

Style Cycle

'Recession' in Europe, improvements elsewhere

Quantitative Strategy

2024 begins with the Style Cycle in the 'Recession' phase

The European Composite Macro Indicator (CMI) fell in January, keeping the 'Style Cycle' in the 'Recession' phase for an 8th consecutive month. We continue to prefer High Quality, Low Risk, Large Caps and Value over Growth. In December, the top Recession stocks underperformed the bottom stocks by 4.8% and outperformed in just 2 of 20 sectors and none of 8 countries. For the latest 'Recession' screens, see Exhibit 40 and Appendix: additional screens.

Bond yield and IFO at 3-year lows pushed indicator down

The European CMI decreased this month on the back of extremely low readings for the 12-month change in the European bond yield and German IFO, with the former falling below 0 for the first time in 3 years, while the latter is at a 3.5-year low. In combination with a fading BofA Leading Indicator, these three inputs more than offset the improvements in PPI, GDP forecasts and Global EPS Revision Ratio.

Emerging optimism outside of Europe

Not a single Developed European country notes expansion in its manufacturing business surveys, and a net 45% of European investors believe that the profit outlook will deteriorate over the next 12 months in the region. The situation is more positive outside Europe, however, with 2 developed countries and 12 emerging countries benefitting from PMI Manufacturing /whole country readings above 50. In addition, a mere net 21% of global investors point to a deteriorating profit outlook, the lowest reading in 2 years.

Exhibit 2: The European Composite Macro Indicator (CMI) down in January European Composite Macro Indicator (CMI) and its monthly changes



Source: BofA European Equity Quant Strategy – Based on BY, GDP Forecasts, OECD, IFO Survey, PPI & EPS Revs. The sentiment indicator identified as European Composite Macro Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research.

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Quant Strategy Europe

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The European 'Style Cycle' marries phases of the economic cycle with investment style returns.

Exhibit 1: Summary of Europe's macro signals

3 out of 6 inputs are falling

Inputs of EU Composite Macro Indicator BofA Europe Leading Indicator German IFO Indicator 12mth Change in Pan EU BY Producer Drice Inflation (IDI) Producer Drice Inflation (IDI) Producer Drice Inflation (IDI)

Producer Price Inflation (PPI)
Pan Europe. Cons. GDP Forecasts
Global EPS Revision Ratio
RISING
RISING

Source: BofA European Equity Quant Strategy.

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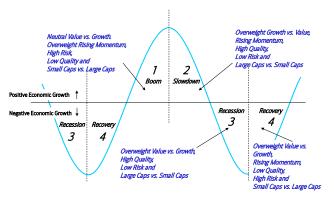
Refer to important disclosures on page 23 to 24.

Timestamp: 23 January 2024 12:30AM EST

Summary - European Style Cycle

Exhibit 3: European Style Cycle framework

Style Cycle is currently in the 'Recession' phase



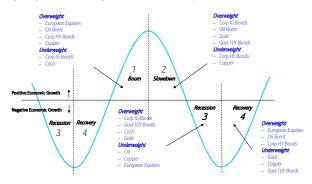
<u>Phase 1</u>- Rising & Accelerating; <u>Phase 2</u>- Rising & Decelerating; <u>Phase 3</u>- Falling & Decelerating; <u>Phase 4</u>- Falling & Accelerating; <u>Phase 4</u>- Falling & Accelerating; <u>Phase 4</u>- Falling & Decelerating; <u>Phase 4</u>- Falling

Source: BofA European Equity Quant Strategy

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Exhibit 4: Suggested European cross-asset allocations in respective phases of the Style Cycle

Style Cycle is currently in the 'Recession' phase



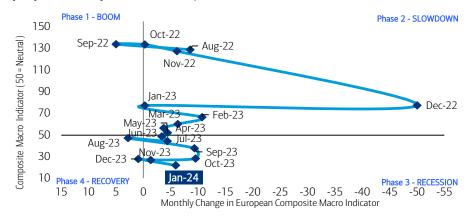
Phase 1- Rising & Accelerating: Phase 2- Rising & Decelerating:
Phase 3- Falling & Decelerating:
Phase 3- Falling & Accelerating:
Phase 4- Falling & Accelerating:

Source: BofA European Equity Quant Strategy

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Exhibit 5: Economic signals generated over the past 18 months from the EU Composite Macro Indicator

Style Cycle is currently in the 'Recession' phase



Source: BofA European Equity Quant Strategy – Based on BY, GDP Forecasts, BofA Europe LI, IFO Survey, PPI & EPS Revision Ratio.

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Macro signals were down over the month.

This month 3 out of 6 indicators are falling and 3 are rising.

Our European Composite Macro Indicator (CMI) is a composite index based on 6 variables:

- 1) 12-month change in European bond yields,
- 2) 12-month forward consensus GDP forecasts,
- 3) 12-month change in BofA Europe Leading Indicator
- 4) Germany's IFO Survey,
- 5) 12-month change in European PPI
- 6) Global consensus EPS Revision Ratio

See Exhibit 61 for a complete list of the historical phases of the economic cycle according to the Composite Macro Indicator (CMI).

Exhibit 6: Style Cycle 'Recession' preference and styles' exposures by country

As of the end of the last month

Name	Style Cycle Preference (100-Top)	Value Rank (100=Cheap)	Growth Rank (100=High)	Momentum Rank (100=Rising)	Quality Rank (100=High)	Risk Rank (100=High)	Size Rank (100=High)
Denmark	58	18	74	74	72	36	52
UK	53	59	42	48	49	45	50
Finland	53	61	39	39	51	51	42
Switzerland	53	35	41	34	61	36	54
Norway	51	73	33	64	53	54	35
Italy	50	75	62	69	41	66	47
France	50	47	47	48	48	46	53
Spain	49	68	66	73	29	59	49
Germany	46	60	52	50	38	60	50
Sweden	45	42	56	56	54	56	40
Netherlands	44	29	65	48	63	73	52

Source: BofA European Equity Quant Strategy. Note: The exposure/preference are market cap weighted average Styles ranks /Style Cycle Rank aggregated from the stock level, 100 indicates the highest exposure to the Style/Style Cycle phase, 50 is equal to market cap weighted average, while 1 indicates the lowest exposure to the Style/Style Cycle phase



Exhibit 7: Style Cycle 'Recession' preference and styles' exposures by sector

As of the end of the last month

Name	Style Cycle Preference (100- Top)	Value Rank (100=Cheap)	Growth Rank (100=High)	Momentum Rank (100=Rising)	Quality Rank (100=High)	Risk Rank (100=High)	Size Rank (100=High)
PCDG Stores (S600PDP)	62	49	42	52	54	11	50
Media (SXMP)	61	28	60	70	65	23	50
Energy (S600ENP)	60	91	16	66	46	73	55
Health Care (SXDP)	59	32	52	48	65	21	54
Utilities (SX6P)	57	72	49	67	24	34	48
Food, Bev & Tobacco (S600FOP)	55	37	33	29	54	24	53
Autos (SXAP)	54	87	45	56	55	82	50
Basic Resources (SXPP)	52	75	14	38	67	83	47
Telecoms (SXKP)	49	74	33	48	23	43	46
Technology (SX8P)	49	16	66	57	69	63	54
Retail (SXRP)	48	38	65	59	63	54	41
Consumer Pdts and Svs (S600CPP)	47	23	53	35	70	46	52
Construction (SXOP)	47	50	55	53	46	57	48
Insurance (SXIP)	47	78	54	48	32	57	50
Industrial Gds & Svs (SXNP)	44	37	58	49	57	61	46
Banks (SX7P)	42	96	73	63	14	70	51
Chemicals (SX4P)	39	39	37	28	46	52	47
Financial Svs (SXFP)	36	41	43	44	40	70	47
Real Estate (SX86P)	32	44	29	52	20	48	26
Travel & Leisure (SXTP)	28	42	79	47	39	69	40

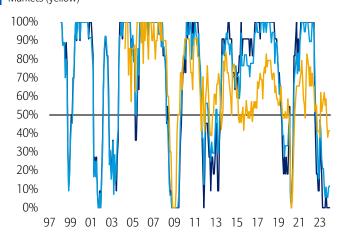
Source: BofA European Equity Quant Strategy. Note: The exposure/preference are market cap weighted average Styles ranks /Style Cycle Rank aggregated from the stock level, 100 indicates the highest exposure to the Style/Style Cycle phase, 50 is equal to market cap weighted average, while 1 indicates the lowest exposure to the Style/Style Cycle phase

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Charts of the month

Exhibit 8: Number of countries noting expansion in manufacturing/whole economy is rising in Emerging Markets and Developed Markets outside of Europe

% of countries with PMI Mfg/Whole Economy readings above 50 in Developed Europe (dark blue), Developed Markets (light blue) and Emerging Markets (yellow)

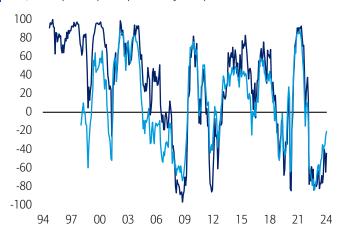


Source: BofA European Equity Quant Strategy, Refinitiv, S&P. PMI surveys conducted by the S&P/Markit.

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Exhibit 9: Investors are pessimistic about an improving corporate profit outlook but more so in Europe than globally

"Over the next 12 months, do you think the outlook for corporate profits worldwide will..." – net % European participants (dark blue) and Global (light blue) that expect corporate profitability to improve



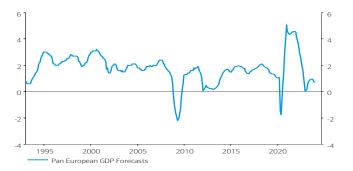
Source: BofA Global and European Fund Manager Survey



European Composite Macro Indicator (CMI) - FALLING - inputs overview

Exhibit 10: Input is RISING, z-score went marginally up to -0.93, increasing for the first time after 3 months of declines

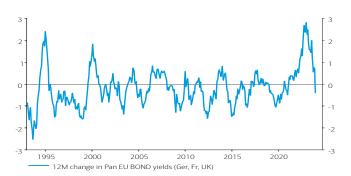
Pan Europe – Economists' 12-month forward GDP forecasts



Source: BofA European Equity Quant Strategy, Consensus Economics

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Exhibit 12: Input is FALLING, z-score dropped to -0.34, the first negative reading since Jan 2021 and lowest since May 2020 12-month change in 10-year European Bond Yield (average of Germany, France, UK)

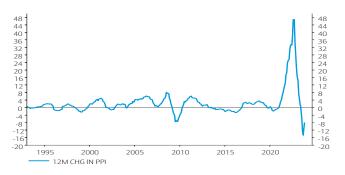


Source: BofA European Equity Quant Strategy, Refinitiv

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Exhibit 14: Input is RISING, z-score improved to -1.49, it's the 2nd consecutive increase in the input

Pan European Inflation (PPI) - 12m change

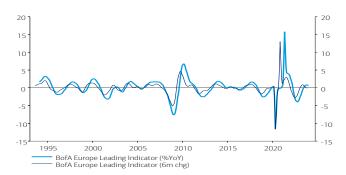


Source: BofA European Equity Quant Strategy, Refinitiv

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Exhibit 11: Input is FALLING, z-score fell to 0.24, the lowest reading since Aug 2023

BofA Europe Leading Indicator 12-month change



Source: BofA European Equity Quant Strategy, OECD

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Exhibit 13: Input is **FALLING**, z-score declined to -1.47, the lowest reading since Jun 2020

German IFO Indicator

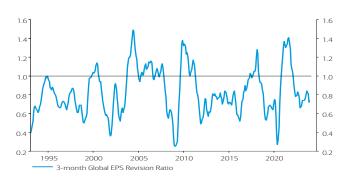


Source: BofA European Equity Quant Strategy, IFO Institute

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Exhibit 15: Input is RISING, z-score increased to -0.40, increasing for the first time after 3 months of declines

Global EPS Revision Ratio (>1 = net EPS upgrades)



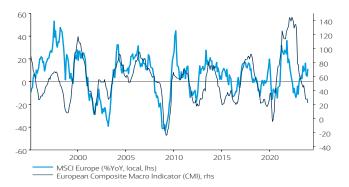
Source: BofA European Equity Quant Strategy, IBES, MSCI



Key Charts

Exhibit 16: European equities are sensitive to moves in the CMI

European CMI versus MSCI Europe performance (%YoY)

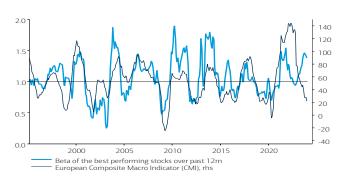


Source: BofA European Equity Quant Strategy, Refinitiv

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Exhibit 18: Typically, beta of best-performing stocks moves in line with CMI

European CMI versus beta of the best-performing stocks over past 12-months



Source: BofA European Equity Quant Strategy

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Exhibit 20: European equities' low risk premium is improving as the bond yield declines sharply

European equities' low risk premium (low risk premium = dividend yield minus European 10-year bond yield)



Source: BofA European Equity Quant Strategy, Refinitiv. Note: European bond yield is average of UK, France and Germany 10-year bond yields

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Exhibit 17: European equities versus bonds performance is sensitive to moves in the CMI

European CMI versus European equities to bonds performance (%YoY)



Source: BofA European Equity Quant Strategy, Refinitiv, ICE

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Exhibit 19: Low versus High Quality style performance is sensitive to moves in the CMI

European CMI versus Low versus High Quality performance (%YoY)



Source: BofA European Equity Quant Strategy

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Exhibit 21: Typically, European equities' low risk premium moves in line with CMI

European CMI versus actual yearly change in European equities' low risk premium (low risk premium = dividend yield minus European 10-year bond yield)



Source: BofA European Equity Quant Strategy. Note: European bond yield is average of UK, France and Germany 10-year bond yields



Exhibit 22: European 12-month forward P/E is sensitive to moves in the CMI

European CMI versus MSCI Europe's 12-month forward P/E

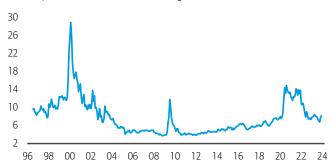


Source: BofA European Equity Quant Strategy, Refinitiv

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Exhibit 24: The current P/E dispersion is 8.2

European stocks - standard deviation of 12-month forward P/E excluding 1% of top and bottom extreme readings

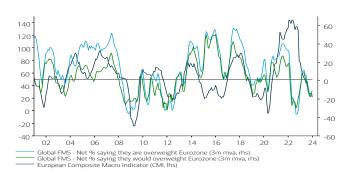


Source: BofA European Equity Quant Strategy, MSCI, I/B/E/S

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Exhibit 26: Net 12% of global investors say that they are underweight Europe in January, and a net 9% of them intend to be underweight the region over the next 12 months

Please indicate for each of the following equity markets, how overweight or underweight you consider your position to be relative to your internal benchmark:



Source: BofA European Equity Quant Strategy, BofA Global Fund Manager Survey

Exhibit 23: Typically, European YoY change in 12-month forward P/E moves in line with CMI

European CMI versus MSCI Europe's 12-month forward P/E YoY change

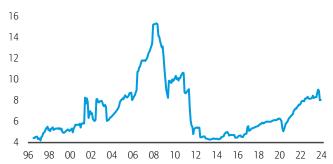


Source: BofA European Equity Quant Strategy, Refinitiv

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Exhibit 25: The current 12-month forward EPS dispersion is 8.1

European stocks - standard deviation of 12-month forward EPS excluding 1% of top and bottom extreme readings



Source: BofA European Equity Quant Strategy, MSCI, I/B/E/S

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Exhibit 27: Investors increased their underweight in the cyclical and financial sectors while cutting overweight in defensive sectors in January

Please indicate for each of the following European sectors, whether you consider your position to be overweight, underweight or neutral relative to your internal benchmark



Source: BofA European Equity Quant Strategy, BofA European Fund Manager Survey. Note: The positioning is a difference between average positioning in cyclical and financial sectors (Autos, Basic Resources, Chemicals, Construction, Consumer Pds&Svs, Industrial Gds&Svs, Media, Retail, Technology, Travel&Leisure, Banks, Financial Svs, Insurance, Real Estate) and defensive sectors (Food&Beverages, Pharma/Healthcare, Telecoms, Utilities, PCDG Stores).



Exhibit 28: Value versus Growth screens attractively in 'Recession' phase, while being disliked by both buy and sell side

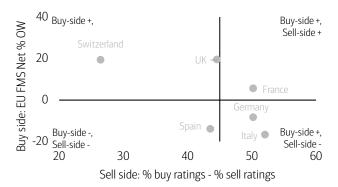
Style Cycle 'Recession' style preferences (green: top, grey: neutral, red: bottom) versus sell-side and buy-side stance



Source: BofA European Equity Quant Strategy, European Fund Manager Survey, IBES

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Exhibit 29: All countries screen as neutral in the 'Recession' phase Style Cycle 'Recession' country preferences (green: top, grey: neutral, red: bottom) versus sell-side and buy-side stance



Source: BofA European Equity Quant Strategy, European Fund Manager Survey, IBES

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Exhibit 30: Personal Care, Drug & Grocery Stores screen as attractive in 'Recession' phase while being commonly disliked, Travel & Leisure screens as unattractive while being popular by both buy and sell side

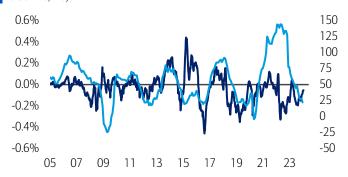
Style Cycle 'Recession' sectors preferences (green: top, grey: neutral, red: bottom) versus sell-side and buy-side stance



Source: BofA European Equity Quant Strategy, European Fund Manager Survey, IBES

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Exhibit 31: Our CMI points to further outflows from European equities European Composite Macro Indicator (light blue line, rhs) versus rolling 8-week flows into Europe-focused equity funds as % of market cap (dark blue line, lhs)



Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 32: Flows increased for Value the most over the past 4 weeks while declining the most for Size

Rolling 8-week flows into European styles (I/s) this year



Source: BofA European Equity Quant Strategy, EPFR Global



European Style Cycle - performance

Style Cycle: The European 'Style Cycle' links phases of the economic cycle with performance of investment style. Stocks are screened based on their equal weighted rank of Value, Growth, Momentum, Quality, Risk and Size.

Exhibit 33: Top & Bottom Style Cycle relative price performance

Relative price performance to largest 250 European stocks (price, EUR, equally weighted)



Source: BofA European Equity Quant Strategy, FactSet. The shaded area on the chart above shows back-tested results during the period from Mar-95 to Dec-03. The un-shaded portion represents actual performance since Jan-04. The Style Cycle back-testing is a rolling monthly performance based on the changing phases of the Style Cycle. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested 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 data displayed in this exhibit depends in part on certain monthly screens and other data that were not previously published. Please see the report, Style Cycle: 'Boom' persists 30 June 2021, for details and relevant data.

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Exhibit 34: Last month Top stocks have underperformed Bottom stocks by 4.8% Excess Price Returns (%)

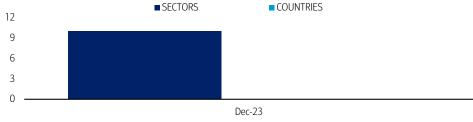
	1M	3M	6M	12M	YTD	3 Yrs	5 Yrs	Incept.
Top Style Cycle	-2.5	-3.1	-2.4	2.4	2.4	13.7	1.0	96.1
Bottom Style Cycle	2.4	3.7	1.8	-3.2	-3.2	-10.8	6.7	-51.4
Top vs Bottom Style Cycle	-4.8	-6.5	-4.1	5.8	5.8	27.4	-5.3	303.2

Source: BofA European Equity Quant Strategy, FactSet. * - Inception = January 2004. Note: Month-end data used for performance of stock screen. Performance based on equal weight portfolios, monthly rebalanced, no transaction costs are included, and performances based on price returns and not total returns (dividends are not included). Performance is shown not as a guide to any past recommendation, but as confirmation of each phase's characteristics. Past performance is not necessarily a guide to future performance.

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Exhibit 35: Top versus Bottom Recession stocks outperformed in 2 out of 20 sectors and in 0 out of 8 countries in Dec 23

% of SXXP supersectors and countries where the Recession top versus bottom stocks are outperforming



BofA European Equity Quant Strategy, FactSet. Note: countries included: France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland and UK. Performances are based on the top / bottom quintile/or minimum 5 stocks in each group of stocks ranked by the Recession ranks or in sectors/countries. Past performance is not necessarily a guide to future performance.

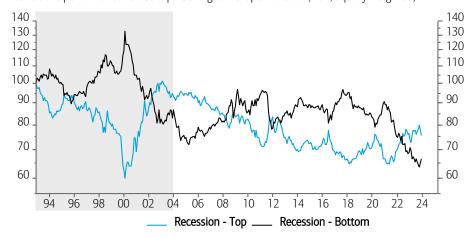


Style Cycle - Recession

Style Cycle - Recession: The European 'Style Cycle' links phases of the economic cycle with performance of investment style. The stocks below are screened by the characteristics of the 'Recession' phase. Stocks are screened on their equal-weighted rank of Value, Growth, Momentum, Quality, Risk and Size.

Exhibit 36: Top & Bottom Recession relative price performance

Price relative performance versus top 250 largest European stocks (EUR, equally weighted)



Source: BofA European Equity Quant Strategy, FactSet. Inception – January 2004. The shaded area shows back-tested results during the period from Dec-92 to Dec-03. The unshaded portion represents actual performance since Jan-04. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested 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 data displayed in this exhibit depends in part on certain monthly screens and other data that were not previously published. Please see Style Cycle: Boom" persists 30 June 2021 for details and relevant data.

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Exhibit 37: Top Recession stocks underperformed Bottom Recession stocks by 4.8% last month

Excess Price Returns (%)

								Since
	1M	3M	6M	12M	YTD	3 Yrs	5 Yrs	Incept.
Top Recession	-2.5	-3.1	-2.4	-0.9	-0.9	14.0	8.9	-20.2
Bottom Recession	2.4	3.7	1.8	-3.0	-3.0	-26.6	-24.2	-19.6
Top vs Bottom Recession	-4.8	-6.5	-4.1	2.2	2.2	55.4	43.6	-0.8

Source: BofA European Equity Quant Strategy, FactSet. * - Inception = January 2004. Past performance is not necessarily a guide to future performance.

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Exhibit 38: Median Top Recession

Latest valuations for Top Recession stocks

	Fwd P/E	DY	RoE	ERR	Size	Beta
Top	13.0	3.9	24.0	3.5	75.7	0.8
LT Avg	13.0	3.8	21.2	0.6	44.3	0.7
EU Market	15.2	2.6	15.1	0.9	21.1	1.1

Source: BofA European Equity Quant Strategy, FactSet. LT Avg = long-term average.

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Exhibit 39: Median Bottom Recession

Latest valuations for Bottom Recession stocks

	Fwd P/E	DY	RoE	ERR	Size	Beta
Bottom	17.0	2.3	8.4	0.2	11.3	1.4
LT Avg	17.9	1.6	6.3	0.8	8.4	1.3
EU Market	15.2	2.6	15.1	0.9	21.1	1.1



Exhibit 40: Style Cycle - Recession screens for Jan 2024 (data as of 29/12/2023)

Top and Bottom Style Cycle Recession stocks

Top Stocks (Good Value, Low Risk, High Quality & Large Size)
Desession Value

Bottom Stocks (Poor Value, High Risk, Low Quality & Small Size)

BBG Ticker	Name	Recession Rank	Value Rank	Size	Beta	RoE	Price	BBG Ticker	Name	Recession Rank	Value Rank	Size	Beta	RoE	Price
GSK LN	GSK	100	65	75705	0.7	52.0	14.5	CON GR	Continental	1	75	9347	1.7	9.5	76.9
ROG SW	Roche	100	42	204095	0.4	51.9	244.5	1COV GR	Covestro	1	31	11256	1.4	-8.4	52.7
RIO LN	Rio Tinto	99	69	83858	1.0	21.9	58.4	EQT SS	EQT	1	15	10057	1.5	5.8	285.0
TTE FP	TotalEnergies	99	87	155938	1.0	13.8	61.6	HMB SS	H&M Hennes & Mauritz	2	50	11319	1.5	9.8	176.6
NOVOB DC	Novo Nordisk	98	7	337588	0.4	75.5	698.1	NIBEB SS	NIBE Industrier	2	16	10647	1.5	16.6	70.8
RKT LN	Reckitt Benckiser	98	38	49583	0.4	26.3	54.2	AKZA NA	Akzo Nobel	3	51	14100	1.3	12.4	74.8
ULVR LN	Unilever	98	43	121126	0.5	35.4	38.0	FER SM	Ferrovial	3	9	18703	1.1	4.4	33.0
EQNR NO	Equinor	97	77	28579	8.0	33.9	322.2	VWS DC	Vestas Wind Systems	3	5	32069	1.3	-23.5	214.3
SHEL LN	Shell	97	83	216922	0.9	17.7	25.7	SVT LN	Severn Trent	4	41	8849	0.7	9.0	25.8
NOVN SW	Novartis	96	49	206690	0.6	26.8	84.9	UU/ LN	United Utilities	4	32	9210	0.8	4.3	10.6
REL LN	RELX	96	13	74907	8.0	64.2	31.1	FLTR LN	Flutter Entertainment	5	26	31226	1.1	1.3	160.0
SAN FP	Sanofi	96	64	112865	0.7	10.9	89.8	MTX GR	MTU Aero Engines	5	43	11609	1.6	11.5	195.3
ITX SM	Inditex	95	32	47512	1.3	31.5	39.4	STAN LN	Standard Chartered	5	88	19475	1.1	7.3	6.7
NG/ LN	National Grid	95	59	49743	0.6	7.6	10.6	NWG LN	NatWest	6	99	16112	1.5	10.3	2.2
ENEL IM	Enel	94	75	60466	1.2	10.6	6.7	GLE FP	SocieteGenerale	6	99	19604	1.7	8.4	24.0
NDA FH	Nordea Bank	94	86	39704	1.1	18.0	11.2	AGN NA	Aegon	7	85	9413	1.4	-6.4	5.2
ZURN SW	Zurich Insurance	94	64	76443	0.7	18.7	439.6	BIRG ID	Bank of Ireland	7	88	9592	1.4	12.9	8.2
RACE IM	Ferrari	93	5	42496	8.0	41.6	305.2	CLNX SM	Cellnex Telecom	7	30	22263	0.8	-1.4	35.7
BNZL LN	Bunzl	92	38	13744	0.8	24.0	31.9	WTB LN	Whitbread	7	52	9007	1.3	10.0	36.6
NESN SW	Nestle	92	30	309335	0.5	33.0	97.5	SRT GR	Sartorius	8	1	9646	1.0	21.6	333.2
VOLVB SS	Volvo	92	71	39187	1.3	29.4	261.7	ACS SM	ACS Actividades	9	62	9255	1.2	4.8	40.2
IBE SM	Iberdrola	91	62	79103	0.8	11.5	11.9	NHY NO	Norsk Hydro	9	75	8936	1.7	6.1	68.4
OR FP	L'Oreal	91	4	120071	0.9	21.7	450.7	SLHN SW	Swiss Life	9	69	20482	1.2	15.9	584.0
TSCO LN	Tesco	91	73	26317	0.9	14.0	2.9	BESI NA	BE Semiconductor	10	3	11620	1.6	41.8	136.5
BATS LN	British American Tobacco	90	87	62171	0.6	13.3	23.0	CBK GR	Commerzbank	10	82	12530	1.4	7.4	10.8
C D - CA	F C C.	CastCat Daiss in	1 1 6						100/ - f tl l 250 5						

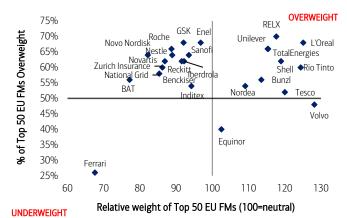
Source: BofA European Equity Quant Strategy, FactSet, Price in Local Currency. Companies listed represent the top and bottom 10% of the largest 250 European stocks. The screen identified as Style Cycle – Recession above is intended to be an indicative metric only and may not be used for reference purposes 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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Recession characteristics

Exhibit 41: 1 stock from Top Recession list is unpopular/ underweight with investors

Top Recession stocks' ownership

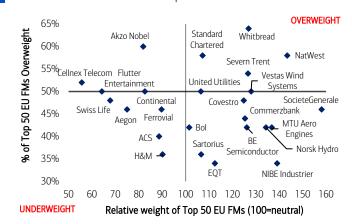


Source: BofA European Equity Quant Strategy

BofA GLOBAL RESEARCH

Exhibit 42: 4 stocks from Bottom Recession list are highly popular/ overweight with investors

Bottom Recession stocks' ownership



Source: BofA European Equity Quant Strategy

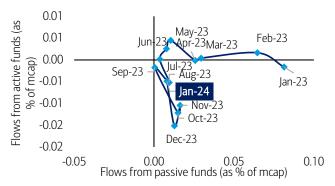
BofA GLOBAL RESEARCH



10

Exhibit 43: So far in January, Top Recession stocks saw \$0.13bn outflows from the active funds and \$0.21bn inflows from passive funds

Top Recession stocks flows over the past 12 months as % of mcap

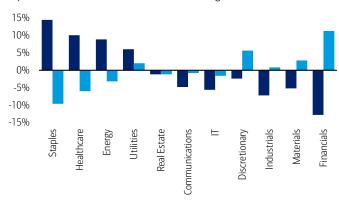


Source: BofA European Equity Quant Strategy, EPFR Global. mcap = market cap

BofA GLOBAL RESEARCH

Exhibit 45: Top Recession stocks are most overweight Staples, while bottom stocks are most overweight Financials

Top and bottom Recession relative sector weights



Source: BofA European Equity Quant Strategy

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Exhibit 47: Top Recession stocks trade at a 3% P/E discount to the market relative to the long-term average

Top Recession stocks' P/E relative to market

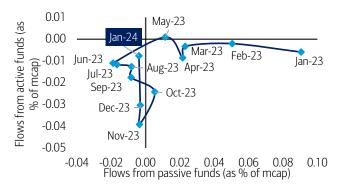


Source: BofA European Equity Quant Strategy

BofA GLOBAL RESEARCH

Exhibit 44: So far in January, Bottom Recession stocks saw \$0.03bn outflows from the active funds and \$0.01bn outflows from passive funds

Bottom Recession stocks flows over the past 12 months as % of mcap

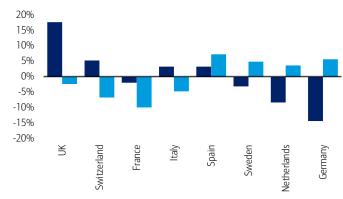


Source: BofA European Equity Quant Strategy, EPFR Global

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Exhibit 46: Top Recession stocks are most overweight UK, while bottom stocks are most overweight Spain

Top and bottom Recession relative country weights



Source: BofA European Equity Quant Strategy

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Exhibit 48: Bottom Recession stocks trade at a 9% P/E discount to the market relative to the long-term average

Bottom Recession stocks' P/E relative to market



Source: BofA European Equity Quant Strategy



Appendix: additional screens

Style Cycle screen for European SMIDs

Exhibit 49: Style Cycle SMID - Recession screens for Jan 2024 (data as of 29/12/2023)

Top and Bottom Style Cycle SMID Recession stocks

Top Stocks (Good Value, Low Risk, High Quality & Large Size)

Bottom Stocks (Poor Value, High Risk, Low Quality & Small Size)

BBG Ticker	Name	Recession Rank	Value Rank	Size (EUR bn)	Beta	RoE	Price	BBG Ticker	Name	Recession Rank	Value Rank	(EUR bn)	Beta	RoE	Price
ELISA FH	Elisa	100	32	6	0.3	32.0	41.9	AF FP	Air France	1	79	2	2.3	N/A	13.6
FORTUM FH	Fortum	100	91	6	1.0	135.8	13.1	BFIT NA	Basic-Fit	1	32	1	2.1	5.5	28.2
IPN FP	lpsen	100	46	4	8.0	15.7	107.9	BORR NO	Borr Drilling	1	28	1	3.2	-0.2	75.9
KESKOB FH	Kesko	100	64	5	8.0	20.2	17.9	ROO LN	Deliveroo	1	22	1	1.6	-32.2	1.3
RS1 LN	RS	99	47	4	1.2	22.4	8.2	IWG LN	IWG	1	35	2	2.4	-57.2	1.9
HWDN LN	Howden Joinery	99	38	5	1.2	40.6	8.1	SPM IM	Saipem	1	52	2	1.8	-7.9	1.5
MNDI LN	Mondi	99	63	9	1.0	18.4	15.4	ARYN SW	Aryzta	2	47	2	2.0	5.3	1.6
SKG ID	Smurfit Kappa	99	81	9	1.1	20.3	35.9	CCL LN	Carnival	2	19	2	3.0	-31.8	13.1
ITRK LN	Intertek	98	25	8	8.0	29.0	42.5	ONT LN	Oxford Nanopore Technologies	2	5	1	1.7	-20.5	2.1
ORNBV FH	Orion	98	15	4	0.4	20.6	39.3	RDC GR	Redcare Pharmacy	2	10	2	8.0	-2.5	131.6
RED SM	Redeia Corporacion	98	61	6	0.5	12.5	14.9	VGP BB	VGP	2	25	1	1.1	-3.9	105.0
WPP LN	WPP	98	83	9	1.5	29.6	7.5	VITR SS	Vitrolife	2	9	1	1.9	2.4	194.7
DCC LN	DCC	97	73	7	1.0	12.2	57.8	EZJ LN	easyJet	3	75	2	3.1	-1.6	5.1
IGG LN	IG	97	78	3	0.7	19.2	7.7	EVT GR	Evotec	3	3	3	1.2	-4.8	21.3
EMG LN	Man	97	65	3	1.0	25.8	2.3	SHC LN	Shaftesbury Capital	3	17	2	1.3	1.3	1.4
RAND NA	Randstad	97	71	6	1.5	19.1	56.7	TRN LN	Trainline	3	13	2	2.1	12.8	3.2
BUCN SW	Bucher Industries	96	68	3	1.1	21.9	353.2	ZEAL DC	Zealand Pharma	3	1	2	0.9	-41.6	373.2
BRBY LN	Burberry	96	51	6	1.5	40.0	14.2	FRA GR	Fraport	4	66	2	2.2	9.1	54.8
CNA LN	Centrica	96	90	9	1.2	60.9	1.4	IVG IM	lveco	4	99	1	1.4	7.9	8.1
EMSN SW	EMS-CHEMIE	96	5	5	8.0	24.2	681.0	TKWY NA	Just Eat Takeaway.com	4	44	3	1.3	-13.5	13.8
TEL2B SS	Tele2	96	60	4	0.4	17.7	86.5	NEOEN FP	Neoen	4	11	2	8.0	6.3	30.3
TEL NO	Telenor	96	55	7	0.2	8.6	116.6	SCYR SM	Sacyr	4	72	1	1.8	21.6	3.1
HIK LN	Hikma Pharmaceuticals	95	60	3	0.4	15.6	17.9	SINCH SS	Sinch	4	35	2	2.2	0.0	37.5
QIA GR	QIAGEN	95	14	9	0.2	9.5	39.4	BUR LN	Burford Capital	5	36	3	1.1	1.8	12.1
YAR NO	Yara	95	78	5	0.7	11.7	361.2	ZAL GR	Zalando	5	24	5	1.8	5.3	21.5

Source: BofA European Equity Quant Strategy, FactSet, Price in Local Currency. Companies listed represent the top and bottom 25 stocks within European SMIDs (companies with market cap less than 10bn EUR). The screen identified as Style Cycle SMID - Recession 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.



HEN3 GR

RMS FP

CPG LN

Henkel

Hermes

Compass

PNDORA DC Pandora

Exhibit 50: Style Cycle Europe Stoxx 600 supersectors – Recession screens for Jan 2024 (data as of 29/12/2023)

Top and Bottom Style Cycle Recession stocks by Europe Stoxx 600 supersectors

93

89

80

75

DHER GR

ALE PW

ADE NO

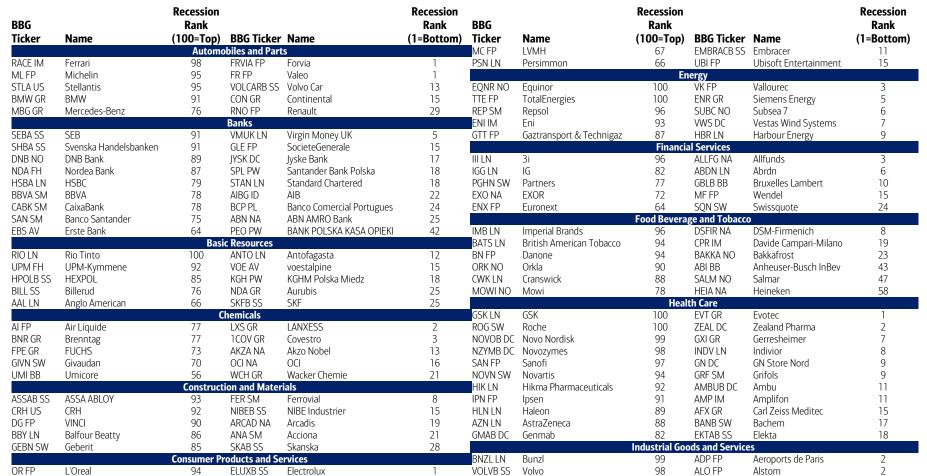
HUSQB SS

Delivery Hero

Husqvarna

Allegro.eu

Adevinta



Source: BofA European Equity Quant Strategy, FactSet. Companies listed represent the top and bottom quintile stocks (or minimum 5 stocks) within Europe Stoxx 600 supersectors. The screens identified as Europe Stoxx 600 supersectors - Recession above are 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. These screens were not created to act as benchmarks.

ATCOA SS

BA/LN

SKG ID

DCC LN

Atlas Copco

DCC

BAE Systems

Smurfit Kappa

97

96

95

94

IDS LN

BEIJB SS

KGX GR

WLN FP

Intl. Distri. Svs

Beijer

KION

Worldline

2

4

8

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2

3

4

Exhibit 51: Style Cycle Europe Stoxx 600 supersectors – Recession screens for Jan 2024 (data as of 29/12/2023)
Top and Bottom Style Cycle Recession stocks by Europe Stoxx 600 supersectors

		Recession Rank			Recession Rank	BBG		Recession Rank	BBG		Recession Rank
BBG Ticker	Name	(100=Top)	BBG Ticker	Name	(1=Bottom)	Ticker	Name	(100=Top)	Ticker	Name	(1=Bottom)
KNIN SW	Kuehne Nagel	94	ISS DC	ISS A/S	7	LI FP	Klepierre	56	FABG SS	Fabege	16
SGSN SW	SGS	90	TOM NO	TOMRA Systems	7	LAND LN	Land Securities	50	TEG GR	TAG Immobilien	16
HUH1V FH	Huhtamaki	88	TPK LN	Travis Perkins	7			Reta			
DPLM LN	Diploma	87	GET FP	Getlink	8	NXT LN	Next	98	ZAL GR	Zalando	1
SMIN LN	Smiths	87	AZE BB	Azelis	9	ITX SM	Inditex	97	AVOL SW	Avolta	4
EXPN LN	Experian	85	INPST NA	InPost	9	BME LN	B&M European Value Retail	72	SMWH LN	WH Smith	4
ITRK LN	Intertek	84	TKA GR	thyssenkrupp	9	HWDN LN	Howden Joinery	64	HMB SS	H&M	10
KNEBV FH	Kone	84	FHZN SW	Flughafen Zuerich	10	RUI FP	Rubis	47	JD/ LN	JD Sports Fashion	40
KOG NO	Kongsberg	84	NKT DC	NKT	11			Techno	ology		
RHM GR	Rheinmetall	83	METSO FH	Metso	12	LOGN SW	Logitech	97	TKWY NA	Just Eat Takeaway.com	3
DSV DC	DSV	82	KCR FH	Konecranes	13	DSY FP	Dassault Systemes	95	FNOX SS	Fortnox	8
TRELB SS	Trelleborg	80	GFTU LN	Grafton	14	CCC LN	Computacenter	91	SOP FP	Sopra Steria	10
HLMA LN	Halma	78	VRLA FP	Verallia	14	AUTO LN	Auto Trader	89	SOI FP	Soitec	17
MNDI LN	Mondi	78	ELIS FP	Elis SA	16	G24 GR	Scout24	80	AIXA GR	AIXTRON	23
IMI LN	IMI	76	NEX FP	Nexans	20	NEM GR	Nemetschek	71	BESI NA	BE Semiconductor	33
			rance					Telecommu	ınications		
MUV2 GR	Munich Re	93	PHNX LN	Phoenix	11	TEL NO	Telenor	92	TIGO US	Millicom	2
ZURN SW	Zurich Insurance	92	STB NO	Storebrand	11	DTE GR	Deutsche Telekom	91	SESG FP	SES	5
ADM LN	Admiral	87	SCR FP	SCOR	14	BT/A LN	BT	88	TIT IM	Telecom Italia	6
AGS BB	ageas	87	DLG LN	Direct Line Insurance	20	SCMN SW	Swisscom	88	CLNX SM	Cellnex Telecom	11
CS FP	AXA	85	HSX LN	Hiscox	23	TEL2B SS		81	INW IM	Infrastrutture Wireless	14
SAMPO FH	Sampo	84	BALN SW	Baloise	27			Travel and			
		M	edia			FDJ FP	La Francaise des Jeux	81	SSPG LN	SSP	1
REL LN	RELX	99	ITV LN	ITV	32	EVO SS	Evolution	76	TUI1 GR	TUI	11
PUB FP	Publicis	97	EVD GR	CTS Eventim	47	IHG LN	IHG	74	FLTR LN	Flutter Entertainment	12
WKL NA	Wolters Kluwer	93	VIV FP	Vivendi	50	RYA ID	Ryanair	52	LHA GR	Deutsche Lufthansa	14
PSON LN	Pearson	79	WPP LN	WPP	51	SW FP	Sodexo	30	IAG LN	IAG	14
UMG NA	Universal Music	72	INF LN	Informa	64		Bodeno	Utilit		# 10	
		onal Care Drug		Stores		NG/ LN	National Grid	98	ECV GR	Encavis	4
RKT LN	Reckitt Benckiser	99	OCDO LN	Ocado	4	SSE LN	SSE	98	PNN LN	Pennon	6
TSCO LN	Tesco	99	HFG GR	HelloFresh	23	RWE GR	RWE	95	DRX LN	Drax	10
ULVR LN	Unilever	99	MKS LN	Marks & Spencer	30	IBE SM	Iberdrola	94	UU/LN	United Utilities	13
AD NA	Ahold Delhaize	90	CA FP	Carrefour	42	TRN IM	TERNA	85	SVT LN	Severn Trent	15
SBRY LN	J Sainsbury	84	DNP PW	Dino Polska	57	RED SM	Redeia Corporacion	83	VIE FP	Veolia Environnement	39
SSITI EIT	, samsoury		Estate	SS I OlSika			nedela corporación	05		. cou Environmentent	55
RMV LN	Rightmove	88	COL SM	Inmobiliaria Colonial	4						
VNA GR	Vonovia	74	WIHL SS	Wihlborgs Fastigheter	4						
AED BB	Aedifica	63	BALDB SS	Fastighets Balder	6						
PSPN SW	PSP Swiss Property	58	COV FP	Covivio	14						
	, ,						s) within Furane Stovy 600 supers				D

Source: BofA European Equity Quant Strategy, FactSet. Companies listed represent the top and bottom quintile stocks (or minimum 5 stocks) within Europe Stoxx 600 supersectors. The screens identified as Europe Stoxx 600 supersectors - Recession above are 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. These screens were not created to act as benchmarks.



STMPA FP STMicroelectronics

Exhibit 52: Style Cycle Europe Stoxx 600 countries – Recession screens for Jan 2024 (data as of 29/12/2023) Top and Bottom Style Cycle Recession stocks by Europe Stoxx 600 countries

70

BMPS IM Banca MPS

BBG Ticker	Name	Recession Rank (100=Top)		Name	Recession Rank (1=Bottom)	BBG Ticker	Name	Recession Rank (100=Top) BBG Ticker Netherlands		Name	Recession Rank (1=Bottom)
TTE ED	TatalFassaiss		ince	Familia	1	VA/IZI NIA	Maltana Khanan			Alle al -	2
TTE FP	TotalEnergies	100	FRVIA FP	Forvia	1	WKL NA	Wolters Kluwer	93	ALLFG NA	Allfunds	3
PUB FP	Publicis	97	FR FP	Valeo	1	AD NA	Ahold Delhaize	90	TKWY NA	Just Eat Takeaway.com	3
SAN FP	Sanofi	97	ADP FP	Aeroports de Paris	2	KPN NA	Royal KPN	85	DSFIR NA	DSM-Firmenich	8
DSY FP	Dassault Systemes	95	ALO FP	Alstom	2	PRX NA	Prosus N	75 73	INPST NA	InPost	9
ML FP	Michelin	95	VK FP	Vallourec	3	EXO NA	EXOR	72	AKZA NA	Akzo Nobel	13
BN FP	Danone	94	WLN FP	Worldline	5	UMG NA	Universal Music	72	oci na	OCI	16
OR FP	L'Oreal	94	GET FP	Getlink	8				Spain		
IPN FP	lpsen	91	SOP FP	Sopra Steria	10	ITX SM	Inditex	97	COL SM	Inmobiliaria Colonial	4
DG FP	VINCI	90	COV FP	Covivio	14	REP SM	Repsol	96	FER SM	Ferrovial	8
RMS FP	Hermes	89	SCR FP	SCOR	14	IBE SM	Iberdrola	94	GRF SM	Grifols	9
GTT FP	Gaztransport & Technigaz	87	VRLA FP	Verallia	14	RED SM	Redeia Corporacion	83	CLNX SM	Cellnex Telecom	11
CS FP	AXA	85	GLE FP	SocieteGenerale	15	ELE SM	Endesa	80	VID SM	Vidrala	15
TEP FP	Teleperformance	83	UBI FP	Ubisoft Entertainment	15			Sı	weden		
FDJ FP	La Francaise des Jeux	81	MF FP	Wendel	15	VOLVB SS	Volvo	98	ELUXB SS	Electrolux	1
ENGI FP	ENGIE	80	ELIS FP	Elis SA	16	ATCOA SS	Atlas Copco	97	TIGO US	Millicom	2
		Gerr	many			ASSAB SS	ASSA ABLOY	93	BEIJB SS	Beijer	3
RWE GR	RWE	95	EVT GR	Evotec	1	SEBA SS	SEB	91	HUSQB SS	Husqvarna	4
EOAN GR	E ON	93	ZAL GR	Zalando	1	SHBA SS	Svenska Handelsbanken	91	WIHL SS	Wihlborgs Fastigheter	4
HEN3 GR	Henkel	93	DHER GR	Delivery Hero	2	GETIB SS	Getinge	85	BALDB SS	Fastighets Balder	6
MUV2 GR	Munich Re	93	LXS GR	LANXESS	2	HPOLB SS	HEXPOL	85	FNOX SS	Fortnox	8
BMW GR	BMW	91	1COV GR	Covestro	3	HOLMB SS	Holmen	84	HMB SS	H&M	10
DTE GR	Deutsche Telekom	91	ECV GR	Encavis	4	AXFO SS	Axfood	82	EMBRACB SS	Embracer	11
RHM GR	Rheinmetall	83	KGX GR	KION	4				VOLCARB SS	Volvo Car	13
SAP GR	SAP	81	ENR GR	Siemens Energy	5	SECUB SS	Securitas	82	NIBEB SS	NIBE Industrier	15
G24 GR	Scout24	80	GXI GR	Gerresheimer	7			Swi	tzerland		
DHL GR	Deutsche Post	78	TKA GR	thyssenkrupp	9	ROG SW	Roche	100	AVOL SW	Avolta	4
BNR GR	Brenntag	77	PUM GR	PUMA	11	LOGN SW	Logitech	97	FHZN SW	Flughafen Zuerich	10
MBG GR	Mercedes-Benz	76	LHA GR	Deutsche Lufthansa	14	KNIN SW	Kuehne Nagel	94	BANB SW	Bachem	17
DB1 GR	Deutsche Boerse	74	AFX GR	Carl Zeiss Meditec	15	NOVN SW	Novartis	94	SIGN SW	SIG	19
HNR1 GR	Hannover Rueck	74	CON GR	Continental	15	ZURN SW	Zurich Insurance	92	UBSG SW	UBS	22
THAT GIT	Harmover Rucer		alv	continental	15	SGSN SW	SGS	90	HELN SW	Helvetia	24
RACE IM	Ferrari	98	TIT IM	Telecom Italia	6	NESN SW	Nestle	88	SQN SW	Swissquote	24
STLAUS	Stellantis	95	AMP IM	Amplifon	11	SCMN SW	Swisscom	88	BALN SW	Baloise	27
ENEL IM	Enel	94	INW IM	Infrastrutture Wireless	14	GEBN SW	Geberit	85	SPSN SW	Swiss Prime	27
ENI IM	Eni	93	CPR IM	Davide Campari-Milano	19	GALE SW	Galenica	81	CMBN SW	Cembra Money Bank	28
TRN IM	TERNA	85	IP IM	Interpump	19	UALL 3W	Gaicifica	-	d Kingdom	cernora wioney ballk	20
SRG IM	SNAM	84	BZU IM	Buzzi	21	GSK LN	GSK	100	SSPG LN	SSP	1
IVII DIAC	JINAIVI	04	DZU IIVI	DUZZI	Z I	OSV FIN	NCD	100	JUL DACC	JJF	I I

Source: BofA European Equity Quant Strategy, FactSet. Companies listed represent the top and bottom quintile stocks (or minimum 5 stocks) within 8 Europe Stoxx 600 countries. The screens identified as Europe Stoxx 600 countries. 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. These screens were not created to act as benchmarks

RIO LN

Rio Tinto

100

IDS LN

Intl. Distri. Svs

22

Exhibit 53: Style Cycle Europe Stoxx 600 countries – Recession screens for Jan 2024 (data as of 29/12/2023) Top and Bottom Style Cycle Recession stocks by Europe Stoxx 600 countries

BBG		Recession Rank			Recession Rank			Recession Rank			Recession Rank
Ticker	Name	(100=Top)	BBG Ticker	Name	(1=Bottom)	RRG Ticker	Name		BBG Ticker	Name	(1=Bottom)
BNZL LN	Bunzl	99	OCDO LN	Ocado	4	DDC Heiter	· · · · · · · · · · · · · · · · · · ·	(100 10р)	DDG TICKE	· · · · · · · · · · · · · · · · · · ·	(1 Doctom)
RKT LN	Reckitt Benckiser	99	SMWH LN	WH Smith	4						
REL LN	RELX	99	VMUK LN	Virgin Money UK	5						
TSCO LN	Tesco	99	PNN LN	Pennon	6						
ULVR LN	Unilever	99	ABDN LN	Abrdn	6						
NG/LN	National Grid	98	TPK LN	Travis Perkins	7						
NXT LN	Next	98	INDV LN	Indivior	8						
SSE LN	SSE	98	HBR LN	Harbour Energy	9						
SHEL LN	Shell	97	DRX LN	Drax	10						
III LN	3i	96	ENT LN	Entain	10						
BA/ LN	BAE Systems	96	PHNX LN	Phoenix	11						
IMB LN	Imperial Brands	96	TUI1 GR	TUI	11						
BATS LN	British American Tobacco	94	ANTO LN	Antofagasta	12						
DCC LN	DCC	94	FLTR LN	Flutter Entertainment	12						
CRH US	CRH	92	ICP LN	Intermediate Capital	13						
HIK LN	Hikma Pharmaceuticals	92	UU/ LN	United Utilities	13						
CCC LN	Computacenter	91	GFTU LN	Grafton	14						
AUTO LN	Auto Trader	89	IAG LN	IAG	14						
HLN LN	Haleon	89	SVT LN	Severn Trent	15						
AZN LN	AstraZeneca	88	NWG LN	NatWest	18						
BT/A LN	BT	88	STAN LN	Standard Chartered	18						
CWK LN	Cranswick	88	WOSG LN	Watches of Switzerland	19						
RMV LN	Rightmove	88	BEZ LN	Beazley	20						
SGE LN	Sage	88	DLG LN	Direct Line Insurance	20						
ADM LN	Admiral	87	BWY LN	Bellway	22						
SMIN LN	Smiths	87	HSX LN	Hiscox	23						

Source: BofA European Equity Quant Strategy, FactSet. Companies listed represent the top and bottom quintile stocks (or minimum 5 stocks) within 8 Europe Stoxx 600 countries. The screens identified as Europe Stoxx 600 countries - Recession above are 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. These screens were not created to act as benchmarks.



Explaining the European Style Cycle

Style cycle: the relationship between the economic cycle and investment style

- We draw on the back-testing results first presented in February 2004, using data (since January 1992) on investment style price returns and the economic cycle to create the European 'Style Cycle'.
- The European 'Style Cycle' aims to offer what we believe are two vital components for investing across the cycle. These are 1) timing and 2) rotation.
- Investment styles with potential for success are based on favourable positioning within the cycle. Highlighted investment styles are expected to outperform the MSCI European equal-weight price index.
- We identify investment styles that we believe have the characteristics to underperform the MSCI European equal-weight price index, based on the unfavourable positioning within the cycle at a particular point in time. The screens resulting from the investment styles are not a recommended list, either individually or as a group of stocks. Investors should consider the fundamentals of the companies and their own individual circumstances/objectives before making any investment decision.

We observe the year-on-year changes for signals of economic expansion or contraction and analyse monthly changes in the index for indications of peaks and troughs in macro data. The combination helps investors navigate the economic cycle, acting as a timing indicator for style rotation.

We show the relationship between the European economic cycle and price performance of various investment styles in the chart below. The four phases of the economic cycle are dictated by changes in the European CMI. The style preferences in each phase are based on the back-testing results of average monthly price returns from following individual investment styles during the changing conditions in the economic cycle

As a reminder, the CMI is an equal-weighted composite indicator of 6 inputs:

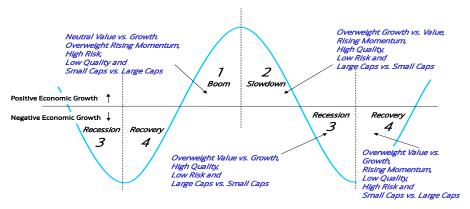
- Pan European GDP forecasts 12-month forward forecasted GDP growth for the Developed European countries
- BofA Europe Leading Indicator 12-month change in BofA Europe Leading Indicator, which indicates an acceleration (deceleration) in anticipated GDP growth, above (below) long-term GDP growth for Europe
- European 10-year bond yield 12-month actual change in average of 10-year bond yields of Germany, UK and France
- German IFO level of indicator as published by the IFO institute for the Trade and Industry (Excluding Services) survey
- European PPI Eurozone Producer Price inflation (expressed as 12-month change) ex Construction, SRWG, Waste Management and Remediation Activities
- Global EPS Revision Ratio ratio between the number of companies in the MSCI ACWI index for which Refinitiv consensus earnings estimates have been raised versus those that have been lowered

We take each one of the six variables as they existed at month end and record the data, then using z-scores to normalise the data (some are percentages, some are levels and



others are ratios). Using a percentile rank methodology of each variable can achieve the same outcome. We then aggregate the individual data series by using an equal-weight average. The sum of the individual data or aggregate macro series is referred to as the European Composite Macro Index (CMI).

Exhibit 54: Phases of the Economic Cycle* & Investment Style Preferences – 'Style Cycle' Style Cycle framework



<u>Phase 1</u>- Rising & Accelerating: <u>Phase 2</u>- Rising & Decelerating: <u>Phase 3</u>- Falling & Decelerating: <u>Phase 4</u>- Falling & Accelerating: <u>Phase 4</u>- Falling & Accelerating: <u>Phase 4</u>- Falling & Decelerating: <u>Phase 4- Falling & Decelerating: Phase 4- Falling & Decelerating: <u>Phase 4- Falling & Decelerating: Phase 4- Falling & Decelerating: <u>Phase 4- Falling & Dece</u></u></u>

Source: BofA European Equity Quant Strategy. Back testing period from Dec 1992 to Dec 2003. Actual Performance Jan 2004. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested 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 data displayed in this exhibit depends in part on certain monthly screens and other data that were not previously published. Please see the report, Style Cycle: Boom persists 30 June 2021, for details and relevant data.

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Back-testing – European Style Cycle

Back-testing the cycle with investment style

The table below includes the average excess price returns (monthly) for individual investment styles at each phase of the economic cycle. (Style performance is versus MSCI Europe equal weight Price Index.)

Exhibit 55: Monthly excess returns by investment style and phases of the economic cycle Back-testing results (based on period from Dec 1992 to Dec 2003)

				Quality	Risk	Size
Economic cycle	Value	Growth	Momentum	hi-lo	high	(large-small)
Phase 1 - 'Boom' rising accelerating	1.1	0.78	0.97	-1.34	0.65	-0.75
Phase 2- 'Slowdown' rising decelerating	0	0.44	0.89	0.52	0.07	0.25
Phase 3 - 'Recession' falling decelerating	-0.7	-1.91	-0.81	6.37	-2.85	1.1
Phase 4 - 'Recovery' falling accelerating	2.47	1.31	0.1	-3	2.66	-2.05
Cycle average	0.72	0.15	0.29	0.64	0.13	-0.36

Source: BofA European Equity Quant Strategy/ Refinitiv/ OECD/ MSCI; Back testing period Dec 1992 to Dec 2003. Performance based on equal weight portfolios, monthly rebalanced, no transaction costs are included, and performances based on price returns and not total returns (dividends are not included). This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested 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 data displayed in this exhibit depends in part on certain monthly screens and other data that were not previously published. Please see the report, Style (Vcle: 'Boom' persists 30 June 2021, for details and relevant data.

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Summarising the results, we draw the following conclusions:

Phase 1 'Boom' – investors have benefited most by being overweight Momentum (Rising Price & EPS), High Risk (High Beta & High Estimate Dispersion), Small Caps versus



Large Caps and being Neutral on Value versus Growth. Phase 2 'Slow-down' - investors have benefited most by overweighting Growth vs Value, Momentum (Rising Price & EPS), High Quality (Strong Balance Sheet indicators), Low Risk (Low Beta & Low Estimate Dispersion) and Large Caps versus Small Caps. Phase 3 'Recession' – overweight Value versus Growth, High Quality (Strong Balance Sheet indicators), Low Risk (Low Beta & Low Estimate Dispersion) and Large Caps versus Small Caps. Phase 4 'Recovery' – overweight Value versus Growth, Momentum (Rising Price & EPS), Low Quality (Weak Balance Sheet indicators), High Risk and Small versus Large Caps.

The back-testing results illustrate how certain investment styles work well compared to others, depending on the economic conditions and ultimately where we are in the cycle. The data presented above looks at all periods since 1992, including 5 complete cycles.

For the purpose of the historical back-testing, we calculate price returns in our analysis, not total returns. Dividends are not re-invested and performance does not include tax withholdings or any investment advisory fees. We do not include transaction costs, and we not do include implementation costs or borrowing costs in the absolute 'Style Cycle' price returns.

Price returns are based on month end data, meaning we use closing stock prices for the last trading day of the calendar month. All screens are based on month-end data, and it is assumed on the 1st business day of the new month our screens would have been available to the market. We calculate the profit or loss for a particular month based on the month end data from one period to the month end data of the next period.

Screens are determined at the end of each month using month-end data. Price performance is calculated as the simple average performance of the stocks within the screen. In order that we compare like with like, screen performance is compared to an equal-weighted average performance of all stocks in the universe. In this way, we remove any size bias from the analysis, and thereby test whether the factors on which we are focused predict price performance. It is noteworthy that BofA restricted stocks have not been excluded from any part of the historical monthly screens as defined as the back-test period.

Back-tested performance is hypothetical in nature and reflects application of the screen prior to its introduction and is not intended to be indicative of future performance.

Definitions

Investment styles

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 – 3-month EPS Change, EPS Revision Ratio, Sales Revision Ratio, 1m Price Change and 12-month Price Change **Quality:** Equal weighted combination of factors - Return on Assets, Return on Capital,

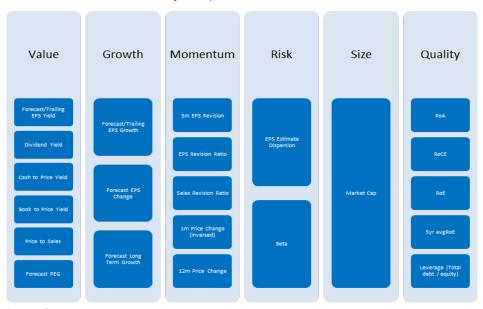
Return on Equity, 5-year Return on Equity and Leverage

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



Exhibit 56: Style components

Individual factors that are used for style composites



Source: BofA European Equity Quant Strategy

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Multi factor models

Style Cycle: The European 'Style Cycle' links phases of the economic cycle with the performance of investment style. Stocks are screened based on their equal weighted rank of Value, Growth, Momentum, Quality and Risk.

Absolute return

Absolute return is calculated based on monthly returns and reflects simple price appreciation (depreciation) over the stated period of the screened stocks. For purposes of this calculation, the stocks in the screen are assumed to be equally weighted. Returns do not reflect dividend or costs.

Relative return

Relative return is calculated based on monthly returns and reflects simple price appreciation (depreciation) over the stated period of the screened stocks minus the return for our Equal weighted European Universe. Returns do not reflect dividend or costs.

Performances of phases

Exhibit 57: European Absolute factor returns by Style Cycle phase (%)

Prices as of end of last month

Style	Factor Name	1M	3M	6M	12M	YTD	3YR	5YR	Since Incpt.*
Multi-factor	Style Cycle - Top	1.8	3.8	1.5	15.5	15.5	32.2	41.8	388.6
Multi-factor	Style Cycle - Bottom	6.9	11.1	5.8	9.2	9.2	3.8	49.7	21.2
Multi-factor	Style Cycle - BOOM - Top	3.0	5.6	7.1	11.1	11.1	38.3	53.0	206.7
Multi-factor	Style Cycle - BOOM - Bottom	5.2	7.3	1.0	8.1	8.1	7.3	44.0	207.3
Multi-factor	Style Cycle - SLOWDOWN - Top	3.1	8.2	2.3	16.7	16.7	15.8	53.3	450.7
Multi-factor	Style Cycle - SLOWDOWN - Bottom	6.9	5.7	6.1	7.6	7.6	9.8	6.6	1.3
Multi-factor	Style Cycle - RECESSION - Top	1.8	3.8	1.5	11.8	11.8	32.6	52.9	98.8
Multi-factor	Style Cycle - RECESSION - Bottom	6.9	11.1	5.8	9.4	9.4	-14.7	6.5	100.4
Multi-factor	Style Cycle - RECOVERY - Top	1.9	4.3	4.3	7.6	7.6	42.0	61.1	181.5
Multi-factor	Style Cycle - RECOVERY - Bottom	4.9	10.5	0.9	17.4	17.4	20.7	63.0	257.3
Market	European Market (abs)	4.4	7.2	4.0	12.8	12.8	16.3	40.4	149.2

Source: BofA European Equity Quant Strategy, FactSet. *Inception – January 2003. Past performance is not necessarily a guide to future performance.



Exhibit 58: European Relative factor returns by Style Cycle phase (%) Prices as of end of last month

Style	Factor Name	1M	3M	6M	12M	YTD	3YR	5YR	Since Incpt.*
Multi-factor	Style Cycle - Top	-2.5	-3.1	-2.4	2.4	2.4	13.7	1.0	96.1
Multi-factor	Style Cycle - Bottom	2.4	3.7	1.8	-3.2	-3.2	-10.8	6.7	-51.4
Multi-factor	Style Cycle - BOOM - Top	-1.4	-1.4	3.0	-1.5	-1.5	18.9	9.0	23.1
Multi-factor	Style Cycle - BOOM - Bottom	0.8	0.2	-2.9	-4.2	-4.2	-7.8	2.6	23.3
Multi-factor	Style Cycle - SLOWDOWN - Top	-1.2	1.0	-1.6	3.5	3.5	-0.5	9.2	121.0
Multi-factor	Style Cycle - SLOWDOWN - Bottom	2.4	-1.4	2.0	-4.6	-4.6	-5.6	-24.0	-59.3
Multi-factor	Style Cycle - RECESSION - Top	-2.5	-3.1	-2.4	-0.9	-0.9	14.0	8.9	-20.2
Multi-factor	Style Cycle - RECESSION - Bottom	2.4	3.7	1.8	-3.0	-3.0	-26.6	-24.2	-19.6
Multi-factor	Style Cycle - RECOVERY - Top	-2.4	-2.7	0.3	-4.6	-4.6	22.0	14.8	13.0
Multi-factor	Style Cycle - RECOVERY - Bottom	0.5	3.1	-3.0	4.1	4.1	3.7	16.1	43.4

Source: BofA European Equity Quant Strategy, FactSet. *Inception – January 2003. Past performance is not necessarily a guide to future performance.

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Exhibit 59: European Style Cycle advancersNumber of companies that saw their price up over the last month

Factor Name	1 M	3M	6M	12M	YTD	3YR	5YR	Since Incpt.*
Style Cycle - Top	18	46	78	181	181	481	822	3438
Style Cycle - Bottom	21	48	80	158	158	473	838	3323
Style Cycle - BOOM - Top	17	46	84	167	167	501	825	3447
Style Cycle - BOOM - Bottom	22	50	77	160	160	475	845	3443
Style Cycle - SLOWDOWN - Top	21	52	73	177	177	476	840	3472
Style Cycle - SLOWDOWN - Bottom	22	46	86	166	166	470	787	3308
Style Cycle - RECESSION - Top	18	46	78	172	172	500	856	3424
Style Cycle - RECESSION - Bottom	21	48	80	162	162	437	786	3365
Style Cycle - RECOVERY - Top	15	44	80	160	160	504	830	3414
Style Cycle - RECOVERY - Bottom	23	57	78	176	176	486	862	3446
Market	190	469	788	1675	1675	4716	8187	12384

Source: BofA European Equity Quant Strategy, FactSet. *Inception – January 2003. Past performance is not necessarily a guide to future performance.

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Exhibit 60: European Style Cycle declinersNumber of companies that saw their price down over the last month

Factor Name	1M	3M	6M	12M	YTD	3YR	5YR	Since Incpt.*
Style Cycle - Top	7	29	72	119	119	418	677	2883
Style Cycle - Bottom	4	27	70	142	142	427	661	2994
Style Cycle - BOOM - Top	8	29	66	133	133	399	675	2870
Style Cycle - BOOM - Bottom	3	25	73	140	140	424	653	2877
Style Cycle - SLOWDOWN - Top	4	23	77	123	123	423	658	2849
Style Cycle - SLOWDOWN - Bottom	3	29	64	134	134	430	713	3007
Style Cycle - RECESSION - Top	7	29	72	128	128	399	642	2894
Style Cycle - RECESSION - Bottom	4	27	70	138	138	463	714	2946
Style Cycle - RECOVERY - Top	9	30	69	139	139	395	669	2901
Style Cycle - RECOVERY - Bottom	2	18	72	124	124	414	636	2874
Market	59	280	711	1324	1324	4278	6798	10838

Source: BofA European Equity Quant Strategy, FactSet. *Inception – January 2003. Past performance is not necessarily a guide to future performance.



Historical phases of the 'Style Cycle'

Exhibit 61: Style Cycle – historical phases February 1995 to date

Month CMI phase	Month CMI phase	Month CMI phase	Month CMI phase	Month CMI phase	Month CMI phase
Feb-95 Slowdown	Feb-00 Boom	Feb-05 Slowdown	Feb-10 Boom	Feb-15 Recession	Feb-20 Recovery
Mar-95 Slowdown	Mar-00 Boom	Mar-05 Slowdown	Mar-10 Slowdown	Mar-15 Recession	Mar-20 Recovery
Apr-95 Slowdown	Apr-00 Slowdown	Apr-05 Slowdown	Apr-10 Slowdown	Apr-15 Recovery	Apr-20 Recession
May-95 Slowdown	May-00 Slowdown	May-05 Slowdown	May-10 Slowdown	May-15 Recovery	May-20 Recession
Jun-95 Slowdown	Jun-00 Slowdown	Jun-05 Slowdown	Jun-10 Slowdown	Jun-15 Recovery	Jun-20 Recession
Jul-95 Slowdown	Jul-00 Slowdown	Jul-05 Slowdown	Jul-10 Slowdown	Jul-15 Recovery	Jul-20 Recovery
Aug-95 Slowdown	Aug-00 Slowdown	Aug-05 Boom	Aug-10 Slowdown	Aug-15 Recovery	Aug-20 Recovery
Sep-95 Slowdown	Sep-00 Slowdown	Sep-05 Boom	Sep-10 Slowdown	Sep-15 Recovery	Sep-20 Recovery
Oct-95 Recession	Oct-00 Slowdown	Oct-05 Boom	Oct-10 Slowdown	Oct-15 Recovery	Oct-20 Boom
Nov-95 Recession	Nov-00 Slowdown	Nov-05 Boom	Nov-10 Slowdown	Nov-15 Recovery	Nov-20 Boom
Dec-95 Recession	Dec-00 Slowdown	Dec-05 Boom	Dec-10 Boom	Dec-15 Recovery	Dec-20 Boom
Jan-96 Recession	Jan-01 Slowdown	Jan-06 Boom	Jan-11 Boom	Jan-16 Recovery	Jan-21 Boom
Feb-96 Recovery	Feb-01 Recession	Feb-06 Boom	Feb-11 Boom	Feb-16 Recovery	Feb-21 Boom
Mar-96 Recovery	Mar-01 Recession	Mar-06 Boom	Mar-11 Boom	Mar-16 Recession	Mar-21 Boom
Apr-96 Recovery	Apr-01 Recession	Apr-06 Boom	Apr-11 Slowdown	Apr-16 Recession	Apr-21 Boom
May-96 Recovery	May-01 Recession	May-06 Boom	May-11 Slowdown	May-16 Recession	May-21 Boom
Jun-96 Recovery	Jun-01 Recession	Jun-06 Boom	Jun-11 Slowdown	Jun-16 Recession	Jun-21 Boom
Jul-96 Recovery	Jul-01 Recession	Jul-06 Boom	Jul-11 Slowdown	Jul-16 Recession	Jul-21 Slowdown
Aug-96 Recovery	Aug-01 Recession	Aug-06 Slowdown	Aug-11 Slowdown	Aug-16 Recession	Aug-21 Slowdown
Sep-96 Recovery	Sep-01 Recession	Sep-06 Slowdown	Sep-11 Recession	Sep-16 Recession	Sep-21 Slowdown
Oct-96 Recovery	Oct-01 Recession	Oct-06 Slowdown	Oct-11 Recession	Oct-16 Recovery	Oct-21 Slowdown
Nov-96 Recovery	Nov-01 Recession	Nov-06 Slowdown	Nov-11 Recession	Nov-16 Recovery	Nov-21 Boom
Dec-96 Recovery	Dec-01 Recession	Dec-06 Slowdown	Dec-11 Recession	Dec-16 Recovery	Dec-21 Boom
Jan-97 Boom	Jan-02 Recovery	Jan-07 Slowdown	Jan-12 Recession	Jan-17 Recovery	Jan-22 Boom
Feb-97 Boom	Feb-02 Recovery	Feb-07 Slowdown	Feb-12 Recession	Feb-17 Boom	Feb-22 Boom
Mar-97 Boom	Mar-02 Recovery	Mar-07 Slowdown	Mar-12 Recession	Mar-17 Boom	Mar-22 Boom
Apr-97 Boom	Apr-02 Boom	Apr-07 Slowdown	Apr-12 Recovery	Apr-17 Boom	Apr-22 Slowdown
May-97 Boom	May-02 Slowdown	May-07 Slowdown	May-12 Recovery	May-17 Boom	May-22 Slowdown
Jun-97 Boom	Jun-02 Slowdown	Jun-07 Slowdown	Jun-12 Recovery	Jun-17 Boom	Jun-22 Slowdown
Jul-97 Boom	Jul-02 Slowdown	Jul-07 Slowdown	Jul-12 Recovery	Jul-17 Boom	Jul-22 Slowdown
Aug-97 Boom	Aug-02 Slowdown	Aug-07 Slowdown	Aug-12 Recovery	Aug-17 Boom	Aug-22 Slowdown
Sep-97 Boom	Sep-02 Slowdown	Sep-07 Slowdown	Sep-12 Recovery	Sep-17 Boom	Sep-22 Slowdown
Oct-97 Boom	Oct-02 Slowdown	Oct-07 Slowdown	Oct-12 Recovery	Oct-17 Boom	Oct-22 Slowdown
Nov-97 Boom	Nov-02 Slowdown	Nov-07 Slowdown	Nov-12 Recovery	Nov-17 Boom	Nov-22 Slowdown
Dec-97 Boom	Dec-02 Slowdown	Dec-07 Slowdown	Dec-12 Recovery	Dec-17 Boom	Dec-22 Slowdown
Jan-98 Slowdown	Jan-03 Recession	Jan-08 Slowdown	Jan-13 Recovery	Jan-18 Boom	Jan-23 Slowdown
Feb-98 Slowdown	Feb-03 Recession	Feb-08 Slowdown	Feb-13 Recovery	Feb-18 Boom	Feb-23 Slowdown
Mar-98 Slowdown	Mar-03 Recession	Mar-08 Slowdown	Mar-13 Recovery	Mar-18 Boom	Mar-23 Slowdown
Apr-98 Recession	Apr-03 Recession	Apr-08 Slowdown	Apr-13 Recovery	Apr-18 Slowdown	Apr-23 Slowdown
May-98 Recession	May-03 Recession	May-08 Slowdown	May-13 Recovery	May-18 Slowdown	May-23 Slowdown
Jun-98 Recession	Jun-03 Recovery	Jun-08 Slowdown	Jun-13 Boom	Jun-18 Slowdown	Jun-23 Recession
Jul-98 Recession	Jul-03 Recovery	Jul-08 Slowdown	Jul-13 Boom	Jul-18 Slowdown	Jul-23 Recession
Aug-98 Recession	Aug-03 Recovery	Aug-08 Slowdown	Aug-13 Boom	Aug-18 Slowdown	Aug-23 Recession
Sep-98 Recession	Sep-03 Boom Oct-03 Boom	Sep-08 Recession	Sep-13 Boom	Sep-18 Slowdown	Sep-23 Recession
Oct-98 Recession		Oct-08 Recession	Oct-13 Boom	Oct-18 Recession	Oct-23 Recession
Nov-98 Recession	Nov-03 Boom	Nov-08 Recession Dec-08 Recession	Nov-13 Slowdown	Nov-18 Recession	Nov-23 Recession
Dec-98 Recession Jan-99 Recession	Dec-03 Boom	lan-09 Recession	Dec-13 Slowdown	Dec-18 Recession	Dec-23 Recession Jan-24 Recession
Feb-99 Recovery	Jan-04 Boom Feb-04 Boom	Jan-09 Recession Feb-09 Recession	Jan-14 Slowdown Feb-14 Slowdown	Jan-19 Recession Feb-19 Recession	Jan-24 Recession
Mar-99 Recovery	Mar-04 Boom	Mar-09 Recession	Mar-14 Slowdown	Mar-19 Recession	
Apr-99 Recovery	Apr-04 Boom	Apr-09 Recession	Apr-14 Slowdown	Apr-19 Recovery	
,		Apr-09 Recession May-09 Recession	'		
May-99 Recovery	May-04 Boom		May-14 Slowdown	May-19 Recovery	
Jun-99 Recovery	Jun-04 Boom	Jun-09 Recovery	Jun-14 Slowdown	Jun-19 Recovery	
Jul-99 Boom	Jul-04 Boom	Jul-09 Recovery	Jul-14 Slowdown	Jul-19 Recovery	
Aug-99 Boom	Aug-04 Slowdown	Aug-09 Recovery	Aug-14 Slowdown	Aug-19 Recession	
Sep-99 Boom	Sep-04 Slowdown	Sep-09 Recovery	Sep-14 Recession	Sep-19 Recession	
Oct-99 Boom	Oct-04 Slowdown	Oct-09 Recovery	Oct-14 Recession	Oct-19 Recession	
Nov-99 Boom	Nov-04 Slowdown	Nov-09 Boom	Nov-14 Recession	Nov-19 Recession	
DEC-44 KOOM	LIEC-LIA ZIUMAUMD	LIEC-LIY KOOM	Dec-14 Recession	Dec-19 Recovery	

Source: BofA European Equity Quant Strategy

Dec-04 Slowdown

Jan-05 Slowdown

Dec-09 Boom

Jan-10 Boom

Dec-14 Recession

Jan-15 Recession

Dec-19 Recovery

Jan-20 Recovery

Dec-99 Boom

Jan-00 Boom



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