

European Snapshot

Who outperforms when cutting cycle starts?

Quantitative Strategy

Screen of the Week: beneficiaries of the cutting cycle

With incoming data suggesting a stronger-than-expected consumer, our US economists have recently shifted forward their expectation of the first FED cut to March '24 and forecast 100bps of cuts in 2024 (see: [US Economic Viewpoint: Sticking the landing 18 December 2023](#)). Our European economists, meanwhile, maintain their call for an initial cut in June, with quarterly cuts thereafter; however, flag a risk of accelerated cuts post-June (see: [Euro Area Watch: Back to school – January 2024 edition 08 January 2024](#)). In our Screen of the Week, we identify companies which tend to outperform in varying falling rate environments for both the FED and ECB, and have not yet rallied as strongly as the average historical performance following the initial cut of the cycle (Exhibit 1).

2024 starts with an outflow from Europe-focused funds

Europe-focused equity funds recorded their 1st outflow this year, of \$0.91bn, with a net -26.2% seeing net inflows. Outflows amounted to \$1.1bn from active funds while inflows to passive funds totalled \$0.2bn. Size stocks (\$0.05bn) and Sweden (\$0.04bn) had the largest inflows last week, while Financials (\$0.37bn), France (\$0.10bn) and Momentum stocks (\$0.05bn) posted the largest outflows. No sector recorded inflows last week. In January, on average, Europe-focused funds record \$1.4bn of inflows (active: average outflow of \$1.7bn, passive: average inflow of \$3.1bn), marking the strongest monthly flows of the year.

BofA ERR: Net upgrades only in North America

The Global BofA 4-week EPS Revision Ratio (ERR) decreased to 0.76 (the lowest level in the past 10 weeks), driven by drops in Pacific and EM (Exhibit 40). The North America ratio tops other regions and remains in net upgrade territory for the 5th week (at 1.07). Europe improved marginally to 0.74 on the back of gains in Healthcare, Sweden and Expensive Value. The largest declines in Europe were seen in Discretionary, France and Rising Momentum.

10 January 2024

Quant Strategy
Europe

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Timestamp: 10 January 2024 12:30AM EST

Screen of the week

Exhibit 1: Companies that tend to outperform when the cutting cycle starts

Companies which a) are a part of the Europe Stoxx 600, b) have statistically significant slopes* (i.e. t-stat > 2, < -2) and c) have exhibited a lesser relative return to Europe Stoxx 600 index since its inflection on October 27th than the average 3m forward return in a month following regime entry.

ISIN	Name	MV (EUR, bn)	Super Sector	Slope (%)	T Stat	Avg 3m forward return in month following regime entry (%)	Relative return since Oct 27 SXXP Inflection (%)
Fed cuts quicker: 1) 3m chg in Fed Funds rate < 0, 2) ECB 3m chg > Fed 3m chg (i.e. Fed cuts at a greater rate than the ECB)							
CARLB DC	Carlsberg	11.5	Food, Beverage and Tobacco	-1.7	-2.1	1.3	-0.6
ULVR LN	Unilever	109.0	Personal Care, Drug and Grocery Stores	-2.5	-3.3	2.1	0.2
RKT LN	Reckitt Benckiser	44.9	Personal Care, Drug and Grocery Stores	-2.5	-3.6	3.1	1.1
BATS LN	British American Tobacco	60.2	Food, Beverage and Tobacco	-3.8	-4.4	1.7	-1.8
AD NA	Ahold Delhaize	25.2	Personal Care, Drug and Grocery Stores	-2.2	-2.5	1.9	-3.9
DGE LN	Diageo	73.8	Food, Beverage and Tobacco	-2.4	-3.6	1.8	-8.6
Fed cuts slower: 1) 3m chg in Fed Funds rate < 0, 2) ECB 3m chg < Fed 3m chg (i.e. Fed cuts at a slower rate than the ECB)							
SCAB SS	Svenska Cellulosa	8.8	Basic Resources	-25.3	-4.5	1.8	0.4
AD NA	Ahold Delhaize	25.2	Personal Care, Drug and Grocery Stores	-11.3	-3.0	-1.7	-3.9
MC FP	Lvmh	372.4	Consumer Products and Services	-15.2	-4.9	7.5	4.2
JYSK DC	Jyske Bank	4.1	Banks	-21.9	-4.5	6.6	2.9
CARLB DC	Carlsberg	11.5	Food, Beverage and Tobacco	-14.3	-3.2	3.6	-0.6
RTO LN	Rentokil Initial	12.5	Industrial Goods and Services	-16.1	-3.3	3.8	-2.1
SYDB DC	Sydbank	2.2	Banks	-29.4	-4.6	7.1	-0.3
RI FP	Pernod-Ricard	41.4	Food, Beverage and Tobacco	-7.2	-2.6	1.2	-10.9
ECB cuts quicker: 1) 3m chg in ECB Depo rate < 0, 2) ECB 3m chg > Fed 3m chg (i.e. ECB cuts at a greater rate than the Fed)							
JYSK DC	Jyske Bank	4.1	Banks	-8.3	-4.7	4.8	2.9
CARLB DC	Carlsberg	11.5	Food, Beverage and Tobacco	-4.4	-2.7	1.6	-0.6
RTO LN	Rentokil Initial	12.5	Industrial Goods and Services	-7.7	-4.1	5.3	-2.1
SYDB DC	Sydbank	2.2	Banks	-11.4	-4.9	7.2	-0.3
ECB cuts slower: 1) 3m chg in ECB Depo rate < 0, 2) ECB 3m chg > Fed 3m chg (i.e. ECB cuts at a slower rate than the Fed)							
DGE LN	Diageo	73.8	Food, Beverage and Tobacco	-10.4	-3.2	5.0	-8.6
TATE LN	Tate & Lyle	3.0	Food, Beverage and Tobacco	-8.0	-2.3	6.0	4.4
GSK LN	Glaxosmithkline	68.8	Health Care	-12.7	-2.4	8.9	7.5
TTE FP	Totalenergies	150.4	Energy	-9.5	-3.0	0.0	-0.8

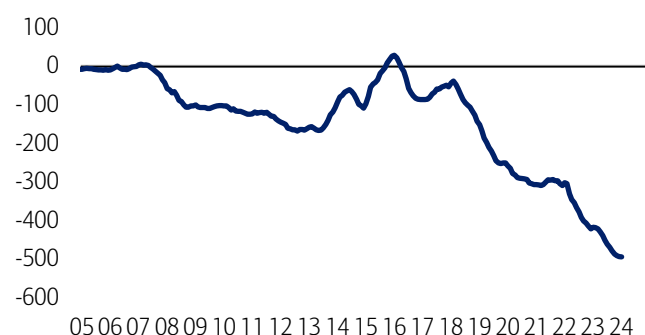
Source: BofA European Equity Quant Strategy, Refinitiv Datastream. The screen above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This screen was not created to act as a benchmark.

Note: *In the regimes where the Fed cuts quicker or slower slope is defined as the relationship between the share price and Fed rate cut, whereas in the regimes where the ECB cuts quicker or slower slopes is defined as the relationship between share price and ECB rate cut. 3m trailing change in Fed Funds/ECB Deposit rate are regressed against 3m forward stock returns (relative to the Stoxx 600) over the period from August 1980 – August 2023 to derive slope. Negative slopes imply outperformance in falling rate environments while positive slopes imply underperformance. Slopes are based on 100bp movements in rates, consequently a slope of -1.7 implies 1.7% outperformance when rates fall by 100bps.

Flows

Exhibit 2: Europe-focused equity funds have seen \$486bn of outflows since 2005 (active funds: -\$611bn, passive funds: \$125bn)

Long-term cumulative flows into Europe-focused equity funds (\$bn)

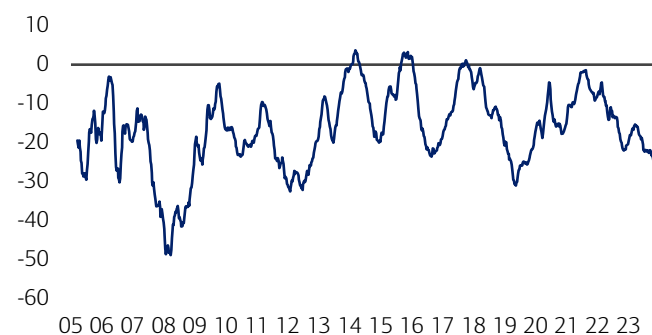


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 3: A net -26.2% of Europe-focused funds saw inflows last week, marginal rise and first in last 3 weeks

Net % of Europe-focused equity funds seeing inflows on weekly basis (12w mva)

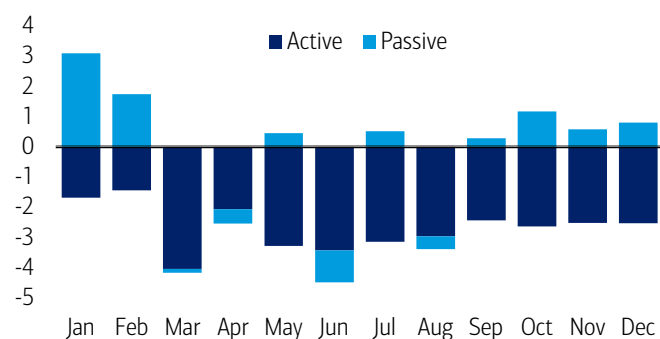


BofA European Equity Quant Strategy, EPFR Global. Note: Net % calculated as % of funds that saw inflows minus % of funds that saw outflows

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Exhibit 4: In January, on average Europe-focused equity funds see \$1.7bn outflows from active and \$3.1bn inflows into passive funds

Average monthly flows into Europe-focused equity funds (\$bn) split into active and passive groups

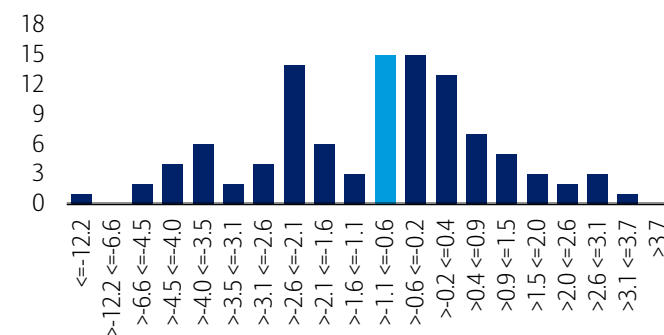


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 5: Europe-focused equity funds saw \$0.91bn of outflows last week, returning to outflows after one weekly inflow

Distribution of weekly flows into Europe-focused equity funds over the last two years (\$bn)

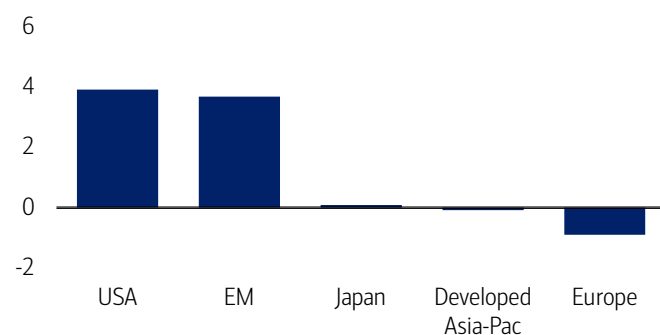


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 6: USA-focused funds saw the largest inflows last week (\$3.92bn), while Europe-focused funds the largest outflows (\$0.9bn)

Last week flows into equity funds by region (\$bn)

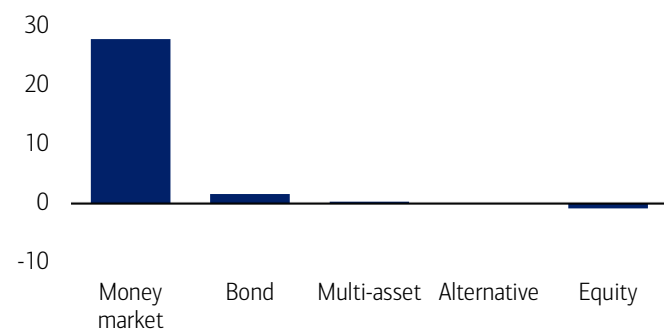


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 7: Money market funds saw \$27.8bn outflows last week, while only equity funds noted outflows (\$0.9bn)

Last week flows into Europe-focused funds by asset-class (\$bn)



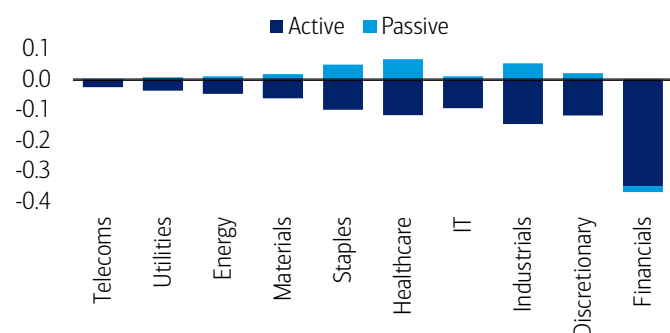
Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 8: Telecoms noted the smallest outflows last week (\$0.02bn), while Financials recorded the largest outflows (\$0.37bn)

Last week flows into Europe-focused equity funds by sector (\$bn)

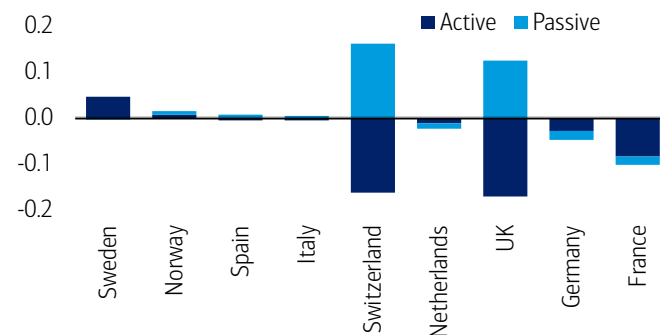


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 9: Sweden noted the largest inflows last week (\$0.04bn), while France recorded the largest outflows (\$0.1bn)

Last week flows into Europe-focused equity funds by country (\$bn)

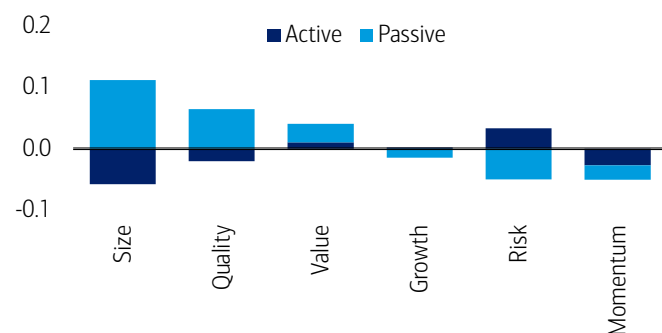


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 10: Size has seen the largest inflows last week (\$0.05bn), while Momentum the largest outflows (\$0.05bn)

Last week flows into European equities by style (long-short, \$bn)

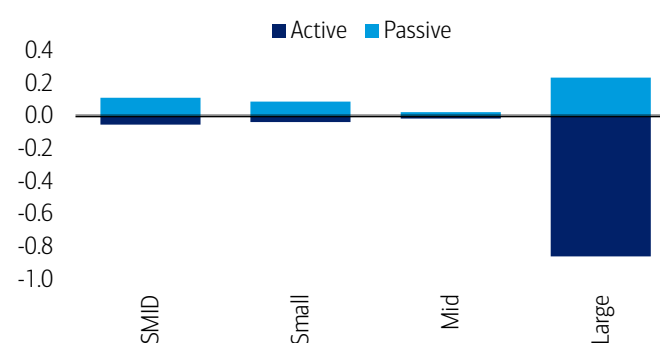


Source: BofA European Equity Quant Strategy, EPFR Global. Note: flows into styles are aggregated from stock level data

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Exhibit 11: SMID-focused European equity funds saw \$0.06bn of inflows last week, while Large cap funds noted \$0.62bn outflows

Last week flows into Europe-focused equity funds by size (\$bn)

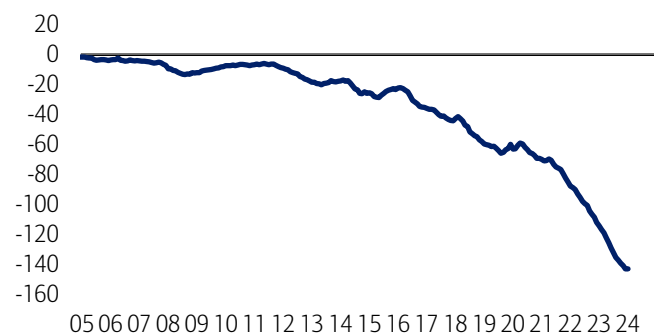


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 12: UK-focused equity funds have seen \$141bn of outflows since 2005 (active funds: \$-159bn, passive funds: \$18bn)

Long-term cumulative flows into UK-focused equity funds (\$bn)

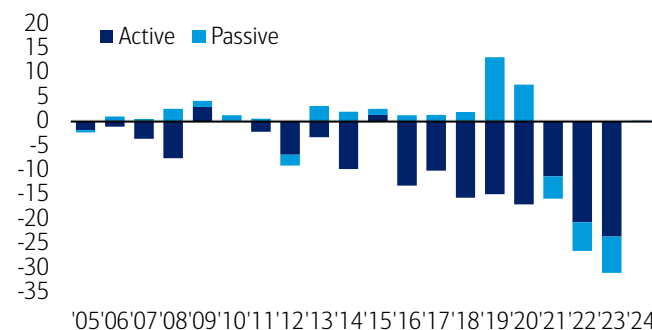


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 13: Last week, UK-focused equity active funds have seen \$0.17bn of outflows, while passive funds recorded \$0.12bn of inflows

Yearly flows into UK-focused equity funds (\$bn) split between active and passive funds

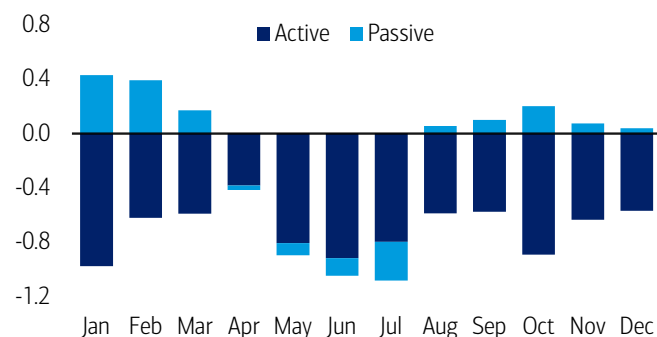


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 14: On average UK-focused equity funds note outflows from active funds (\$0.98bn) and inflows into passive funds (\$0.43bn) in January

Average monthly flows into UK-focused equity funds (\$bn) split into active and passive groups

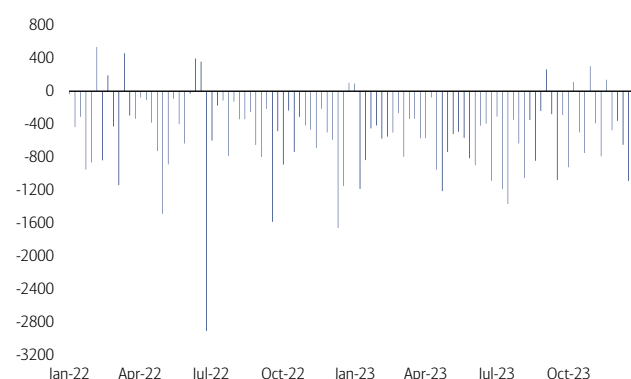


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 15: UK-focused equity funds saw \$0.04bn of outflows last week, the sixth consecutive outflow

UK-focused equity weekly funds flows (\$mn)

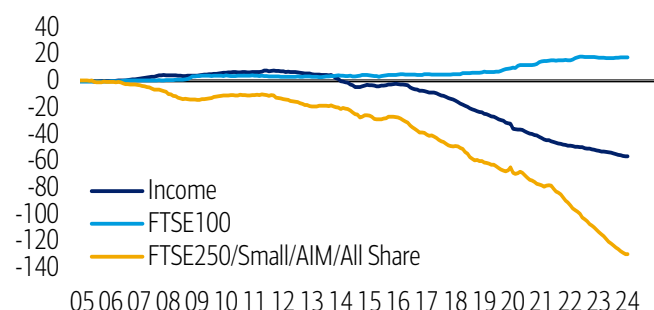


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 16: Since 2005, UK equity-focused income funds saw \$56bn of outflows, \$18bn of inflows into FTSE100 benchmarked funds and \$130bn of outflows from FTSE250/AIM/All Share/Small caps

Long-term cumulative flows into UK-focused equity funds (\$bn) split by focus

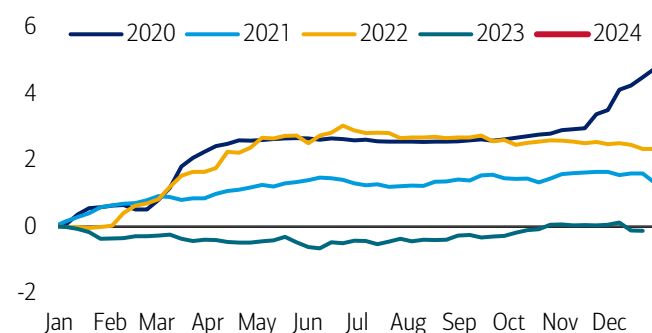


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 17: UK-focused equity funds benchmarked to FTSE 100 have seen \$0.03bn of outflows in the first week of 2024

Cumulative annual flows into UK-focused equity funds benchmarked to FTSE 100 index (\$bn)



Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 18: HSBC has seen the largest inflows last week as % of mcap, while Aurubis largest outflows across funds

Top 5 and bottom 5 European companies that are part of Europe Stoxx 600 index and saw the largest inflow/outflow from different types of funds last week as % of market capitalisation

Stocks that saw the highest inflows last week

BBG Ticker	Name	Sector	Country	Flow as % of mcap	Group
FRVIA FP	Forvia	Automobiles and Parts	France	0.03	Active
EMBRACB SS	Embracer Group	Consumer Pds & Svs	Sweden	0.02	Active
LIGHT NA	Signify	Construction	Netherlands	0.01	Active
AKZA NA	Akzo Nobel	Chemicals	Netherlands	0.01	Active
AMUN FP	Amundi	Financial Services	France	0.01	Active
HSBA LN	Hsbc	Banks	UK	0.03	Passive
PKN PW	Orlen	Energy	Poland	0.02	Passive
WIHL SS	Wihlborgs Fastigheter	Real Estate	Sweden	0.02	Passive
MAERSKB DCA	P.Moller-Maersk B	Industrial Gds & Svs	Denmark	0.01	Passive
CMBN SW	Cembra Money Bank	Banks	Switzerland	0.01	Passive

Stocks that saw the highest outflows last week

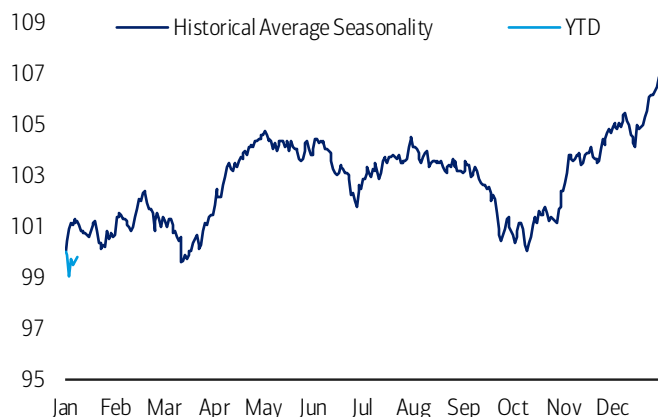
BBG Ticker	Name	Sector	Country	Flow as % of mcap	Group
ITV LN	Itv	Media	UK	-0.04	Active
RS1 LN	Rs Group	Industrial Gds & Svs	UK	-0.04	Active
SOI FP	Soitec	Technology	France	-0.03	Active
ALLFG NA	Allfunds Group	Financial Services	Netherlands	-0.03	Active
JMT PL	Jeronimo Martins	PCDG Stores	Portugal	-0.03	Active
NDA GR	Aurubis	Basic Resources	Germany	-0.23	Passive
KGH PW	Kghm	Basic Resources	Poland	-0.12	Passive
ECV GR	Encavis	Utilities	Germany	-0.08	Passive
ANTO LN	Antofagasta	Basic Resources	UK	-0.07	Passive
ENG SM	Enagas	Energy	Spain	-0.07	Passive

Source: BofA European Equity Quant Strategy, EPFR Global. Disclaimer: The screen 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 screen was not created to act as a benchmark.

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Performances

Exhibit 19: The SXXP index typically registers a 1.4% gain in Q1, while the current quarter-to-date return stands at a 0.4% loss
Historical average performance of Europe Stoxx 600 index (EUR, price return)



Source: BofA European Equity Quant Strategy, Refinitiv. Note: historical average performance calculated over 1992-2023

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Exhibit 20: Q1 '24 starts with stronger gains in Italy, Healthcare and Value compared to historical trends

Current QTD and YTD performance in comparison with historical average relative performance of MSCI sectors/countries indices (vs MSCI Europe, local currency, price return) and styles (long/short, EUR, price return)

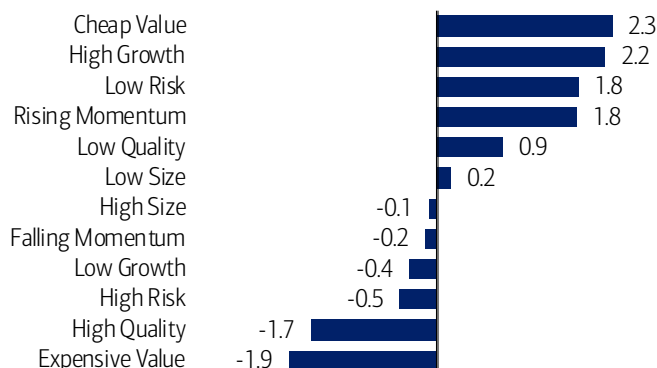
	QTD (%)	Diff vs historical	YTD (%)	Diff vs historical
Germany	-0.2	-0.4	-0.2	-0.4
France	-1.0	-0.7	-1.0	-0.7
Italy	1.5	0.9	1.5	0.9
Netherlands	-2.0	-1.7	-2.0	-1.7
Spain	1.6	0.8	1.6	0.8
Sweden	-1.9	-2.5	-1.9	-2.5
Switzerland	0.9	0.6	0.9	0.6
UK	-0.1	0.2	-0.1	0.2
Materials	-2.7	-3.1	-2.7	-3.1
Communication Svs	2.0	1.0	2.0	1.0
Discretionary	-1.9	-1.9	-1.9	-1.9
Staples	0.7	2.1	0.7	2.1
Energy	-1.7	-1.6	-1.7	-1.6
Financials	1.2	0.4	1.2	0.4
Healthcare	3.3	3.6	3.3	3.6
Industrials	-1.3	-1.8	-1.3	-1.8
IT	-2.8	-3.1	-2.8	-3.1
Utilities	1.3	2.4	1.3	2.4
Real Estate	-2.5	-1.1	-2.5	-1.1
Value	4.9	2.8	4.9	2.8
Growth	2.5	2.1	2.5	2.1
Momentum	2.3	2.2	2.3	2.2
Quality	-2.7	-0.6	-2.7	-0.6
Risk	-2.2	-5.7	-2.2	-5.7
Size	0.2	-0.7	0.2	-0.7

Source: BofA European Equity Quant Strategy, Refinitiv, MSCI. Note: historical average performance calculated over 1993-2023

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Exhibit 21: January sees largest gains in Cheap Value so far, while Expensive Value experiences the largest losses

% MTD returns for styles in the largest 250 European stocks (relative price return equally weighted in EUR)

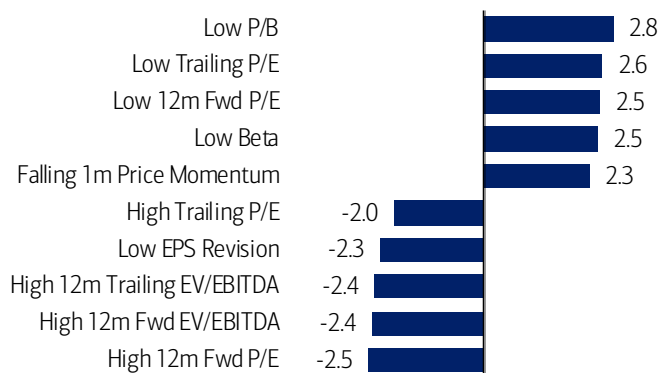


Source: BofA European Equity Quant Strategy, Factset

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Exhibit 22: Low P/B have seen the strongest gains MTD, while High 12m Fwd P/E records the largest losses

% MTD best and worst factor in styles in the largest 250 European stocks (relative price return equally weighted in EUR)

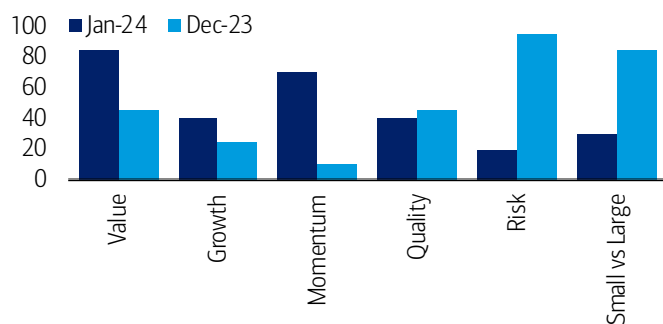


Source: BofA European Equity Quant Strategy, Factset

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Exhibit 23: Value has outperformed in 17 out of 20 sectors so far in January

% of SXXP index super-sectors in which styles (L/S) are outperforming in Jan

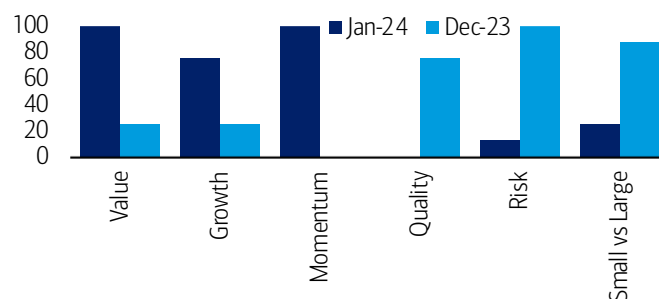


Source: BofA European Equity Quant Strategy, FactSet

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Exhibit 24: Value and Momentum have outperformed in 8 out of 8 countries so far in January

% of SXXP index countries* in which styles (L/S) are outperforming in Jan

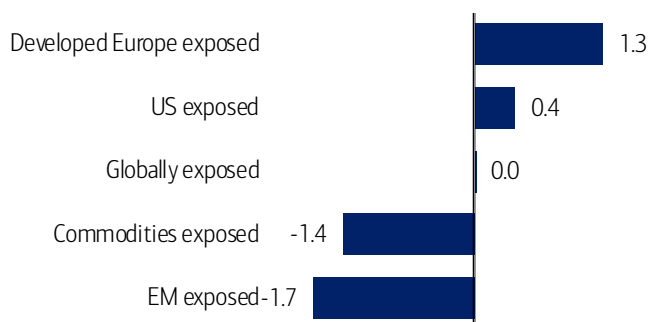


Source: BofA European Equity Quant Strategy, FactSet. Note:* countries included: France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland, UK

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Exhibit 25: Developed Europe exposed stocks have gained the most MTD, while EM exposed stocks have noted the largest losses

% MTD returns for revenue exposure baskets (relative price return equally weighted in EUR)

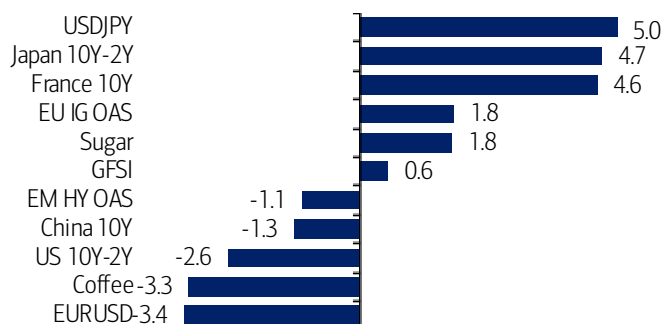


Source: BofA European Equity Quant Strategy, FactSet

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Exhibit 26: Stocks sensitive to rising USDJPY have gained the most MTD, while these sensitive to rising EURUSD lost the most

% MTD returns for stocks with specific cross-asset sensitivities (relative price return equally weighted in EUR)



Source: BofA European Equity Quant Strategy, FactSet

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Exhibit 27: Q1 has been historically the strongest for France, IT and Low vs High Size

Historical average returns for countries, sectors, styles (L/S) in each quarter

Quarter	Germany	France	Italy	Netherlands	Spain	Sweden	Switzerland	UK				
Q1	-0.1%	1.8%	1.5%	1.5%	0.6%	3.2%	-0.3%	-2.0%				
Q2	0.2%	-0.1%	-2.3%	1.2%	0.2%	0.9%	1.1%	-0.3%				
Q3	-2.3%	-1.2%	-0.1%	-0.6%	0.1%	1.0%	0.5%	0.9%				
Q4	2.5%	0.2%	-1.0%	0.8%	0.7%	0.7%	-0.3%	-1.0%				
Quarter	Materials	Communication Svs	Discretionary	Staples	Energy	Financials	Healthcare	Industrials	IT	Utilities	Real Estate	
Q1	0.9%	-1.0%	1.5%	0.8%	0.8%	-2.4%	-0.7%	1.7%	2.3%	-0.7%	-7.4%	
Q2	0.6%	-4.0%	-0.4%	1.8%	2.2%	-1.4%	2.8%	0.2%	-0.4%	0.6%	-6.5%	
Q3	-2.2%	-0.4%	-1.8%	2.2%	-0.3%	0.2%	2.9%	-1.0%	-1.2%	0.8%	-1.8%	
Q4	1.6%	2.1%	1.2%	-2.1%	-2.4%	0.2%	-2.4%	0.8%	2.0%	-0.7%	3.2%	
Quarter	Value	Growth	Momentum	Quality	Risk	Size (Low vs High)						
Q1	-1.1%	3.4%	3.1%	-0.2%	0.0%	4.5%						
Q2	-1.3%	0.7%	5.9%	2.1%	-2.5%	0.0%						
Q3	0.7%	0.5%	5.1%	2.4%	-3.6%	0.8%						
Q4	0.2%	0.4%	1.6%	0.9%	3.3%	0.1%						

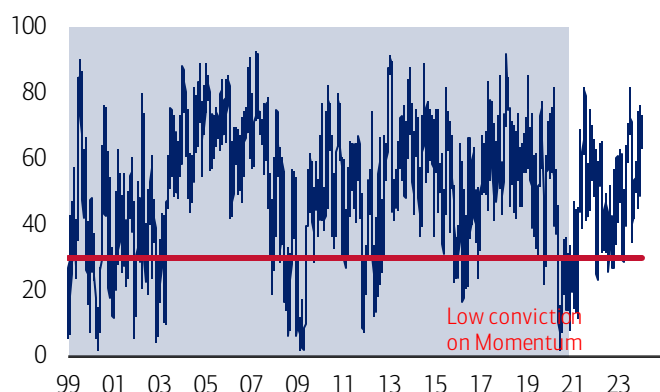
Source: BofA European Equity Quant Strategy, Refinitiv, MSCI. Note: historical average performance calculated over 1993-2023

BofA GLOBAL RESEARCH

European Momentum Conviction Indicator

Exhibit 28: BofA European Momentum Conviction Indicator (MCI) stands at 69, above the threshold of 30 which signals a potential crash in the Momentum style

BofA European Momentum Conviction Indicator (100=High, 0 = Low)

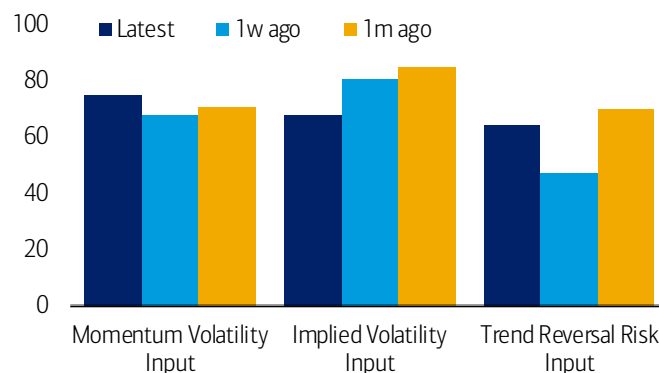


Source: BofA European Equity Quant Strategy, FactSet. Disclaimer: Performance through 06 October 2020 (shaded on the chart above) is backtested and does not represent the actual performance of any account or fund. Backtested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. The indicator identified as the BofA European Conviction Momentum 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 European Equity Quant Strategy. This indicator was not created to act as a benchmark

BofA GLOBAL RESEARCH

Exhibit 29: Increases in Momentum Volatility and Trend Reversal Risk inputs pushed the indicator up by 1 point over the week

BofA European Momentum Conviction Indicator's inputs latest readings (100=High, 0=Low)



Source: BofA European Equity Quant Strategy, FactSet. For definitions of the inputs please see European Momentum Conviction Indicator

BofA GLOBAL RESEARCH

Valuations

Exhibit 30: MSCI Europe Market-Level Valuation Multiples

The most attractive multiple on z-score is TTM ROE (%) at 13.8%, while the least attractive is FWD DY (%) at 4.0%

	Latest Value	2-Year Z-Score	5-Year Z-Score	10-Year Z-Score	Historical Average	2-Year Average	5-Year Average	10-Year Average
TTM DY (%)	3.2	0.4	-0.5	-0.3	0.0	3.7	3.1	3.1
FWD DY (%)	4.0	0.7	-0.9	-0.1	0.4	4.7	3.9	4.0
TTM P/E	13.9	-0.3	-0.8	-0.9	-1.3	15.3	14.8	16.9
FWD P/E	11.7	-0.2	0.0	-0.8	-0.6	12.4	11.7	12.6
TTM P/B	1.9	0.1	0.0	0.2	0.4	1.8	1.9	1.9
TTM ROE (%)	13.8	-0.8	-1.7	-1.5	-2.0	12.0	12.9	11.4
FWD ROE (%)	14.1	-0.5	-0.5	-1.1	-1.7	13.2	14.0	12.5

Source: BofA European Equity Quant Strategy, Refinitiv Datastream, IBES Consensus Estimates, note: Z-scores have been inverted for 12m Trailing and Forward Return on Equity and Dividend Yield. Consequently, for Dividend Yield a Z-score of -0.8 implies that the current level is 0.8 standard deviations higher than the historical average, while for the P/E ratio a Z-score of -0.8 implies that the current level is 0.8 standard deviations below the historical average.

BofA GLOBAL RESEARCH

Exhibit 31: Financials currently ranks the most attractive on historical z-score at 6.3%, while Industrials ranks the least attractive at 2.8%

MSCI Europe 12m FWD Dividend Yield (%) by Sector

	Latest Value	Historical Z-Score	2-Year Z-Score	5-Year Z-Score	10-Year Z-Score	Historical Average	2-Year Average	5-Year Average	10-Year Average
MSCI Europe	4.0	-0.7	0.9	0.1	-0.4	4.7	3.9	4.0	4.2
Discretionary	3.5	-0.5	1.0	0.7	0.1	4.0	3.3	3.1	3.4
Staples	4.0	0.0	2.0	1.7	0.9	4.0	3.5	3.6	3.6
Energy	5.7	-0.2	1.2	-0.4	-0.6	6.0	5.2	6.2	6.4
Financials	6.3	0.4	1.0	0.8	1.1	5.9	5.9	5.8	5.6
Health Care	2.9	-0.9	0.9	-0.5	-1.0	3.9	2.8	3.0	3.3
Industrials	2.8	-1.1	-1.1	-0.5	-1.0	3.7	2.9	2.9	3.3
Materials	3.8	-0.3	-2.1	-1.8	-0.6	4.1	4.7	4.6	4.2
Technology	1.5	-1.0	0.3	0.2	-0.6	2.4	1.5	1.5	1.8
Communication Svs	5.0	-0.8	0.6	-0.2	-0.5	6.6	4.8	5.1	5.3
Utilities	5.5	-0.7	0.6	0.2	-0.3	6.3	5.4	5.5	5.7
Real Estate	4.8	-0.4	-0.8	-0.4	-0.4	5.1	5.5	5.1	5.1

Source: BofA European Equity Quant Strategy, Refinitiv Datastream, IBES Consensus Estimates

BofA GLOBAL RESEARCH

Exhibit 32: Energy currently ranks the most attractive on historical z-score with a multiple of 6.2x, while Industrials ranks the least attractive at 16.2x

MSCI Europe 12m FWD P/E ratio by Sector

	Latest Value	Historical Z-Score	2-Year Z-Score	5-Year Z-Score	10-Year Z-Score	Historical Average	2-Year Average	5-Year Average	10-Year Average
MSCI Europe	11.7	-0.2	0.0	-0.8	-0.6	12.4	11.7	12.6	12.5
Discretionary	10.9	-0.5	-1.0	-0.9	-0.6	12.7	11.7	13.3	12.2
Staples	13.8	-0.1	-1.6	-2.0	-1.2	14.3	15.5	15.5	15.6
Energy	6.2	-1.1	0.6	-0.7	-1.2	11.1	5.8	8.6	10.2
Financials	8.1	-0.6	-0.3	-0.9	-1.2	10.0	8.2	8.8	9.2
Health Care	15.1	-0.1	-0.4	0.1	0.4	15.4	15.4	15.1	14.6
Industrials	16.2	0.9	1.0	0.0	0.6	13.2	15.3	16.1	14.9
Materials	13.1	0.7	1.9	0.8	0.4	11.1	10.9	11.8	12.4
Technology	20.7	0.1	0.7	-0.1	0.6	20.0	19.7	20.9	18.6
Communication Svs	12.5	-0.1	-0.7	-0.2	-0.5	21.7	13.2	12.8	13.6
Utilities	11.7	-0.1	-1.0	-1.6	-0.8	12.0	12.7	13.2	12.7
Real Estate	12.9	-0.9	0.3	-0.6	-0.9	14.8	12.4	14.1	14.8

Source: BofA European Equity Quant Strategy, Refinitiv Datastream, IBES Consensus Estimates

BofA GLOBAL RESEARCH

Exhibit 33: Real Estate currently ranks the most attractive on historical z-score with a multiple of 0.7x, while Industrials ranks the least attractive at 3.2x

MSCI Europe 12m Trailing Price/Book ratio by Sector

	Latest Value	Historical Z-Score	2-Year Z-Score	5-Year Z-Score	10-Year Z-Score	Historical Average	2-Year Average	5-Year Average	10-Year Average
MSCI Europe	1.9	0.1	0.0	0.2	0.4	1.8	1.9	1.9	1.8
Discretionary	1.9	-0.7	-0.8	-0.6	-1.0	2.3	2.0	2.1	2.2
Staples	3.0	-0.8	-0.9	-1.1	-1.2	3.5	3.2	3.3	3.5
Energy	1.2	-0.9	-0.7	0.3	0.2	2.0	1.3	1.2	1.2
Financials	1.0	-0.6	1.3	1.5	0.8	1.4	0.9	0.9	0.9
Health Care	3.9	-0.5	0.3	0.0	-0.1	4.7	3.8	3.9	4.0
Industrials	3.2	1.0	0.0	-0.2	0.2	2.7	3.3	3.4	3.2
Materials	1.7	-0.6	-0.6	-0.8	-0.8	1.9	1.8	1.9	1.9
Technology	4.7	0.1	-0.2	-0.2	0.6	4.5	4.8	4.8	4.1
Communication Svs	1.3	-0.5	-0.6	-1.1	-1.4	2.0	1.4	1.5	1.6
Utilities	1.7	-0.5	-0.7	-1.0	0.0	1.9	1.8	1.8	1.7
Real Estate	0.7	-1.0	0.3	-0.6	-1.0	0.9	0.7	0.8	0.9

Source: BofA European Equity Quant Strategy, Refinitiv Datastream, IBES Consensus Estimates

BofA GLOBAL RESEARCH

Exhibit 34: Technology currently ranks the most attractive on historical z-score at 20.2%, while Communication Svs ranks the least attractive at 5.4%

MSCI Europe 12m Trailing Return on Equity (%) by Sector

	Latest Value	Historical Z-Score	2-Year Z-Score	5-Year Z-Score	10-Year Z-Score	Historical Average	2-Year Average	5-Year Average	10-Year Average
MSCI Europe	13.8	0.8	1.7	1.5	2.0	12.0	12.9	11.4	10.6
Discretionary	15.9	0.9	2.5	1.3	1.0	13.2	14.0	12.3	13.4
Staples	18.3	0.0	0.6	1.1	0.9	18.4	17.9	17.3	17.2
Energy	13.1	0.0	-0.8	0.4	0.8	13.3	16.2	10.1	8.0
Financials	11.9	0.9	2.4	2.7	3.2	8.9	9.3	8.3	7.4
Health Care	18.8	-0.4	2.0	1.0	0.7	19.7	17.0	17.7	17.9
Industrials	17.2	1.0	0.4	0.8	1.1	14.5	16.7	15.2	15.1
Materials	12.6	0.0	-2.1	-0.4	0.2	12.8	17.1	13.8	11.9
Technology	20.2	1.8	1.4	2.0	2.5	11.4	17.1	14.4	12.3
Communication Svs	5.4	-1.3	-0.5	-1.3	-1.6	10.5	6.2	8.3	8.5
Utilities	11.9	-0.1	0.0	0.2	0.7	12.2	11.9	11.7	10.6
Real Estate	4.7	0.2	1.4	0.6	0.2	4.5	3.0	3.7	4.5

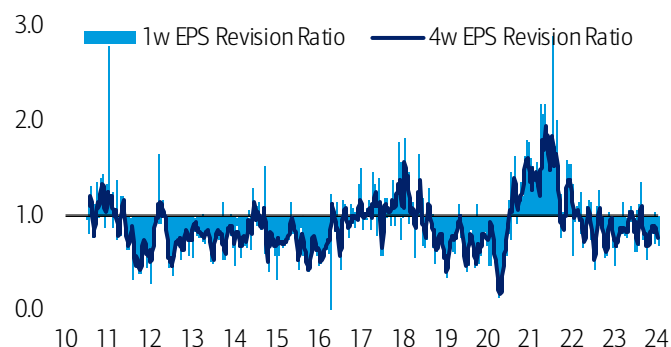
Source: BofA European Equity Quant Strategy, Refinitiv Datastream, IBES Consensus Estimates

BofA GLOBAL RESEARCH

Revisions

Exhibit 35: Global 4-week EPS Revision Ratio stands at 0.76, down from last week

Ratio of BofA analysts' EPS upgrades to downgrades

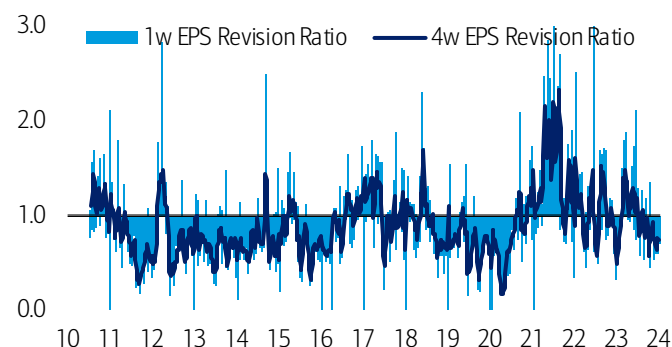


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 36: European 4-week EPS Revision Ratio stands at 0.74, up from last week

Ratio of BofA analysts' EPS upgrades to downgrades

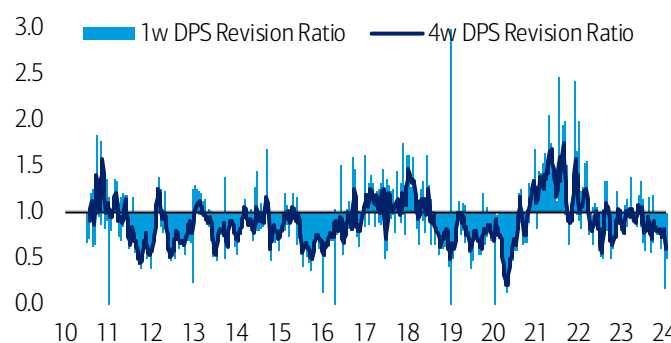


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 37: Global 4-week DPS Revision Ratio stands at 0.62, down from last week

Ratio of BofA analysts' DPS upgrades to downgrades

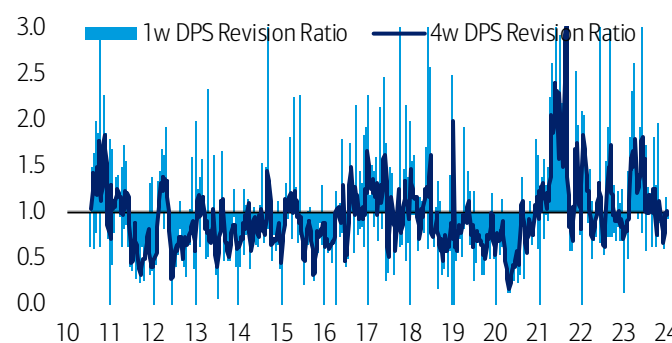


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 38: European 4-week DPS Revision Ratio stands at 1.01, up from last week

Ratio of BofA analysts' DPS upgrades to downgrades

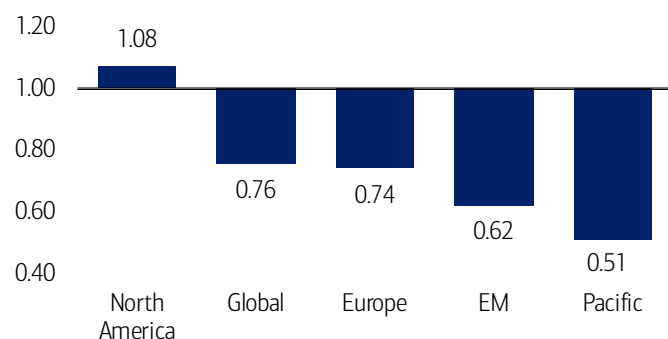


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 39: Currently, the 4-week EPS Revision Ratio is the strongest in North America, while it is the weakest in Pacific

BofA 4w EPS Revision Ratio by region

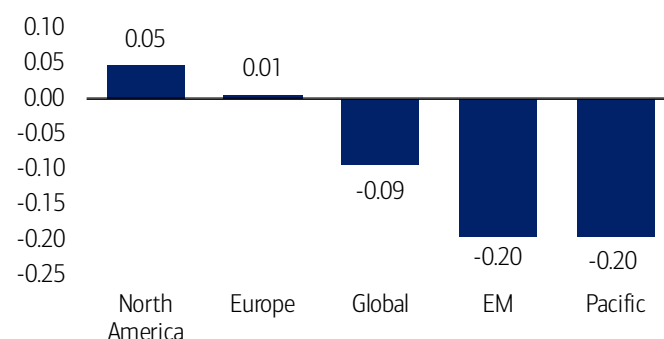


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 40: Over the past week, the 4-week EPS Revision Ratio improved the most in North America, while it deteriorated the most in EM and Pacific

1w change in 4w BofA EPS Revision Ratio by region

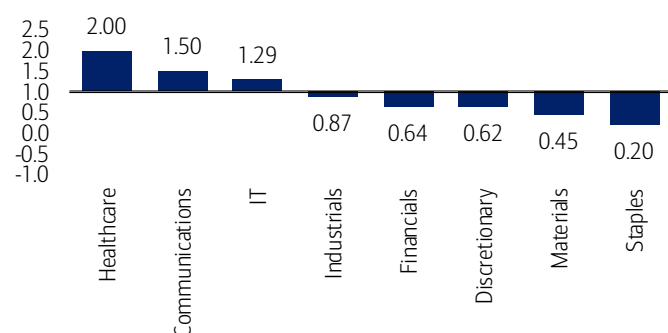


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 41: Currently, the 4-week EPS Revision Ratio is the strongest in Healthcare, while it is the weakest in Staples

BofA 4w European EPS Revision Ratio by sector

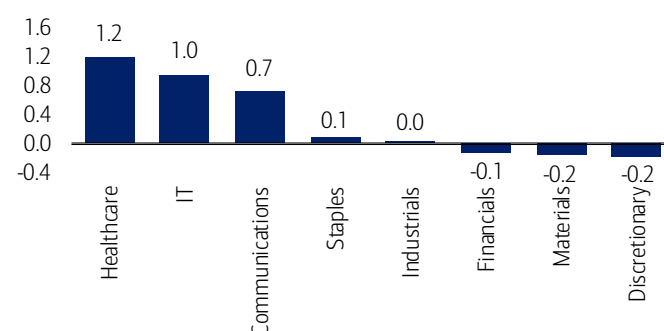


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 42: Over the past week, 4-week EPS Revision Ratio improved the most in Healthcare, while it deteriorated the most in Discretionary

1w change in 4w BofA European EPS Revision Ratio by sector

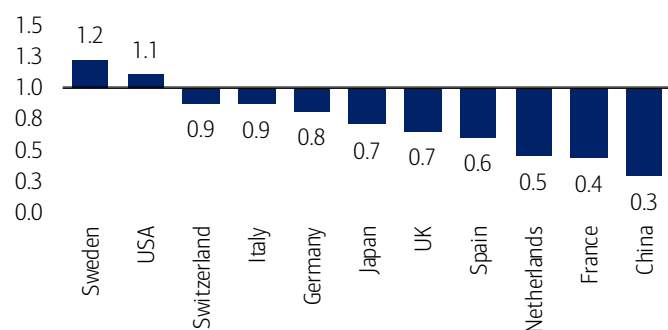


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 43: Currently, the 4-week EPS Revision Ratio is the strongest in Sweden, while it is the weakest in China

BofA 4w EPS Revision Ratio by country

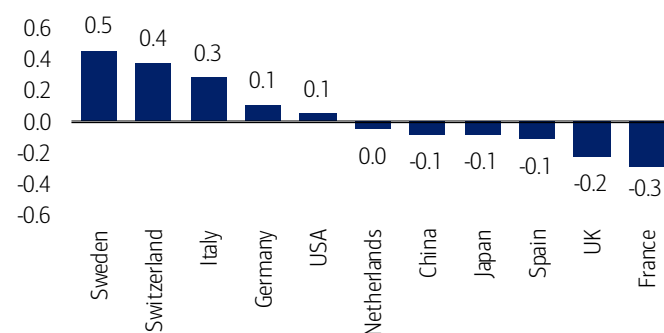


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 44: Over the past week, the 4-week EPS Revision Ratio improved the most in Sweden, while it deteriorated the most in France

1w change in 4w BofA EPS Revision Ratio by country

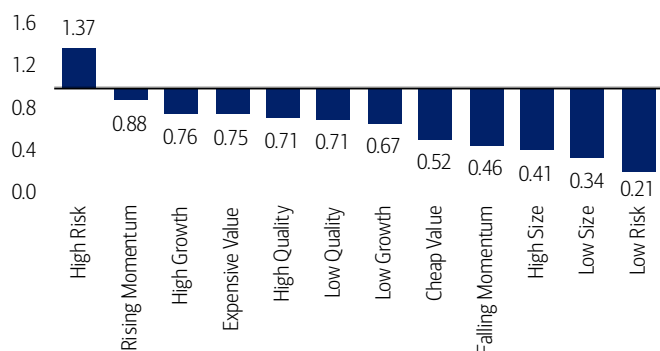


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 45: Currently, the 4-week EPS Revision Ratio is the strongest in High Risk, while it is the weakest in Low Risk

BofA 4w European EPS Revision Ratio by style

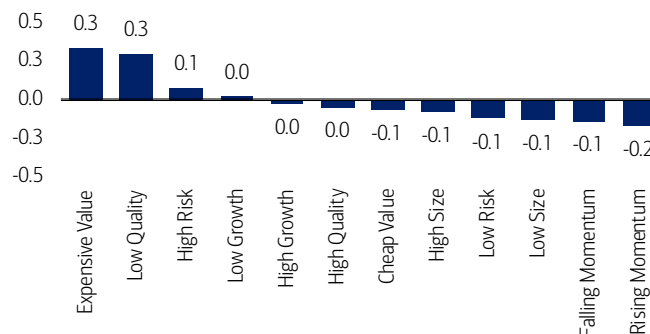


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 46: Over the past week, 4-week EPS Revision Ratio improved the most in Expensive Value, while it deteriorated the most in Rising Momentum

1w change in 4w BofA European EPS Revision Ratio by style



Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 47: Top 5 and bottom 5 stocks with the largest upgrades in BofA FY1 EPS over last week

BofA European covered stocks with Buy/Underperform rating that saw the largest increase/decrease in BofA FY1 EPS forecast over the past week

Top 5 stocks with the highest upgrade in FY1 EPS

BBG Ticker	Name	Country	Sector	MCap (EUR bn)	FY1 EPS Chg	FY2 EPS Chg	FY3 EPS Chg	ChgDate
YCA LN	Yellow Cake	UK	Industrials	1.6	65%	7162%	-469%	07/01/2024
PRY IM	Prysmian	Italy	Industrials	11.2	9%	8%	6%	05/01/2024
LLOY LN	Lloyds Banking	UK	Financials	34.8	9%	-12%	-14%	05/01/2024
ACLN SW	Accelleron	Switzerland	Industrials	2.7	4%	7%	9%	05/01/2024
DUE GR	DUERR AG	Germany	Industrials	1.4	3%	9%	6%	05/01/2024

Source: IQDatabase

Bottom 5 stocks with the highest downgrade in FY1 EPS

BBG Ticker	Name	Country	Sector	MCap (EUR bn)	FY1 EPS Chg	FY2 EPS Chg	FY3 EPS Chg	ChgDate
YAR NO	Yara	Norway	Materials	7.8	-55%	-36%	-36%	05/01/2024
VMUK LN	Virgin Money	UK	Financials	2.4	-9%	-15%	-13%	05/01/2024
AKZA NA	Akzo Nobel	Netherlands	Materials	11.9	-4%	-4%	-2%	04/01/2024
SU FP	Schneider	France	Industrials	98.6	-1%	0%	0%	05/01/2024
BOY LN	Bodycote PLC	UK	Industrials	1.3	-1%	2%	3%	05/01/2024

BofA GLOBAL RESEARCH

European Momentum Conviction Indicator

We launched our European Momentum Conviction Indicator on 06 October 2020. This indicator aims to identify episodes where volatility of a cross-sectional approach to Momentum investing is too high to support consistent returns or when trends might break. We use three inputs to construct the indicator, these inputs are equally weighted and form an indicator scaled from 0-100 (100 = highest conviction in positive Momentum performance, 0 = lowest conviction):

- Momentum Volatility Risk:** Volatility of Momentum performance for risk-management is crucial as uncertainty on the economic cycle rises. High levels of volatility can compromise Momentum's performance. Since the strategy's volatility tends to be clustered, we use a GARCH (1, 1) model to forecast 1-step-ahead volatility levels and adjust the exposure to Momentum accordingly (high volatility levels = low confidence in Momentum).
- Implied Volatility for Equities:** Large Momentum drawdowns tend to occur following turning points in market cycles. We use a combination of fast- and slow- moving averages of implied volatility in European markets to detect volatility shocks and retracement. A warning signal against Momentum is given when implied volatility retraces following a volatility shock. This often corresponds to the start of a recovery phase following a recessionary episode.
- Trend Reversal Risk:** This is a contrarian signal monitoring the 2nd derivative of Momentum's short-term performance. This input identifies episodes where Momentum's performance has accelerated near term – signalling the formation

of a potential “Momentum bubble” or an episode of potential profit booking. We estimate the risk of trend reversal using the month-on-month difference in trends of the Momentum strategy.

We define a Momentum crash as a drawdown of the 12m price momentum long-short strategy exceeding 10% over 20 trading days. Since the performance of the strategy is computed on a daily basis, we define unique drawdown events as the maximum drawdown of the strategy over a 2-month window (1 month look-back, 1 month look forward). Following this methodology, we identify 30 Momentum crashes from January 1999 to September 2020. A Momentum crash is said to be correctly predicted if any of the input of the European Momentum Conviction Indicator is less than 50 (bearish signal on Momentum) 20 days prior to the drawdown event.

Using the definitions above, our backtested results suggest that the inputs of the European Momentum Conviction Indicator would have correctly identified 28 of these 30 drawdowns (i.e., sending a bearish signal 20 trading days prior to the event).

Exhibit 48: Backtested (shaded) and live results of the European Momentum Conviction Indicator

Momentum Conviction Indicator and its inputs readings 1, 4, 8 weeks before the momentum crashes

1 Week Before the Crash (defined as local minimum of 4W performance)						4 Weeks Before the Crash						8 Weeks Before the Crash (defined as local minimum of 4W performance)					
Date	Momentum		Trend		1W Forward Momentum Returns	Date	Momentum		Trend		4W Forward Momentum Returns	Date	Momentum		Trend		8W Forward Momentum Returns
	Volatility	Implied Volatility	Reversal	EMCI			Volatility	Implied Volatility	Reversal	EMCI			Volatility	Implied Volatility	Reversal	EMCI	
10-Feb-99	37	1	7	15	-3%	20-Jan-99	17	1	6	8	-20%	04-Jan-99	7	38	22	-12%	
29-Apr-99	71	12	51	45	-4%	08-Apr-99	96	3	47	49	-12%	11-Mar-99	98	1	5	35	-14%
28-Mar-00	2	12	13	9	-26%	07-Mar-00	8	15	4	9	-49%	08-Feb-00	0	73	1	24	-31%
04-Aug-00	42	89	27	53	1%	14-Jul-00	38	95	61	65	-14%	16-Jun-00	17	86	43	48	-7%
11-Oct-00	37	6	25	23	0%	20-Sep-00	34	51	95	60	-16%	23-Aug-00	52	83	95	77	-9%
06-Dec-00	23	32	13	23	-6%	15-Nov-00	34	15	40	30	-26%	18-Oct-00	36	35	37	36	-29%
25-Apr-01	10	55	53	39	-9%	03-Apr-01	27	94	38	53	-24%	06-Mar-01	39	36	59	44	-7%
12-Nov-01	13	38	46	33	-15%	22-Oct-01	12	98	32	47	-26%	24-Sep-01	30	100	35	55	-36%
29-Oct-02	5	3	11	6	-10%	08-Oct-02	5	96	58	53	-25%	10-Sep-02	17	91	52	53	-4%
23-Apr-03	28	93	36	52	-6%	01-Apr-03	21	16	32	23	-25%	04-Mar-03	19	2	18	13	-22%
11-Jun-03	47	94	29	56	0%	21-May-03	37	95	38	57	-16%	23-Apr-03	28	93	36	52	-25%
25-Jul-03	79	76	78	78	-4%	04-Jul-03	67	92	25	61	-11%	06-Jun-03	51	94	29	58	-9%
01-Jun-06	31	95	83	70	-7%	11-May-06	71	35	85	64	-13%	12-Apr-06	77	41	76	65	-10%
05-Aug-08	5	9	37	17	-8%	15-Jul-08	19	28	56	34	-36%	17-Jun-08	31	8	57	32	-24%
11-Dec-08	3	79	53	45	4%	20-Nov-08	5	99	13	39	-20%	23-Oct-08	6	100	6	37	-2%
30-Mar-09	2	3	12	6	-16%	09-Mar-09	1	1	23	8	-51%	09-Feb-09	2	0	24	9	-28%
30-Jul-09	49	85	51	62	-7%	09-Jul-09	47	59	53	53	-18%	11-Jun-09	41	92	39	57	-8%
01-Feb-11	28	40	41	36	0%	11-Jan-11	57	29	52	46	-16%	14-Dec-10	30	29	77	45	-8%
03-Oct-11	12	97	36	48	-7%	12-Sep-11	38	98	21	52	-25%	15-Aug-11	17	98	58	58	-8%
27-Jan-12	27	87	24	46	-1%	06-Jan-12	44	23	47	38	-18%	08-Dec-11	23	2	57	27	-9%
14-Aug-12	26	35	34	32	-5%	24-Jul-12	35	67	46	49	-19%	26-Jun-12	27	13	44	28	-14%
08-Apr-14	50	47	81	59	-6%	18-Mar-14	65	68	86	73	-10%	18-Feb-14	76	60	89	75	-9%
19-Oct-15	23	22	48	31	2%	28-Sep-15	49	89	33	57	-12%	31-Aug-15	41	91	67	67	1%
24-Feb-16	16	89	73	59	-9%	03-Feb-16	33	77	61	57	-15%	06-Jan-16	46	10	38	31	-10%
15-Apr-16	11	37	27	25	-7%	24-Mar-16	31	58	66	51	-12%	25-Feb-16	14	88	74	59	-21%
07-Nov-16	49	19	64	44	-5%	17-Oct-16	50	22	67	46	-11%	19-Sep-16	38	38	69	48	-11%
19-Dec-16	35	66	23	41	0%	28-Nov-16	50	9	57	39	-13%	31-Oct-16	50	34	58	48	-14%
12-Apr-19	48	34	55	46	-4%	22-Mar-19	58	59	70	62	-11%	22-Feb-19	46	65	74	62	-9%
09-Sep-19	29	62	59	50	-6%	19-Aug-19	44	89	50	61	-14%	22-Jul-19	70	67	66	68	-10%
01-Jun-20	2	0	49	17	-21%	11-May-20	11	2	48	20	-27%	13-Apr-20	8	99	13	40	-12%
17-Nov-20	2	22	4	9	-8%	27-Oct-20	17	5	19	14	-32%	29-Sep-20	17	3	19	13	-33%
01-Mar-21	14	14	17	15	-9%	08-Feb-21	23	10	46	26	-18%	11-Jan-21	13	15	47	25	-16%
18-Jan-22	28	14	29	24	-1%	28-Dec-21	34	62	65	54	-10%	30-Nov-21	28	83	60	57	-13%
22-Jul-22	35	8	34	26	0%	01-Jul-22	43	5	54	34	-8%	03-Jun-22	43	10	53	35	-8%
04-Nov-22	18	45	56	40	-15%	14-Oct-22	24	70	72	55	-17%	16-Sep-22	28	12	70	36	-13%
26-Jan-23	33	83	67	61	-7%	05-Jan-23	24	81	55	53	-11%	08-Dec-22	20	91	30	47	-13%

Exhibit 48: Backtested (shaded) and live results of the European Momentum Conviction Indicator

Momentum Conviction Indicator and its inputs readings 1, 4, 8 weeks before the momentum crashes

1 Week Before the Crash (defined as local minimum of 4W performance)						4 Weeks Before the Crash						8 Weeks Before the Crash (defined as local minimum of 4W performance)					
					1W Forward						4W Forward						8W Forward
	Momentum	Implied	Trend				Momentum	Implied	Trend			Momentum	Implied	Trend			
Date	Volatility	Volatility	Reversal	EMCI	Momentum	Date	Volatility	Volatility	Reversal	EMCI	Momentum	Date	Volatility	Volatility	Reversal	EMCI	
					Returns						Returns					Returns	

Source: BofA European Equity Quant Strategy. 12m Momentum performance is computed from January 1999 using daily price returns in Euro, assuming daily rebalancing and excluding transaction costs. This performance is backtested (shaded) and does not represent the actual performance of any account or fund. Backtested (shaded) performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. The strategy indicated 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 strategy was not created to act as a benchmark.

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Definitions

Value: Equal weighted combination of factors - Forecast/Trailing EPS Yield, Dividend Yield, Cash to Price Yield, Book to Price Yield, Price to Sales and Forecast PEG.

Growth: Equal weighted combination of factors - Forecast/Trailing EPS Growth, Forecast EPS Change and Forecast Long Term Growth.

Momentum: Equal weighted combination of factors - 3m EPS Change, EPS Revision Ratio, Sales Revision Ratio, 1m Price Change and 12m Price Change.

Quality: Equal weighted combination of factors - Return on Assets, Return on Capital, Return on Equity, 5yr Return on Equity and Leverage.

Risk: Equal weighted combination of factors - EPS Estimate Dispersion and Beta.

Size: Month end market capitalisation.

Value Factors

Forecast Earnings Yield: I/B/E/S next twelve month EPS divided by month end Price.

Trailing Earnings Yield: Trailing twelve month EPS divided by month end Price.

Dividend Yield: Trailing twelve month Dividend per share divided by month end Price.

Cash to Price: Trailing 12 month cash earnings per share divided by month end price. Cash Earnings are defined as earnings plus depreciation on fixed assets. (i.e. –not free cash flow).

Book to Price: Trailing twelve month Book Value per share divided by month end price.

Price to Sales: Month End Price divided by last reported Sales per share figure.

Forecast PEG: I/B/E/S FY1 P/E divided by I/B/E/S Long Term Growth Estimate.

Other valuations:

Free Cash Flow Yield: Trailing twelve month difference between operating cash flow and capital expenditures net of fixed assets disposals divided by the month end price

EV/EBITDA: Latest reported divided EV (market capitalisation plus total debt minus cash and cash equivalents) divided by the trailing twelve month EBITDA

Growth Factors

Forecast Earnings Growth: (I/B/E/S FY2 Mean EPS Est. less latest reported EPS) divided by the latest reported EPS.

Trailing Earnings Growth: Difference between Trailing Twelve Month EPS and Trailing Twelve Month EPS a year prior divided by absolute value of Trailing Twelve Month EPS a year prior.

Forecast EPS Change: Difference between I/B/E/S Forecast Twelve Month EPS and I/B/E/S Forecast Twelve Month EPS a year prior divided by I/B/E/S Forecast Twelve Month EPS a year prior.

Long Term Mean EPS Growth: I/B/E/S Mean Long Term Growth Estimate (+5years).

Momentum Factors

3 Month Change in Mean EPS: Difference between I/B/E/S FY1 mean EPS and I/B/E/S FY1 mean EPS 3 months prior, divided by absolute value of I/B/E/S FY1 mean EPS 3 months prior.

Earnings Revision Ratio: ((# of FY1 and FY2 upward EPS revisions over last 3 months)-(# of FY1 and FY2 downward EPS revisions over last 3 months))/ # of FY1 and FY2 estimates over last 3 months.

Sales Revision Ratio: ((# of FY1 and FY2 upward Sales revisions over last 3 months)-(# of FY1 and FY2 downward Sales revisions over last 3 months))/ # of FY1 and FY2 estimates over last 3 months.

1m Price Momentum: Latest month-end price / 1-month ago price.

12m Price Momentum: Latest month-end price / 12-months ago price.

Risk Factors

Beta: Calculated using regression analysis on 60 months of price performance versus the benchmark. High beta stocks have a high correlation to the market, whilst low beta stocks have a low correlation to market movements.

EPS Estimate Dispersion: Coefficient of variation of I/B/E/S FY2 EPS estimates. The coefficient of variation is defined as the Standard Deviation of Estimates divided by the absolute value of the Mean Estimate.

Quality Factors

Return on Assets: Annual Earnings divided by Total Assets.

Return on Capital: Annual Earnings divided by Total Capital.

Return on Equity – 1yr: Trailing Twelve Month EPS divided by Trailing Twelve Month Book value per Share.

Return on Equity – 5yrs: Average RoE over the last 5 years.

Leverage: Annual Long Term Debt/(Annual Long Term Debt +Annual Book Value).

Ownership

Top 50 European Fund Managers Weight: Relative weight of the Top 50 European fund managers in the stock vs their European market holdings. 100=neutral, >100 is overweight and <100 is underweight

% Top 50 European Fund Managers Weight: Based on the above we calculate the percentage of fund managers who are underweight.

Dividend Factors

12m Fwd dividend yield: 12m fwd DPS per share estimate from I/B/E/S divided by month end price

5 Year Dividend Growth: CAGR of trailing FY0, FY1 and FY2 and forecast FY1 and FY2 DPS growth.

Dividend Revision Ratio: ((# of FY1 and FY2 upward DPS revisions over last 3 months)-(# of FY1 and FY2 downward DPS revisions over last 3 months))/ # of FY1 and FY2 estimates over last 3 months.

DPS Estimate Dispersion: Coefficient of variation of I/B/E/S FY2 DPS estimates. The coefficient of variation is defined as the Standard Deviation of Estimates divided by the absolute value of the Mean Estimate.

Payout Ratio: prospective FY1 DPS divided by the prospective FY1 EPS.

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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%

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