S&P 500 Relative Value Cheat Sheet

Opportunities, value traps and sector surprises

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Equity and Quant Strategy
United States

Savita Subramanian
Equity & Quant Strategist
BofAS
+1 646 855 3878
savita.subramanian@bofa.com

Ohsung Kwon, CFA
Equity & Quant Strategist
BofAS
+1 646 855 1683
ohsung.kwon@bofa.com

Jill Carey Hall, CFA
Equity & Quant Strategist
BofAS
+1 646 855 3327
jill.carey@bofa.com

Alex Makedon
Equity & Quant Strategist
BofAS
+1 646 855 5982
alex.makedon@bofa.com

Victoria Roloff
Equity & Quant Strategist
BofAS
+1 646 743 6339
victoria.roloff@bofa.com

Nicolas Woods
Equity & Quant Strategist
BofAS
nicolas.woods_barron@bofa.com

For 2024, buy beta, dividend yield and cyclicality

Profits are accelerating, a Fed easing cycle is in the wings, the Global Wave troughed (see Wave), and the balance of evidence from earnings so far skew soft vs. hard landing (see earnings wk1). Cyclical sectors are neglected and inexpensive, and benefit from falling short rates which could also push retiree's cash back into dividends (plus 4 other reasons – see 5 reasons for divs.) Of our four overweighted sector, Real Estate and Banks/Financials look best positioned. We are also overweight Cons Discretionary and Energy, the two other highest beta sectors in the S&P 500.

For 1Q, own TMT, Real Estate. Sell Materials, Health Care.

Communication Services (Tech/Media/Telecom) #1 in our quantitative industry rotation model, and has been for 10 of 11months but its overall score dropped to 26 (put of 33) the lowest since January 2023. Real Estate jumped 3 spots to #2 and within it, Hotel & Resort REITs and Retail REITs screen as Opportunities, two contrarian picks. Materials rank the lowest for the third straight month, and Health Care is still the 2nd worst.

See the industry ranks in Exhibit 13 and backtested results for Opportunities, Value Traps and Momentum Breakdown on page 7.

Also see Exhibit 4 - Exhibit 7 for industries that trade at extreme valuations vs. peers (e.g. GLP-1 losers, infrastructure vs. travel, streaming vs. media, etc.).

What's moving: Green shoots brewing in early cyclicals

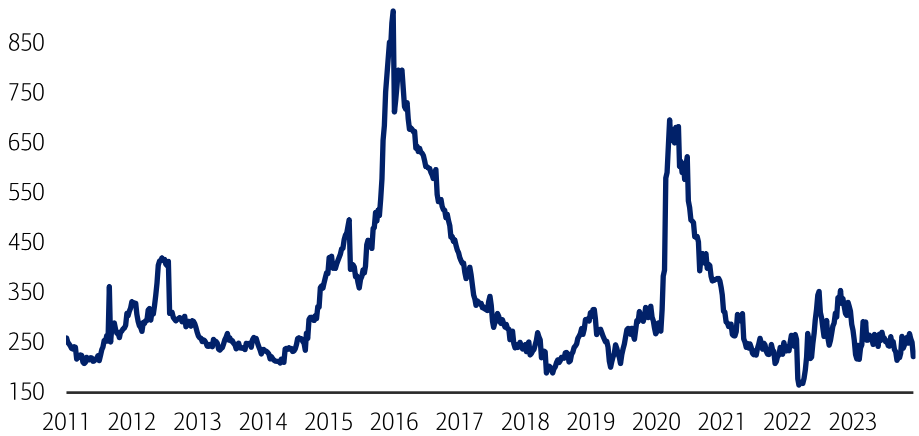
We remain positive on earnings and see encouraging signs from early cycle industries. Trucking volume improved for the ninth straight month since April and rail volume inflected higher recently. Semiconductors provided upbeat results and outlook (e.g. Taiwan Semis and ASML), despite some weakness in autos & industrials.

Surprising stat: only 200bp risk priced in for private co's

Private equity AUM grew 90% in 2018-21, similar to the gain on the S&P 500 of 100%. But a sectoral breakdown of the growth indicates private equities took on much bigger exposure to ZIRP winners (long duration Tech & Health Care), which drove 75% of the AUM growth during the period (vs. 47% of SPX gain). While public market ZIRP winners have been aggressively marked down (e.g. SPAC -40% since peak), we suspect late-stage private ZIRP winners have yet to see a similar magnitude of markdowns. One notable evidence of that is the spread between the cost of debt issued by private companies vs. the overall high yield market (Exhibit 1), which is at the bottom 10th percentile in history – too little risk may be priced into the private sector vs. public.

We shortened our report, but the underlying data driving these conclusions and exhibits that we previously had in the report are available on request.

Exhibit 1: Cost of debt from private companies vs. the overall high yield market is at the bottom 10th percentile
Spread between small private Bs/CCCs vs. overall high yield (2011-1/5/24)



Source: BofA Global Research

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S&P 500: cheap or expensive?

Exhibit 2: S&P 500 Valuations – shading indicates that metric is statistically expensive relative to history (as of 1/23/24)
S&P 500 valuation metrics

Metric	Current	Average	Avg. ex. Tech Bubble	Min	Max	% Above (below) avg	Z-Score	History
Trailing PE	22.2	14.8	14.5	5.2	30.5	49.3%	1.5	1960-present
Trailing GAAP PE	26.3	15.1	14.8	4.2	122.4	74.1%	1.3	1832-present
Forward Consensus PE	20.0	15.8	15.0	9.8	25.1	26.9%	1.2	1986-present
Trailing Normalized PE	23.9	19.1	17.8	9.2	34.5	25.5%	1.0	9/1987-present
Median Forward P/E	17.0	15.5	15.3	10.0	21.9	9.7%	0.7	1986-present
Shiller PE	30.8	17.4	16.8	4.8	44.2	77.1%	1.9	1881-present
P/BV	4.6	2.7	2.5	1.0	5.3	71.3%	1.9	1978-present
EV/EBITDA	14.5	10.5	10.2	6.0	17.1	37.5%	1.7	1986-present
Trailing PEG	2.2	1.7	1.6	1.1	3.2	31.6%	1.5	1986-present
Forward PEG	1.9	1.4	1.4	0.9	3.5	34.6%	1.4	1986-present
P/OCF	16.8	11.3	10.7	5.4	19.3	48.7%	1.6	1986-present
P/FCF	28.8	27.8	25.0	12.9	65.7	3.4%	0.1	1986-present
EV/Sales	2.9	2.0	1.9	0.9	3.4	46.9%	1.6	1986-present
ERP (Market-Based)	566.0	504.7	521.1	136.0	880.0	12.2%	0.2	11/1980-present
Normalized ERP	237	348	393	-143	880	-31.7%	-0.6	1987-present
S&P 500 Div. Yld. vs. 10yr Tsy. Yld.	0.5	1.2	1.2	0.2	4.2	-62.6%	0.0	1792-present
S&P 500 in WTI terms	49.3	26.9	24.6	2.7	175.3	83.3%	36.5	1960-present
S&P 500 in Gold terms	2.2	1.6	1.4	0.2	5.5	34.7%	0.0	1968-present
S&P 500 vs. R2000 Fwd. P/E	1.4	1.0	1.0	0.8	1.7	32.7%	0.3	1986-present
S&P 500 Market Cap/GDP	1.27	0.66	0.63	0.22	1.64	92.8%	3.1	1964-present

Source: *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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Relative sector/industry valuations

Exhibit 3: Relative valuation (vs. S&P 500) by sector (based on data from 1986 - 12/23)
Relative price to book, price to operating cash flow, price to earnings by sector

	Price to Book (Relative)			Price to Operating Cash Flow (Relative)			Forward P/E (Relative)		
Sector	**Current**	**Average**	**Implied upside**	**Current**	**Average**	**Implied upside**	**Current**	**Average**	**Implied upside**
S&P 500 (absolute metrics)	**4.57**	**2.96**	**-35%**	**16.84**	**11.28**	**-33%**	**19.58**	**15.80**	**-19%**
Consumer Discretionary	2.12	1.36	-36%	1.10	0.91	-17%	1.34	1.06	-21%
Consumer Staples	1.22	1.69	38%	0.95	1.27	34%	0.99	1.13	14%
Energy	0.48	0.77	62%	0.38	0.72	90%	0.56	1.05	88%
Financials	0.46	0.59	29%	N/A	N/A	N/A	0.76	0.77	2%
Health Care	1.07	1.69	58%	1.06	1.56	48%	0.92	1.09	18%
Industrials	1.29	1.16	-10%	0.99	1.01	2%	1.02	1.01	-1%
Information Technology	2.52	1.50	-41%	1.60	1.23	-23%	1.35	1.12	-17%
Materials	0.66	0.90	36%	0.76	0.89	16%	0.99	1.04	5%
Real Estate	0.65	0.87	35%	N/A	N/A	N/A	0.89	1.53	72%
Communication Services	0.87	1.00	14%	0.70	0.84	20%	0.89	1.18	32%
Utilities	0.42	0.60	44%	0.59	0.65	9%	0.81	0.89	10%

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

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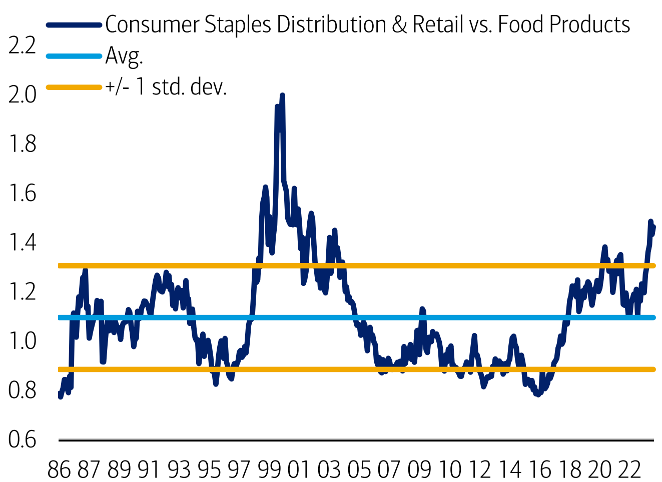
Industry valuation extremes

We highlight industries that trade at extreme valuations relative to their peers in the same sector.

Exhibit 4: GLP-1 risk in Food Products? Staples Distribution & Retail trades at an extreme valuation premium vs. Food Products
Relative Fwd P/E of Consumer Staples Distribution & Retail vs. Food Products (1986-2023)



Source: FactSet, BofA US Equity & Quant Strategy

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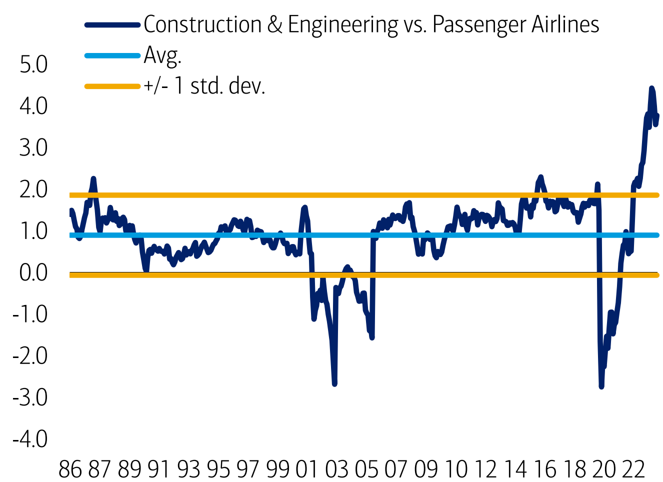
Exhibit 5: Infrastructure winners trade at an extreme premium vs. Airlines facing service spend normalization & cost inflation
Relative Fwd P/E of Construction & Engineering vs. Passenger Airlines (1986-2023)



Source: FactSet, BofA US Equity & Quant Strategy

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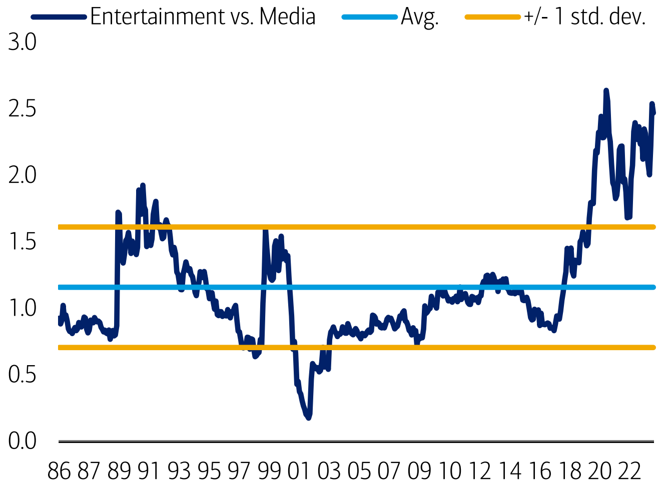
Exhibit 6: Streaming services trade at an extreme premium vs. traditional Media

Relative Fwd P/E of Entertainment vs. Media (1986-2023)



Source: FactSet, BofA US Equity & Quant Strategy

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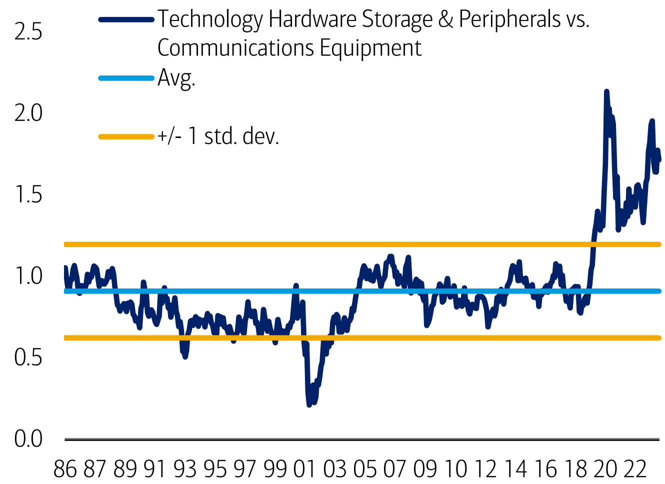
Exhibit 7: Tech Hardware trades at an extreme premium vs. Communications Equipment

Relative Fwd P/E of Tech Hardware vs. Communications Equipment (1986-2023)



Source: FactSet, BofA US Equity & Quant Strategy

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Tactical sector & industry framework

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 8: S&P 500 Momentum & Value Framework Sector Ranks as of 12/23

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

Sector	Combined Rank	Price Momentum Rank	EPS Revision Rank	Valuation Rank
Communication Services	**26**	6	10	10
Real Estate	**25**	11	5	9
Information Technology	**23**	10	11	2
Financials	**22**	9	8	5
Utilities	**19**	4	7	8
Consumer Discretionary	**17**	7	9	1
Energy	**16**	1	4	11
Consumer Staples	**15**	2	6	7
Industrials	**13**	8	2	3
Health Care	**12**	3	3	6
Materials	**10**	5	1	4

Source: BofA US Equity & US Quant Strategy

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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).

Industry framework performance

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

Exhibit 9: Relative performance of Opportunities, Value Traps and Momentum Breakdowns (as of 12/23)

Relative performance vs. equal-weighted S&P industries

	1m	3m	6m	12m	YTD	2yr	Ann'zed	3yr	Ann'zed	5yr	Ann'zed
Opportunities	-0.7%	0.2%	-0.8%	-3.0%	-3.0%	-2.0%	-1.0%	-0.5%	-0.1%	6.8%	0.9%
Value Traps	1.0%	1.1%	1.4%	1.3%	1.3%	8.1%	4.1%	-2.1%	-0.6%	-23.2%	-3.2%
Momentum Breakdown	0.0%	-0.1%	0.3%	16.2%	16.2%	-3.5%	-1.8%	-25.4%	-8.2%	-52.6%	-7.8%

Source: BofA Us Equity & US Quant Strategy

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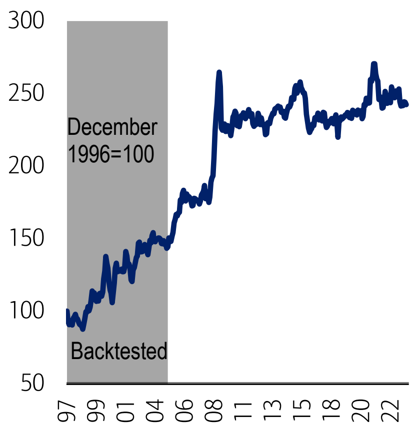
Exhibit 10: "Opportunities" Cumulative Relative Performance, 12/1996-12/2023 (backtested)

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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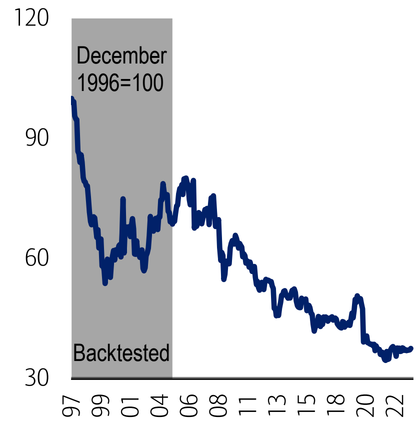
Exhibit 11: "Value Traps" Cumulative Relative Performance, 12/1996-12/2023 (backtested)

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
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forward. See Appendix for performance data and calculation methodology.

Source: BofA US Equity & US Quant Strategy

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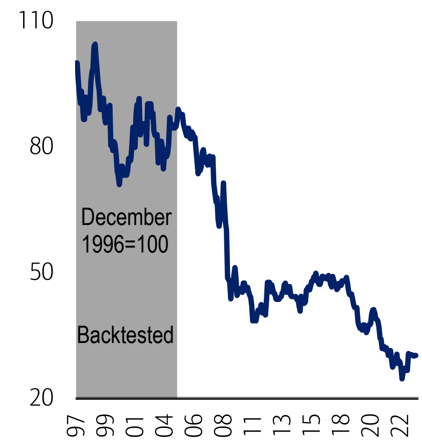
Exhibit 12: "Momentum Breakdowns" Cumulative Relative Performance, 12/1996-12/2023 (backtested)

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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Exhibit 13: S&P 500 Momentum & Value Framework - industry ranks as of 12/23
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
Hotel & Resort Reits	Real Estate	28	10	9	9	Opportunity
Independent Power And Renewable Electricity Producers	Utilities	27	10	8	9	Opportunity
Consumer Finance	Financials	26	10	8	8	Opportunity
Interactive Media & Services	Communication Services	25	5	10	10	
Retail Reits	Real Estate	25	10	6	9	Opportunity
Office Reits	Real Estate	24	10	4	10	
Industrial Conglomerates	Industrials	23	7	10	6	Opportunity
Construction Materials	Materials	23	8	9	6	Opportunity
Household Durables	Consumer Discretionary	23	10	5	8	
Diversified Telecommunication Services	Communication Services	22	7	5	10	
Banks	Financials	22	9	5	8	
Hotels Restaurants & Leisure	Consumer Discretionary	22	7	10	5	
Semiconductors & Semiconductor Equipment	Information Technology	22	9	10	3	
Entertainment	Communication Services	21	8	7	6	Opportunity
Trading Companies & Distributors	Industrials	21	10	7	4	
Media	Communication Services	20	1	9	10	
Software	Information Technology	20	8	10	2	
Broadline Retail	Consumer Discretionary	20	9	10	1	
Building Products	Industrials	20	7	9	4	
Insurance	Financials	19	3	10	6	
Energy Equipment & Services	Energy	19	1	8	10	
Aerospace & Defense	Industrials	19	9	8	2	
Residential Reits	Real Estate	18	5	4	9	
Consumer Staples Distribution & Retail	Consumer Staples	18	6	9	3	
Electronic Equipment Instruments & Components	Information Technology	18	6	7	5	
Health Care Providers & Services	Health Care	17	3	7	7	
Electric Utilities	Utilities	17	4	7	6	
Commercial Services & Supplies	Industrials	17	8	8	1	
Biotechnology	Health Care	17	4	6	7	
Beverages	Consumer Staples	17	3	7	7	
Multi-Utilities	Utilities	17	4	5	8	
Electrical Equipment	Industrials	17	5	9	3	
Construction & Engineering	Industrials	17	8	8	1	
Health Care Reits	Real Estate	16	6	6	4	
Oil Gas & Consumable Fuels	Energy	15	1	4	10	
Health Care Equipment & Supplies	Health Care	15	5	6	4	
Technology Hardware Storage & Peripherals	Information Technology	15	6	8	1	
Specialized Reits	Real Estate	15	6	2	7	
Communications Equipment	Information Technology	15	3	3	9	Value Trap
Capital Markets	Financials	15	8	4	3	
It Services	Information Technology	14	7	5	2	
Auto Components	Consumer Discretionary	14	1	6	7	
Distributors	Consumer Discretionary	14	2	4	8	
Passenger Airlines	Industrials	14	3	1	10	Value Trap
Industrial Reits	Real Estate	14	8	3	3	
Household Products	Consumer Staples	13	2	6	5	
Tobacco	Consumer Staples	13	1	4	8	
Food Products	Consumer Staples	13	2	3	8	Value Trap
Textiles Apparel & Luxury Goods	Consumer Discretionary	13	9	2	2	
Machinery	Industrials	13	5	3	5	
Specialty Retail	Consumer Discretionary	13	5	3	5	
Financial Services	Financials	12	4	5	3	
Professional Services	Industrials	12	3	5	4	
Air Freight & Logistics	Industrials	12	2	3	7	Value Trap
Real Estate Management & Development	Real Estate	12	9	1	2	
Containers & Packaging	Materials	11	5	3	3	
Chemicals	Materials	11	4	2	5	
Metals & Mining	Materials	11	6	1	4	
Leisure Products	Consumer Discretionary	11	1	1	9	Value Trap
Pharmaceuticals	Health Care	10	2	2	6	Value Trap
Ground Transportation	Industrials	9	7	1	1	
Personal Care Products	Consumer Staples	9	3	1	5	
Life Sciences Tools & Services	Health Care	8	4	2	2	
Automobiles	Consumer Discretionary	**5**	2	2	1	

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: (Current E/P – Historical Avg. E/P) / 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.

Disclosures

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 both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 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. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. 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[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.

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 BofA Global Research report referencing the stock.

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