

European Snapshot

Who screens well in 'Recession' and 'Recovery'?

Quantitative Strategy

Screen of the Week: companies at the top in both phases

Our Style Cycle model (see the report, [Style Cycle: Bouncing in 'Recession' 15 February 2024](#)) remains in the 'Recession' phase in February, yet the European Composite Macro Indicator (CMI) has ticked up over the month, flagging its third attempt to move into the 'Recovery' phase next month (this is conditional on two consecutive monthly improvements in the CMI). In our Screen of the Week, we identify companies that are at the top (have ranks above 60 out of 100) in both phases: 'Recovery' and 'Recession' (Exhibit 1).

6th consecutive weekly outflow from Europe-focused funds

Europe-focused equity funds recorded their 6th consecutive weekly outflow of \$1.71bn, with a net -26.9% seeing net inflows. Outflows amounted to \$1.54bn from active funds and \$0.17bn from passive funds. Europe-focused funds have seen \$7.03bn of outflows YTD: \$8.85bn of outflows from active funds and \$1.82bn of inflows into passive funds. Size stocks (\$0.23bn) and Switzerland (\$0.18bn) had the largest inflows last week, while Financials (\$0.38bn), the UK (\$0.20bn) and Value stocks (\$0.19bn) posted the largest outflows. No sector recorded inflows last week.

BofA ERR: increases across regions except North America

The Global BofA 4-week EPS Revision Ratio (ERR) increased to 0.89, driven by improvements in all regions, except North America (Exhibit 41). North America's ratio, while still the strongest and the only one in net upgrade territory across regions, declined the most over the week. The European ratio, which is the weakest among regions, increased to 0.74 on the back of rises in IT, Spain and Expensive Value. The largest decreases in Europe were seen in Financials, the UK and Low Growth.

Roughly even split on EPS upgrades/downgrades in the current Q4 '23 earnings season globally at BofA

In the ongoing Q4 '23 earnings season, out of 1158 companies under BofA Global Research's coverage that have reported globally, on average, 33%/30% of them saw EPS upgrades/downgrades (across FY1/FY2/FY3 estimates), 14%/13% had dividend per share (DPS) upgraded/downgraded, 33%/15% saw increased/decreased price objectives (POs) and only 6 had rating upgrades versus 13 with downgrades. In Europe, out of 152 companies that have reported, on average, 30%/39% of them saw EPS upgrades/downgrades (across FY1/FY2/FY3 estimates), 20%/21% had DPS upgraded/downgraded, 29%/18% saw increased/decreased price targets and only 4 had rating upgrades/downgrades (2 of each).

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Refer to important disclosures on page 18 to 20.

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Quant Strategy
Europe

Paulina Strzelinska >>
Quant Strategist
MLI (UK)
+44 20 7996 7059
paulina.strzelinska@bofa.com

Latest European Snapshot notes

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[European Snapshot: Who may benefit secondarily from increased EU defense spending? 26 January 2024](#)

[European Snapshot: Who might profit-warn for Q4 '23? 17 January 2024](#)

[European Snapshot: Who outperforms when cutting cycle starts? 10 January 2024](#)

Screen of the week

Exhibit 1: 46 companies screen at the top in both 'Recession' and 'Recovery' phases

Europe Stoxx 600 companies that have both Recession and Recovery Rank above 60 (out of 100)

BBG Ticker	Name	Country	Sector	Market Cap (EUR bn)	Recession Rank (100=Top)	Recovery Rank (100=Top)
SBRY LN	J Sainsbury	United Kingdom	PCDG Stores	5.4	90	90
ENGI FP	ENGIE	France	Utilities	26.6	82	96
BMW GR	BMW	Germany	Automobiles & Parts	30.5	88	85
TW/ LN	Taylor Wimpey	United Kingdom	Consumer Products & Services	6.2	85	86
BT/A LN	BT	United Kingdom	Telecommunications	7.8	86	85
FORTUM FH	Fortum	Finland	Utilities	4.9	83	87
PSN LN	Persimmon	United Kingdom	Consumer Products & Services	5.3	85	82
RWE GR	RWE	Germany	Utilities	22.0	96	71
ENI IM	Eni	Italy	Energy	32.9	84	81
SSABA SS	SSAB	Sweden	Basic Resources	4.7	67	98
EOAN GR	E.ON	Germany	Utilities	24.4	94	68
CNA LN	Centrica	United Kingdom	Utilities	8.6	73	89
BKG LN	Berkeley	United Kingdom	Consumer Products & Services	5.9	91	71
ACA FP	Credit Agricole	France	Banks	15.0	73	88
BBVA SM	BBVA	Spain	Banks	55.2	78	81
SAN SM	Santander	Spain	Banks	60.0	77	82
BBY LN	Balfour Beatty	United Kingdom	Construction & Materials	2.1	91	67
UPM FH	UPM-Kymmene	Finland	Basic Resources	15.6	97	61
HER IM	Hera	Italy	Utilities	2.5	69	88
SKG ID	Smurfit Kappa	Ireland	Industrial Goods & Services	9.2	96	61
AKRBP NO	Aker BP	Norway	Energy	7.4	72	84
EBS AV	Erste	Austria	Banks	12.8	65	89
NTGY SM	Naturgy Energy	Spain	Utilities	4.1	67	87
DBK GR	Deutsche Bank	Germany	Banks	24.2	63	91
HOLMB SS	Holmen	Sweden	Basic Resources	3.0	93	61
DNB NO	DNB Bank	Norway	Banks	15.8	89	65
STLA US	Stellantis	Italy	Automobiles & Parts	51.7	90	61
TEL NO	Telenor	Norway	Telecommunications	6.4	86	61
AED BB	Aedifica	Belgium	Real Estate	2.7	63	84
LAND LN	Land Securities	United Kingdom	Real Estate	5.7	61	86
FME GR	Fresenius	Germany	Health Care	7.4	70	75
PKN PW	ORLEN	Poland	Energy	9.0	72	73
EXO NA	EXOR	Netherlands	Financial Services	8.9	68	76
GETIB SS	Getinge	Sweden	Health Care	3.8	80	63
LGEN LN	Legal & General	United Kingdom	Insurance	16.5	75	67
TLX GR	Talanx	Germany	Insurance	4.0	65	77
CABK SM	CaixaBank	Spain	Banks	14.8	79	61
ISP IM	Intesa Sanpaolo	Italy	Banks	45.6	61	78
HEI GR	Heidelberg Materials	Germany	Construction & Materials	11.5	64	74
ACKB BB	Ackermans & van Haaren	Belgium	Construction & Materials	3.6	62	76
PST IM	Poste Italiane	Italy	Insurance	4.6	74	63
EDP PL	EDP	Portugal	Utilities	9.9	62	74
DANSKE DC	Danske Bank	Denmark	Banks	17.8	72	64
PSPN SW	PSP Swiss Property	Switzerland	Real Estate	5.6	62	72
TEN IM	Tenaris	Italy	Energy	7.0	63	66

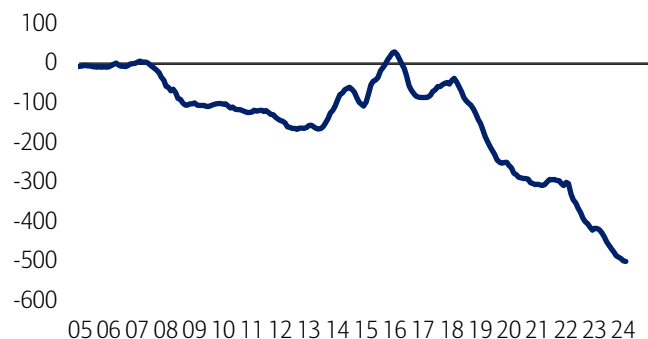
Source: BofA European Equity Quant Strategy, Factset. Disclaimer: The screen above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This screen was not created to act as a benchmark. Notes: stocks are screened based on their equal-weighted rank of Value, Growth, Momentum, Quality, Risk and Size characteristics. Phases are defined by the following preferred characteristics - Recession: High Quality, High Size, Value over Growth and Low Risk are preferred. Recovery: Value over Growth, Rising Momentum, Low Quality, High Risk and Low Size are preferred. For styles definitions please check Definitions appendix.

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Flows

Exhibit 2: Europe-focused equity funds have seen \$493bn of outflows since 2005 (active funds: \$-620bn, passive funds: \$127bn)

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

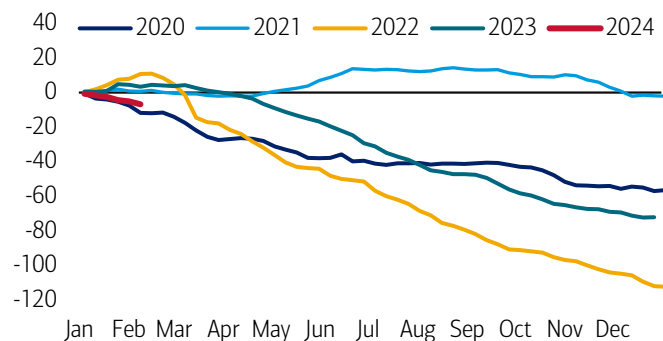


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 4: Europe-focused equity funds have seen \$7.03bn of outflows YTD, with \$6.94bn of outflows from European-domiciled funds and \$0.17bn of outflows from US-domiciled funds

Cumulative annual flows into Europe-focused equity funds (\$bn)

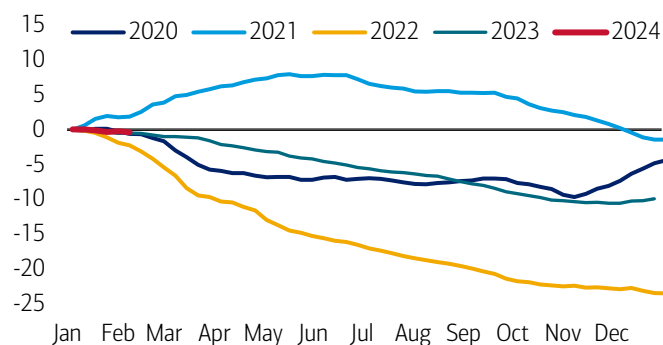


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 6: SMID focused European equity funds have seen \$0.36bn of outflows YTD, \$0.63bn of outflows from active funds and \$0.27bn of inflows into passive funds

Cumulative annual flows into SMID-focused European equity funds (\$bn)

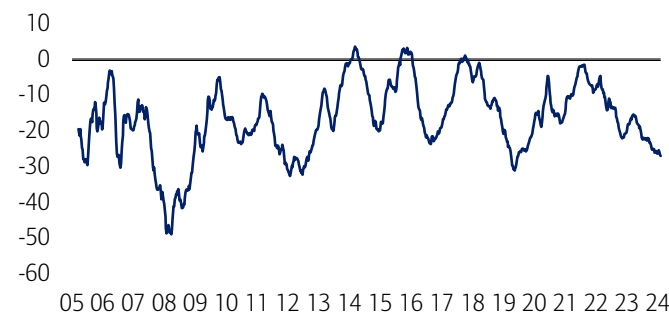


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 3: A net -26.9% of Europe-focused funds saw inflows last week, the lowest reading since June 2019

Net % of Europe-focused equity funds seeing inflows on weekly basis (12-week moving average)

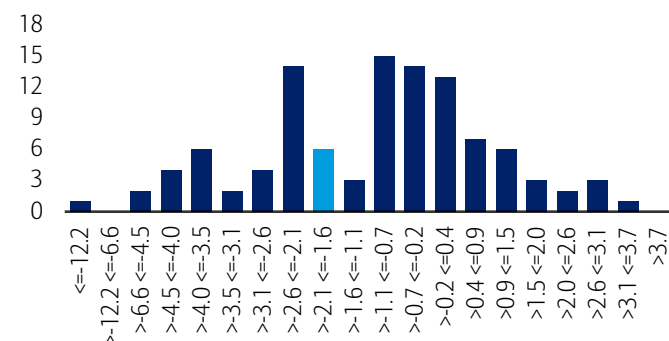


BofA European Equity Quant Strategy, EPFR Global. Note: Net % calculated as % of funds that saw inflows minus % of funds that saw outflows

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Exhibit 5: Europe-focused equity funds saw \$1.71bn of outflows last week, 6th consecutive weekly outflow

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

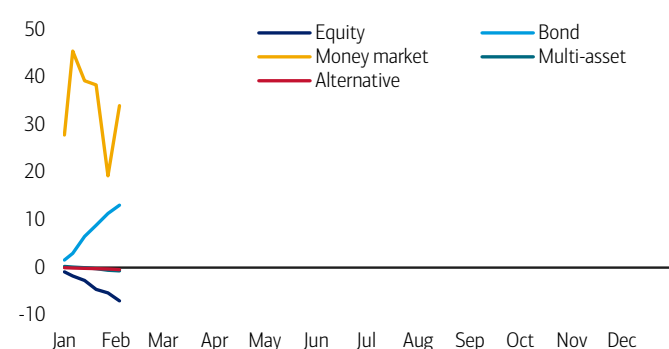


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 7: Equity funds have seen the largest outflows YTD (\$7.0bn), while Money market funds have seen the largest inflows (\$34.0bn)

YTD cumulative flows into Europe-focused funds by asset-class (\$bn)



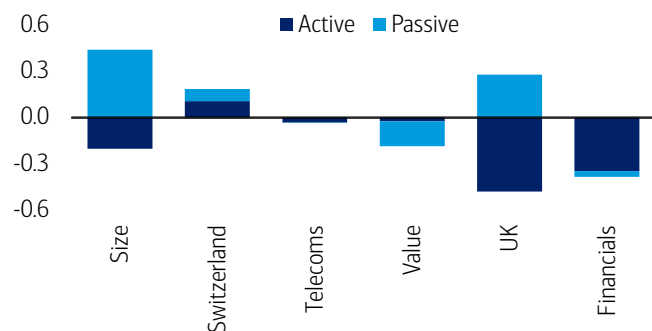
Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 8: Size stocks recorded the largest inflows (\$0.23bn), while Financials noted the largest outflows (\$0.38bn) last week

Top and bottom inflows/outflows last week into Europe-focused equity funds/stocks by country, sector, style split into active and passive (\$bn)

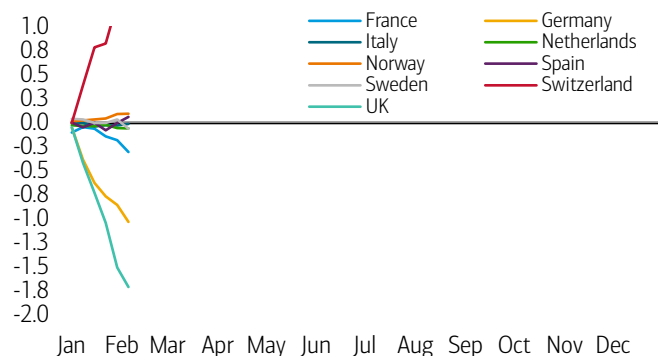


Source: BofA European Equity Quant Strategy, EPFR Global. Note: flows into styles are aggregated from stock level data

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Exhibit 10: Switzerland noted the largest inflows YTD (\$1.43bn), while the UK recorded the largest outflows (\$1.71bn)

YTD cumulative flows into Europe-focused equity funds by country (\$bn)

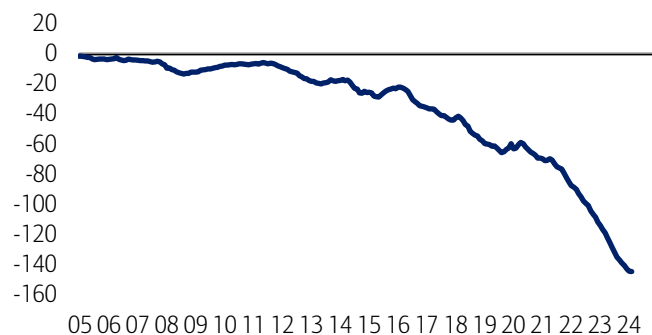


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 12: UK-focused equity funds have seen \$143bn of outflows since 2005 (active funds: -\$161bn, passive funds: \$19bn)

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

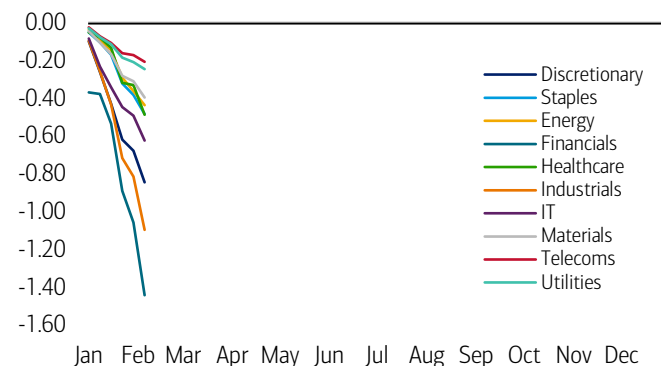


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 9: Telecoms noted the smallest outflows YTD (\$0.21bn), while Financials recorded the largest outflows (\$1.44bn)

YTD cumulative flows into Europe-focused equity funds by sector (\$bn)

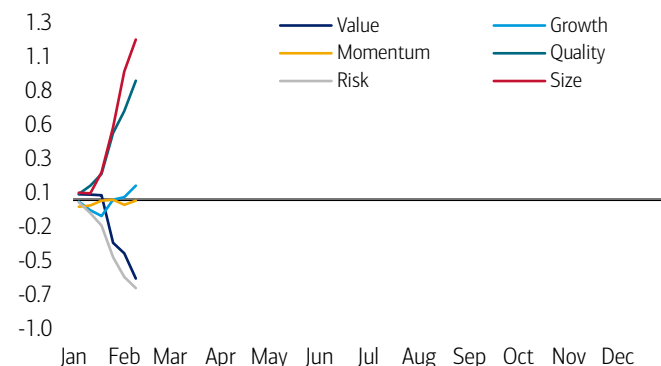


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 11: Size has seen the largest inflows YTD (\$1.2bn), while Risk has recorded the largest outflows (\$0.7bn)

YTD cumulative flows into European equities by style (long-short, \$bn)

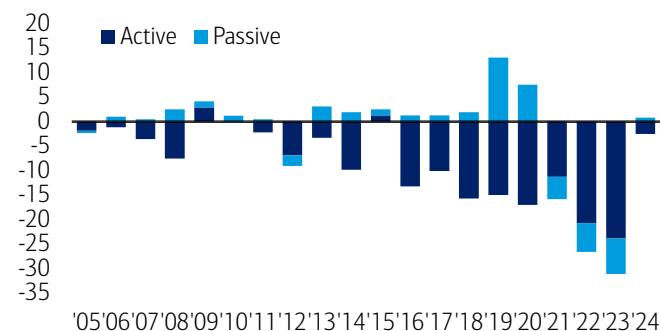


Source: BofA European Equity Quant Strategy, EPFR Global. Note: flows into styles are aggregated from stock level data

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Exhibit 13: YTD UK-focused equity active funds have seen \$23.8bn of outflows, while passive funds recorded \$7.3bn of outflows

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

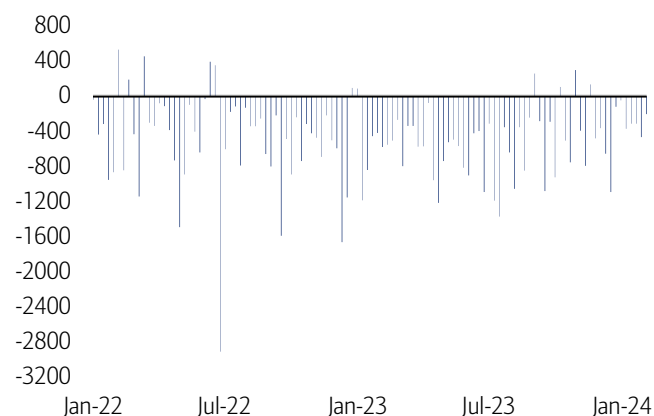


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 14: UK-focused equity funds saw \$0.20bn of outflows last week, the 11th consecutive outflow

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

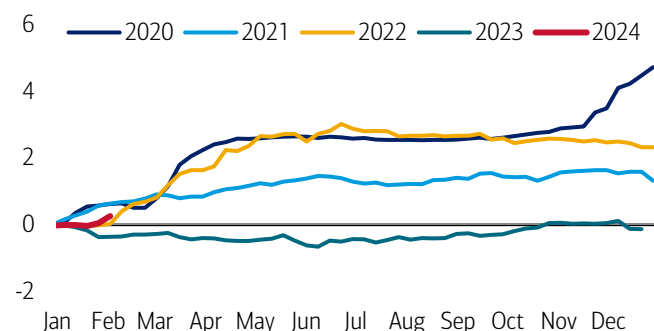


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 16: UK-focused equity funds benchmarked to FTSE 100 have seen \$0.27bn of inflows YTD

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

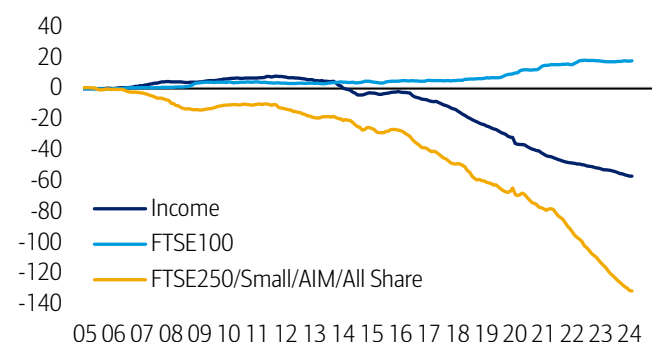


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 15: Since 2005, UK equity-focused income funds saw \$57bn of outflows, \$18bn of inflows into FTSE100 benchmarked funds and \$132bn of outflows from FTSE250/AIM/All Share/Small caps

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

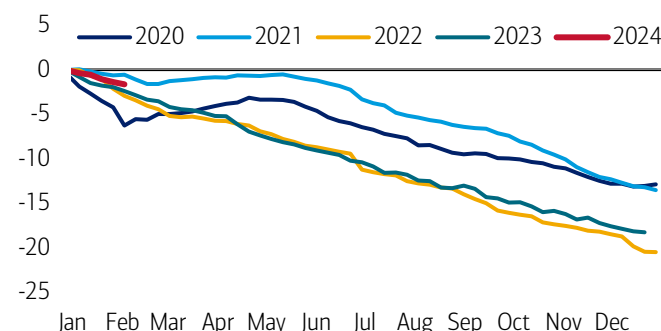


Source: BofA European Equity Quant Strategy, EPFR Global.

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Exhibit 17: UK-focused equity funds benchmarked to FTSE 250/Small/AIM/All Share indices have seen \$-1.63bn of outflows YTD

Cumulative annual flows into UK-focused equity funds benchmarked to FTSE 250/AIM/Small/ALL Share indices (\$bn)



Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 18: Jd Sports Fashion has seen the largest inflows last week as % of market cap, while Watches Of Switzerland Group saw 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
JD/ LN	Jd Sports Fashion	Retail	UK	0.04	Active
EMBRACB SS	Embracer	Consumer Pds & Svs	Sweden	0.02	Active
IDS LN	IDS	Industrial Gds & Svs	UK	0.02	Active
RXL FP	Rexel	Industrial Gds & Svs	France	0.01	Active
BEI GR	Beiersdorf	PCDG Stores	Germany	0.01	Active
GRF SM	Grifols	Health Care	Spain	0.03	Passive
IAG LN	Iag	Travel & Leisure	UK	0.03	Passive
ITX SM	Inditex	Retail	Spain	0.03	Passive
HO FP	Thales	Industrial Gds & Svs	France	0.03	Passive
ELE SM	Endesa	Utilities	Spain	0.03	Passive

Stocks that saw the highest outflows last week

BBG Ticker	Name	Sector	Country	Flow as % of mcap	Group
WOSG LN	Watches Of Switzerland	Consumer Pds & Svs	UK	-0.09	Active
CTEC LN	Convatec	Health Care	UK	-0.07	Active
G1A GR	Gea	Industrial Gds & Svs	Germany	-0.06	Active
EKTAB SS	Elekta	Health Care	Sweden	-0.06	Active
ELUXB SS	Electrolux	Consumer Pds & Svs	Sweden	-0.06	Active
LEG GR	Leg Immobilien	Real Estate	Germany	-0.05	Passive
GFC FP	Gecina	Real Estate	France	-0.05	Passive
KOJAMO FH	Kojamo	Real Estate	Finland	-0.05	Passive
ECV GR	Encavis	Utilities	Germany	-0.05	Passive
AED BB	Aedifica	Real Estate	Belgium	-0.05	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 is a 1.3% gain

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 so far notes stronger gains in Netherlands, IT and Growth compared to historical trends

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

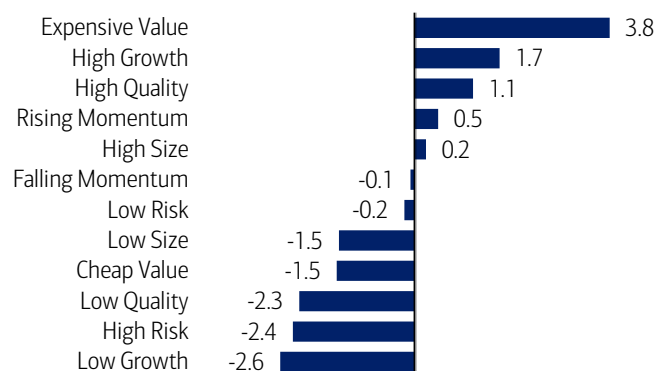
	QTD (%)	Diff vs historical	YTD (%)	Diff vs historical
Germany	-0.6	-1.0	-0.6	-1.0
France	0.0	-0.3	0.0	-0.3
Italy	1.9	-0.5	1.9	-0.5
Netherlands	10.8	10.3	10.8	10.3
Spain	-2.3	-3.0	-2.3	-3.0
Sweden	-1.9	-4.9	-1.9	-4.9
Switzerland	-0.9	-0.1	-0.9	-0.1
UK	-3.7	-2.6	-3.7	-2.6
Materials	-7.4	-7.8	-7.4	-7.8
Communication Svs	-0.3	-0.3	-0.3	-0.3
Discretionary	4.1	3.0	4.1	3.0
Staples	-0.9	1.5	-0.9	1.5
Energy	-3.6	-2.6	-3.6	-2.6
Financials	-1.3	-1.2	-1.3	-1.2
Healthcare	2.0	2.6	2.0	2.6
Industrials	0.1	-0.9	0.1	-0.9
IT	11.5	8.4	11.5	8.4
Utilities	-9.9	-9.1	-9.9	-9.1
Real Estate	-9.2	-6.9	-9.2	-6.9
Value	-5.4	-5.5	-5.4	-5.5
Growth	10.2	6.0	10.2	6.0
Momentum	3.4	1.3	3.4	1.3
Quality	2.9	5.5	2.9	5.5
Risk	-6.5	-10.3	-6.5	-10.3
Size	-4.8	-7.0	-4.8	-7.0

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

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Exhibit 21: February sees largest gains in Expensive Value so far, while Low Growth experiences the largest losses

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

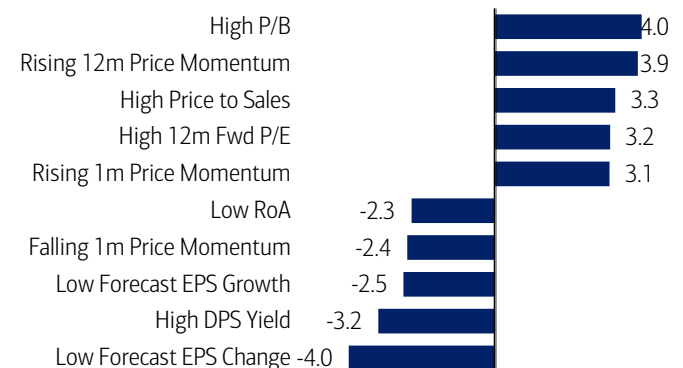


Source: BofA European Equity Quant Strategy, Factset

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Exhibit 22: High P/B have seen the strongest gains MTD, while Low Forecast EPS Change records the largest losses

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

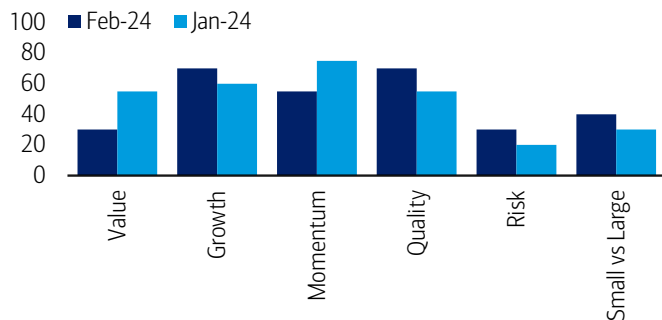


Source: BofA European Equity Quant Strategy, Factset

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Exhibit 23: Growth has outperformed in 14 out of 20 sectors so far in February

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

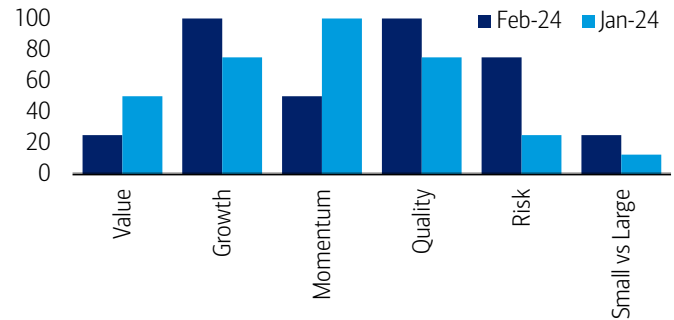


Source: BofA European Equity Quant Strategy, FactSet

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Exhibit 24: Growth has outperformed in 8 out of 8 countries so far in February

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

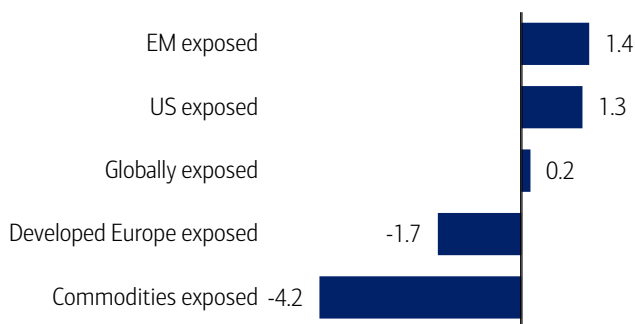


Source: BofA European Equity Quant Strategy, FactSet. Note: * countries included: France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland, UK

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

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

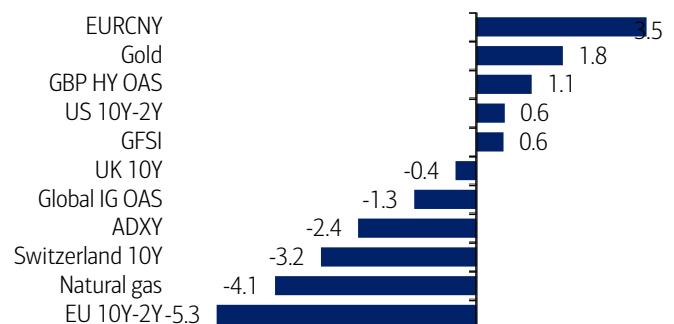


Source: BofA European Equity Quant Strategy, Factset

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Exhibit 26: Stocks sensitive to rising EURCNY have gained the most MTD, while these sensitive to rising EU 10Y-2Y 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 Sweden, IT and Low versus High Size

Historical average returns for countries, sectors, styles (L/S) in each 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%
Size (Low vs High)											
Quarter	Value	Growth	Momentum	Quality	Risk	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%					

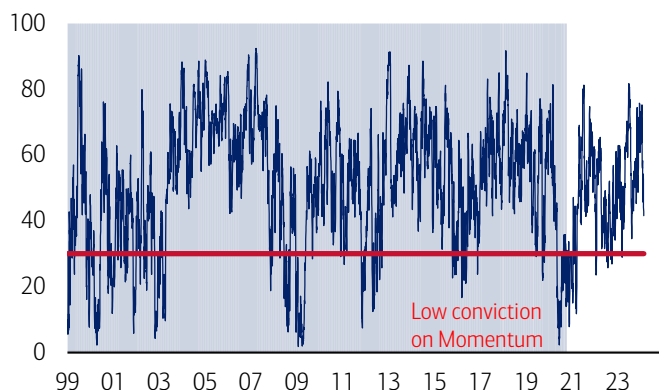
Source: BofA European Equity Quant Strategy, Refinitiv, MSCI. Note: historical average performance calculated over 1993-2023

BofA GLOBAL RESEARCH

European Momentum Conviction Indicator

Exhibit 28: BofA European Momentum Conviction Indicator (MCI) stands at 42, above the threshold of 30, which signals a potential crash in the Momentum style

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

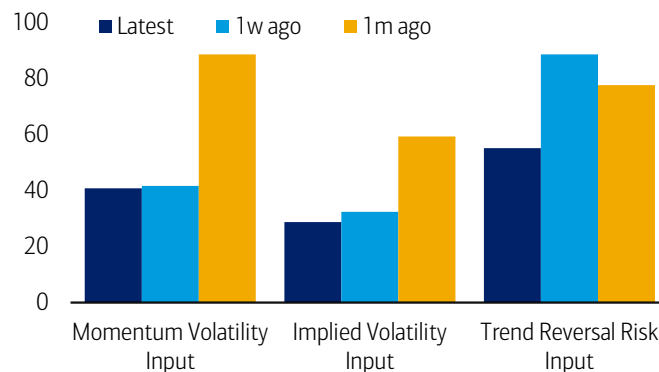


Source: BofA European Equity Quant Strategy, FactSet. Disclaimer: Performance through 06 October 2020 (shaded on the chart above) is backtested and does not represent the actual performance of any account or fund. Backtested performance depicts the theoretical (not actual) performance of a particular 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: Declines in Implied Volatility and Trend Reversal Risk inputs pushed the indicator down by 9 points 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 12-month forward buyback yield at 8.9%, while the least attractive is 12-month forward dividend yield at 7.9%

Market	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
TTM P/B	2.0	0.2	0.9	0.6	1.0	1.8	1.9	1.9	1.8
Shiller P/E	24.7	0.1	1.1	1.2	1.8	23.6	23.6	21.7	20.1
TTM P/E	14.3	-0.2	-0.3	-0.7	-1.1	15.3	14.6	16.8	17.7
FWD P/E	12.3	0.0	1.6	-0.3	-0.2	12.4	11.6	12.6	12.5
TTM EV/EBITDA	8.1	0.1	-0.2	-0.8	-0.7	8.0	8.2	8.9	8.7
FWD EV/EBITDA	7.9	0.3	0.1	-0.7	-0.5	7.5	7.8	8.3	8.1
TTM Net Debt/EBITDA	1.3	-0.7	1.2	-0.8	-1.0	1.4	1.3	1.5	1.5
FWD Net Debt/EBITDA	1.2	-0.4	1.8	-0.6	-0.7	1.3	1.1	1.3	1.3
TTM Interest Coverage	8.9	-0.8	1.7	0.0	-0.5	7.5	10.8	9.0	7.9
FWD Interest Coverage	9.1	-0.4	1.6	0.4	-0.2	8.4	10.9	9.7	8.8
TTM DY	3.1	0.6	0.1	-0.1	0.3	3.7	3.2	3.1	3.2
FWD DY	3.9	0.9	0.1	0.2	0.7	4.7	3.9	4.0	4.2
TTM ROE	13.7	-0.7	-1.4	-1.3	-1.9	12.0	13.0	11.4	10.6
FWD ROE	13.9	-0.4	0.2	-0.9	-1.5	13.2	14.0	12.5	12.2
TTM Buyback	1.8	-1.4	0.1	-1.1	-	1.1	1.9	1.3	-
FWD Buyback	1.6	-1.6	-1.2	0.4	-	1.1	1.6	1.2	-
TTM Cash Yield	5.3	-1.1	0.1	-0.8	-	4.5	5.3	4.7	-
FWD Cash Yield	5.2	-0.9	0.3	-0.7	-	4.7	5.3	4.8	-
TTM FCF Yield	7.3	-0.1	1.5	-0.1	-0.5	7.3	8.1	7.3	6.9
FWD FCF Yield	8.0	0.4	1.5	0.3	-0.2	8.4	8.9	8.2	7.8

Source: BofA European Equity Quant Strategy, Refinitiv Datastream, IBES Consensus Estimates, note: Z-scores have been inversed for 12m Trailing and Forward Return on Equity, Dividend Yield, Interest Coverage, FCF Yield, Buyback Yield, and Cash 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.

Exhibit 30: MSCI Europe Market-Level Valuation Multiples

The most attractive multiple on z-score is 12-month forward buyback yield at 8.9%, while the least attractive is 12-month forward dividend yield at 7.9%

Market	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
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BofA GLOBAL RESEARCH

Exhibit 31: Financials currently ranks the most attractive on historical z-score at 6.3%, while Technology ranks the least attractive at 1.3%

MSCI Europe 12-month forward 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	3.9	-0.9	-0.1	-0.2	-0.7	4.7	3.9	4.0	4.2
Discretionary	3.1	-0.9	-0.6	0.1	-0.5	3.9	3.3	3.1	3.4
Staples	3.9	-0.2	1.4	1.2	0.7	4.0	3.5	3.6	3.6
Energy	5.7	-0.2	1.1	-0.4	-0.6	6.0	5.3	6.2	6.4
Financials	6.3	0.3	0.8	0.7	1.0	5.9	5.9	5.8	5.7
Health Care	2.8	-1.0	0.6	-0.6	-1.1	3.8	2.8	3.0	3.3
Industrials	2.6	-1.3	-1.9	-0.9	-1.3	3.7	2.9	2.9	3.2
Materials	3.9	-0.2	-1.7	-1.5	-0.5	4.1	4.6	4.6	4.2
Technology	1.3	-1.3	-2.7	-0.9	-1.2	2.4	1.5	1.5	1.8
Communication Svs	4.8	-0.9	-0.1	-0.6	-0.8	6.6	4.8	5.1	5.3
Utilities	6.0	-0.3	2.4	1.8	0.6	6.3	5.4	5.4	5.7
Real Estate	4.7	-0.5	-1.0	-0.4	-0.5	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 6.7x, while Industrials ranks the least attractive at 16.9x

MSCI Europe 12-month forward 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	12.3	0.0	1.6	-0.3	-0.2	12.4	11.6	12.6	12.5
Discretionary	12.2	-0.1	0.7	-0.4	0.0	12.7	11.6	13.3	12.3
Staples	14.3	0.0	-1.1	-1.5	-0.9	14.3	15.4	15.5	15.7
Energy	6.7	-1.0	1.5	-0.6	-1.1	11.1	5.8	8.5	10.2
Financials	8.2	-0.5	0.0	-0.8	-1.0	10.0	8.2	8.8	9.2
Health Care	15.4	0.0	0.0	0.4	0.6	15.4	15.4	15.1	14.6
Industrials	16.9	1.1	1.9	0.4	0.9	13.2	15.3	16.2	14.9
Materials	13.0	0.7	1.6	0.6	0.3	11.1	11.0	11.9	12.5
Technology	26.2	0.6	4.8	1.7	2.2	20.0	19.6	21.1	18.7
Communication Svs	12.8	0.0	-0.4	0.0	-0.4	21.7	13.1	12.8	13.6
Utilities	10.9	-0.3	-1.7	-2.4	-1.6	12.0	12.6	13.2	12.7
Real Estate	12.8	-0.9	0.4	-0.6	-0.9	14.8	12.3	14.1	14.8

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

BofA GLOBAL RESEARCH

Exhibit 33: Energy currently ranks the most attractive on historical z-score with a multiple of 1.3x, while Industrials ranks the least attractive at 3.5x

MSCI Europe 12-month 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	2.0	0.2	0.9	0.6	1.0	1.8	1.9	1.9	1.8
Discretionary	2.1	-0.3	0.4	0.0	-0.4	2.3	2.0	2.1	2.2
Staples	3.0	-0.9	-0.9	-1.2	-1.2	3.5	3.2	3.3	3.5
Energy	1.3	-0.9	-0.4	0.4	0.3	2.0	1.3	1.2	1.2
Financials	1.0	-0.6	1.4	1.6	1.0	1.4	0.9	0.9	0.9
Health Care	3.9	-0.5	0.2	-0.2	-0.2	4.7	3.8	3.9	4.0
Industrials	3.5	1.5	1.1	0.3	0.8	2.7	3.2	3.4	3.2
Materials	1.8	-0.3	0.1	-0.4	-0.3	1.9	1.8	1.9	1.9
Technology	5.3	0.3	1.2	0.5	1.2	4.5	4.7	4.8	4.1
Communication Svs	1.3	-0.6	-0.9	-1.3	-1.5	2.0	1.4	1.5	1.6
Utilities	1.6	-0.5	-0.9	-1.2	-0.2	1.9	1.8	1.8	1.7
Real Estate	0.8	-0.4	1.1	0.0	-0.4	0.9	0.7	0.8	0.9

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

BofA GLOBAL RESEARCH

Exhibit 34: Discretionary currently ranks the most attractive on historical z-score with a multiple of 18.9x, while Staples ranks the least attractive at 8.6x

MSCI Europe 12-month forward interest coverage 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	9.1	0.4	-1.6	-0.4	0.2	8.4	10.9	9.7	8.8
Discretionary	18.9	1.3	-0.6	0.6	1.0	13.2	19.6	16.4	14.2
Staples	8.6	-1.0	-0.8	-0.5	-0.9	9.5	9.4	9.0	9.5
Energy	15.8	0.2	-1.3	0.0	0.3	14.6	23.4	16.1	14.1
Health Care	13.3	0.5	-1.7	0.0	0.4	12.6	14.7	13.4	12.7
Industrials	8.8	0.2	-1.6	-0.6	0.0	8.5	10.9	9.8	8.8
Materials	8.8	0.0	-1.3	-0.8	-0.2	8.9	13.6	11.4	9.5
Technology	19.6	0.6	-0.7	0.0	0.4	17.5	21.2	19.6	18.7
Communication Svs	4.1	0.1	-1.6	-0.5	0.1	4.1	4.5	4.4	4.1
Utilities	4.4	0.4	-0.8	-1.0	0.1	4.1	4.6	4.8	4.3

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

BofA GLOBAL RESEARCH

Exhibit 35: Communication Services currently ranks the most attractive on historical z-score with a multiple of 4.8x, while Materials ranks the least attractive at 0.3x

MSCI Europe 12-month forward buyback yield

	Latest Value	Historical Z-Score	2-Year Z-Score	5-Year Z-Score	Historical Average	2-Year Average	5-Year Average
MSCI Europe	1.6	1.2	-0.4	1.0	1.1	1.6	1.2
Financials	3.0	1.8	1.1	1.4	1.2	2.8	1.6
Industrials	1.0	0.5	-1.7	0.1	0.9	1.3	1.0
Real Estate	0.0	-0.7	-1.1	-0.7	0.1	0.1	0.2
Utilities	0.4	0.0	-0.1	0.0	0.4	0.4	0.4
Consumer Discretionary	0.4	-0.3	-0.6	-0.4	0.6	0.6	0.5
Communication Services	4.8	3.6	2.4	3.5	1.0	2.2	1.4
Energy	5.8	0.9	-0.5	0.5	3.4	6.3	4.7
Materials	0.3	-1.0	-1.9	-1.3	0.9	1.0	1.0
Health Care	0.8	-0.1	1.1	1.1	0.9	0.7	0.7
Consumer Staples	1.3	0.2	-1.0	0.0	1.2	1.5	1.3
Information Technology	0.8	0.3	-0.1	0.2	0.7	0.8	0.8

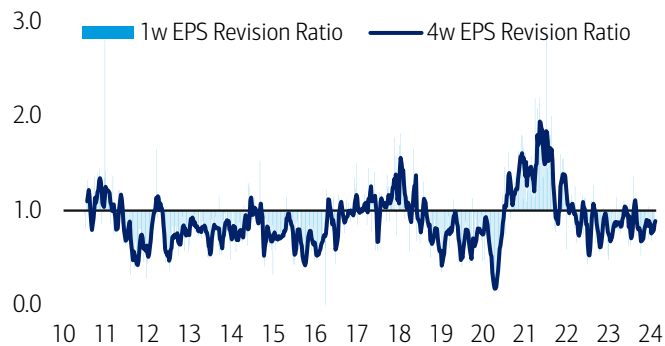
Source: BofA European Equity Quant Strategy, Refinitiv Datastream, IBES Consensus Estimates

BofA GLOBAL RESEARCH

Revisions

Exhibit 36: Global 4-week EPS Revision Ratio is 0.89, up from last week

Ratio of BofA analysts' EPS upgrades to downgrades

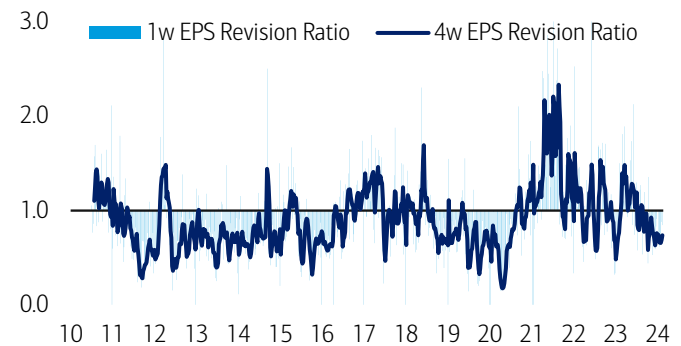


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 37: European 4-week EPS Revision Ratio is 0.74, up from last week

Ratio of BofA analysts' EPS upgrades to downgrades

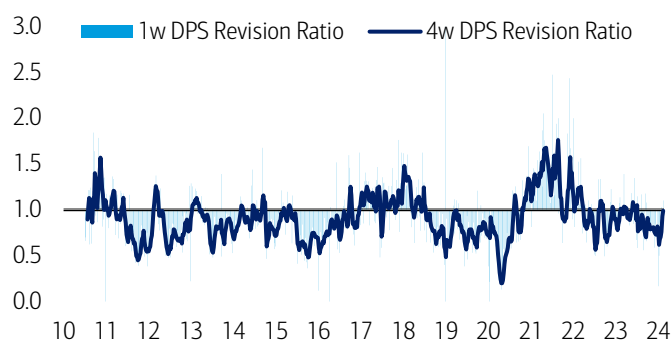


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 38: Global 4-week DPS Revision Ratio is 0.99, up from last week

Ratio of BofA analysts' DPS upgrades to downgrades

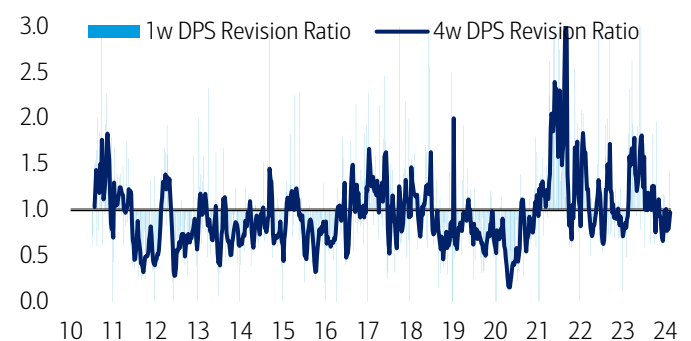


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 39: European 4-week DPS Revision Ratio is 0.97, up from last week

Ratio of BofA analysts' DPS upgrades to downgrades

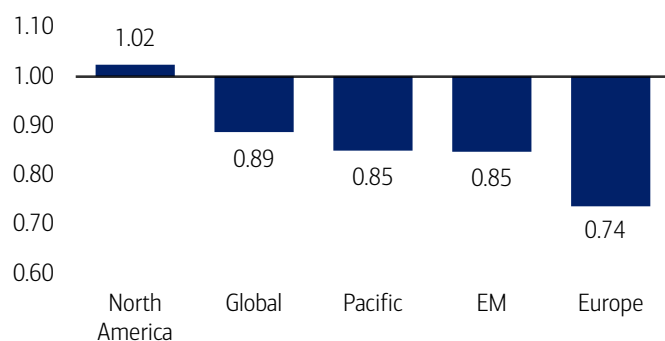


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 40: Currently, the 4-week EPS Revision Ratio is the strongest in North America, while it is the weakest in Europe

BofA 4-week EPS Revision Ratio by region

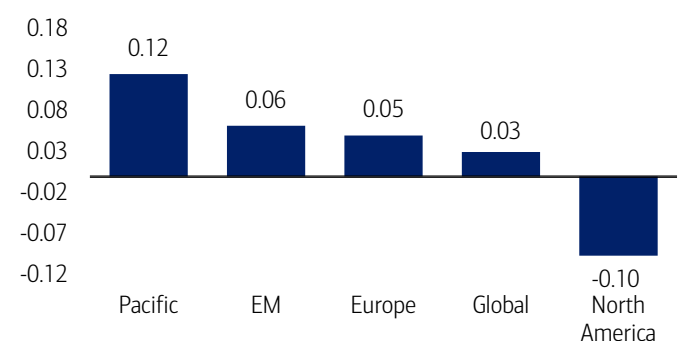


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 41: Over the past week, the 4-week EPS Revision Ratio improved the most in Pacific, while it deteriorated the most in North America

1-week change in 4-week BofA EPS Revision Ratio by region

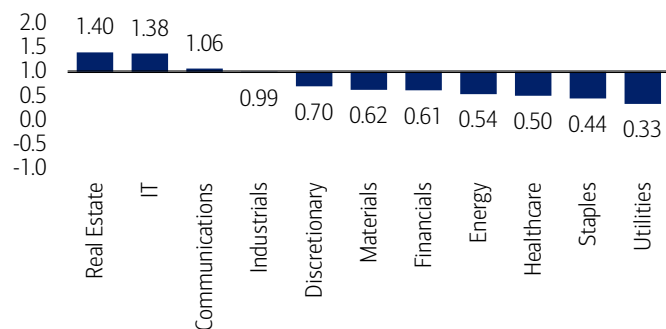


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 42: Currently, the 4-week EPS Revision Ratio is the strongest in Real Estate, while it is the weakest in Utilities

BofA 4-week European EPS Revision Ratio by sector

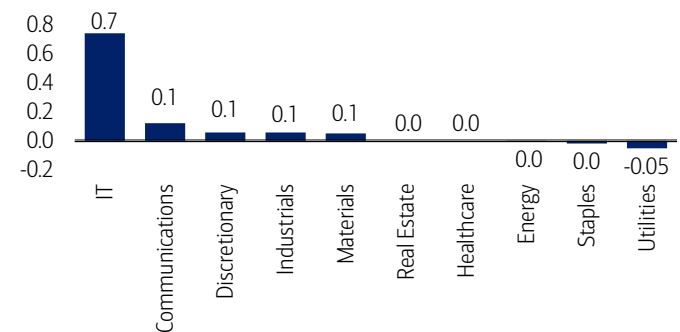


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 43: Over the past week, 4-week EPS Revision Ratio improved the most in IT, while it deteriorated the most in Financials

1-week change in 4-week BofA European EPS Revision Ratio by sector

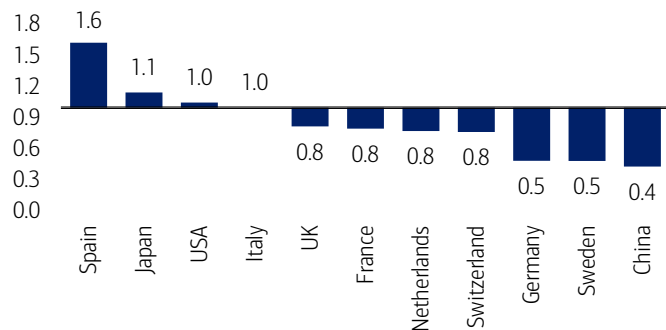


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 44: Currently, the 4-week EPS Revision Ratio is the strongest in Spain, while it is the weakest in China

BofA 4-week EPS Revision Ratio by country

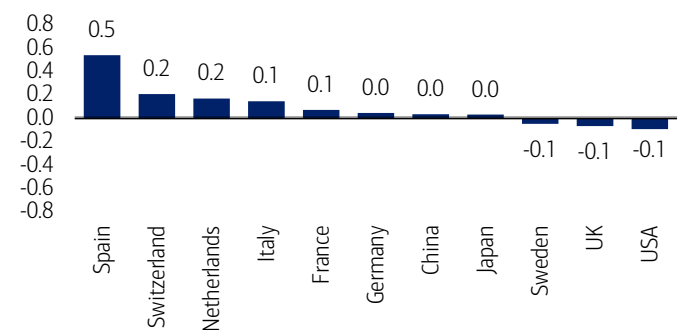


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 45: Over the past week, the 4-week EPS Revision Ratio improved the most in Spain, while it deteriorated the most in USA

1-week change in 4-week BofA EPS Revision Ratio by country

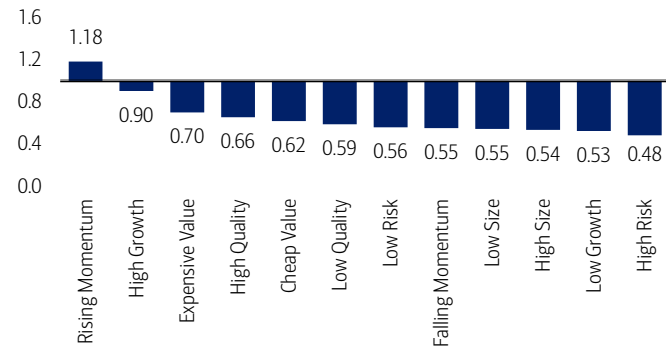


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 46: Currently, the 4-week EPS Revision Ratio is the strongest in Rising Momentum, while it is the weakest in High Risk

BofA 4-week European EPS Revision Ratio by style

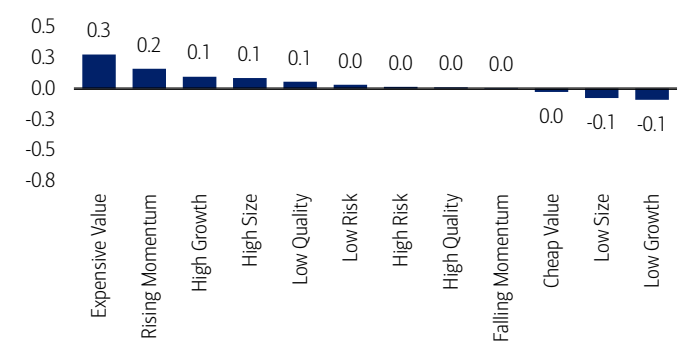


Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 47: Over the past week, 4-week EPS Revision Ratio improved the most in Expensive Value, while it deteriorated the most in Low Growth

1-week change in 4-week BofA European EPS Revision Ratio by style



Source: BofA European Equity Quant Strategy, IQDatabase

BofA GLOBAL RESEARCH

Exhibit 48: Top 5 and bottom 5 stocks with the largest upgrades in BofA FY1 EPS over last week

BofA European covered stocks with Buy/Underperform ratings 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				MCap	FY1	FY2	FY3	
Ticker	Name	Country	Sector	(EUR bn)	EPS	Chg	EPS	Chg
CON GR	Continental	Germany	Discretionary	8.2	21%	-1%	-1%	08/02/2024
EVD GR	CTS Eventim	Germany	Communications	4.0	20%	12%	5%	08/02/2024
RACE US	Ferrari	Italy	Discretionary	42.3	9%	4%	1%	06/02/2024
ADYEN NA	Adyen	Netherlands	Financials	43.1	8%	9%	10%	09/02/2024
FHZN SW	Flughafen Zurich	Switzerland	Industrials	3.6	8%	2%	1%	06/02/2024

Bottom 5 stocks with the highest downgrade in FY1 EPS

BBG				MCap	FY1	FY2	FY3	
Ticker	Name	Country	Sector	(EUR bn)	EPS	Chg	EPS	Chg
B4B GR	Metro AG	Germany	Staples	0.7	-55%	-66%	-29%	08/02/2024
AKRBP NO	Aker BP	Norway	Energy	7.4	-33%	-15%	-21%	09/02/2024
FORTUM FH	Fortum	Finland	Utilities	4.9	-13%	-12%	-15%	05/02/2024
KER FP	Kering	France	Discretionary	29.4	-8%	-7%	-4%	09/02/2024
BOL SS	Boliden	Sweden	Materials	6.5	-7%	-3%	0%	09/02/2024

Source: IQDatabase. BBG = Bloomberg. Chg = chnage

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 49: 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 Momentum						4W Forward Momentum						8W Forward Momentum					
Date	Momentum	Implied	Trend	EMCI	Returns	Date	Momentum	Implied	Trend	EMCI	Returns	Date	Momentum	Implied	Trend	EMCI	Returns
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%

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.

BofA GLOBAL RESEARCH

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: $((\# \text{ of FY1 and FY2 upward EPS revisions over last 3 months}) - (\# \text{ of FY1 and FY2 downward EPS revisions over last 3 months})) / \# \text{ of FY1 and FY2 estimates over last 3 months}$.

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

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: $((\# \text{ of FY1 and FY2 upward DPS revisions over last 3 months}) - (\# \text{ of FY1 and FY2 downward DPS revisions over last 3 months})) / \# \text{ of FY1 and FY2 estimates over last 3 months}$.

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%

^{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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