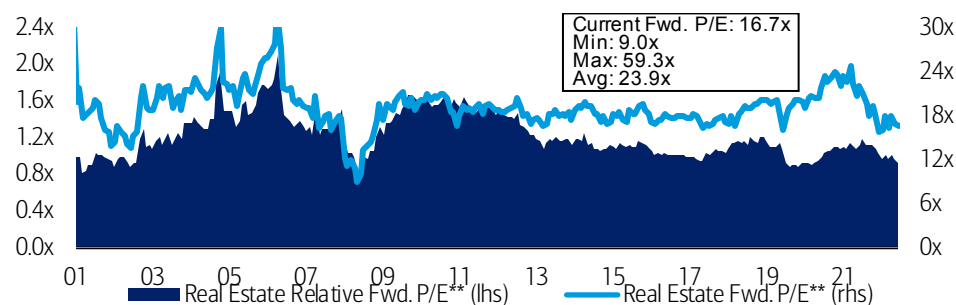


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 41: Real Estate fwd P/E at 16.7x vs. 23.9x historical average, 1986-3/23

Real Estate price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Communication Services

Exhibit 42: Relative Valuation (vs. S&P 500) for Communication Services industries (based on data from 1986-3/23)

Communication Services relative price to book, price to operating cash flow, price to earnings by industry

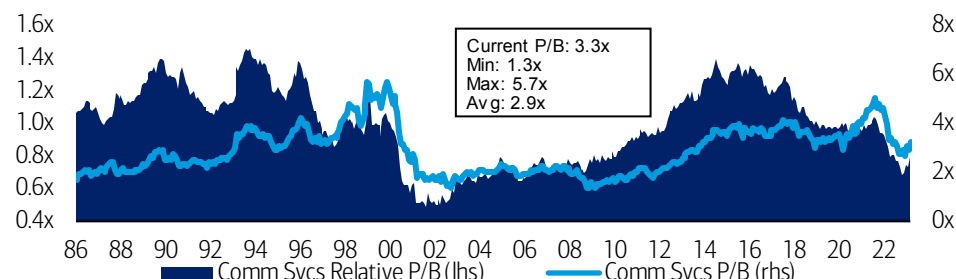
Comm. Svcs (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Diversified Telecommunication Services (2)	0.39	0.79	100%	0.28	0.53	88%	0.44	0.84	89%
Media (8)	0.48	0.92	93%	0.39	0.93	139%	0.59	1.37	131%
Entertainment (7)	0.61	0.90	49%	1.90	1.33	-30%	1.34	1.49	11%
Interactive Media & Services (3)	1.23	1.33	8%	0.86	1.50	74%	1.09	1.73	59%
Wireless Telecommunication Services (1)	0.63	0.64	2%	0.69	0.65	-6%	1.05	-11.36	NM

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 43: Communication Services P/B at 3.3x vs. 2.9x historical average, 1986-3/23

Communication Services price-to-book and relative price-to-book vs. S&P 500

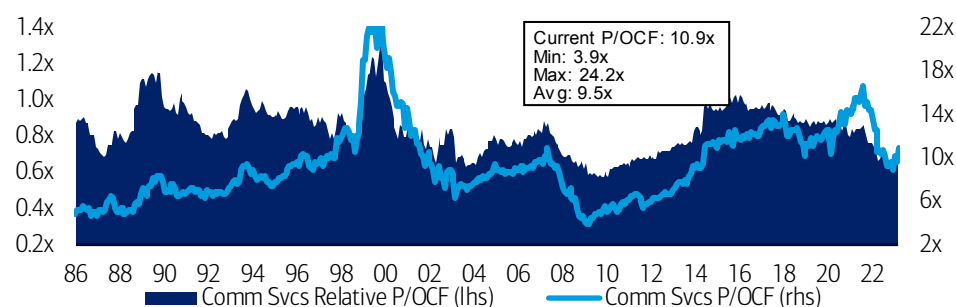


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 44: Communication Services P/OCF at 10.9x vs. 9.5x historical average, 1986-3/23

Communication Services price-to-op. cash flow and relative price-to-op. cash flow vs. S&P 500

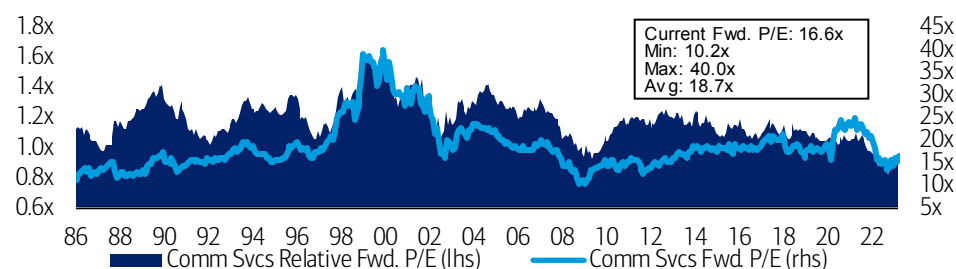


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 45: Communication Services fwd P/E at 16.6x vs. 18.7x historical average, 1986-3/23

Communication Services price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Utilities

Exhibit 46: Relative Valuation (vs. S&P 500) for Utilities industries (based on data from 1986-3/23)

Utilities relative price to book, price to operating cash flow, price to earnings by industry

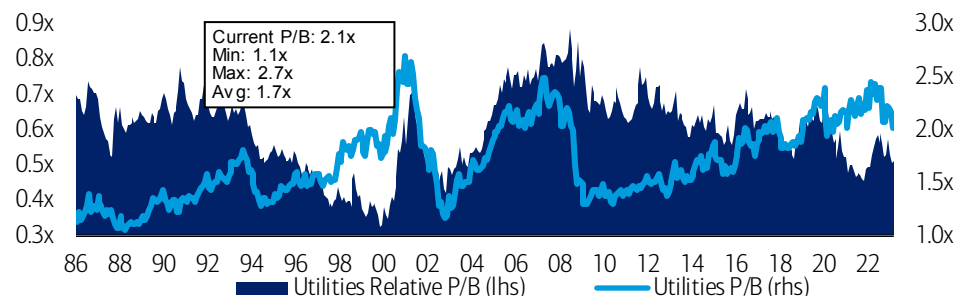
Utilities (# of co's)	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
	Current	Average	Implied upside	Current	Average	Implied upside	Current	Average	Implied upside
Electric Utilities (17)	0.51	0.56	10%	0.80	0.60	-25%	0.98	0.83	-15%
Independent Power and Renewable Electricity Producers (1)	2.51	0.77	-69%	0.38	0.41	8%	0.75	0.80	7%
Multi-Utilities (10)	0.48	0.61	27%	0.88	0.67	-24%	0.96	0.99	3%

Source: Compustat, First Call, BofA US Equity & US Quant Strategy

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Exhibit 47: Utilities P/B at 2.1x vs. 1.7x historical average, 1986-3/23

Utilities price-to-book and relative price-to-book vs. S&P 500

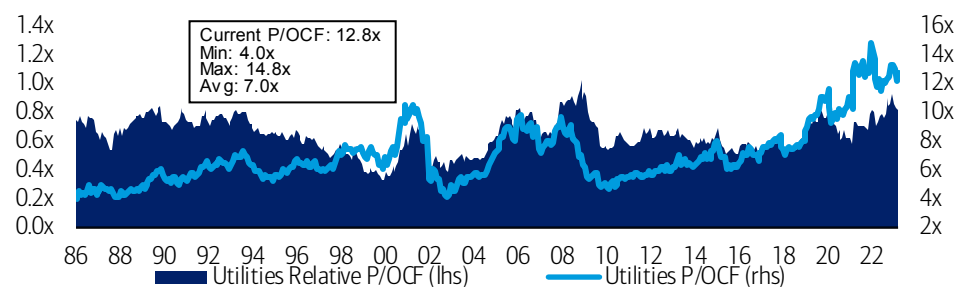


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 48: Utilities P/OCF at 12.8x vs. 7.0x historical average, 1986-3/23

Utilities price-to-op. cash flow and relative price-to-op. cash flow vs. S&P 500

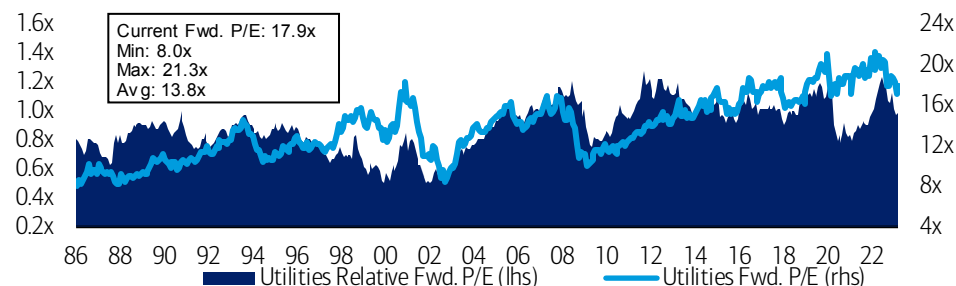


Source: Compustat, BofA US Equity & US Quant Strategy

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Exhibit 49: Utilities fwd P/E at 17.9x vs. 13.8x historical average, 1986-3/23

Utilities price-to-fwd earnings and relative price-to-fwd earnings vs. S&P 500



Source: Compustat, BofA US Equity & US Quant Strategy

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Tactical industry rotation framework

Exhibit 50: S&P 500 Momentum & Value Framework - industry ranks as of 3/23

Industry ranks based on relative price momentum, EPS revision and valuation

Industry	Sector	Combined Rank	Price Momentum Rank	EPS Revision Rank	Valuation Rank	Style Highlight
Interactive Media & Services	Communication Services	30	10	10	10	Opportunity
Passenger Airlines	Industrials	27	7	10	10	Opportunity
Communications Equipment	Information Technology	26	9	9	8	Opportunity
Trading Companies & Distributors	Industrials	26	9	10	7	Opportunity
Entertainment	Communication Services	23	9	9	5	
Media	Communication Services	23	8	5	10	
Metals & Mining	Materials	23	8	10	5	
Consumer Finance	Financials	22	8	5	9	
Hotels Restaurants & Leisure	Consumer Discretionary	21	9	9	3	
It Services	Information Technology	21	8	9	4	
Software	Information Technology	21	10	8	3	
Specialized Reits	Real Estate	21	6	7	8	Opportunity
Household Durables	Consumer Discretionary	20	9	3	8	
Machinery	Industrials	20	6	9	5	
Air Freight & Logistics	Industrials	19	9	3	7	
Auto Components	Consumer Discretionary	19	10	7	2	
Building Products	Industrials	19	7	8	4	
Construction & Engineering	Industrials	19	10	8	1	
Distributors	Consumer Discretionary	19	6	7	6	Opportunity
Energy Equipment & Services	Energy	19	1	9	9	
Residential Reits	Real Estate	19	5	5	9	
Food Products	Consumer Staples	18	4	8	6	
Textiles Apparel & Luxury Goods	Consumer Discretionary	18	7	10	1	
Tobacco	Consumer Staples	18	2	10	6	
Commercial Services & Supplies	Industrials	17	8	8	1	
Diversified Telecommunication Services	Communication Services	17	5	2	10	
Electronic Equipment Instruments & Components	Information Technology	17	8	4	5	
Hotel & Resort Reits	Real Estate	17	6	2	9	
Insurance	Financials	17	2	8	7	
Retail Reits	Real Estate	17	3	5	9	
Beverages	Consumer Staples	16	4	7	5	
Electrical Equipment	Industrials	16	6	8	2	
Health Care Equipment & Supplies	Health Care	16	7	6	3	
Multi-Utilities	Utilities	16	3	5	8	
Technology Hardware Storage & Peripherals	Information Technology	16	10	4	2	
Capital Markets	Financials	15	3	6	6	
Chemicals	Materials	15	6	2	7	
Health Care Providers & Services	Health Care	15	1	7	7	
Industrial Reits	Real Estate	15	8	4	3	Momentum Breakdown
Personal Care Products	Consumer Staples	15	4	10	1	
Professional Services	Industrials	15	4	7	4	
Semiconductors & Semiconductor Equipment	Information Technology	15	10	3	2	
Professional Services	Industrials	15	4	7	4	
Banks	Financials	14	1	3	10	Value Trap
Consumer Staples Distribution & Retail	Consumer Staples	14	7	3	4	
Health Care Reits	Real Estate	14	5	4	5	
Real Estate Management & Development	Real Estate	14	2	4	8	
Construction Materials	Materials	13	5	3	5	
Containers & Packaging	Materials	13	5	2	6	
Household Products	Consumer Staples	13	4	6	3	
Independent Power And Renewable Electricity Producers	Utilities	13	1	6	6	
Life Sciences Tools & Services	Health Care	13	5	6	2	
Office Reits	Real Estate	13	1	2	10	Value Trap
Oil Gas & Consumable Fuels	Energy	13	2	1	10	Value Trap
Specialty Retail	Consumer Discretionary	13	3	3	7	Value Trap
Automobiles	Consumer Discretionary	12	10	1	1	
Biotechnology	Health Care	12	3	1	8	Value Trap
Financial Services	Financials	12	4	5	3	
Ground Transportation	Industrials	12	3	5	4	
Industrial Conglomerates	Industrials	12	7	1	4	

Exhibit 50: S&P 500 Momentum & Value Framework - industry ranks as of 3/23

Industry ranks based on relative price momentum, EPS revision and valuation

Industry	Sector	Combined Rank	Price Momentum Rank	EPS Revision Rank	Valuation Rank	Style Highlight
Pharmaceuticals	Health Care	12	2	2	8	Value Trap
Electric Utilities	Utilities	11	2	6	3	
Leisure Products	Consumer Discretionary	11	1	1	9	Value Trap
Aerospace & Defense	Industrials	9	3	4	2	
Broadline Retail	Consumer Discretionary	7	5	1	1	

Source: BofA US Equity & US Quant Strategy

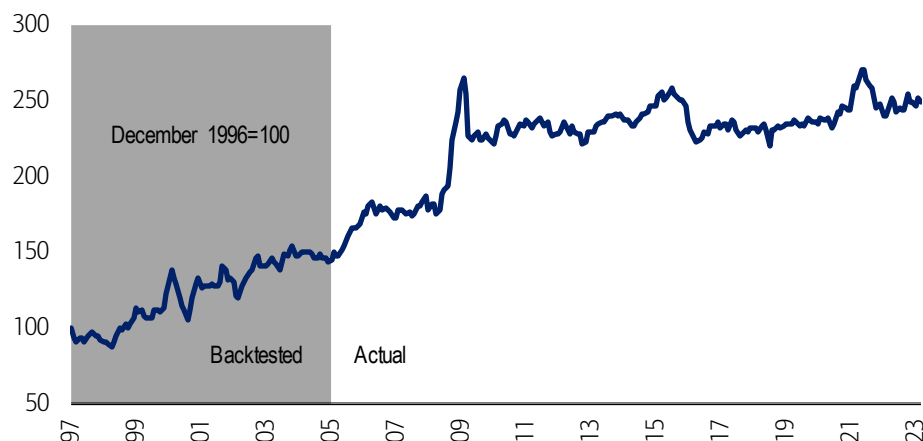
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Industry framework performance

Each month, we track the performance of industries categorized as Opportunities, Value Traps, and Momentum Breakdowns as defined above.

Exhibit 51: “Opportunities” Cumulative Relative Performance, 12/1996-3/2023 (backtested)

Cumulative relative performance of “Opportunities” vs. the equal-weighted S&P industries



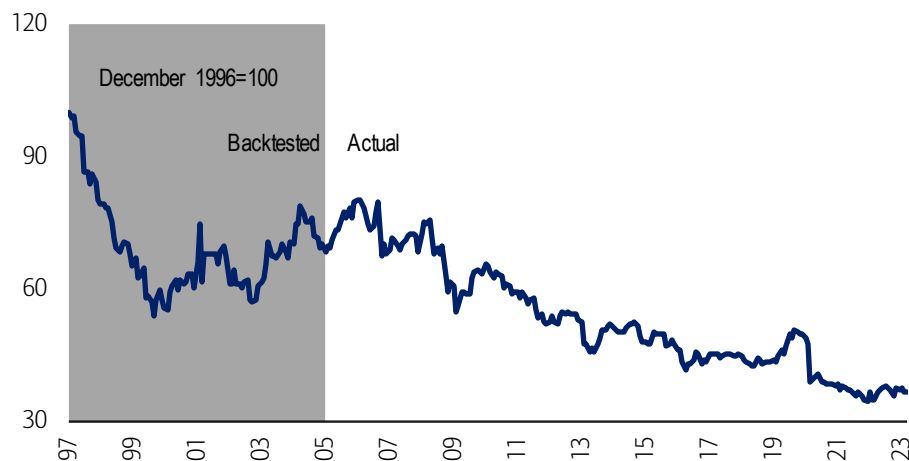
Note: the shaded area shows backtested results during the period from month-end December 1996 to month-end December 2004. The unshaded portion represents actual performance since January 2005. Backtesting is hypothetical in nature and reflects application of the screen prior to its introduction. It is not actual performance and is not intended to be indicative of future performance. The backtested performance results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance, and cannot account for all financial risks that may affect the performance of the screen going forward. See Appendix for performance data and calculation methodology.

Source: BofA US Equity & US Quant Strategy

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Exhibit 52: “Value Traps” Cumulative Relative Performance, 12/1996-3/2023 (backtested)

Cumulative relative performance of “Value Traps” vs. the equal-weighted S&P industries



Note: the shaded area shows backtested results during the period from month-end December 1996 to month-end December 2004. The unshaded portion represents actual performance since January 2005. Backtesting is hypothetical in nature and reflects application of the screen prior to its introduction. It is not actual performance and is not intended to be indicative of future performance. The backtested performance results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance, and cannot account for all financial risks that may affect the performance of the screen going forward. See Appendix for performance data and calculation methodology.

Source: BofA US Equity & US Quant Strategy

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Exhibit 53: “Momentum Breakdowns” Cumulative Relative Performance, 12/1996-3/2023 (backtested)

Cumulative relative performance of “Momentum Breakdowns” vs. the equal-weighted S&P Industries



Note: the shaded area shows backtested results during the period from month-end December 1996 to month-end December 2004. The unshaded portion represents actual performance since January 2005. Backtesting is hypothetical in nature and reflects application of the screen prior to its introduction. It is not actual performance and is not intended to be indicative of future performance. The backtested performance results are based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance, and cannot account for all financial risks that may affect the performance of the screen going forward. See Appendix for performance data and calculation methodology.

Source: BofA US Equity & US Quant Strategy

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Sector ranks

We also use this framework to rank sectors based on price momentum, earnings momentum, and valuation factors. Sectors are sorted from highest (most attractive) to lowest (least attractive) ranks as of the latest month below.

We use this framework as one component in determining our overall S&P 500 sector preferences, but fundamentals, risk and other macro factors are also important drivers. We more heavily utilize this framework in determining our favored industries (though again, other factors also contribute) and in highlighting attractive short-term sector opportunities for more tactical investors.

Exhibit 54: S&P 500 Momentum & Value Framework Sector Ranks as of 3/23

Sector ranks based on relative price momentum, EPS revision and valuation

Sector	Combined Rank	Price Momentum Rank	EPS Revision Rank	Valuation Rank
Communication Services	31	10	11	10
Real Estate	22	6	7	9
Industrials	22	7	10	5
Information Technology	19	11	6	2
Consumer Staples	18	5	9	4
Materials	17	8	2	7
Utilities	15	4	8	3
Financials	14	1	5	8
Energy	14	2	1	11
Consumer Discretionary	14	9	4	1
Health Care	12	3	3	6

Source: BofA US Equity & US Quant Strategy

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Methodology

Definitions of valuation metrics:

- **Price/Book:** month-end market cap divided by latest total common equity.
- **Price/Operating Cash Flow:** Month-end market cap divided by the last twelve months cash flow from operations as of the most recent fiscal quarter.
Note: All industries' multiples are relative to the S&P 500 ex. Fins. for P/OCF.
- **Forward Price/Earnings:** Month-end market cap divided by I/B/E/S consensus next twelve months earnings.

Implied upside is based on comparing the current relative multiple vs. the historical average relative multiple. Industries with <10 yrs of data history are excluded. Boxes highlight sectors/industries with the highest greatest upside and implied downside.

Momentum & Value Model

Our tactical "momentum and value" framework was backtested from January 1997-December 2004, and has been running live since January 2005. We calculate price momentum, earnings momentum and valuation for the S&P 500 GICS sectors and industries relative to the index beginning in January 1997. We exclude industries that have only one company or have less than five years of historical price data. For our backtest, we have used as a market benchmark the portfolio of equal-weighted S&P 500 industries that were eligible for the framework at a given point in time.

Price momentum

The price momentum of an industry is the change in the industry's relative price in the current month vs. three months ago, with relative price defined as the month-end industry price dividend by the month-end index level of the S&P 500. Industries are assigned a price momentum rank from 1 to 10, with 10 being the strongest price momentum and 1 being the weakest. Sectors are assigned a price momentum rank from 1 to 11, with 11 being the strongest price momentum and 1 being the weakest.

Earnings momentum

The earnings momentum of an industry is the change in relative forecast EPS between the current month and three months ago. Relative EPS is the ratio of the 12-month rolling forward I/B/E/S consensus earnings forecast of a given industry divided by that of the S&P 500. Industries are assigned an earnings revision rank of 1 to 10, with 10 being the strongest earnings momentum and 1 being the weakest. Sectors are assigned an earnings revision rank of 1 to 11, with 11 being the strongest earnings momentum and 1 being the weakest.

Valuation

We calculate the earnings yield (E/P) of an industry as the ratio of current relative forward (consensus) EPS divided by current relative price. We then calculate the earnings yield relative to its historical average by dividing the current E/P by the average E/P for the industry since the framework's inception in January 1997. For industries introduced after the inception date, at least one year of data is required before an industry is eligible for a rank. Industries are assigned a valuation rank from 1 to 10, with 10 being the highest relative earnings yield (most inexpensive) and 1 being the lowest relative earnings yield (most expensive). Sectors are assigned a valuation rank from 1 to 11, with 11 being the highest relative earnings yield (most inexpensive) and 1 being the lowest relative earnings yield (most expensive). Current data is compared to this average using the following formula: $(\text{Current E/P} - \text{Historical Avg. E/P}) / \text{Abs (Historical Avg. E/P)}$. We calculate both the current and historical average relative to the market because of P/E multiple expansion in the market, and use earnings yield (inverse of P/E) to accommodate industries which have negative aggregate earnings.

Combined rank

The combined rank of an industry is the sum of the three ranks from the price momentum, earnings momentum, and valuation factors above, with 30 ranking the best and 3 ranking the worst. For sectors, 33 ranks the best and 3 ranks the worst.

Opportunities, Value Traps and Momentum Breakdowns

We classify industries based on their framework ranks as follows:

- Opportunities are industries with above avg. (6 or higher) ranks in all three ranks.
- Value Traps are industries that have above avg. ranks in valuation (6 or higher) but are in the bottom tertile in price momentum and earnings momentum (ranks 1-3).
- Momentum Breakdowns are industries with below avg. ranks in valuation (4 or lower), lower price momentum ranks than in the previous month, and below avg. earnings momentum ranks (4 or lower).

Exhibit 55: Relative performance of Opportunities, Value Traps and Momentum Breakdowns (as of 3/23)

Relative performance vs. equal-weighted S&P industries

	1m	3m	6m	12m	YTD	2yr	Ann'zed	3yr	Ann'zed	5yr	Ann'zed
Opportunities	-0.8%	0.2%	2.8%	2.0%	0.2%	-3.3%	-1.7%	8.6%	2.0%	13.4%	1.9%
Value Traps	0.2%	-0.6%	-0.2%	5.1%	-0.6%	-3.5%	-1.8%	-9.6%	-2.3%	-22.0%	-3.4%
Momentum Breakdown	0.0%	3.7%	-5.5%	-2.8%	3.7%	-20.6%	-10.8%	-45.3%	-12.0%	-63.6%	-11.5%

Source: BofA US Equity & US Quant Strategy

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S&P 500 Company Distribution

Exhibit 56: Latest month's end S&P 500 weights for companies sorted by sectors/industries

Company Distribution of S&P 500 by GICS Sector/Industry Classifications as of 3/31/2023

Sector/Industry	Wgt	Sector/Industry	Wgt	Sector/Industry	Wgt	Sector/Industry	Wgt
COMMUNICATION SERVICES	8.11%	SPECIALTY RETAIL	2.16%	FINANCIALS	12.91%	HEALTH CARE	14.20%
DIVERSIFIED TELECOM	0.88%	ADVANCE AUTO PARTS INC	0.02%	EQT CORPORATION	0.03%	ASSURANT INC	0.02%
AT&T INC	0.40%	AUTOZONE INC	0.13%	EXXON MOBIL CORP	1.31%	BROWN & BROWN INC	0.04%
VERIZON COMMUNICATIONS INC	0.48%	BATH & BODY WORKS INC	0.02%	HESS CORP	0.11%	CHUBB LIMITED	0.23%
ENTERTAINMENT	1.43%	BEST BUY CO INC	0.04%	KINDER MORGAN INC	0.10%	CINCINNATI FINANCIAL CORP	0.05%
ACTIVISION BLIZZARD INC	0.18%	CARMAX INC	0.03%	MARATHON OIL CORP	0.04%	EVEREST RE GROUP LTD	0.04%
ELECTRONIC ARTS	0.09%	HOME DEPOT INC	0.88%	MARATHON PETROLEUM CORP	0.18%	GLOBE LIFE INC	0.03%
LIVE NATION ENTERTAINMENT INC	0.03%	LOWE'S COS INC	0.35%	OCCIDENTAL PETROLEUM	0.13%	HARTFORD FINL SERVICES GROUP	0.06%
NETFLIX INC	0.45%	O'REILLY AUTOMOTIVE	0.15%	ONEOK INC	0.08%	LINCOLN NATIONAL CORP	0.01%
TAKE-TWO INTERACTIVE SOFTWARE	0.06%	ROSS STORES INC	0.11%	PHILLIPS 66	0.14%	LOEWS CORP	0.03%
WALT DISNEY CO	0.53%	TJX COS INC	0.26%	PIONEER NATURAL RESOURCES	0.14%	MARSH & MCLENNAN COMPANIES	0.24%
WARNER BROS DISCOVERY INC	0.10%	TRACTOR SUPPLY CO	0.08%	TARGA RESOURCES CORP	0.05%	METLIFE INC	0.11%
INTERACTIVE MEDIA & SERV	4.78%	ULTA BEAUTY, INC	0.08%	THE WILLIAMS COMPANIES INC	0.11%	PRINCIPAL FINANCIAL GROUP	0.05%
ALPHABET INC A	1.80%	TEXTILES APPAREL & LUX	0.51%	VALERO ENERGY CORP	0.16%	PROGRESSIVE CORP	0.24%
ALPHABET INC C	1.57%	NIKE INC B	0.44%	BANKS	3.12%	PRUDENTIAL FINANCIAL INC	0.09%
MATCH GROUP, INC.	0.03%	RALPH LAUREN CORP A	0.01%	BANK OF AMERICA CORP	0.58%	TRAVELERS COS INC	0.12%
META PLATFORMS, INC. CLASS A	1.37%	TAPESTRY, INC	0.03%	CITIGROUP INC	0.26%	WILLIS TOWERS WATSON PLC	0.07%
MEDIA	0.78%	VF CORP	0.02%	CITIZENS FINANCIAL GROUP INC	0.04%	WR BERKLEY CORP	0.04%
CHARTER COMMUNICATIONS INC A	0.11%	CONSUMER STAPLES	7.23%	COMERICA INC (MI)	0.02%	BIOTECHNOLOGY	2.29%
COMCAST CORP A	0.46%	BEVERAGES	1.81%	FIFTH THIRD BANCORP (OH)	0.05%	ABBVIE INC.	0.82%
DISH NETWORK CORP A	0.01%	BROWN-FORMAN CORP B	0.03%	FIRST REPUBLIC BANK	0.01%	AMGEN INC	0.38%
FOX CORP A	0.03%	COCA-COLA CO	0.70%	HUNTINGTON BANCSHARES (OH)	0.05%	BIOGEN INC	0.12%
FOX CORP B	0.01%	CONSTELLATION BRANDS	0.11%	JP MORGAN CHASE & CO	1.11%	GILEAD SCIENCES INC	0.30%
INTERPUBLIC GROUP COS	0.04%	KEURIG DR PEPPER INC	0.09%	KEYCORP	0.03%	INCYTE CORP	0.04%
NEWS CORP A	0.02%	MOLSON COORS BEVERAGE	0.03%	M&T BANK CORP	0.06%	MODERNA, INC.	0.15%
NEWS CORP B	0.01%	MONSTER BEVERAGE CORP	0.12%	PNC FINL SERVICES GROUP	0.15%	REGENERON PHARMACEUTICALS INC	0.26%
OMNICOM GROUP	0.06%	PEPSICO INC	0.73%	REGIONS FINANCIAL CORP	0.05%	VERTEX PHARMACEUTICALS INC	0.24%
PARAMOUNT GLOBAL CLASS B	0.03%	CONSUMER STAPLES DIST	1.97%	TRUIST FINANCIAL CORP	0.13%	HEALTH EQUIP & SUPPLIES	2.86%
WIRELESS TELECOM	0.25%	COSTCO WHOLESALE CORP	0.64%	US BANCORP	0.15%	ABBOTT LABORATORIES	0.51%
T-MOBILE US INC	0.25%	DOLLAR GENERAL CORP	0.14%	WELLS FARGO & CO	0.41%	ALIGN TECHNOLOGY INC	0.07%
CONSUMER DISCRETIONARY	10.13%	DOLLAR TREE INC	0.09%	ZIONS BANCORPORATION N.A.	0.01%	BAXTER INTL INC	0.06%
AUTO COMPONENTS	0.12%	KROGER CO	0.09%	CAPITAL MARKETS	2.83%	BECTON DICKINSON & CO	0.20%
APTIV PLC	0.09%	SYSCO CORP	0.11%	AMERIPRISE FINANCIAL INC	0.09%	BOSTON SCIENTIFIC CORP	0.21%
BORGWARNER INC	0.03%	TARGET CORP	0.22%	BLACKROCK INC	0.29%	COOPER COMPANIES INC	0.05%
AUTOMOBILES	1.92%	WALGREENS BOOTS	0.07%	CBOE GLOBAL MARKETS, INC	0.04%	DENTSPLY SIRONA INC.	0.02%
FORD MOTOR CO	0.14%	WALMART INC.	0.60%	CHARLES SCHWAB CORP	0.23%	DEXCOM INC	0.13%
GENERAL MOTORS COMPANY	0.15%	FOOD PRODUCTS	1.16%	CME GROUP INC A	0.20%	EDWARDS LIFESCIENCES CORP	0.15%
TESLA, INC	1.62%	ARCHER-DANIELS-MIDLAND	0.13%	FACTSET RESEARCH SYSTEM INC	0.05%	GE HEALTHCARE TECHNOLOGIES INC.	0.09%
BROADLINE RETAIL	2.79%	BUNGE LTD	0.04%	FRANKLIN RESOURCES INC	0.02%	HOLOGIC INC	0.06%
AMAZON.COM INC	2.68%	CAMPBELL SOUP CO	0.03%	GOLDMAN SACHS GROUP INC	0.32%	IDEXX LABORATORIES INC	0.12%
EBAY INC.	0.07%	CONAGRA BRANDS, INC	0.05%	INTERCONTINENTAL EXCHANGE	0.17%	INSULET CORP	0.06%
ETSY, INC.	0.04%	GENERAL MILLS INC	0.15%	INVESTCO LTD	0.02%	INTUITIVE SURGICAL INC	0.26%
DISTRIBUTORS	0.15%	HERSHEY FOODS CORP	0.11%	MARKETAXESS HOLDINGS	0.04%	MEDTRONIC PLC	0.31%
GENUINE PARTS CO	0.07%	HORMEL FOODS CORP	0.03%	MOODY'S CORP	0.14%	RESMED INC	0.09%
LKQ CORP	0.04%	J.M. SMUCKER CO	0.05%	MORGAN STANLEY	0.33%	STERIS PLC	0.06%
POOL CORP	0.04%	KELLOGG CO	0.05%	MSCI INC	0.13%	STRYKER CORP	0.28%
HOTELS REST LEIS	2.11%	LAMB WESTON HOLDINGS	0.04%	NASDAQ INC	0.05%	TELEFLEX INC	0.03%
BOOKING HOLDINGS INC	0.30%	MCCORMICK & CO	0.06%	NORTHERN TRUST CORP (IL)	0.05%	ZIMMER BIOMET HOLDINGS INC	0.08%
CAESARS ENTERTAINMENT, INC.	0.03%	MONDELEZ INTERNATIONAL	0.28%	RAYMOND JAMES FINANCIAL INC	0.05%	HEALTH PROVIDERS & SVS	3.04%
CARNIVAL CORP	0.03%	THE KRAFT HEINZ COMPANY	0.09%	S&P GLOBAL INC	0.33%	AMERISOURCEBERGEN CORP	0.08%
CHIPOTLE MEXICAN GRILL INC.	0.14%	TYSON FOODS INC A	0.05%	STATE STREET CORP	0.08%	CARDINAL HEALTH INC	0.06%
DARDEN RESTAURANTS INC	0.05%	HOUSEHOLD PRODUCTS	1.46%	T ROWE PRICE GROUP INC	0.07%	CENTENE CORP	0.10%
DOMINO'S PIZZA INC	0.03%	CHURCH & DWIGHT CO	0.06%	THE BANK OF NEW YORK	0.10%	CVS HEALTH CORPORATION	0.28%
EXPEDIA GROUP, INC.	0.04%	CLOROX CO	0.06%	CONSUMER FINANCE	0.51%	DAVITA INC	0.01%
HILTON WORLDWIDE HOLDINGS	0.11%	COLGATE-PALMOLIVE CO	0.18%	AMERICAN EXPRESS CO	0.29%	ELEVANCE HEALTH, INC.	0.32%
LAS VEGAS SANDS	0.05%	KIMBERLY-CLARK	0.13%	CAPITAL ONE FINANCIAL	0.11%	HCA HEALTHCARE INC	0.16%
MARRIOTT INTL A	0.13%	PROCTER & GAMBLE	1.02%	DISCOVER FINANCIAL SERVICES	0.08%	HENRY SCHEIN INC	0.03%
MCDONALD'S CORP	0.60%	PERSONAL PRODUCTS	0.17%	SYNCHRONY FINANCIAL	0.04%	HUMANA INC	0.18%
MGM RESORTS INTERNATIONAL	0.04%	ESTEE LAUDER COS. A	0.17%	FINANCIAL SVS	4.29%	LAB CORP OF AMERICA HLDGS	0.06%
NORWEGIAN CRUISE LINE	0.02%	TOBACCO	0.67%	BERKSHIRE HATHAWAY B	1.62%	MCKESSON CORP	0.14%
ROYAL CARIBBEAN GROUP	0.04%	ALTRIA GROUP INC	0.23%	FIDELITY NATIONAL	0.09%	MOLINA HEALTHCARE	0.05%
STARBUCKS CORP	0.35%	PHILIP MORRIS	0.44%	FISERV INC	0.21%	QUEST DIAGNOSTICS	0.05%
WYNN RESORTS LTD	0.03%	ENERGY	4.61%	FLEETCOR TECHNOLOGIES INC	0.05%	THE CIGNA GROUP	0.22%
YUM! BRANDS INC	0.11%	ENERGY EQUIP & SVS	0.37%	GLOBAL PAYMENTS INC	0.08%	UNITEDHEALTH GROUP INC	1.29%
HOUSEHOLD DURABLES	0.35%	BAKER HUGHES COMPANY	0.08%	JACK HENRY & ASSOCIATES INC	0.03%	UNIVERSAL HEALTH SERVICES B	0.02%
GARMIN LTD	0.05%	HALLIBURTON CO	0.08%	MASTERCARD INC A	0.89%	LIFE SCIENCES TOOLS	1.84%

Exhibit 56: Latest month's end S&P 500 weights for companies sorted by sectors/industries

Company Distribution of S&P 500 by GICS Sector/Industry Classifications as of 3/31/2023

Sector/Industry	Wgt	Sector/Industry	Wgt	Sector/Industry	Wgt	Sector/Industry	Wgt
HORTON D.R. INC	0.09%	SCHLUMBERGER LTD	0.20%	PAYPAL HOLDINGS INC.	0.25%	AGILENT TECHNOLOGIES INC	0.12%
LENNAR CORP A	0.08%	OIL GAS & CONSUMABLE FUELS	4.24%	VISA INC A	1.07%	BIO-RAD LABORATORIES INC A	0.03%
MOHAWK INDUSTRIES INC	0.02%	APA CORPORATION	0.03%	INSURANCE	2.16%	BIO-TECHNE CORP	0.03%
NEWELL BRANDS INC	0.01%	CHEVRON CORP	0.85%	AFLAC INC	0.11%	CHARLES RIVER LABORATORIES	0.03%
NVR INC	0.05%	CONOCOPHILLIPS	0.35%	ALLSTATE CORP	0.08%	DANAHER CORP	0.48%
PULTE GROUP INC	0.04%	COTERRA ENERGY INC	0.06%	AMERICAN INTL GROUP INC	0.11%	ILLUMINA INC	0.11%
WHIRLPOOL CORP	0.02%	DEVON ENERGY CORP	0.10%	AON PLC	0.19%	IQVIA HOLDINGS INC	0.11%
LEISURE PRODUCTS	0.02%	DIAMONDBACK ENERGY INC	0.07%	ARCH CAPITAL GROUP LTD	0.07%	METTLER-TOLEDO INTL	0.10%
HASBRO INC	0.02%	EOG RESOURCES	0.20%	ARTHUR J. GALLAGHER & CO	0.12%	PERKINELMER INC	0.05%

Source: BofA Global Research

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Exhibit 57: Latest month's end S&P 500 weights for companies sorted by sectors/industries

Company Distribution of S&P 500 by GICS Sector/Industry Classifications as of 3/31/2023

Sector/Industry	Wgt	Sector/Industry	Wgt	Sector/Industry	Wgt	Sector/Industry	Wgt
THERMO FISHER SCIENTIFIC	0.66%	SNAP ON INC	0.04%	CADENCE DESIGN SYSTEMS INC	0.17%	INVITATION HOMES	0.05%
WATERS CORP	0.05%	STANLEY BLACK & DECKER	0.03%	CERIDIAN HCM HOLDING INC.	0.03%	MID-AMERICA APT COMMUNITIES	0.05%
WEST PHARMACEUTICAL SERVICES INC	0.07%	WABTEC	0.05%	FAIR ISAAC & CO INC	0.05%	UDR INC	0.04%
PHARMACEUTICALS	4.16%	XYLEM INC	0.05%	FORTINET INC	0.13%	RETAIL REITS	0.31%
BRISTOL-MYERS SQUIBB	0.43%	AIRLINES	0.21%	GEN DIGITAL INC.	0.03%	FEDERAL REALTY INVT TRUST	0.02%
CATALENT INC	0.03%	ALASKA AIR GROUP INC	0.02%	INTUIT INC	0.36%	KIMCO REALTY CORP	0.04%
ELI LILLY & CO	0.79%	AMERICAN AIRLINES GROUP INC.	0.03%	MICROSOFT CORP	6.25%	REALTY INCOME CORP	0.12%
JOHNSON & JOHNSON	1.18%	DELTA AIR LINES	0.07%	ORACLE CORP	0.42%	REGENCY CENTERS CORP	0.03%
MERCK & CO INC	0.79%	SOUTHWEST AIRLINES CO	0.06%	PAYCOM SOFTWARE INC	0.04%	SIMON PROPERTY GROUP A	0.11%
ORGANON & CO	0.02%	UNITED AIRLINES HOLDING, INC	0.04%	PTC INC	0.04%	SPECIALIZED REITS	1.21%
PFIZER INC	0.67%	PROFESSIONAL SERVICES	0.77%	ROPER TECHNOLOGIES, INC	0.14%	AMERICAN TOWER CORP A	0.28%
VIATRIS INC	0.03%	AUTOMATIC DATA PROCESSING	0.27%	SALESFORCE, INC.	0.58%	CROWN CASTLE INC.	0.17%
ZOETIS INC	0.23%	BROADRIDGE FINANCIAL SOLUTIONS INC.	0.05%	SERVICENOW INC.	0.27%	DIGITAL REALTY TRUST	0.08%
INDUSTRIALS	8.66%	COSTAR GROUP INC	0.08%	SYNOPSYS INC	0.17%	EQUINIX INC	0.19%
AEROSPACE & DEFENSE	1.75%	EQUIFAX INC	0.07%	TYLER TECHNOLOGIES INC	0.04%	EXTRA SPACE STORAGE INC	0.06%
BOEING CO	0.35%	JACOBS SOLUTIONS INC.	0.04%	TECHNOLOGY HARDWARE	7.39%	IRON MOUNTAIN INC	0.04%
GENERAL DYNAMICS	0.15%	LEIDOS HOLDINGS INC	0.04%	APPLE INC.	7.14%	PUBLIC STORAGE	0.14%
HOWMET AEROSPACE INC.	0.05%	PAYCHEX INC	0.11%	HEWLETT PACKARD ENTERPRISE CO	0.06%	SBA COMMUNICATIONS CORP	0.08%
HUNTINGTON INGALLS INDUSTRIES INC.	0.02%	ROBERT HALF INTL INC	0.03%	HP INC	0.07%	VICI PROPERTIES INC.	0.10%
L3HARRIS TECHNOLOGIES INC	0.11%	VERISK ANALYTICS INC	0.09%	NETAPP INC	0.04%	WEYERHAEUSER CO	0.06%
LOCKHEED MARTIN	0.31%	TRADING CO. & DISTR	0.26%	SEAGATE TECHNOLOGY	0.04%	UTILITIES	2.86%
NORTHROP GRUMMAN CORP	0.19%	FASTENAL CO	0.09%	WESTERN DIGITAL CORP	0.04%	ELECTRIC UTILITIES	1.87%
RAYTHEON TECHNOLOGIES CORP	0.42%	UNITED RENTALS INC	0.08%	MATERIALS	2.64%	ALLIANT ENERGY CORP	0.04%
TEXTRON INC	0.04%	W.W. GRAINGER INC	0.09%	CHEMICALS	1.80%	AMERICAN ELECTRIC POWER	0.14%
TRANSIDGM GROUP	0.11%	INFORMATION TECHNOLOGY	26.08%	AIR PRODUCTS & CHEMICALS INC	0.19%	CONSTELLATION ENERGY CORP	0.07%
AIR FREIGHT & LOGISTICS	0.65%	COMMUNICATIONS EQUIP	0.94%	ALBEMARLE CORP	0.08%	DUKE ENERGY CORP	0.22%
CH ROBINSON WORLDWIDE INC	0.03%	ARISTA NETWORKS INC	0.12%	CELANESE CORP A	0.03%	EDISON INTL	0.08%
EXPEDITORS INTL OF WA INC	0.05%	CISCO SYSTEMS INC	0.63%	CF INDUSTRIES HOLDINGS	0.04%	ENTERGY CORP	0.06%
FEDEX CORP	0.15%	F5, INC.	0.03%	CORTEVA INC.	0.13%	EVERGY INC.	0.04%
UNITED PARCEL SERVICE INC B	0.41%	JUNIPER NETWORKS INC	0.03%	DOW INC	0.11%	EVERSOURCE ENERGY	0.08%
BUILDING PRODUCTS	0.44%	MOTOROLA SOLUTIONS INC	0.14%	DUPONT DE NEMOURS INC.	0.10%	EXELON CORP	0.12%
A.O. SMITH CORP	0.03%	ELECTRONIC EQUIP, INSTR & COMP	0.65%	EASTMAN CHEMICAL CO	0.03%	FIRSTENERGY CORP	0.06%
ALLEGION PLC	0.03%	AMPHENOL CORP A	0.14%	ECOLAB INC	0.12%	NEXTERA ENERGY INC	0.45%
CARRIER GLOBAL CORP.	0.11%	CDW CORP	0.08%	FMC CORP	0.04%	NRG ENERGY	0.02%
JOHNSON CONTROLS INTERNATIONAL PLC	0.12%	CORNING INC	0.08%	INTL FLAVORS & FRAGRANCES	0.07%	PG&E CORPORATION	0.08%
MASCO CORP	0.03%	KEYSIGHT TECHNOLOGIES INC	0.08%	LINDE PLC	0.51%	PINNACLE WEST CAPITAL (AZ)	0.03%
TRANE TECHNOLOGIES PLC	0.12%	TE CONNECTIVITY LTD.	0.12%	LYONDELLBASELL INDUSTRIES N.V.	0.07%	PPL CORP	0.06%
COMMERCIAL SVS	0.49%	TELEDYNE TECHNOLOGIES INC	0.06%	MOSAIC CO	0.05%	SOUTHERN CO	0.22%
CINTAS CORP	0.12%	TRIMBLE INC	0.04%	PPG INDUSTRIES INC	0.09%	XCEL ENERGY INC	0.11%
COPART INC	0.09%	ZEBRA TECHNOLOGIES CORP	0.05%	SHERWIN-WILLIAMS CO	0.15%	GAS UTILITIES	0.05%
REPUBLIC SERVICES INC	0.08%	IT SVS	1.19%	CONSTRUCTION MATERIALS	0.13%	ATMOS ENERGY CORP	0.05%
ROLLINS INC	0.03%	ACCENTURE PLC A	0.52%	MARTIN MARIETTA MATERIALS	0.06%	INDEPENDENT POWER	0.05%
WASTE MANAGEMENT INC	0.18%	AKAMAI TECHNOLOGIES INC	0.04%	VULCAN MATERIALS CO	0.07%	AES CORP	0.05%
CONSTR & ENGINEERING	0.07%	COGNIZANT TECH SOLUTIONS CORP	0.09%	CONTAINERS & PACKAGING	0.26%	MULTI-UTILITIES	0.82%
QUANTA SERVICES INC	0.07%	DXC TECHNOLOGY COMPANY	0.02%	AMCOR PLC	0.05%	AMEREN CORP	0.07%
ELECTRICAL EQUIP	0.56%	EPAM SYSTEMS INC	0.05%	AVERY DENNISON CORP	0.04%	CENTERPOINT ENERGY INC	0.05%
AMETEK INC	0.10%	GARTNER INC	0.07%	BALL CORP	0.05%	CMS ENERGY CORP	0.05%
EATON CORP PLC	0.20%	INTL BUSINESS MACHINES CORP	0.35%	INTL PAPER CO	0.04%	CONSOLIDATED EDISON INC	0.10%
EMERSON ELECTRIC CO	0.14%	VERISIGN INC	0.06%	PACKAGING CORP OF AMERICA	0.04%	DOMINION ENERGY INC	0.14%
GENERAC HOLDINGS INC	0.02%	SEMICONDUCTORS	6.45%	SEALED AIR CORP	0.02%	DTE ENERGY CO	0.06%
ROCKWELL AUTOMATION INC	0.10%	ADVANCED MICRO DEVICES	0.46%	WESTROCK CO	0.02%	NISOURCE INC	0.03%
GROUND TRANSP	0.81%	ANALOG DEVICES INC	0.29%	METALS & MINING	0.45%	PUBLIC SERVICE ENTERPRISE GRP	0.09%



Exhibit 57: Latest month's end S&P 500 weights for companies sorted by sectors/industries

Company Distribution of S&P 500 by GICS Sector/Industry Classifications as of 3/31/2023

Sector/Industry	Wgt	Sector/Industry	Wgt	Sector/Industry	Wgt	Sector/Industry	Wgt
CSX CORPORATION	0.18%	APPLIED MATERIALS INC	0.30%	FREEPORT-MCMORAN INC	0.17%	SEMPRA	0.14%
J.B. HUNT TRANSPORT SERVICES	0.04%	BROADCOM INC	0.78%	NEWMONT CORP	0.11%	WEC ENERGY GROUP INC	0.09%
NORFOLK SOUTHERN CORP	0.14%	ENPHASE ENERGY INC	0.08%	NUCOR CORP	0.11%	WATER UTILITIES	0.08%
OLD DOMINION FREIGHT LINE INC	0.09%	FIRST SOLAR INC	0.06%	STEEL DYNAMICS INC	0.05%	AMERICAN WATER WORKS CO INC	0.08%
UNION PACIFIC CORP	0.36%	INTEL CORP	0.39%	REAL ESTATE	2.56%		
IND CONGLOMERATES	0.84%	KLA CORPORATION	0.16%	HEALTH CARE REITS	0.18%		
3M CO	0.17%	LAM RESEARCH CORP	0.21%	HEALTHPEAK PROPERTIES INC	0.03%		
GENERAL ELECTRIC CO	0.30%	MICROCHIP TECHNOLOGY INC	0.13%	VENTAS INC	0.05%		
HONEYWELL INTL INC	0.37%	MICRON TECHNOLOGY INC	0.19%	WELLTOWER INC	0.10%		
MACHINERY	1.80%	MONOLITHIC POWER SYSTEMS	0.07%	HOTEL & RESORT REITS	0.03%		
CATERPILLAR INC	0.35%	NVIDIA CORP	1.99%	HOST HOTELS & RESORTS INC	0.03%		
CUMMINS INC	0.10%	NXP SEMICONDUCTOR NV	0.14%	INDUSTRIAL REITS	0.34%		
DEERE & CO	0.33%	ON SEMICONDUCTOR CORP	0.10%	PROLOGIS INC	0.34%		
DOVER CORP	0.06%	QORVO, INC	0.03%	OFFICE REITS	0.08%		
FORTIVE CORP	0.07%	QUALCOMM INC	0.41%	ALEXANDRIA REAL ESTATE EQTY	0.06%		
IDEX CORP	0.05%	SKYWORKS SOLUTIONS INC	0.05%	BOSTON PROPERTIES INC	0.02%		
ILLINOIS TOOL WORKS INC	0.20%	SOLAREDGE TECHNOLOGIES INC	0.05%	REAL ESTATE M&D	0.07%		
INGERSOLL RAND INC	0.07%	TERADYNE INC	0.05%	CBRE GROUP INC	0.07%		
NORDSON CORP	0.03%	TEXAS INSTRUMENTS INC	0.49%	RESIDENTIAL REITS	0.34%		
OTIS WORLDWIDE CORP	0.10%	SOFTWARE	9.45%	AVALONBAY COMMUNITIES INC	0.07%		
PACCAR INC	0.11%	ADOBE INC	0.51%	CAMDEN PROPERTY TRUST	0.03%		
PARKER-HANNIFIN CORP	0.13%	ANSYS INC	0.08%	EQUITY RESIDENTIAL	0.06%		
PENTAIR PLC	0.03%	AUTODESK INC	0.13%	ESSEX PROPERTY TRUST	0.04%		

Source: BofA Global Research.

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Appendix

Bull market signposts methodology

Our bull market signposts are a composite of 10 indicators that have historically signaled market bottoms in seven prior bear markets. All indicators are calculated on a month-end basis. See definitions of signposts below and a deep dive on our [bull market signposts \(note\)](#) for more information.

Fed cutting rates

During the prior seven bear markets, the Fed always cut before the market bottomed.

Unemployment rates rise (vs. 12-mo. low)

Rising unemployment rates preceded Fed rate cuts. The unemployment rate typically rose from its 12-mo. lows before the market bottomed.

More bears than bulls (AAII)

The AAI US Investment Sentiment Readings have been a reliable contrarian indicator when marking a bottom. During prior bear markets, the net bullish reading (bullish – bearish) was typically deeply bearish when the market bottomed.

Equity risk premium (ERP) increases by >75bps vs. 12-mo. low

Prior bear markets were accompanied by a rising ERP, as increased risk in stocks lead to investors requiring higher risk premium. Historically, stocks bottomed after adequately pricing in a downturn via higher ERP of at least 75bps. We calculate ERP as trailing earnings yield – real 10yr rates.

50bps+ decline in the 2-yr yield (vs. 6-mo. high)

The 2-yr yield fell at least 50 bps from its 6-month highs ahead of prior bull markets.

Sell Side Indicator Buy signal (prior 3m)

The Sell Side Indicator (SSI) is based on our survey of the Wall Street Strategists that submit their asset allocation recommendations to us. For this indicator, we use the simple average of the recommended equity weighting for each strategist as of the last business day of each month. The thresholds for the Buy and Sell readings are rolling 15-year +/- 1 standard deviations from the rolling 15-year mean. The SSI has been a reliable contrarian indicator over time. In other words, it has been a bullish signal when Wall Street strategists were extremely bearish, and vice versa.

Yield curve steepens (vs. 6 mo. low)

A widening 2-10yr yield spread indicates improving economic activity and/or a more dovish Fed.

5%+ bear market rallies (prior 3m)

Historically, bear market rallies of 5%+ occurred before the market ultimately bottomed.

Rule of 20 (trailing P/E + CPI < 20)

The sum of trailing P/E and CPI fell below 20 before prior market bottoms.

PMI improves (vs. 12-mo YoY low)

Historically, the S&P 500 troughed with some visibility into a recovery. The ISM Manufacturing PMI typically improved on a YoY basis vs. its 12-month lows ahead of market bottoms. We compared the YoY change in PMI to the YoY trough over the past 12 months.



Trigger lags

Exhibit 58: How many months before the bottom was the metric triggered?

of months indicators triggered before market bottoms

Metrics

	Sep-74	Jul-82	Nov-87	Oct-90	Sep-02	Feb-09	Mar-20	Average
Fed cutting rates (12m)	3	13	1	16	20	17	8	11
Unemployment rates rise (6m)	11	12		3	29	21	0	13
More bears than bulls (AAII) (3m)			0	2		10	2	4
ERP increases by >75bps from trough (12m)	21	9	2	4	6	9	2	8
Decreasing 2-yr yield (6m/12m)		1	2	4	5	6	1	3
Sell side indicator buy signal			1	0		0		0
Yield curve steepens		6		0	1	2	1	2
5% bear market rallies (prior 3m)	3		2		2	1	0	2
Rule of 20 (prior 12m)		17	2	3		6	0	6
PMI improves (12m YoY)		8	12	14	20	2	6	10

Source: BofA US Equity & Quant Strategy

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R1}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R1} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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