

Small/Mid Cap Factors: a PM's Guide

Three strategies for 2024

Small Cap

Stick with Value over Growth

While small cap active funds had a challenging year (see: [Mutual Fund Performance](#)) and fundamental factors had a relatively low explanatory power on 2023 small cap stock returns, Value funds fared best. Overall, buying cheap stocks and selling expensive stocks was the route to alpha within small caps in 2023. Even though the Russell 2000 Growth index beat the Value index, Value was the best-performing small cap style, both long (+11ppt top quintile vs. equal-weighted Russell 2000) and long-short (+21ppt Q1-Q5), led by stocks with high FCF yields (FCF = [our favored Value attribute in '23](#)) and EBITDA/EV. But small cap Value is still historically cheap relative to Growth (see [SMID Valuations](#)), and multiple factors support potential continued Value outperformance in 2024: accelerating profits growth, end of the hiking cycle, fewer non-earners/low quality stocks vs. Growth (see [SMID Year Ahead](#)).

Own the “SMEARNERS”

We still see limited appetite for low quality/risky small caps, and in 2023, Quality was the second-best performing style (+6ppt vs. index and +14ppt long-short). Quality tends to outperform in Downturns and underperform in Recoveries (two phases our US Regime Indicator is oscillating between; more below), but a rising VIX in 2H24 ahead of the election supports sticking with Quality. And if rates stay elevated, duration risks for non-earners lead us to prefer the “SMEARNERS” (small cap earners).

Hedge regime risk: own cash return stocks

Our team's US Regime Indicator (based on a 3m moving avg. of eight macro inputs) shifted back into Downturn in late '23 after a short Recovery, but more of the underlying 1m signals improved vs deteriorated last month (see: [Quant Profiles](#)). While different styles tend to work in Downturns vs Recoveries (Exhibit 7), a style that has consistently led in both regimes is Cash Return. And buybacks (which have outperformed over the last two years within small caps) could continue to be rewarded in a size segment that is still historically cheap. Additionally, as Savita Subramanian pointed out in our large cap quant note above, falling cash yields make equity income more attractive. Cash Return been the top long-short style (besides GARP) over the last three months within small.

Screen of the month: Stocks that could surprise on results

So far in January, Estimate Revisions and Earnings Surprise have been two of the most alpha-generative small cap factors caps (long-short spreads of +4ppt/+3ppt, respectively). Inside we screen for small and mid-caps that could positively/negatively surprise this earnings season, based on Buy-/Underperform-rated stocks where our analysts are above-/below consensus on 4Q EPS and sales and that also beat/missed expectations last quarter. Also see our [Earnings Tracker](#) for the more on 4Q results/guidance in SMID.

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

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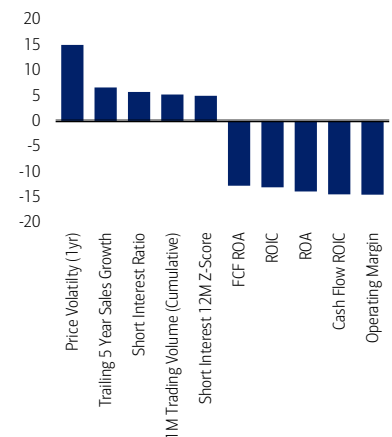
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Exhibit 1: Russell 2000 top 5/bottom 5 factors by Q1-Q5 spreads in Dec. (ppt)

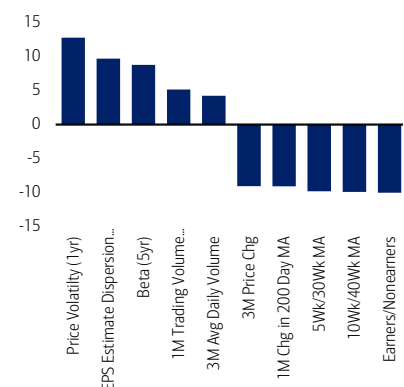
Price Volatility (1yr) best; Operating Margin worst



Source: FactSet, BofA US Equity & Quant Strategy
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Exhibit 2: Russell Midcap top 5/bottom 5 factors by Q1-Q5 spreads in Dec. (ppt)

Price Volatility (1yr) best; Earnings/Nonearners worst



Source: FactSet, BofA US Equity & Quant Strategy
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Screens of the month: 4Q surprise screens

Below we include a screen of small-and mid-cap (S&P 600/400) stocks which could beat/miss this earnings season - based on Buy/Underperform-rated stocks where our analysts' estimates are above/below consensus and which beat/missed last quarter (beat on both EPS and sales for positive surprise screen, missed on either for negative surprise screen).

Exhibit 3: Small & Mid Cap 4Q positive surprise screen

Buy-rated small/mid-cap stocks likely to beat based on quantitative inputs above

Ticker	Company Name	Sector	Expected Report Date	BofA vs. Consensus EPS: Z-Score	BofA vs. Consensus Sales: Z-Score	Last Qtr: EPS/Sales Surprise	Price	Mkt Cap (\$mn)	BofA Rating
ELF	e.l.f. Beauty, Inc.	Consumer Staples	2/6/2024	1.7	1.7	BOTH BEAT	108.72	8,493	BUY
PPC	Pilgrim's Pride Corporation	Consumer Staples	2/26/2024	0.3	1.6	BOTH BEAT	24.47	6,618	BUY
ITT	ITT, Inc.	Industrials	2/8/2024	0.2	1.0	BOTH BEAT	100.47	9,974	BUY
ESNT	Essent Group Ltd.	Financials	2/9/2024	1.5	0.8	BOTH BEAT	49.45	5,891	BUY
NMIH	NMI Holdings, Inc. Class A	Financials	2/14/2024	0.5	1.9	BOTH BEAT	28.04	2,460	BUY
BXMT	Blackstone Mortgage Trust, Inc. Class A	Financials	2/14/2024	0.9	0.4	BOTH BEAT	21.76	3,549	BUY
CROX	Crocs, Inc.	Consumer Discretionary	2/16/2024	1.4	0.6	BOTH BEAT	87.23	6,183	BUY
TOL	Toll Brothers, Inc.	Consumer Discretionary	2/21/2024	0.2	1.4	BOTH BEAT	72.44	10,726	BUY
WING	Wingstop, Inc.	Consumer Discretionary	2/21/2024	0.6	1.6	BOTH BEAT	184.51	8,290	BUY
PRG	PROG Holdings, Inc.	Financials	2/21/2024	0.6	1.1	BOTH BEAT	30.59	1,364	BUY
UPBD	Upbound Group, Inc.	Consumer Discretionary	2/23/2024	1.4	1.2	BOTH BEAT	29.72	1,828	BUY
MP	MP Materials Corp Class A	Materials	2/23/2024	0.2	0.4	BOTH BEAT	18.85	2,852	BUY
URBN	Urban Outfitters, Inc.	Consumer Discretionary	2/27/2024	1.0	1.0	BOTH BEAT	34.61	3,753	BUY
TREX	Trex Company, Inc.	Industrials	2/27/2024	1.2	0.2	BOTH BEAT	57.92	9,099	BUY
PGNY	Progyny, Inc.	Health Care	2/27/2024	0.2	0.5	BOTH BEAT	32.90	3,647	BUY
STRA	Strategic Education, Inc.	Consumer Discretionary	2/29/2024	0.7	0.4	BOTH BEAT	82.95	2,353	BUY
OLLI	Ollie's Bargain Outlet Holdings Inc	Consumer Discretionary	3/22/2024	0.2	0.2	BOTH BEAT	72.90	4,565	BUY

Source: FactSet, BofA US Equity & US Quant Strategy Note: This screen is not a recommended list either individually or as a group of stocks. Investors should consider the fundamentals of the companies and their own individual circumstances/objectives before making any investment decisions. Prices as of close 1/25/24

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Exhibit 4: Small & Mid Cap 4Q negative surprise screen

Underperform-rated small/mid cap stocks likely to miss based on quantitative inputs above

Ticker	Company	Sector	Expected Report Date	BofA vs. Consensus EPS: Z-Score	BofA vs. Consensus Sales: Z-Score	Last Qtr: EPS/Sales Surprise	Price	Mkt Cap (\$mn)	BofA Rating
SANM	Sanmina Corporation	Information Technology	1/29/2024	-1.39	-0.77	BOTH MISS	51.32	2,939	UNDERPERFORM
CLB	Core Laboratories Inc.	Energy	1/31/2024	-1.2	-1.5	IN-LINE EPS/SALES MISS	16.68	722	UNDERPERFORM
NFG	National Fuel Gas Company	Utilities	2/2/2024	-0.86	-0.85	BOTH MISS	47.40	4,371	UNDERPERFORM
EHAB	Enhabit, Inc.	Health Care	2/15/2024	-1.20	-0.42	BOTH MISS	10.70	540	UNDERPERFORM
JBT	John Bean Technologies Corporation	Industrials	2/21/2024	-0.61	-0.03	EPS BEAT/SALES MISS	101.47	3,175	UNDERPERFORM
VAC	Marriott Vacations Worldwide Corporation	Consumer Discretionary	2/21/2024	-2.44	-1.17	BOTH MISS	87.79	2,955	UNDERPERFORM
NOG	Northern Oil and Gas, Inc.	Energy	2/23/2024	-0.56	-0.54	EPS BEAT/SALES MISS	34.75	3,402	UNDERPERFORM
AAP	Advance Auto Parts, Inc.	Consumer Discretionary	2/28/2024	-0.2	-0.1	SALES BEAT/EPS MISS	66.13	3,894	UNDERPERFORM
KSS	Kohl's Corporation	Consumer Discretionary	3/1/2024	-0.89	-1.06	EPS BEAT/SALES MISS	27.50	2,885	UNDERPERFORM
JWN	Nordstrom, Inc.	Consumer Discretionary	3/1/2024	-1.09	-2.18	EPS BEAT/SALES MISS	19.48	3,040	UNDERPERFORM
GBX	Greenbrier Companies, Inc.	Industrials	4/10/2024	-1.47	-2.12	SALES BEAT/EPS MISS	46.36	1,425	UNDERPERFORM

Source: FactSet, BofA US Equity & US Quant Strategy Note: This screen is not a recommended list either individually or as a group of stocks. Investors should consider the fundamentals of the companies and their own individual circumstances/objectives before making any investment decisions. Prices as of close 1/25/24

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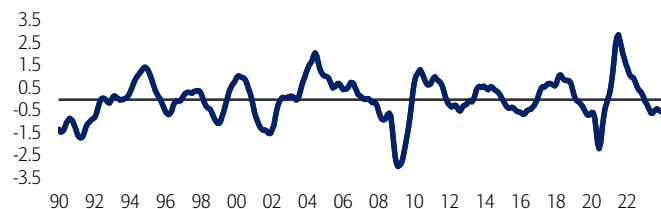


Style performance in US regimes

Our team's US Regime Indicator (see [Year Ahead](#) report and the Appendix of this report for details) aggregates top-down variables that capture earnings and economic growth expectations, inflation, credit conditions, and other variables to yield four phases (charts below). The indicator (which is based on smoothed 3mo. data) has declined for the past several months, again in the "Downturn" phase after a brief "Recovery" but has shown improvement on its underlying one-month signals the past two months. To complement our work within large caps, we analyzed small-cap style performance during each phase of the cycle, below. Value has typically led in Recovery phases while Quality outperforms in Downturns; Cash Return strategies typically outperform in both phases.

Exhibit 5: Macro muddle: US Regime Indicator has recently bounced from Downturn to Recovery and back to Downturn

US Regime Indicator, 1/970-12/2023

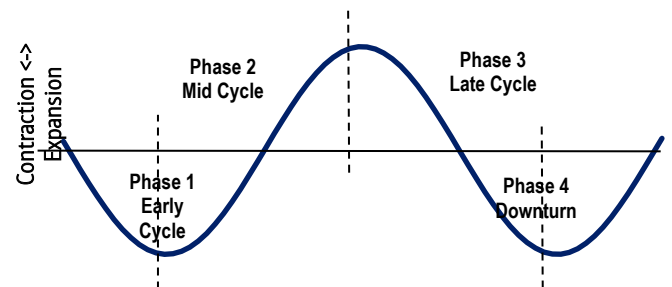


Source: BofA US Equity & US Quant Strategy, Refinitiv, ICE Data Indices, LLC, ISM Federal Reserve, Bureau of Labor Statistics. See Appendix for Methodology. Disclaimer: The indicator identified as US Regime Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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Exhibit 6: Whipsaw risk: Value/Small/Risk outperforms in Recovery, Quality/Low Risk/Large outperforms in Downturns

US Regimes – a heuristic



Source: BofA US Equity & US Quant Strategy

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Exhibit 7: Value has historically performed best in Early Cycle

Small-cap factor group performance during phases of our US Regime Indicator (January 1990-present; back-tested)

Quintile 1 vs. Index		Valuation	Quality	Liquidity	Growth	Risk	Momentum	Leverage	Cash Deployment	Size
Early Cycle	Median	12%	1%	-1%	2%	1%	0%	-3%	2%	-3%
	Hit Rate	88%	50%	50%	63%	63%	50%	38%	75%	25%
Mid Cycle	Median	4%	2%	2%	4%	5%	2%	1%	-4%	-2%
	Hit Rate	63%	75%	63%	75%	75%	75%	88%	25%	50%
Late Cycle	Median	0%	7%	0%	0%	-10%	0%	1%	6%	3%
	Hit Rate	44%	100%	56%	56%	11%	78%	67%	78%	89%
Recession	Median	-1%	3%	1%	0%	-7%	5%	-2%	4%	3%
	Hit Rate	43%	71%	57%	43%	29%	71%	43%	71%	71%
Quintile 5 vs. Index		Valuation	Quality	Liquidity	Growth	Risk	Momentum	Leverage	Cash Deployment	Size
Early Cycle	Median	-9%	-7%	-6%	-1%	-3%	4%	-2%	-2%	-2%
	Hit Rate	38%	38%	25%	38%	38%	50%	50%	25%	50%
Mid Cycle	Median	1%	3%	-6%	0%	-6%	-3%	2%	0%	-2%
	Hit Rate	50%	63%	0%	38%	13%	13%	63%	38%	25%
Late Cycle	Median	-9%	-13%	-2%	-7%	8%	-12%	-5%	-1%	-9%
	Hit Rate	11%	0%	22%	11%	67%	0%	33%	22%	0%
Recession	Median	-3%	-7%	-4%	-4%	6%	-10%	-4%	-3%	-5%
	Hit Rate	43%	14%	14%	14%	86%	0%	29%	14%	14%
Quintile 1-Quintile 5		Valuation	Quality	Liquidity	Growth	Risk	Momentum	Leverage	Cash Deployment	Size
Early Cycle	Median	20%	4%	5%	4%	4%	-6%	5%	6%	-1%
	Hit Rate	88%	50%	75%	63%	63%	50%	75%	75%	50%
Mid Cycle	Median	4%	-4%	8%	6%	12%	7%	-2%	-6%	3%
	Hit Rate	50%	38%	88%	75%	75%	88%	38%	13%	63%
Late Cycle	Median	13%	19%	2%	7%	-19%	13%	2%	8%	17%
	Hit Rate	89%	100%	56%	100%	11%	100%	89%	78%	100%
Recession	Median	2%	7%	3%	7%	-12%	15%	2%	7%	10%
	Hit Rate	71%	86%	71%	86%	14%	100%	57%	86%	71%

Note: Hit rate = % of periods in which style outperformed the equal-weighted Russell 2000. For complete definitions of our factors, please see the Appendix. Back-tested performance is hypothetical in nature and reflects application of the screen and is not intended to be indicative of future performance. Back-tested performance here is the annualized performance during each regime of the US Regime Indicator from January 1990 through the present, based on our top quintile factors of the Russell 2000. **Source:** FactSet financial data and analytics, BofA US Equity & US Quant Strategy

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Early Cycle factor playbook for small-cap investors

We show the best- and worst-performing factors – both long (Q1) and long-short (Q1-Q5) – during Recovery/Early Cycle periods of our US Regime Indicator. Value factors, such as CFO/P (LTM) and Sales/Price, were among the best long-short and long factors; EBITDA/EV was also a top long factor. Leverage and Short Interest factors fared poorly.

Exhibit 8: Top small-cap long factors (Q1 versus index) in Early Cycle (Back-tested)

Annualized performance (Q1-Russell 2000 equal-wtd index) and hit rates of top 15 Russell 2000 factors during Early Cycle regimes since 1990

Q1 vs. Index

Factor	Category	Avg	Median	Hit Rate
CFO/P (LTM)	Valuation	29%	19%	88%
EBITDA/EV	Valuation	17%	11%	88%
Sales/EV	Valuation	17%	12%	88%
Book/Price	Valuation	16%	6%	88%
FCF Yield	Valuation	16%	11%	88%
Forward E/P	Valuation	16%	10%	88%
Trailing E/P	Valuation	11%	9%	88%
FCF/EV	Valuation	10%	9%	88%
FY1/FY0 Growth	Growth	5%	3%	88%
Sales/Price	Valuation	28%	15%	75%
Net Debt/Mkt Cap	Leverage	20%	13%	75%
Cumulative trading volume (-1m)	Liquidity	7%	5%	75%
3M Avg Daily Volume	Liquidity	6%	2%	75%
Dividends: Nonpayer-Payer	Cash Deployment	1%	2%	75%
1M Change 200 Day MA	Momentum	-4%	4%	75%

Source: FactSet, BofA US Equity & US Quant Strategy. Avg = average.

Note: Hit rate = % of periods in which Q1 outperformed Q5. For complete definitions of our factors, please see the Appendix. Back-tested performance is hypothetical in nature and reflects application of the screen and is not intended to be indicative of future performance. Back-tested performance here is the annualized performance during each regime of the US Regime Indicator from January 1990 through the present, based on our top quintile factors of the Russell 2000.

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Exhibit 9: Top small-cap long-short factors (Q1-Q5) in Early Cycle (Back-tested)

Annualized performance (Q1-Q5 spreads and hit rates) of top 15 Russell 2000 factors during Early Cycle regimes since 1990

Q1-Q5

Factor	Category	Avg	Median	Hit Rate
CFO/P (LTM)	Valuation	34%	43%	88%
Sales/Price	Valuation	33%	30%	88%
Book/Price	Valuation	20%	21%	88%
EBITDA/EV	Valuation	18%	24%	88%
FCF Yield	Valuation	11%	24%	88%
Sales/EV	Valuation	21%	25%	75%
Cumulative trading volume (-1m)	Liquidity	20%	14%	75%
Net Debt/Mkt Cap	Leverage	19%	27%	75%
3M Avg Daily Volume	Liquidity	16%	11%	75%
Trailing EG/P	GARP	16%	13%	75%
5Yr Beta	Risk	15%	1%	75%
FCF/EV	Valuation	9%	11%	75%
Net Debt/Equity	Leverage	7%	13%	75%
Forward E/P	Valuation	6%	17%	75%
Share Repurchase	Cash Deployment	6%	16%	75%

Source: FactSet, BofA US Equity & US Quant Strategy

Note: Hit rate = % of periods in which Q1 outperformed Q5. For complete definitions of our factors, please see the Appendix. Back-tested performance is hypothetical in nature and reflects application of the screen and is not intended to be indicative of future performance. Back-tested performance here is the annualized performance during each regime of the US Regime Indicator from January 1990 through the present, based on our top quintile factors of the Russell 2000.

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Exhibit 10: Bottom small cap long factors (Q1 versus index) in Early Cycle (Back-tested)

Annualized performance (Q1-Russell 2000 equal-wtd index) and hit rates of bottom 15 Russell 2000 factors during Early Cycle regimes since 1990

Factor	Category	Avg	Median	Hit Rate
SI Ratio	Miscellaneous	-12%	-10%	0%
Net Debt/EBITDA Adj.	Leverage	-12%	-12%	0%
Net Debt/EBITDA	Leverage	-9%	-9%	0%
Forward PEG	GARP	-8%	-5%	13%
3M Avg Daily \$ Volume	Liquidity	-8%	-8%	13%
Short interest 12m z-score	Miscellaneous	-8%	-8%	14%
Market Cap	Liquidity	-7%	-2%	25%
IBES Mean LT Growth	Growth	-3%	-7%	25%
Closing Price	Miscellaneous	-7%	-5%	38%
12M Price Change	Momentum	-7%	0%	38%
YoY Change in Trailing EPS	Growth	-5%	-3%	38%
Operating Margin Expansion	Growth	-4%	-5%	38%
Return on Avg Assets LTM	Quality	-4%	-2%	38%
3M Price Chg	Momentum	-3%	-2%	38%
ROE	Quality	-1%	-4%	38%

Source: FactSet, BofA US Equity & US Quant Strategy

Note: Hit rate = % of periods in which Q1 outperformed Q5. For complete definitions of our factors, please see the Appendix. Back-tested performance is hypothetical in nature and reflects application of the screen and is not intended to be indicative of future performance. Back-tested performance here is the annualized performance during each regime of the US Regime Indicator from January 1990 through the present, based on our top quintile factors of the Russell 2000.

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Exhibit 11: Bottom small cap long-short factors (Q1-Q5) in Early Cycle (Back-tested)

Annualized performance (Q1-Q5 spreads and hit rates) of bottom 15 Russell 2000 factors during Early Cycle regimes since 1990

Factor	Category	Avg	Median	Hit Rate
SI Ratio	Miscellaneous	-22%	-17%	0%
Forward PEG	GARP	-22%	-10%	13%
Net Debt/EBITDA	Leverage	-20%	-14%	13%
Net Debt/EBITDA Adj.	Leverage	-14%	-12%	13%
Short interest 12m z-score	Miscellaneous	-14%	-13%	14%
IBES Mean LT Growth	Growth	-8%	-9%	25%
Trailing 5 Year Sales Growth	Growth	-5%	-10%	25%
Trailing 5 Year EPS Growth	Growth	0%	-4%	25%
ROE	Quality	-10%	-3%	38%
3M Avg Daily \$ Volume	Liquidity	-10%	-11%	38%
1Yr Daily Price Volatility	Risk	14%	-3%	38%
Earnings Surprise	Growth	-4%	-3%	43%
12M Price Change	Momentum	-26%	-4%	50%
9M price change	Momentum	-24%	-7%	50%
Avg 1m & 12m price return rank	Momentum	-23%	-10%	50%

Source: FactSet, BofA US Equity & US Quant Strategy

Note: Hit rate = % of periods in which Q1 outperformed Q5. For complete definitions of our factors, please see the Appendix. Back-tested performance is hypothetical in nature and reflects application of the screen and is not intended to be indicative of future performance. Back-tested performance here is the annualized performance during each regime of the US Regime Indicator from January 1990 through the present, based on our top quintile factors of the Russell 2000.

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Downturn factor playbook for small-cap investors

Below we also provide the best- and worst-performing factors – both long (Q1) and long-short (Q1-Q5) – during Downturn/Recession regimes of our US Regime Indicator. FCF/EV and quality factors, such as FCF ROA and Return on Capital, were among the best long-short as well as long factors, and Share Repurchase was additionally a top long factor. Risk factors fared poorly overall.

Exhibit 12: Top small-cap long factors (Q1 versus index) in Downturns (Back-tested)

Annualized performance (Q1-Russell 2000 equal-weighted index) and hit rates of top 15 Russell 2000 factors during Downturn regimes since 1990

Q1	Category	Avg	Median	Hit Rate
Avg 1m price reversal & 12m price return rank	Momentum	7%	4%	100%
Return on Capital	Quality	6%	8%	100%
Share Repurchase	Cash Deployment	6%	3%	100%
10Wk/40Wk MA	Momentum	5%	4%	100%
FCF/EV	Valuation	9%	4%	83%
FCF ROA	Quality	7%	8%	83%
Cash Flow ROIC	Quality	6%	5%	83%
Dividend Yield (Payers Only)	Cash Deployment	6%	2%	83%
Estimate Diffusion	Growth	5%	6%	83%
Dividends: Nonpayer-Payer	Cash Deployment	5%	3%	83%
Dividend Growth	Cash Deployment	5%	3%	83%
1M Change 200 Day MA	Momentum	4%	2%	83%
Cumulative trading volume (-1m)	Liquidity	4%	3%	83%
Earnings/Nonreiners	Quality	3%	2%	83%
30wk/75wk MA	Momentum	3%	2%	83%

Source: FactSet, BofA US Equity & US Quant Strategy. Avg = average.

Note: Hit rate = % of periods in which Q1 outperformed Q5. For complete definitions of our factors, please see the Appendix. Back-tested performance is hypothetical in nature and reflects application of the screen and is not intended to be indicative of future performance. Back-tested performance here is the annualized performance during each regime of the US Regime Indicator from January 1990 through the present, based on our top quintile factors of the Russell 2000.

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Exhibit 13: Top small-cap long-short factors (Q1-Q5) in Downturns (Back-tested)

Annualized performance (Q1-Q5 spreads and hit rates) of top 15 Russell 2000 factors during Downturn regimes since 1990

Q1-Q5	Category	Avg	Median	Hit Rate
FCF/EV	Valuation	23%	18%	100%
FCF ROA	Quality	22%	21%	100%
Return on Capital	Quality	21%	16%	100%
Avg 1m price reversal & 12m price return rank	Momentum	19%	11%	100%
10Wk/40Wk MA	Momentum	18%	19%	100%
Cash Flow ROIC	Quality	18%	13%	100%
1M Change 200 Day MA	Momentum	18%	17%	100%
Return on Avg Assets LTM	Quality	16%	10%	100%
30wk/75wk MA	Momentum	16%	16%	100%
Share Repurchase	Cash Deployment	15%	7%	100%
9M price change	Momentum	15%	17%	100%
12M Price Change	Momentum	14%	15%	100%
5Wk/30Wk MA	Momentum	13%	16%	100%
FCF Yield	Valuation	21%	16%	83%
Forward E/P	Valuation	19%	7%	83%

Source: FactSet, BofA US Equity & US Quant Strategy

Note: Hit rate = % of periods in which Q1 outperformed Q5. For complete definitions of our factors, please see the Appendix. Back-tested performance is hypothetical in nature and reflects application of the screen and is not intended to be indicative of future performance. Back-tested performance here is the annualized performance during each regime of the US Regime Indicator from January 1990 through the present, based on our top quintile factors of the Russell 2000.

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Exhibit 14: Bottom small cap long factors (Q1 versus index) in Downturns (Back-tested)

Annualized performance (Q1-Russell 2000 equal-weighted index) and hit rates of bottom 15 Russell 2000 factors during Downturn regimes since 1990

Q1	Category	Avg	Median	Hit Rate
EPS estimate dispersion (FY2)	Risk	-10%	-8%	0%
FY1 EPS Dispersion	Risk	-9%	-8%	0%
FY2/FY1 Growth	Growth	-8%	-7%	0%
YoY Change in SI Ratio	Miscellaneous	-6%	-6%	0%
Foreign Sales (%) - avail, 0=Q5	Miscellaneous	-6%	-5%	0%
SI Ratio	Miscellaneous	-6%	-5%	0%
Short interest 12m z-score	Miscellaneous	-4%	-3%	0%
1Yr Daily Price Volatility	Risk	-16%	-12%	17%
YoY Change in Trailing Sales	Growth	-10%	-7%	17%
IBES Mean LT Growth	Growth	-7%	-2%	17%
YoY Change in Trailing FCF	Growth	-5%	-5%	17%
Operating Margin Expansion	Growth	-5%	-4%	17%
FY2/FY0 Growth	Growth	-4%	-3%	17%
Cash/Mkt Cap	Quality	-3%	-2%	17%
Earning Variability (5yr)	Risk	-3%	-3%	17%

Source: FactSet, BofA US Equity & US Quant Strategy

Note: Hit rate = % of periods in which Q1 outperformed Q5. For complete definitions of our factors, please see the Appendix. Back-tested performance is hypothetical in nature and reflects application of the screen and is not intended to be indicative of future performance. Back-tested performance here is the annualized performance during each regime of the US Regime Indicator from January 1990 through the present, based on our top quintile factors of the Russell 2000.

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Exhibit 15: Bottom small cap long-short factors (Q1-Q5) in Downturns (Back-tested)

Annualized performance (Q1-Q5 spreads and hit rates) of bottom 15 Russell 2000 factors during Downturn regimes since 1990

Q1-Q5	Category	Avg	Median	Hit Rate
EPS estimate dispersion (FY2)	Risk	-17%	-15%	0%
FY1 EPS Dispersion	Risk	-15%	-14%	0%
YoY Change in SI Ratio	Miscellaneous	-13%	-13%	0%
SI Ratio	Miscellaneous	-13%	-13%	0%
5Yr EPS Stability	Risk	-10%	-11%	0%
Short interest 12m z-score	Miscellaneous	-10%	-6%	0%
FY2/FY1 Growth	Growth	-10%	-10%	0%
Earning Variability (5yr)	Risk	-9%	-9%	0%
Foreign Sales (%) - avail, 0=Q5	Miscellaneous	-8%	-6%	0%
1Yr Daily Price Volatility	Risk	-26%	-24%	17%
5Yr Beta	Risk	-12%	-9%	17%
YoY Change in Trailing FCF	Growth	-6%	-4%	17%
Trailing EG/P	GARP	0%	-5%	17%
1M Price Chg	Momentum	-11%	-2%	33%
IBES Mean LT Growth	Growth	-10%	-4%	33%

Source: FactSet, BofA US Equity & US Quant Strategy

Note: Hit rate = % of periods in which Q1 outperformed Q5. For complete definitions of our factors, please see the Appendix. Back-tested performance is hypothetical in nature and reflects application of the screen and is not intended to be indicative of future performance. Back-tested performance here is the annualized performance during each regime of the US Regime Indicator from January 1990 through the present, based on our top quintile factors of the Russell 2000.

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Small cap factor performance

Last month

Exhibit 20: Q1 total returns (%) – 1m (12/31/23)

Best: Price Volatility (1yr) **Worst:** Operating Margin

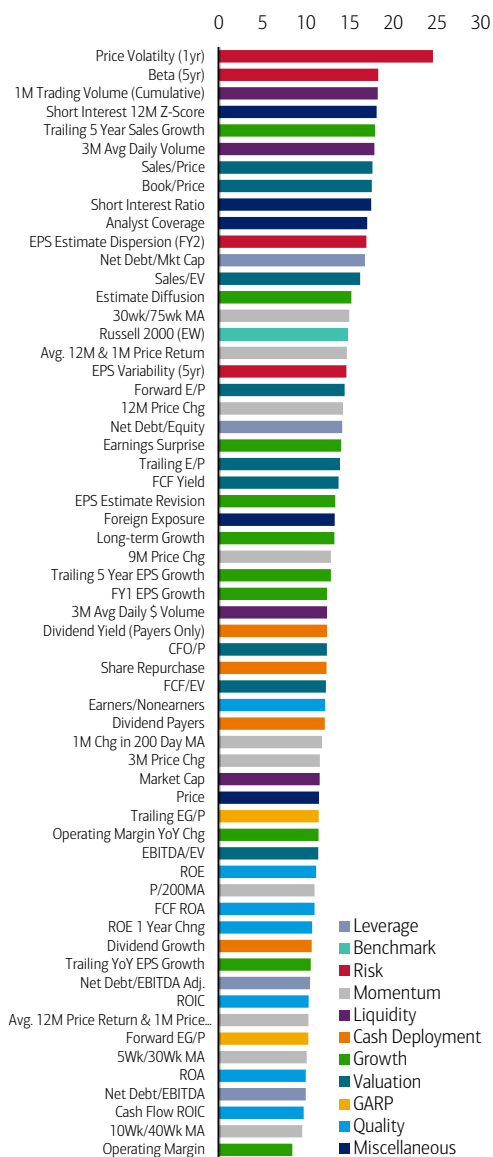


Exhibit 21: Q5 total returns (%) – 1m (12/31/23)

Best: Low Forward E/P **Worst:** Low Trailing EG/P

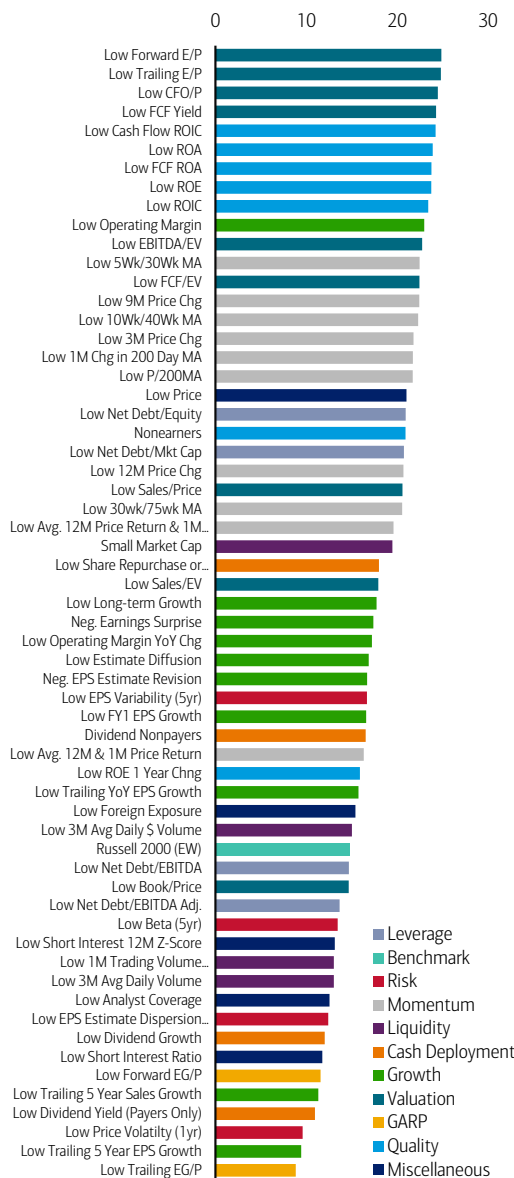
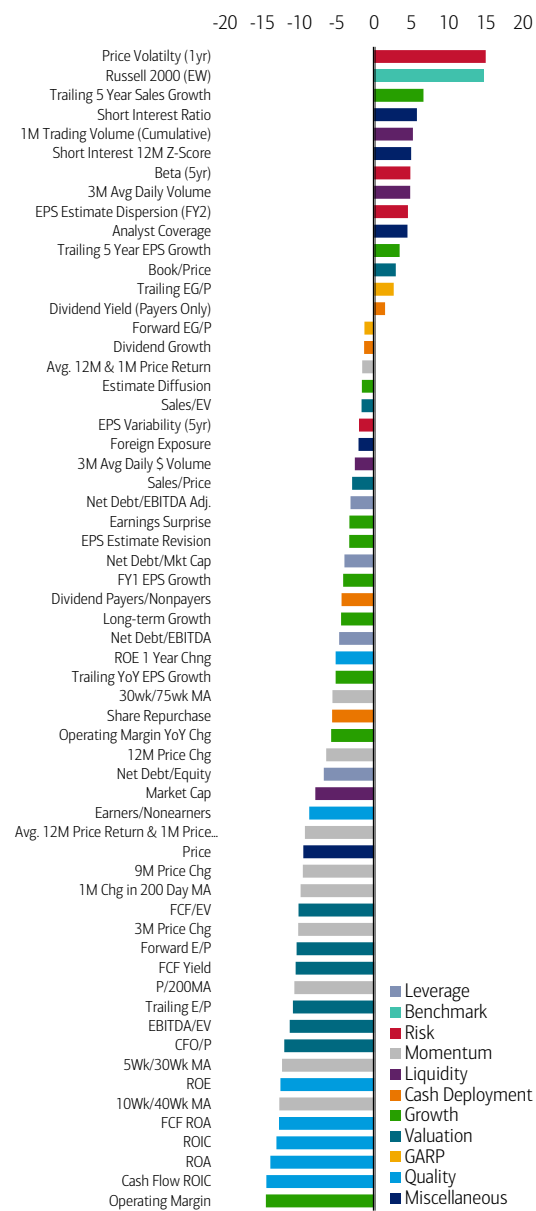


Exhibit 22: Q1-Q5 total returns (%) – 1m (12/31/23)

Best: Price Volatility (1yr) **Worst:** Operating Margin



Source: FactSet, BofA US Equity & US Quant Strategy

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Source: FactSet, BofA US Equity & US Quant Strategy

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Source: FactSet, BofA US Equity & US Quant Strategy

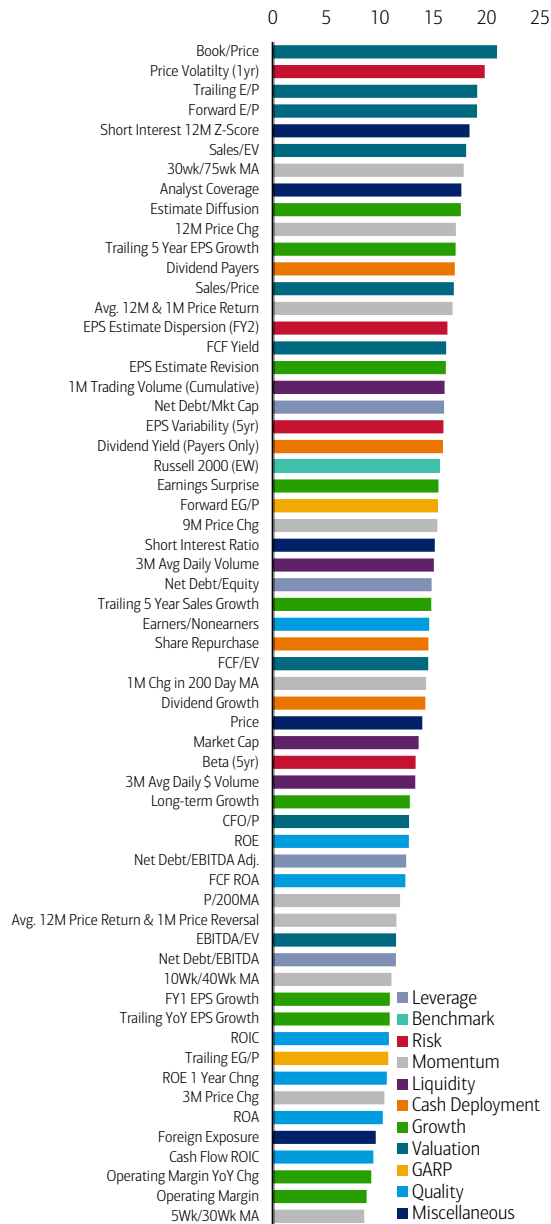
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3-month (3m) factor performance

Exhibit 19: Q1 total returns (%) – 3m (12/31/23)

Best: Book/Price **Worst:** 5Wk 20Wk MA

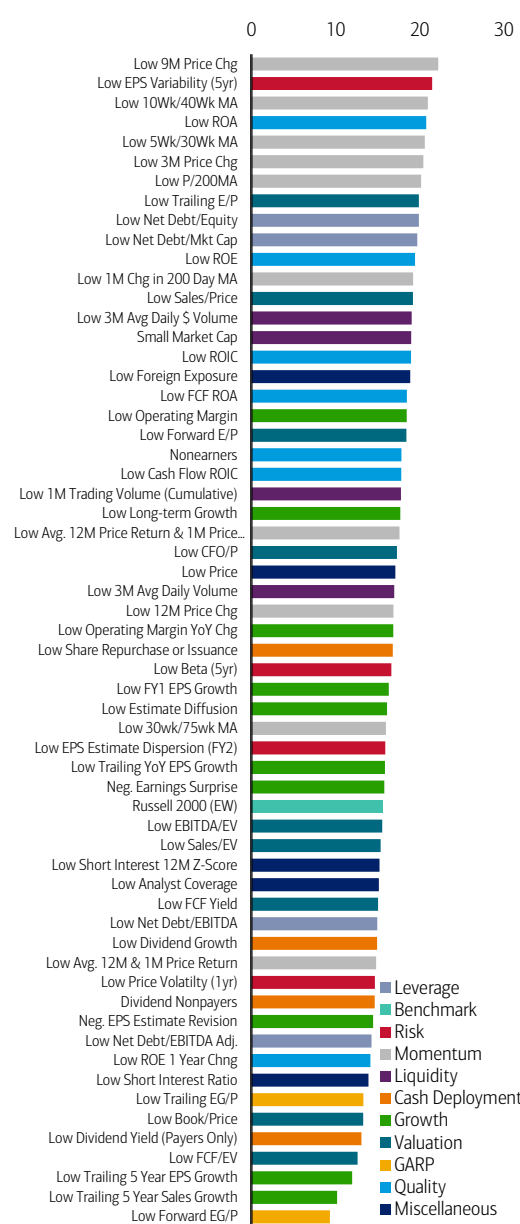


Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 20: Q5 total returns (%) – 3m (12/31/23)

Best: Low 9M Price Chg **Worst:** Low Forward EG/P

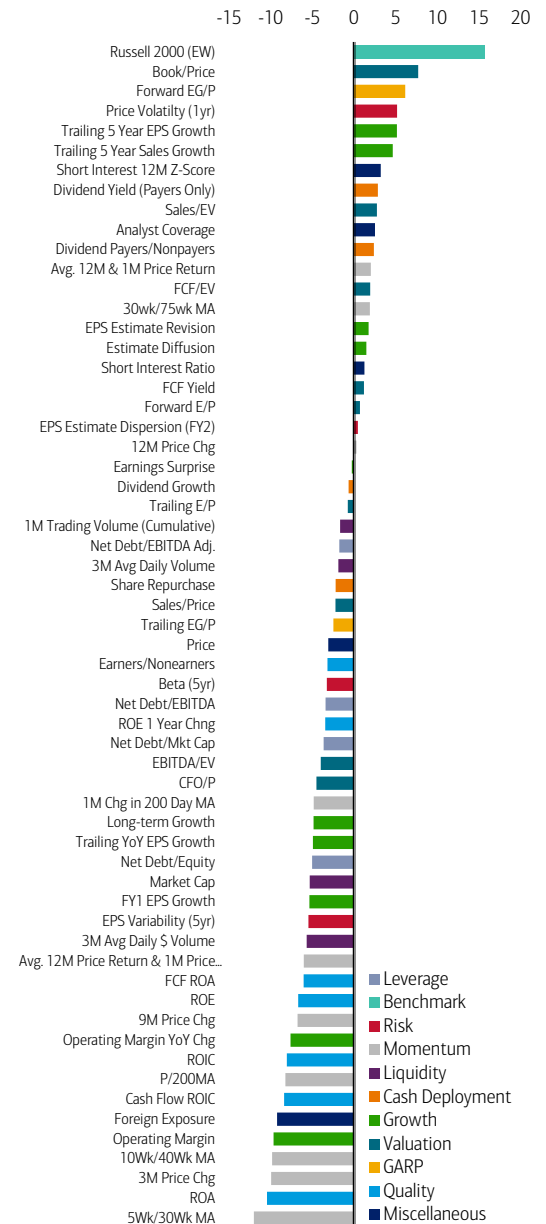


Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 21: Q1-Q5 total returns (%) – 3m (12/31/23)

Best: Russell 2000 (EW) **Worst:** 5Wk 20Wk MA



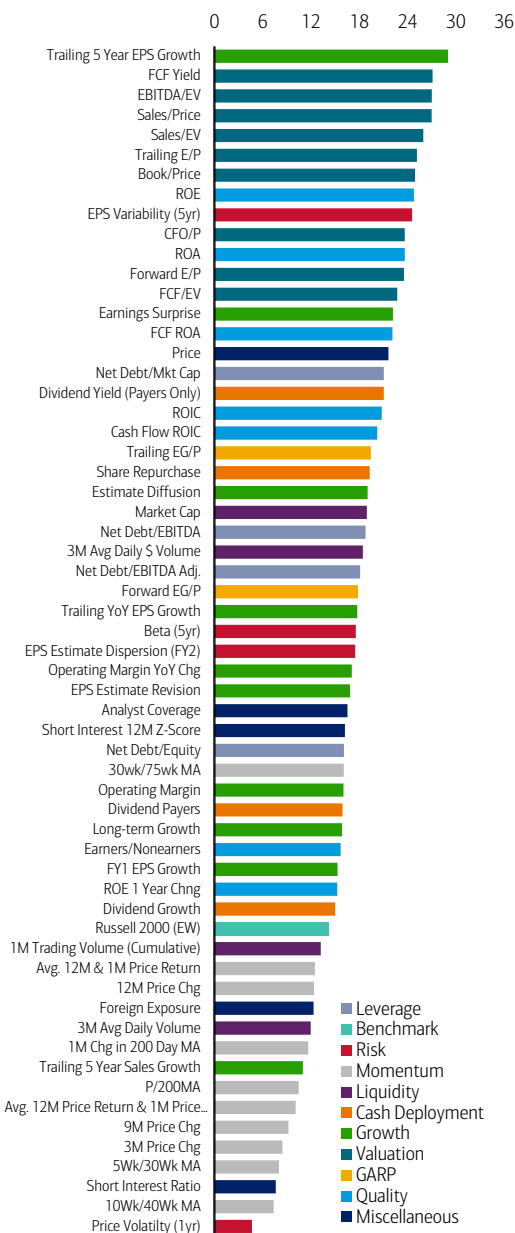
Source: FactSet, BofA US Equity & US Quant Strategy

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YTD factor performance

Exhibit 26: Q1 total returns (%) – YTD (12/31/23)

Best: Trailing 5 Year EPS Growth **Worst:** Price Volatility (1Yr)

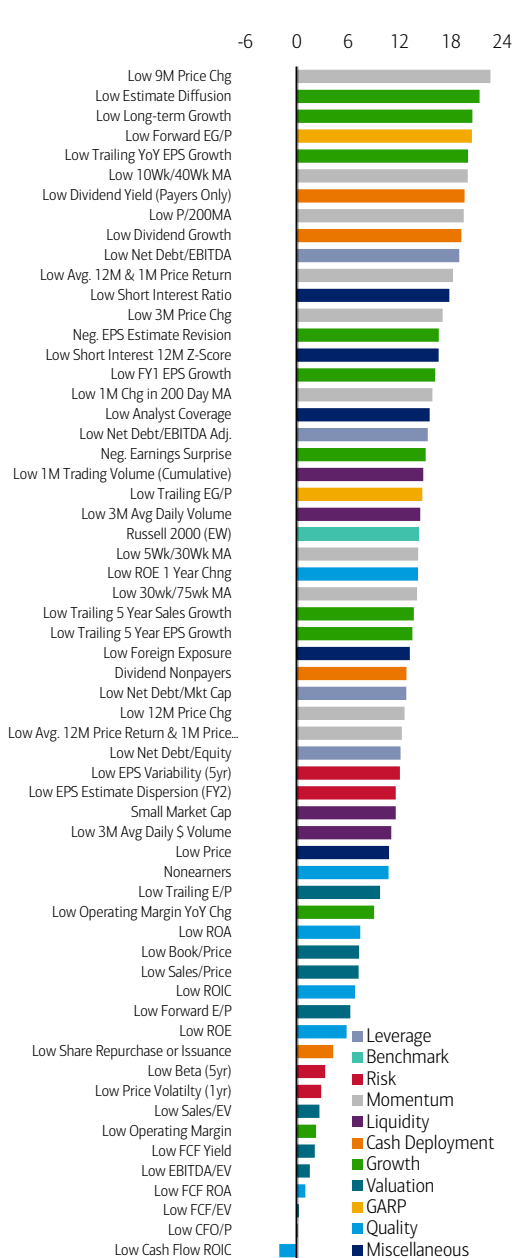


Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 23: Q5 total returns (%) – YTD (12/31/23)

Best: Low 9M Price Chg **Worst:** Low Cash Flow ROIC

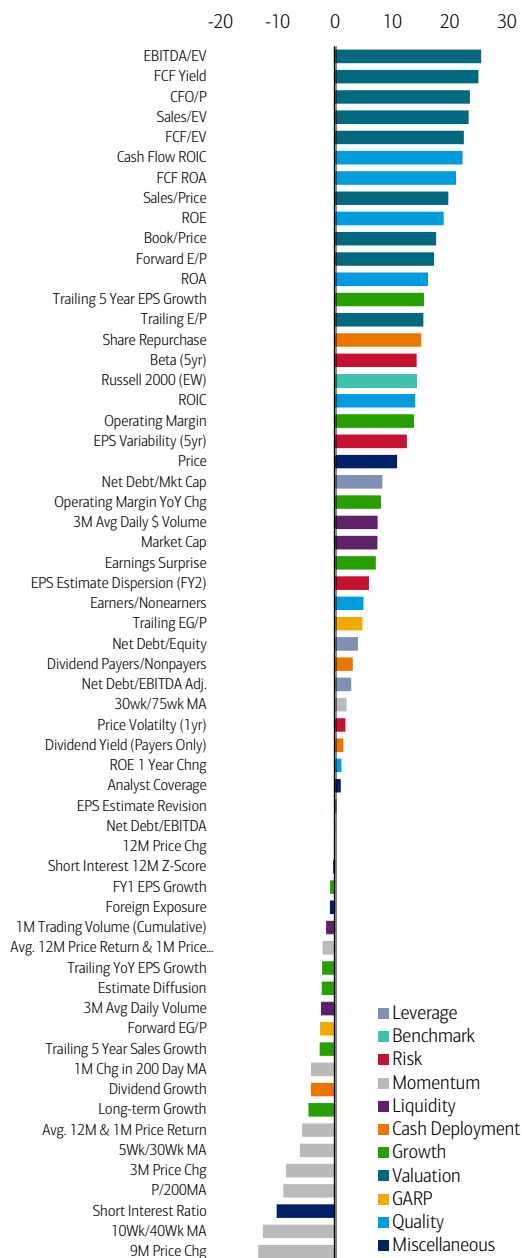


Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 28: Q1-Q5 total returns (%) – YTD (12/31/23)

Best: EBITDA/EV **Worst:** 9M Price Chg



Source: FactSet, BofA US Equity & US Quant Strategy

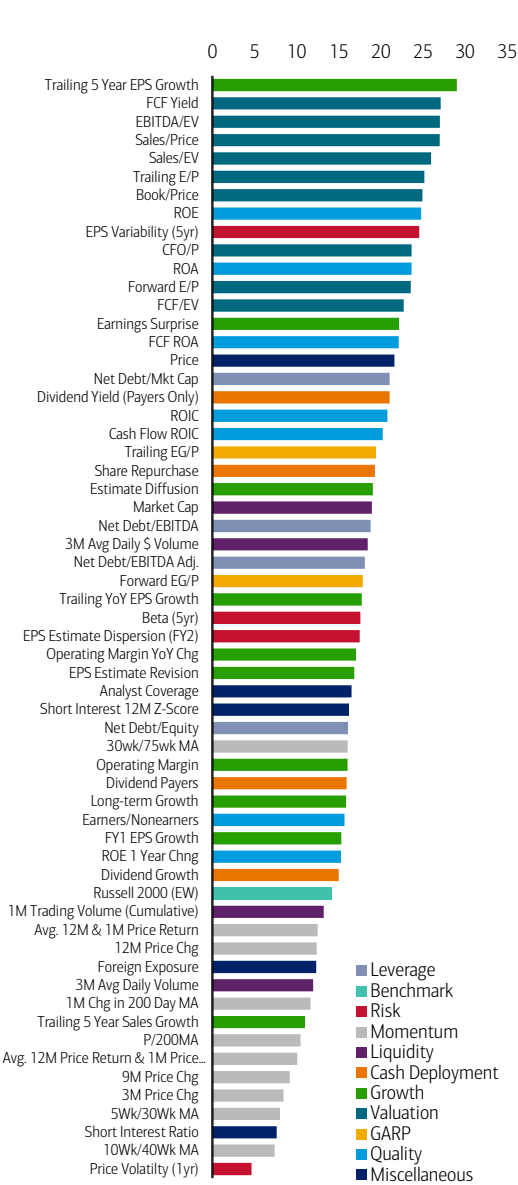
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12-month (12m) factor performance

Exhibit 29: Q1 total returns (%) – 12m (12/31/23)

Best: Trailing 5 Year EPS Growth **Worst:** Price Volatility (1yr)

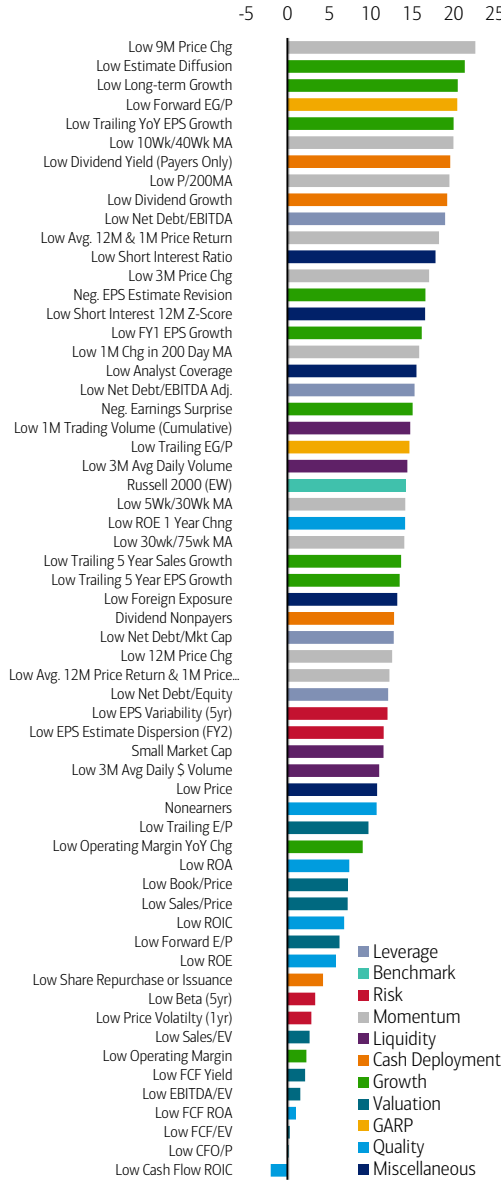


Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 30: Q5 total returns (%) – 12m (12/31/23)

Best: Low 9M Price Chg **Worst:** Low Cash Flow ROIC

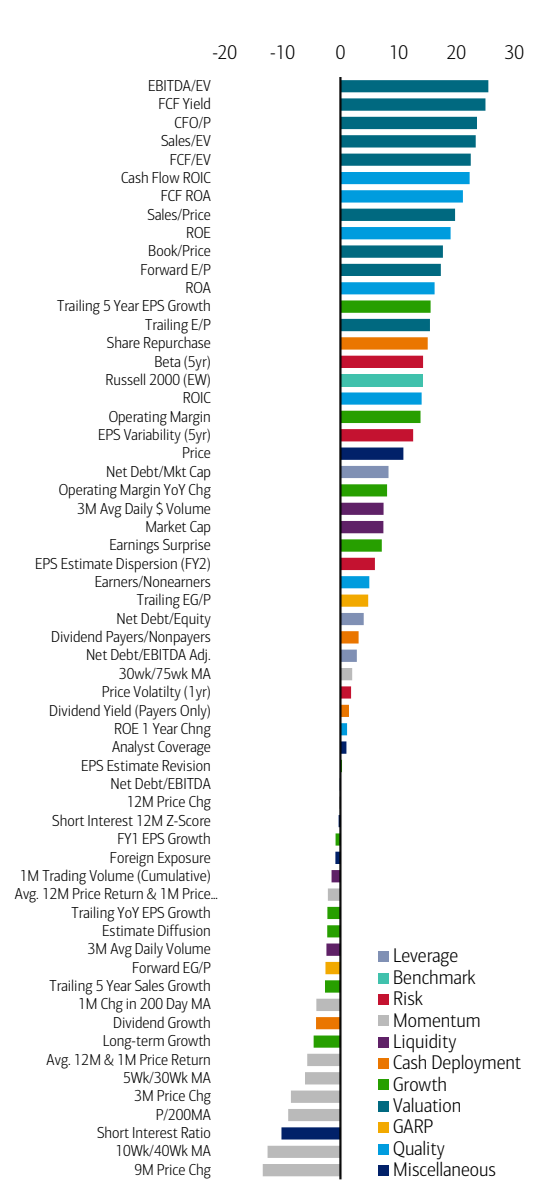


Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 31: Q1-Q5 total returns (%) – 12m (12/31/23)

Best: EBITDA/EV **Worst:** 9M Price Chg



Source: FactSet, BofA US Equity & US Quant Strategy

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Mid-cap factor performance

Last month

Exhibit 28: Q1 total returns (%) – 1m (12/31/23)

Best: Price Volatility (1yr) **Worst:** 10Wk/40Wk MA

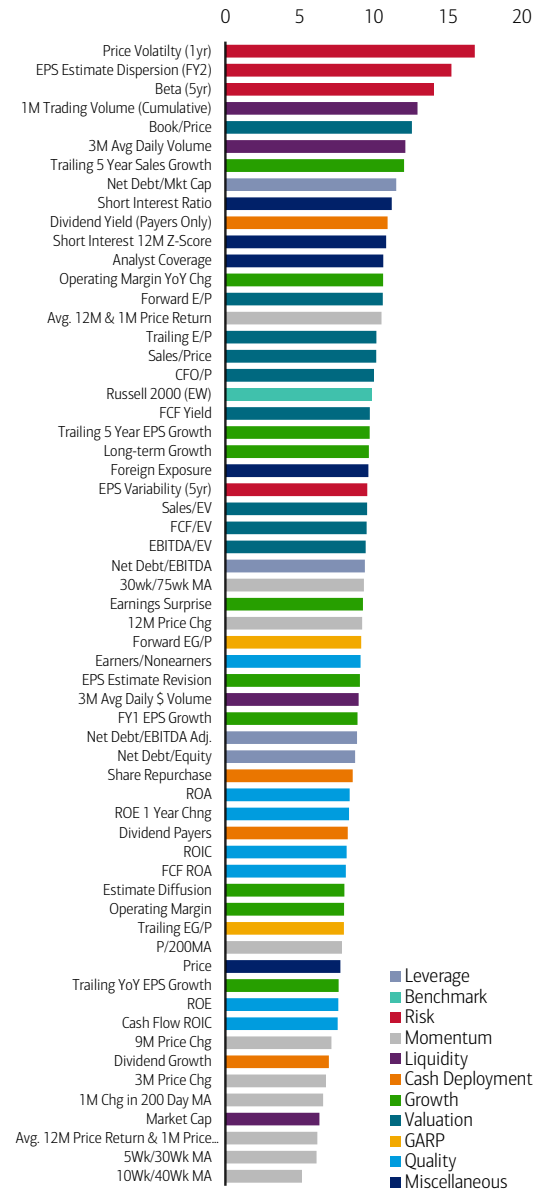


Exhibit 29: Q5 total returns (%) – 1m (12/31/23)

Best: Nonearners **Worst:** Low Price Volatility (1yr)

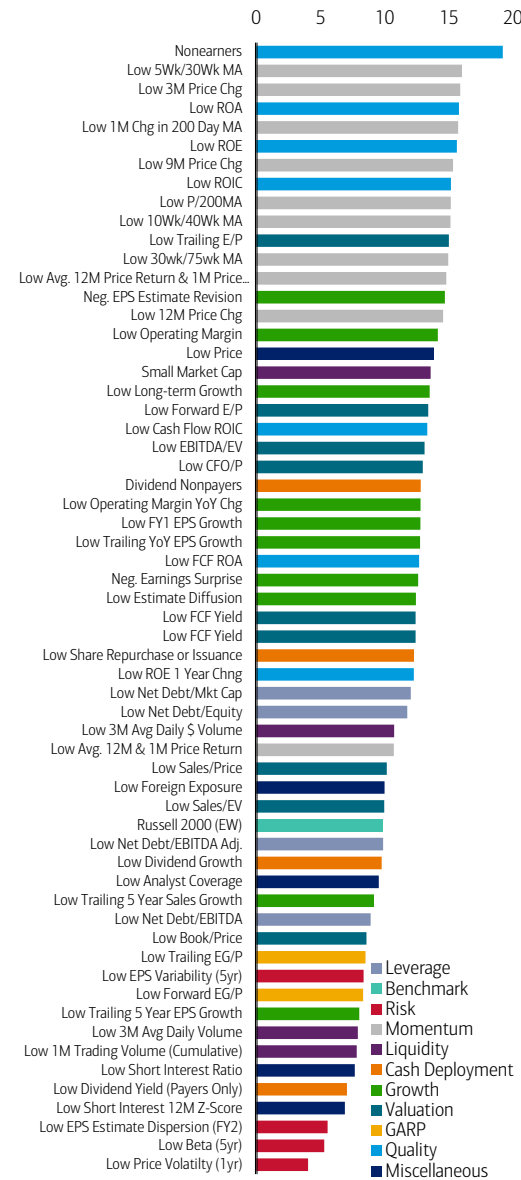
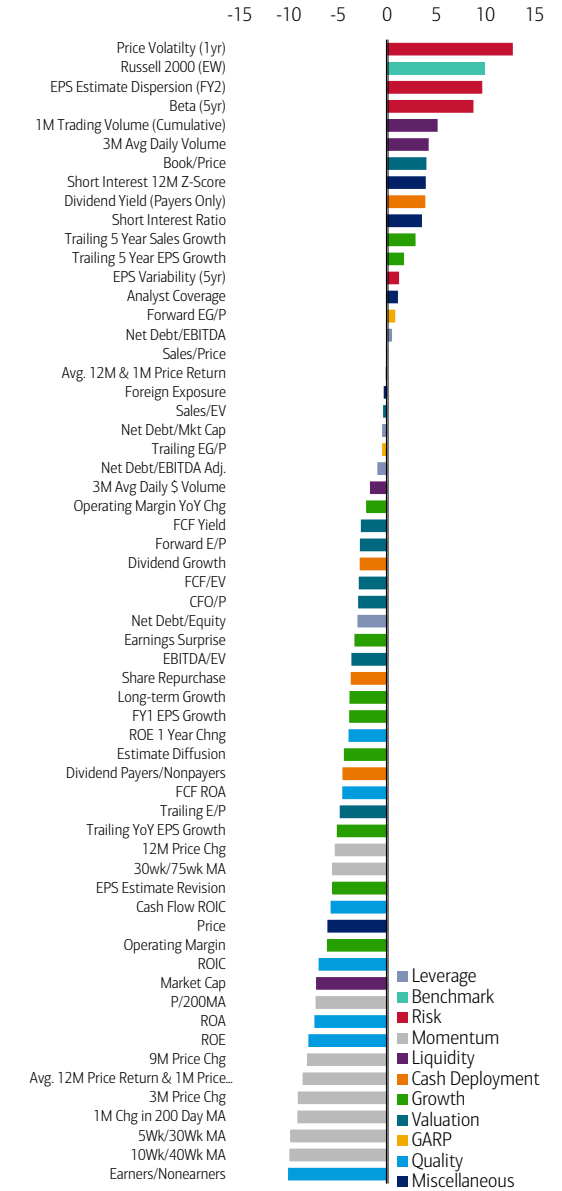


Exhibit 30: Q1-Q5 total returns (%) – 1m (12/31/23)

Best: Price Volatility (1yr) **Worst:** Earners/Nonearners



Source: FactSet, BofA US Equity & US Quant Strategy

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Source: FactSet, BofA US Equity & US Quant Strategy

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Source: FactSet, BofA US Equity & US Quant Strategy

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3m factor performance

Exhibit 31: Q1 total returns (%) – 3m (12/31/23)

Best: Price Volatility (1yr) **Worst:** 10Wk/40Wk MA

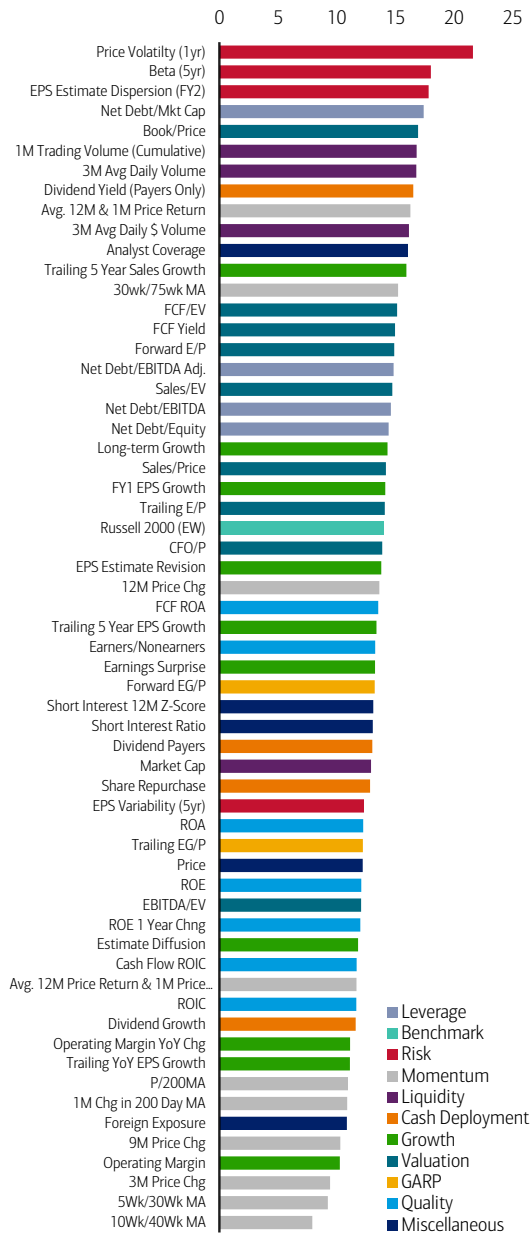


Exhibit 32: Q5 total returns (%) – 3m (12/31/23)

Best: Nonearners **Worst:** Low Price Volatility (1yr)

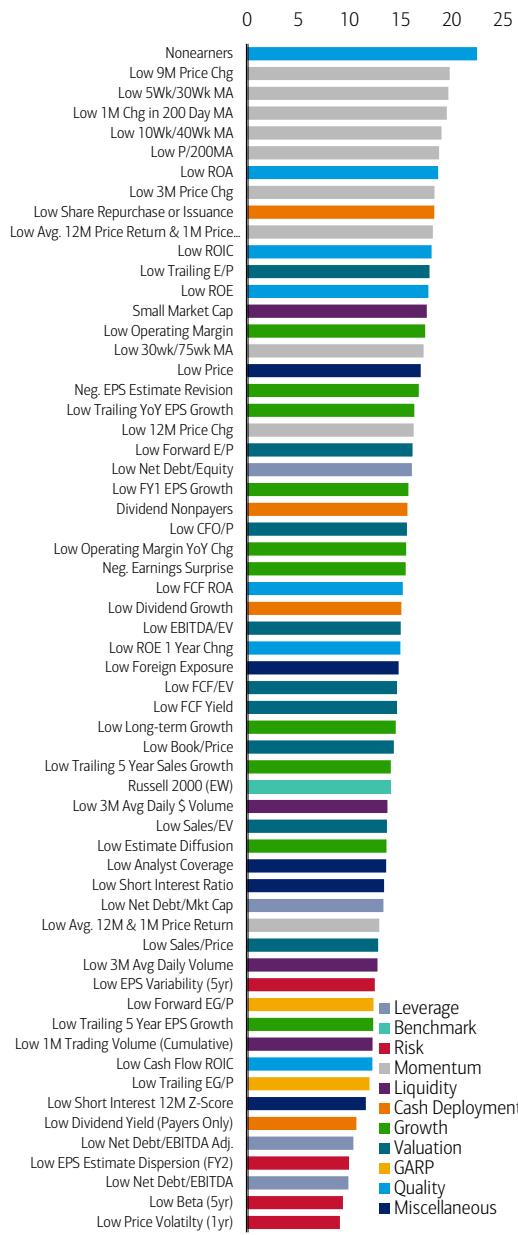
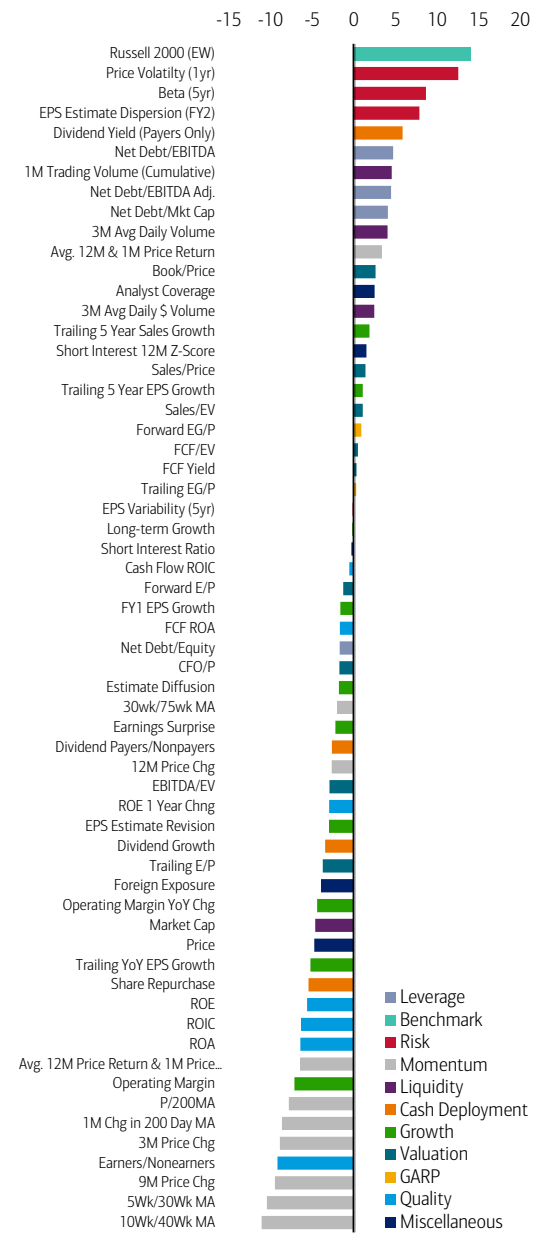


Exhibit 33: Q1-Q5 total returns (%) – 3m (12/31/23)

Best: Russell 2000 (EW) **Worst:** 10Wk/40Wk MA



Source: FactSet, BofA US Equity & US Quant Strategy

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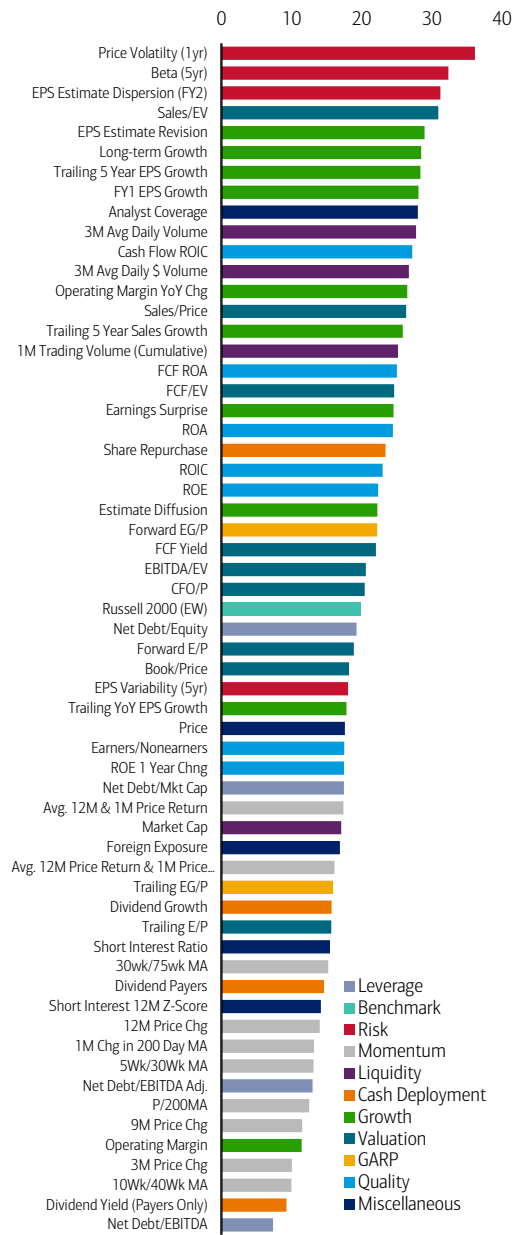
Source: FactSet, BofA US Equity & US Quant Strategy

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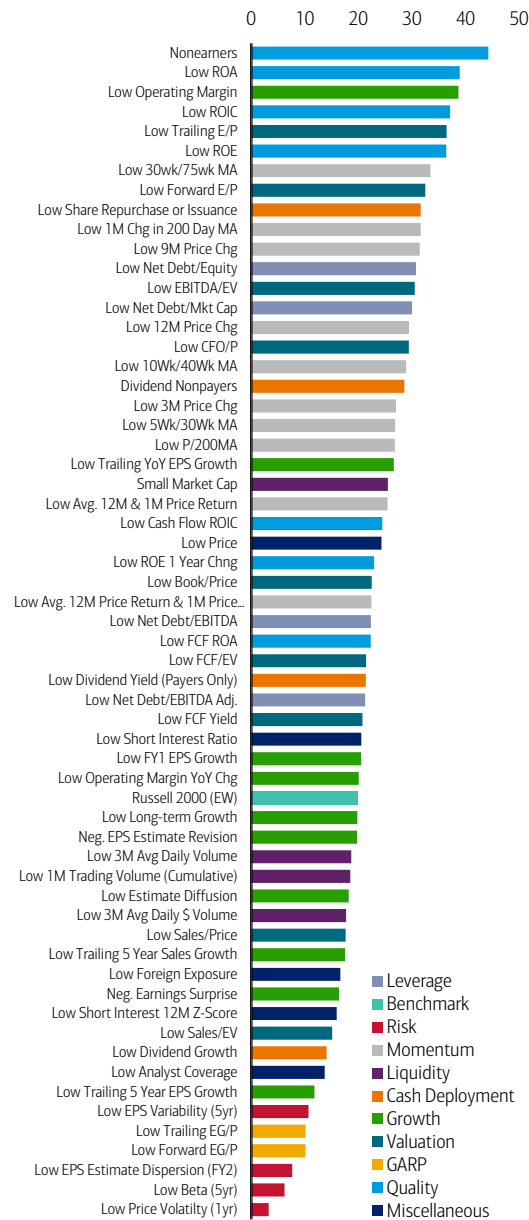
Source: FactSet, BofA US Equity & US Quant Strategy

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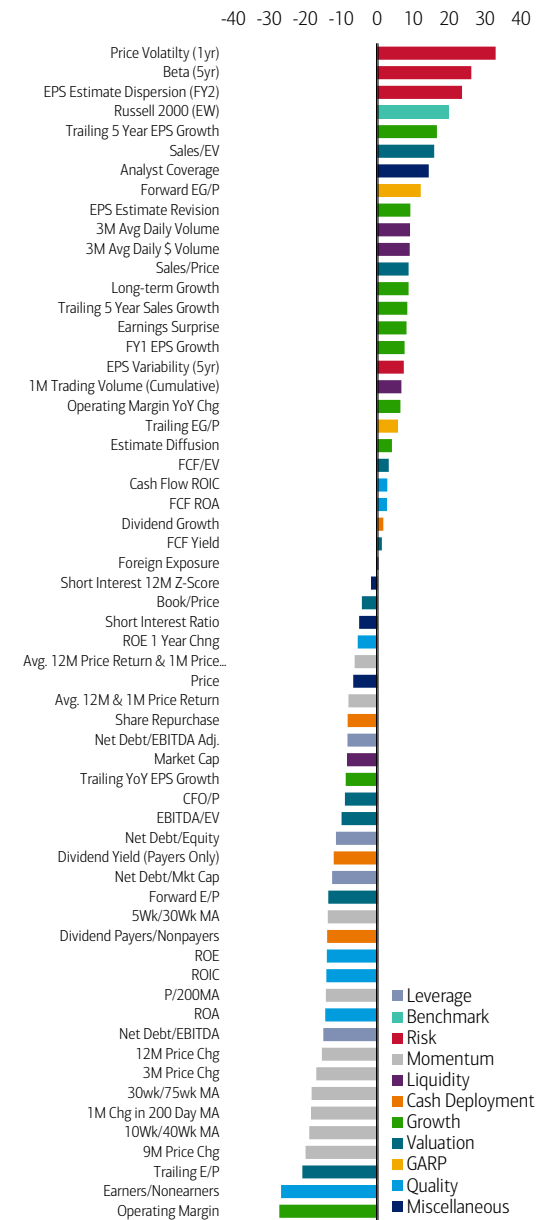
YTD factor performance

Exhibit 34: Q1 total returns (%) – YTD (12/31/23)
Best: Price Volatility (1yr) **Worst:** Net Debt/EBITDA

Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 35: Q5 total returns (%) – YTD (12/31/23)
Best: Low Operating Margin **Worst:** Low Price Volatility (1yr)

Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 36: Q1-Q5 total returns (%) – YTD (12/31/23)
Best: Price Volatility (1yr) **Worst:** Operating Margin

Source: FactSet, BofA US Equity & US Quant Strategy

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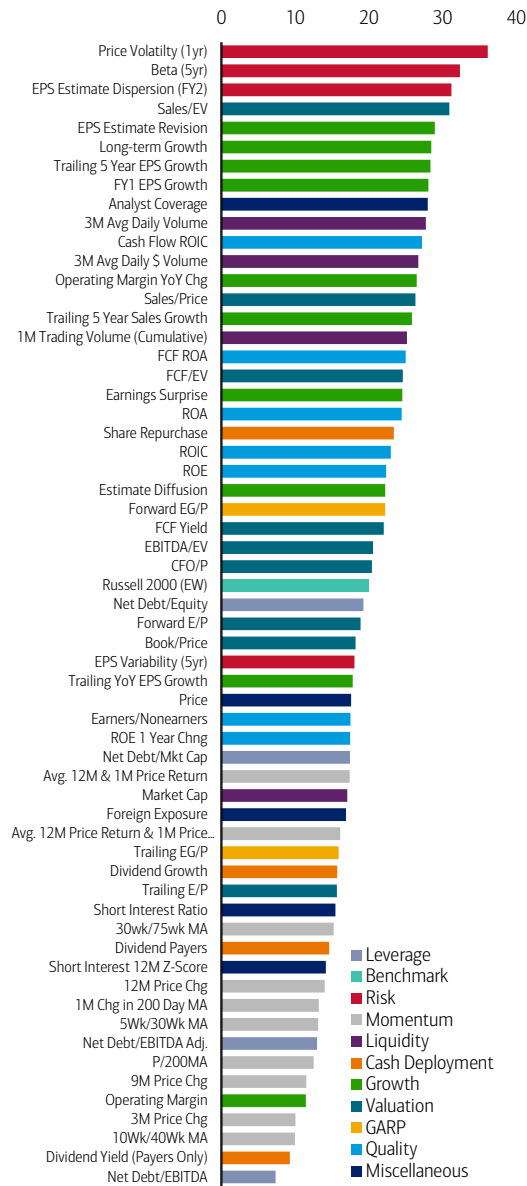




12m factor performance

Exhibit 37: Q1 total returns (%) – 12m (12/31/23)

Best: Price Volatility (1yr) **Worst:** Net Debt EBITDA

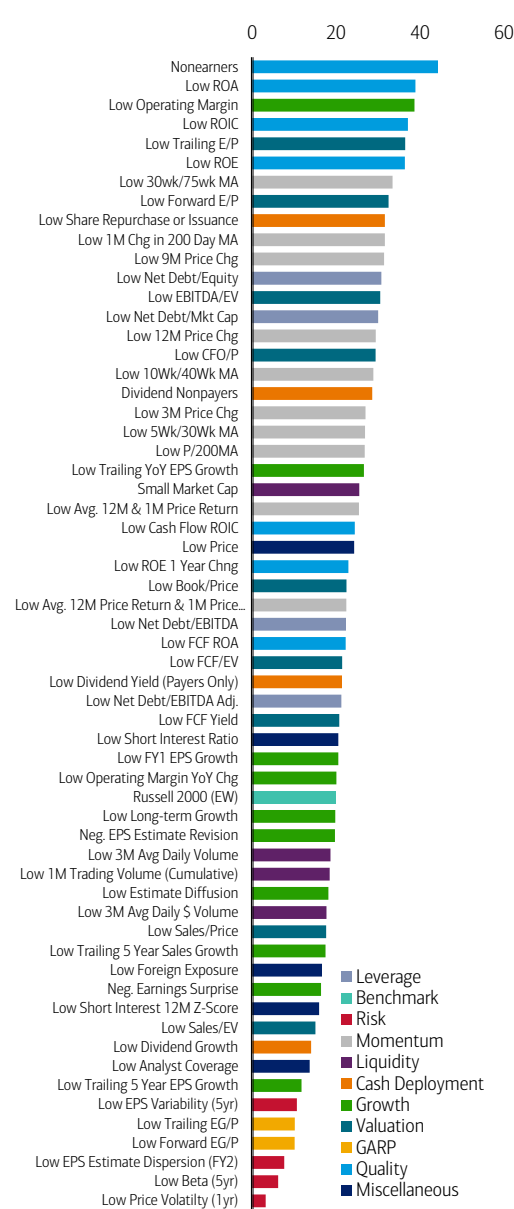


Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 38: Q5 total returns (%) – 12m (12/31/23)

Best: Nonearners **Worst:** Low Price Volatility (1yr)

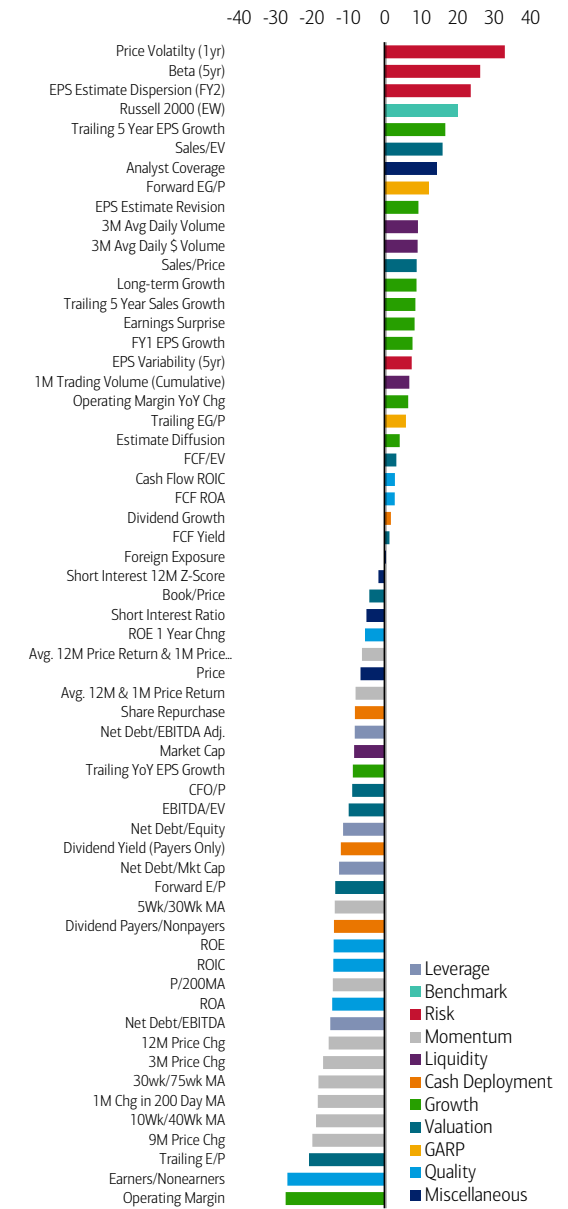


Source: FactSet, BofA US Equity & US Quant Strategy

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Exhibit 39: Q1-Q5 total returns (%) – 12m (12/31/23)

Best: Price Volatility (1yr) **Worst:** Operating Margin



Source: FactSet, BofA US Equity & US Quant Strategy

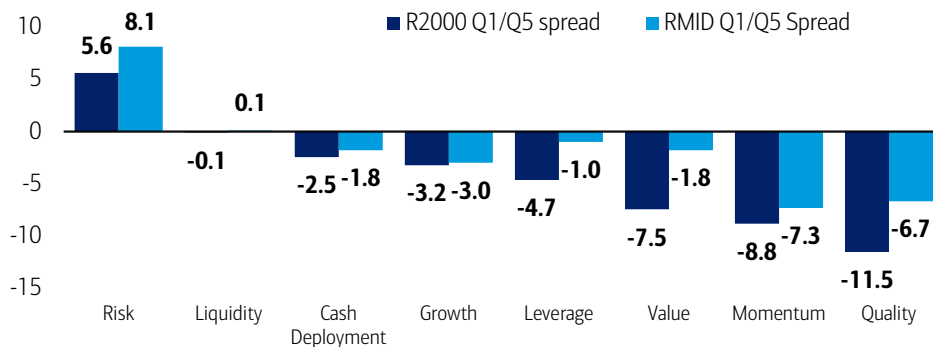
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Small & mid factor group performance

1 Month (1M)

Exhibit 44: On a 1M basis, Risk was the top-performing long-short factor for SMID caps, while Quality was the worst-performing factor for small caps

December top-bottom quintile total return performance (in ppt) by factor group within the Russell 2000 (dark blue bars) and Russell Midcap (light blue bars), as of 12/31/2023



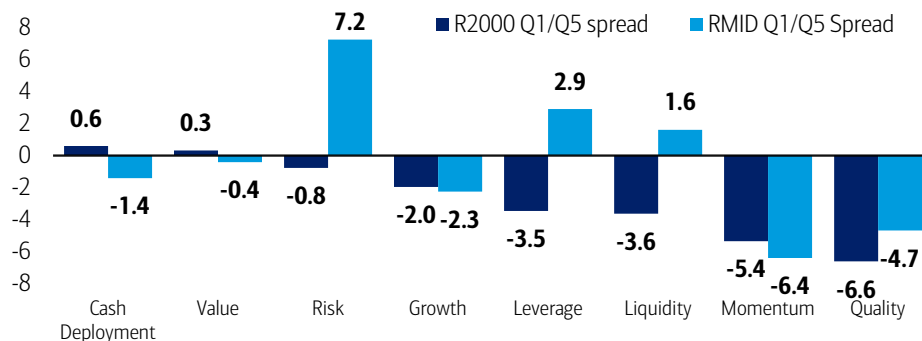
Source: FactSet financial data and analytics, BofA US Equity & US Quant Strategy

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3 Months (3M)

Exhibit 41: On a 3M basis, Cash Deployment was the top-performing long-short factor group for small caps, while Quality had the most negative spreads

Three-month top-bottom quintile total return performance (in ppt) by factor group within the Russell 2000 (dark blue bars) and Russell Midcap (light blue bars), as of 12/31/2023



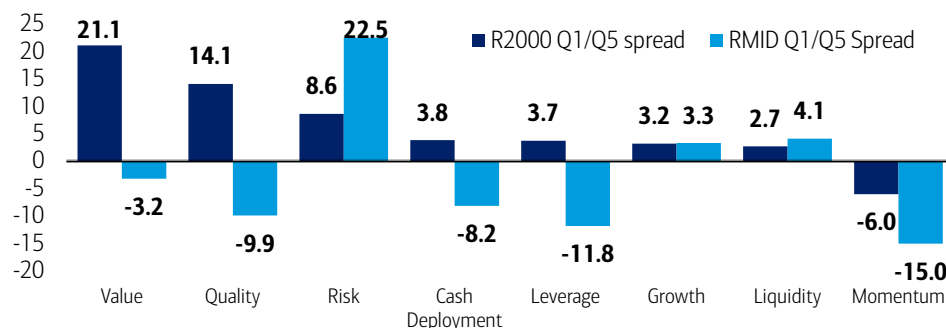
Source: FactSet financial data and analytics, BofA US Equity & US Quant Strategy

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Year to Date (YTD)

Exhibit 46: On a YTD basis, Value was the top-performing long-short factor group for small caps, while Momentum was the worst

YTD top-bottom quintile total return performance (in ppt) by factor group within the Russell 2000 (dark blue bars) and Russell Midcap (light blue bars), as of 12/31/2023



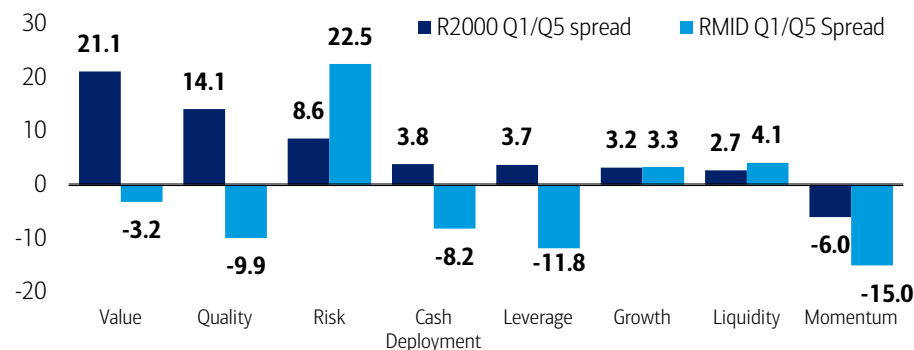
Source: FactSet financial data and analytics, BofA US Equity & US Quant Strategy

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12 Months (12M)

Exhibit 43: On a 12M basis, Value was the top-performing long-short factor for small caps, while Momentum was the worst

Twelve-month top-bottom quintile total return performance (in ppt) by factor group within the Russell 2000 (dark blue bars) and Russell Midcap (light blue bars), as of 12/31/2023



Source: FactSet financial data and analytics, BofA US Equity & US Quant Strategy

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Methodology

The universe for this report is the Russell 2000 and Russell Midcap, excluding stocks priced under \$1. The universe and the factors are rebalanced monthly using month-end data. FactSet is used as the source of all data. A factor's return is calculated as the equal-weighted total return of the top quintile of stocks within the universe by that factor for Quintile 1 (Q1), the equal-weighted total return of the bottom quintile of stocks within the universe by that factor for Quintile 5 (Q5), and the equal-weighted total return of the top quintile minus the bottom quintile for the Q1-Q5 spread. We also show the total return of the equal-weighted Russell 2000 (for small caps) and Russell Midcap (for mid-caps) as the benchmark return. Performance results do not reflect actual transactions, and no assurances can be given about future performance.

Factor Definitions

Valuation Factors

Book/Price (Q1=highest): Common equity per share divided by price.

EBITDA/EV (Q1=highest): LTM (last 12 months) earnings before interest, taxes, depreciation and amortization divided by Enterprise Value (market cap + preferred stock + short term debt + long term debt + minority interest – cash). Financials are excluded.

Free Cash Flow Yield (Q1=highest): (LTM cash flow from operations – LTM capital expenditures) divided by market cap. Financials and Equity REITs are excluded.

Free Cash Flow/EV (Q1=highest): (LTM cash flow from operations – LTM capital expenditures) divided by Enterprise Value (market cap + preferred stock + short-term debt + long-term debt + minority interest – cash). Financials and Equity REITs are excluded.

Cash Flow/Price (CFO/P) (Q1=highest): LTM cash flow from operations divided by price. Financials and Equity REITs are excluded.

Forward E/P (Q1=highest): I/B/E/S FY1 EPS divided by price. FFO is used instead of EPS for Equity REITs.

Trailing E/P (Q1=highest): LTM EPS excluding extraordinary items divided by price. FFO is used instead of EPS for Equity REITs.



Sales/Price (Q1=highest): LTM sales per share divided by price. Financials are excluded.

Sales/EV (Q1=highest): LTM sales divided by enterprise value (market cap + preferred stock + short-term debt + long-term debt + minority interest – cash). Financials are excluded.

GARP (Growth at a Reasonable Price) Factors

Trailing EG/P (inverse of PEG) (Q1=highest): I/B/E/S long-term growth rate estimate divided by Trailing Earnings/Price.

Forward EG/P (inverse of PEG) (Q1=highest): I/B/E/S long-term growth rate estimate divided by Forward Earnings/Price.

Quality Factors

Return on Equity (ROE) (Q1=highest): LTM net income before extraordinary items divided by the one-year average of total stockholders' equity. Equity REITs are excluded.

ROE 1 year change (Q1=highest): 12 month change in ROE. Equity REITs are excluded.

Return on Assets (ROA) (Q1=highest): LTM net income before extraordinary items divided by the one-year average of total assets. Equity REITs are excluded.

Cash Flow ROIC (Cash flow return on invested capital) (Q1=highest): LTM cash flow from operations divided by invested capital (average common equity + average preferred equity + average long-term debt + average minority accumulated interest). Financials and Equity REITs are excluded.

Return on Invested Capital (ROIC) (Q1=highest): LTM net income before extraordinary items divided by the one-year average of total invested capital. Equity REITs are excluded.

Free Cash Flow Return on Assets (FCF ROA) (Q1=highest): (LTM cash flow from operations – LTM capital expenditures) divided by one-year average assets. Financials and Equity REITs are excluded.

Earners/Non-earners (Q1=earners, Q5=non-earners): Earners are stocks that have a positive forward (FY1) P/E; Non-earners are stocks with a negative forward (FY1) P/E. FFO is considered instead of EPS for Equity REITs.

Momentum Factors

Price to 200-Day Moving Average (Q1=highest): Ratio of the month-end closing price to the average closing price over the last 200 days.

1 Month Change in the 200-Day Moving Average (Q1=highest): The 1-month change in the 200-day moving average.

5-week/30-week Moving Average (Q1=highest): The ratio of the average daily closing price over the last five weeks vs. that over 30 weeks.

10-week/40-week Moving Average (Q1=highest): The ratio of the average daily closing price over the last ten weeks vs. that over 40 weeks.

30-week/75-week Moving Average (Q1=highest): The ratio of the average daily closing price over the last 30 weeks vs. that over 75 weeks.

12-Month Price Change (Q1=highest): The change in the current price from 12 months ago.

9-Month Price Change (Q1=highest): The change in the current price from 9 months ago.

3-Month Price Change (Q1=highest): The change in the current price from 3 months ago.

Average 12-month Price Return & 1-month Price Return: (Q1=highest): Equal-weighted rank of stocks by (1) highest the price return over the last 12 months; and (2) the highest price return over the last one month.

Average 12-month Price Return & 1-month Price Reversal (Q1=highest): Equal-weighted rank of stocks by (1) the highest price return over the last 12 months; and (2) the lowest price return over the last one month.

Growth Factors

IBES Mean LT Growth (Q1=highest): The mean estimate of I/B/E/S forecasted long-term growth rates.

EPS Estimate Revision (Q1=highest): The difference between the I/B/E/S FY1 EPS estimate that that of three months ago divided by the absolute value of the I/B/E/S FY1 EPS estimate as of three months ago. FFO is used instead of EPS for Equity REITs.

Estimate Diffusion (Q1=highest): Calculated using a three-month weighted-average of the change in the number of up estimates minus the down estimates divided by the total numbers of estimates for FY1. The most recent change in estimates received a weighting of 50%, the change from two months earlier was weighted at 30%, and the change from three months ago was allocated 20%. A company had to have at least two analysts covering it. FFO is used instead of EPS for Equity REITs.

Earnings Surprise (Q1=highest): The standardized unexpected earnings (SUE) score as determined by I/B/E/S, which is calculated by subtracting the mean earnings estimate by the actual reported earnings and then dividing that figure by the standard deviation of estimates. A company must have at least two analysts covering it to be included. FFO is used instead of EPS for Equity REITs.

Sales Growth Trailing 5 Year (Q1=highest): 5-year growth rate of trailing annual sales.

EPS Growth Trailing 5 Year (Q1=highest): 5-year growth rate of trailing annual diluted EPS. FFO is used instead of EPS for Equity REITs.

YoY Change in Trailing EPS (Q1=highest): Change in LTM EPS before extraordinary items from 4 quarters earlier LTM EPS before extraordinary items. FFO is used instead of EPS for Equity REITs.

FY1 EPS Growth (Q1=highest): Change in the FY1 EPS estimate versus the prior year actual (FY0) EPS. FFO is used instead of EPS for Equity REITs.

Operating Margin (Q1=highest): LTM operating income divided by LTM sales. Financials and Equity REITs are excluded.

Operating Margin Expansion (Q1=highest): 12-month change in operating margin. Financials and Equity REITs are excluded.

Risk Factors

EPS Variability (5-year) (Q1=highest): The degree of variability in quarterly EPS over the past five years. FFO is used instead of EPS for Equity REITs.

EPS Estimate Dispersion (FY2) (Q1=highest): The coefficient of variation among I/B/E/S FY2 EPS estimates (standard deviation of estimates divided by mean estimate). A stock must have at least two estimates available to be considered. FFO is used instead of EPS for Equity REITs.

Price Volatility (1yr) (Q1=highest): The standard deviation of the daily price change measured during the last year.

Beta (5yr) (Q1=highest): The regression coefficient from regressing monthly price returns against the returns of the S&P 500 over 60 months. Beta is a measure of non-diversifiable risk.



Liquidity Factors

3-Month Average Daily Volume (Q1=highest): The average daily trading volume over the prior three months.

3-Month Average Daily Dollar Volume (Q1=highest): The average daily trading dollar volume (volume times price) over the prior three months.

1-Month Trading Volume (Cumulative) (Q1=highest): The cumulative trading volume over the past month.

Market Cap (Q1=highest): The month-end market capitalization.

Leverage Factors

Net Debt/Equity (Q1=highest): The total debt minus cash & short-term investments divided by total common equity. Financials are excluded.

Net Debt/Market Cap (Q1=highest): The total debt minus cash & short-term investments divided by total market capitalization. Financials are excluded.

Net Debt/EBITDA (Q1=highest): The total debt minus cash & short-term investments divided by operating EBITDA. Financials and companies with negative EBITDA are excluded.

Net Debt/EBITDA Adjusted (Q1=highest): The total debt minus cash & short-term investments divided by adjusted EBITDA (operating EBITDA + Unusual Expenses). Financials and companies with negative adjusted EBITDA are excluded.

Cash Deployment Factors

Dividend Growth (Q1=highest): The year-over-year growth between trailing four-quarter total common dividends as of the latest month-end and trailing four-quarter total common dividends as of 12 months ago.

Dividend Payers/Non-payer (Q1=Payers, Q5=Non-payers): Stocks that pay a dividend (based on the trailing 12-month dividend yield) are considered payers; stocks that don't pay a dividend are considered non-payers.

Dividend Yield (Payers only) (Q1=highest): Indicated dividend rate dividend by price. Companies that do not pay a dividend are excluded.

Share Repurchase (Q1=largest decrease in shares): Year-over-year change in shares outstanding.

Miscellaneous Factors

Price (Q1=highest): The month-end closing price.

Analyst Coverage (Q1=highest): The number of available I/B/E/S FY1 earnings estimates submitted by analysts.

Short Interest Ratio (Days to Cover) (Q1=highest): The number of shares held short divided by the average daily trading volume. It can be interpreted as the number of days it would take short sellers to cover the short position.

Short Interest 12M z-score (Q1=highest): The z-score of the most recent number of shares shorted vs. the last 12 months history.

Foreign Exposure (Q1=highest): The ratio of foreign sales to total sales.

US Regime Indicator methodology

Inputs for the US regime indicator include the following eight macroeconomic or top-down variables:

- **Earnings Revision ratio:** Calculated as [the ratio](#) (see our 1 January 2018 report) between the number of companies in the S&P 500 for which Thomson Financial

consensus earnings estimates have been raised versus those that have been lowered. A rising ratio indicates an improving economic cycle.

- **ISM PMI:** ISM PMI Institute for Supply Management Manufacturing Purchasing Managers Index, represented as the Z-Score. The ISM Manufacturing Index monitors economic activity as reported by 300 supply management professionals. The reading of the index above (below) 50 indicated economic expansion (contraction).
- **Inflation:** The 12-month change in the BofA Inflation Composite (see methodology further below), represented as the Z-Score. Rising inflation indicates improving economic conditions.
- **GDP Forecast:** The next 12-month US GDP growth forecast from the Federal Reserve Bank of Philadelphia Survey, represented as the Z-Score.
- **Leading Economic Indicators index:** The 12-month change in the Conference Board US Leading Index of Ten Economic Indicators, represented as a Z-Score. A rising Z-Score indicates improving economic conditions.
- **US Capacity Utilization:** The 12-month change in US capacity utilization, represented as the Z-score. The capacity utilization rate indicates the percentage of total economic capacity currently utilized. Rising capacity utilization implies improving economic conditions. Rising capacity utilization suggests more expanding economic cycle and potentially rising inflationary pressure.
- **10-year US Treasury Bond Yield:** The 12-month change in the bond yield, represented as the Z-Score. Rising yields indicate improving economic conditions.
- **High Yield corporate bond credit spread:** The 12-month change in the US High Yield credit spread of the ICE BofA US High Yield Index, represented as a Z-score. Falling spreads indicate improving economic conditions.

Note on back-testing

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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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