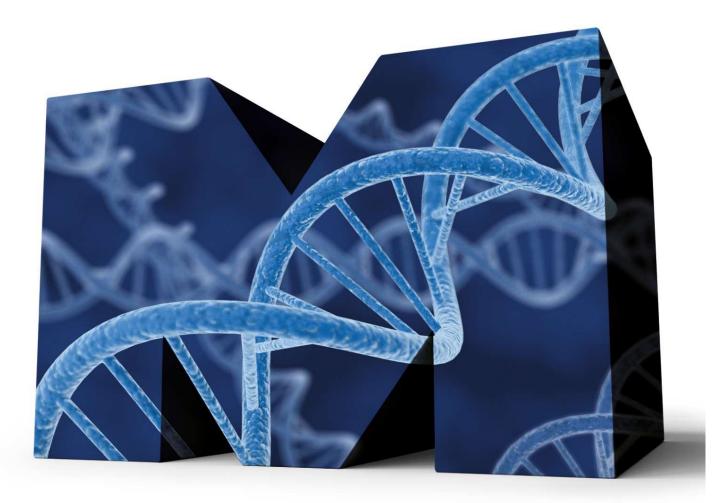


# Man DNA Team Market Radar

Hostile environment 4 September 2024



#### Visit us at: www.man.com/maninstitute/the-road-ahead

Unless stated otherwise, all of the information in this document is as of month end of the issue.

The graphs/charts in this document represent internal valuation models/metrics. These are shown for information purposes only and should not be considered a recommendation for the purchase/sale of a security. Forward-looking judgements are based on current indicators and expectations. They are subject to risks and uncertainties that may cause actual results to differ materially from those implied in the statements.

## Contents





Drivers	of	Market	C	cles

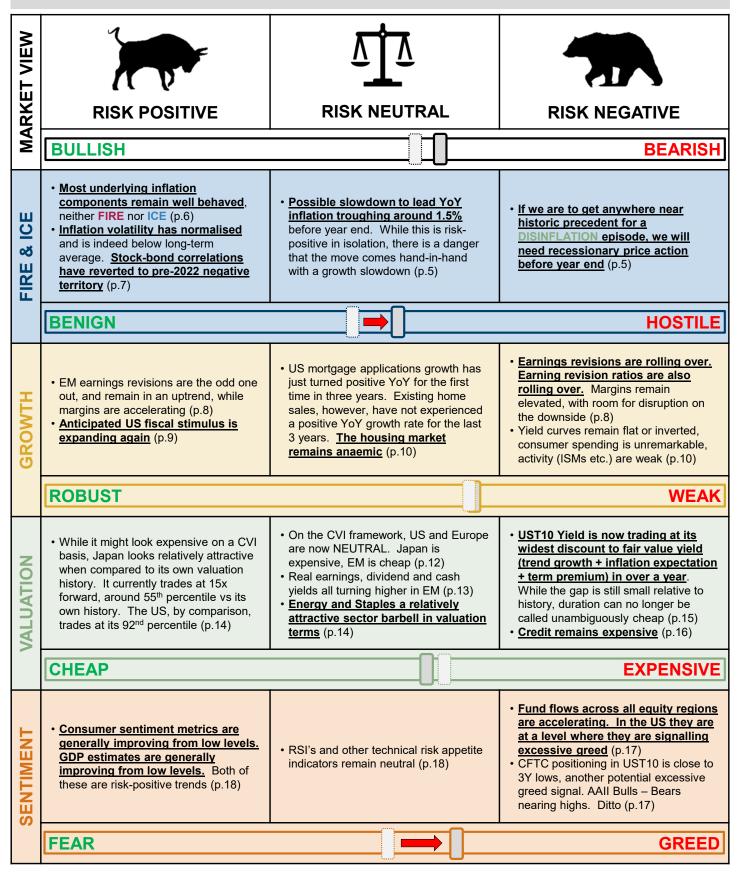
Market phase	воттом	EARLY STAGE RECOVERY	MID STAGE BULL MARKET	PEAK OF BULL MARKET	BEAR MARKET
General vertical (but not horizontal) direction of asset price movements					
Fundamentals	Improving but ignored 20%	Solid underlying performance 30%	Sweet summer of growth 40%	Optimistic, long- duration projections <mark>20%</mark>	Overawareness of deteriorating conditions 30%
Valuation	Attractive, but no takers <mark>20%</mark>	Abundant bargains <mark>50%</mark>	Willingness to pay up <b>30%</b>	Revised models justify stretching <mark>20%</mark>	Shocked recognition of outlandish prices paid 20%
Psychology / Technical	Exhaustion, disbelief, and demoralization 60%	Doubt, reflection, and conversion 20%	Faith, hope, and charity <mark>30%</mark>	Euphoria, greed, and extrapolation <mark>60%</mark>	Fear, panic, and loathing <mark>50%</mark>

Sources: Drivers of the Market Cycle framework devised by David M Darst at Morgan Stanley Private Wealth Management Asset Allocation Group





#### Hostile environment



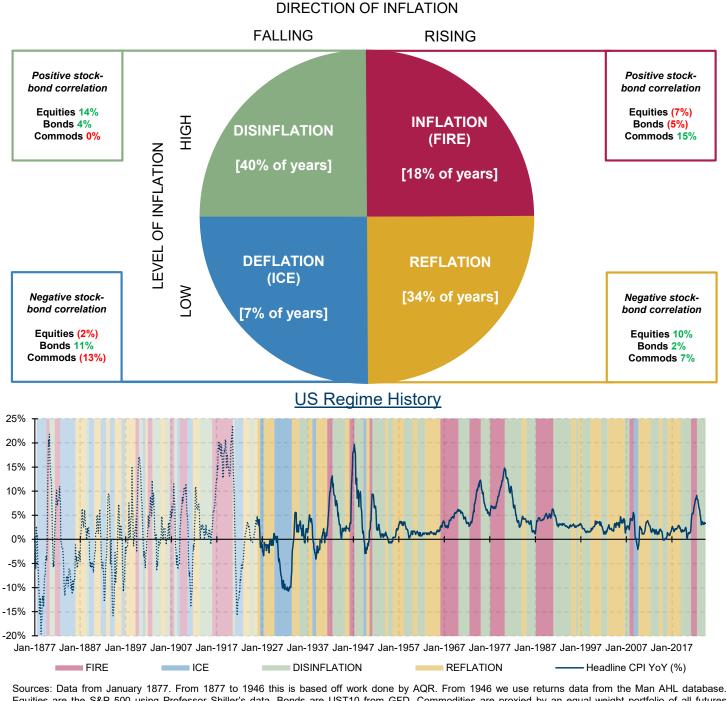
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Sliders are a subjective aggregation of all the metrics across the relevant pages. Further detail available on request. Dashed slider marker indicates the position in Market Radar of 6 months ago

### Fire & Ice – Historic Episodes

Our Fire & Ice framework, based on the level and direction of inflation, informs our tactical asset allocation choices. In ICE output prices fall, profits fall and stock prices fall. Conversely, fixed nominal coupons on bonds become more valuable in real terms and bond prices rise. The stock-bond correlation is negative. When policies are enacted to stimulate growth the regime changes to REFLATION. Pricing expectations rise, profits rise, stocks go up. Bond prices should fall as the NPV of future cash flows falls. The stock-bond correlation is still negative. If stimulus remains in place we can then move into an FIRE regime. The present value of bond coupons falls as inflation eats away future values, yields rise, pushing up the discount rate for cash flows to equity, pushing equity prices down. Stocks and bonds fall together, the stockbond correlation is now positive. Eventually the authorities act to rein in inflation and it starts to decelerate. This precipitates a DISINFLATION regime. It's the opposite of inflation. Stocks and bonds rally together. The stock-bond correlation is positive.

The *Fire & Ice* Framework



Equities are the S&P 500 using Professor Shiller's data. Bonds are UST10 from GFD. Commodities are proxied by an equal weight portfolio of all futures contracts as they appear through history. Inflation from Professor Shiller's database. Inflation from Professor Shiller's database. Inflation regimes defined by the DNA team according to the following rules. FIRE: where CPI YoY moves above 2%, through 5% and peaks. ICE: where CPI moves below 1%, then below -1%, ending either at the trough, or where it goes back through -4%. DISINFLATION: where CPI is falling on a trailing 12 month basis, and is not either FIRE or ICE. Also assume that DISINFLATION cannot follow ICE. REFLATION: where CPI is rising on a trailing 12 month basis, and is not either FIRE or ICE. Also assume that REFLATION cannot follow FIRE.

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### Fire & Ice – Historic Returns

Our research has pointed to Inflation as being the critical driver of asset returns and interactions. Inflation regime identification is the starting point of our investment process. Here we show the historical returns to various assets in the four inflationary regimes

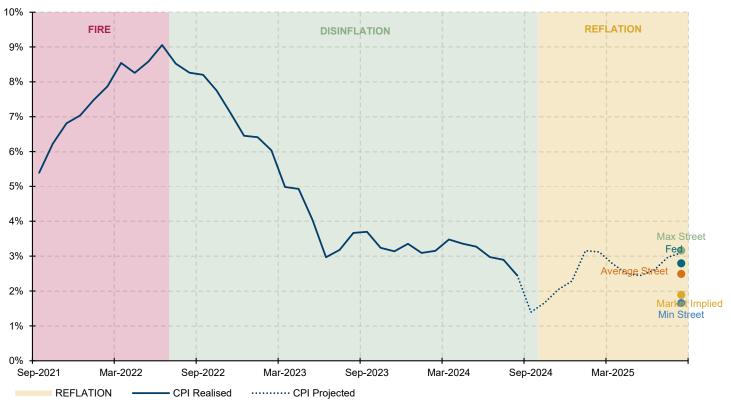
#### US Aggregate Regime Performance (Returns are Real Annualised) **BD DURATION SINCE 1926 BD DURATION SINCE 1926** EQ SECTORS EQ SECTORS UST 30: 4% UST 10: 4% UST 30: (8%) UST 10: (5%) Equities: 14% Bonds: 4% Equities: (7% Bonds: (5%) Staples: <mark>(6</mark>% Staples: 14% Disc.: 22% Disc.: (15%) UST 2: (3%) UST 2: 2% 60/40: 10% 60/40: (6%) Manu: (8%) Manu: 14% TIPS: 2% TIPS: 2% Commod: 0% Commod:15% Energy: 10% Energy: 1% Chems.: 14% FULL HIST. FULL HIST. Chems.: (6%) CREDIT CREDIT Tech: 16% Equities: 12% Equities: (8%) Tech: (9%) IG: 5% IG: (7%) Comms: (7%) Comms: 13% Bonds: 4% Bonds: (7%) HY: 6% HY: (7%) Utils: (9%) Utils: 13% 60/40 9% 60/40 (7%) Retail: 18% Retail: (9%) Commod: 2% Commod: 13% COMMOD. GROUPS COMMOD. GROUPS Health: (1%) Health: 12% Industrials: (6% Precious: (4%) Industrials: 199 Precious: 11% Fins: 17% Fins: (9%) Agris: 9% Softs: 8% Agris: (1%) EQ L/S STYLES EQ L/S STYLES Softs: 1% Small Size: 29 Small Size: (4%) Livestock: 0% Livestock: 7% Value: (1%) Value: 3% Energies: (9%) Energies: 31% Profitability: (1%) Profitability: 3% DIRECTION OF INFLATION Cons. Invest.: 2% Cons. Invest.: 2% Trend: 15% Trend: 25% XS Mom.: 8% XS Mom.: 7% Gold: (4%) Gold: 13% RISING Quality: 3% FALLING Quality: 3% Wine: 3% Wine: 5% Low Beta: 12% Low Beta: (3%) Resi RE: 3% Resi RE: (2% CPI moves from 6% to 2% CPI moves from 2% to 11% Over full time period from 7% to 2% Over full time period from 2% to 13% DISINFLATION FIRE HIGH 40% of time 18% of time 2% avg. inflation 10% avg. inflation **-EVEL OF INFLATION** 4% avg. growth 4% avg. growth Numbers for full time period: Numbers for full time period: 34% / 1% / 3% 19% / 12% / 5% ICE **REFLATION** 34% of time 7% of time (3%) avg. inflation 2% avg. inflation LOW (3%) avg. growth 4% avg. growth Numbers for full time period: 32% / 2% / 4% Numbers for full time period: 15% / (5%) / 0% CPI moves from 2% to (4%) CPI moves from 0% to 2% Over full time period from 3% to (5%) Over full time period from (1%) to 2% BD DURATION UST 30: 13% UST 10: 11% BD DURATION UST 30: 3% EQ SECTORS EQ SECTORS Staples: 89 Disc.: 6% Staples: 99 Disc.: 6% UST 10: 2% UST 2: 5% UST 2: 1% Manu: (7%) Manu: 11% TIPS: 2% TIPS: 4% Energy: (7%) Energy: 10% Chems.: 3% Chems.: 10% CREDIT CREDIT Tech: (9%) Tech: 13% IG: 13% HY: 7% IG: 5% HY: 7% Comms: (1%) Comms: 8% Utils: (5%) Utils: 9% Retail: (1%) Retail: 8% COMMOD. GROUPS COMMOD. GROUPS Health: 11% Health: 7% Industrials: (27%) Precious: (14%) Industrials: 22 Fins: (11%) FULL HIST. FULL HIST Fins: 9% Precious: 4% Equities: 14% Equities: 8% Agris: (1%) Softs: (7%) Agris: (22%) EQ L/S STYLES Bonds: 2% Bonds: 12% EQ L/S STYLES Softs: (8%) 60/40: 14% Small Size: 14 60/40:6% Small Size: (2 Livestock: (34%) Livestock: 7% Commod:(7%) Commod: 6% Value: 9% Value: 0% Energies: 20% Energies: (57%) Profitability: 11% Profitability: 1% SINCE 1926 SINCE 1926 Cons. Invest.: 3% Cons. Invest.: 1% Trend: 18% Equities: (2%) Trend: 13% Equities: 10% XS Mom.: (14%) XS Mom.: 4% Gold: 5% Bonds: 2% Gold: 2% Bonds: 11% Quality: 14% Quality: 1% 60/40: 7% Wine: 9% Wine: 29 60/40: 5% Low Beta: (3%) Low Beta: 5% Resi RE: 0% Commod:(13%) Commod:7% Resi RE: 1%

All returns are total return. Sources: Equities are the S&P 500 using Professor Shiller's data. Bonds are UST10 from GFD. 60/40 is the monthly rebalanced 60% equity, 40% bonds portfolio. Commodities are proxied by an equal weight portfolio of all futures contracts as they appear through history. From 1877 to 1946 this is based off work done by AQR. From 1946 we use returns data from the Man AHL database. Sectors are the based off the 12 Fama-French industry portfolios. Similarly styles are the Fama-French portfolios (SMB, HML, RMW, CMA and Mom. Respectively), apart from Quality and Low Beta which are AQR (QMJ and BAB). Duration returns from GFD. TIPS prior to 1997 based off a backcast by William Marshall at Goldman Sachs, otherwise Bloomberg. Credit portfolios constructed by the DNA team from data provided by Morgan Stanley. Wine returns from Credit Suisse to 2001, and then the Liv-Ex 100 Fine Wine benchmark. Residential RE is based of the Case-Shiller index. For further details on regimes and asset returns, please see our paper, *The Best Strategies for Inflationary Times*, available here: <a href="https://papers.ssrn.com/abstract=3813202">https://papers.ssrn.com/abstract=3813202</a>

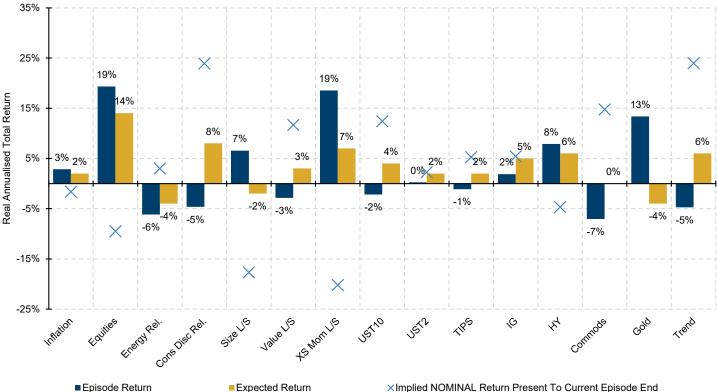
## Fire & Ice – Current Episode

The top half of this page shows our model for forecasting inflation over the next 12 months. We indicate the likely Fire & Ice episode according to the framework set out on p.3. The bottom half shows, in blue, return for the current episode, and in yellow, that which has been realised for that episode historically. This gives some indication of the major multi-asset discrepancies

#### DNA Model For Projecting Headline Inflation (With Assessment Of Likely Episode)



#### ATION Episode Versus Historic Average For This Episode Performance In Current DISINFL



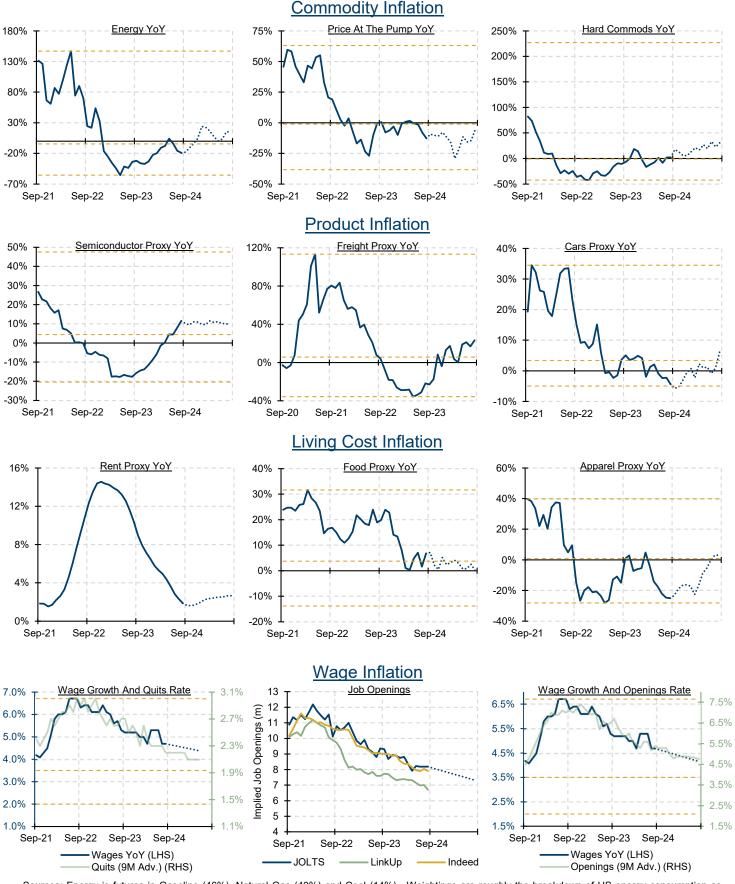
Expected Return

×Implied NOMINAL Return Present To Current Episode End

Sources: (TOP) DNA Inflation Projection Model uses the following inputs: commodities futures curves, semiconductor prices (DRAM 8Gb 1Gx8 3200 MHz and NAND 128Gb 3D TLC NAND), forward sales estimates for semis manufacturers, food and clothing retailers and logistics businesses, Zillow and ApartmentList rent estimates, Baltic Dry shipping futures, Manheim used car prices, JOLTS Quits and Opening Rates and alternative job openings measures from LinkUp and Indeed. (BOTTOM) Historic returns use indices as per the footnote on p.4. Asset returns for the current DISINFLATION episode (starting end June 22) calculated as follows: overall and sector equities are S&P 500, factor L/S are Goldman Sachs US baskets (note Size is long large cap, short small cap), all bonds are the relevant Bloomberg Barclays index, commodities is the Bloomberg All Commodities Index (including roll), Gold is near end gold futures (inc. roll), Trend is the Soc. Gen. CTA index. We apply a haircut (50% of the excess return) to the historic realised Trend figures. **FIRE & ICE** 

### **Inflation Components**

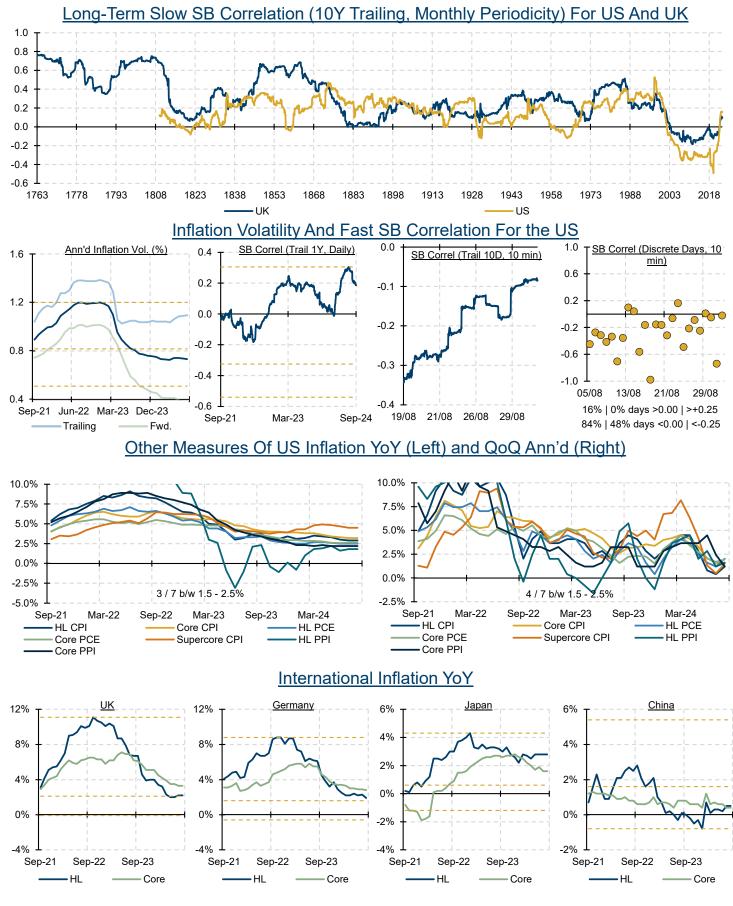
This page shows a variety of indicators we use to understand the pathway of future US inflation. The dashed portion of the blue lines show a future projection, where an estimator exists. The horizontal yellow dashed lines indicate the trailing 10 year maximum, median and minimum



Sources: Energy is futures in Gasoline (46%), Natural Gas (40%) and Coal (14%). Weightings are roughly the breakdown of US energy consumption as reported by the EIA. Price @ Pump taken from the American Automobile Association. Hard Commods is an equal weighted basket of Copper, Lumber and Steel futures. Semiconductor Proxy combines actual prices with estimated sales of the MVIS Semis index. Food Proxy combines an equal weight basket of Wheat, Cattle, Sugar, Orange Juice and Coffee, with estimated sales of the S&P Food Retailing Index. Apparel Proxy combines cotton prices with estimated sales of the S&P Textiles index. Rent Proxy combines house prices (Case-Shiller) with rental estimates (Zillow and ApartmentList)

## **SB** Correlation And International Inflation

We believe there is a link between Fire & Ice episode and the stock-bond (SB) correlation. One facet of this link is inflation volatility; historically where it rises SB correlation has tended to move up. Here we show various measures of the SB correlation, along with the volatility of inflation. We also show other inflation measures for the US, as well as international gauges



**FIRE & ICE** 

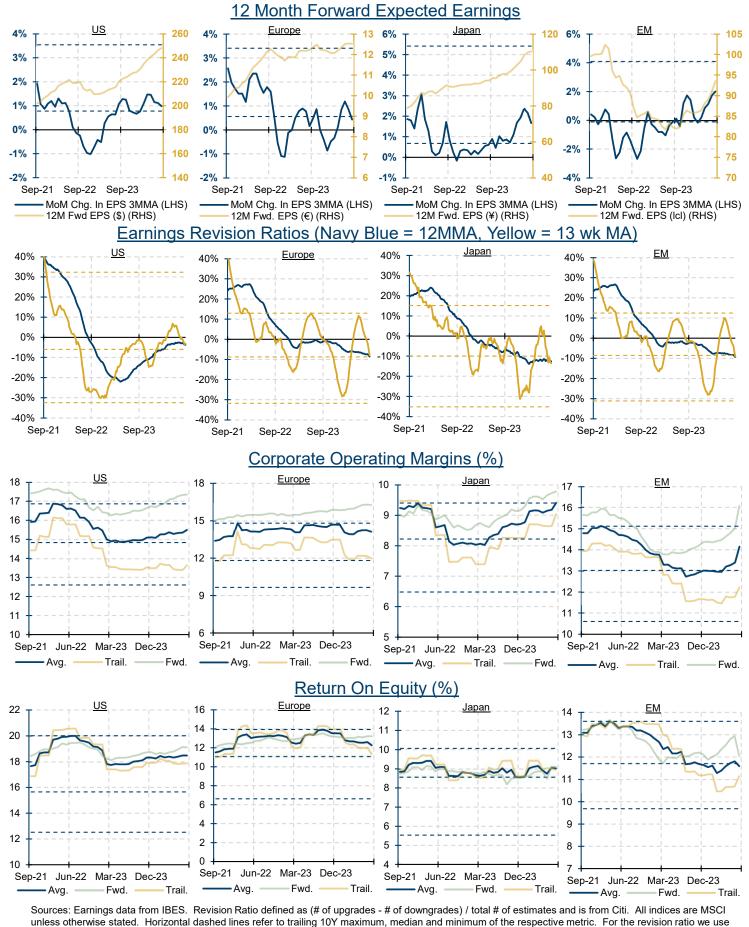
## Sources: Long term data comes from Bank of England and Global Financial Data. Otherwise all Bloomberg. Hor international inflation charts are the trailing 10Y maximum, median and minimum levels

erg. Horizontal dashed yellow lines in the

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## Profitability

The best growth environment tends to be one where margins are washed out (the level is low) but earnings are beginning to be revised upward. In other words the 'Early Stage Recovery' per the schematic on p.1



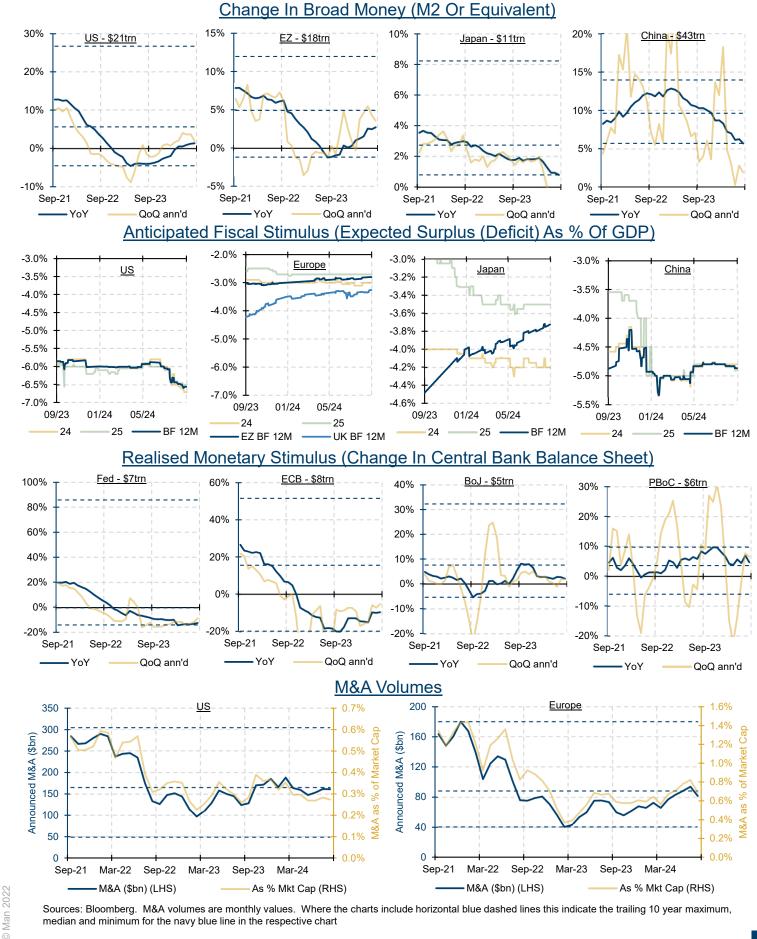
90<sup>th</sup>-50<sup>th</sup>-10<sup>th</sup> percentiles instead. The y-axis for earnings growth (top row) is cut off such that the minimum cannot be seen, in the interests of legibility

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**FUNDAMENTALS** 

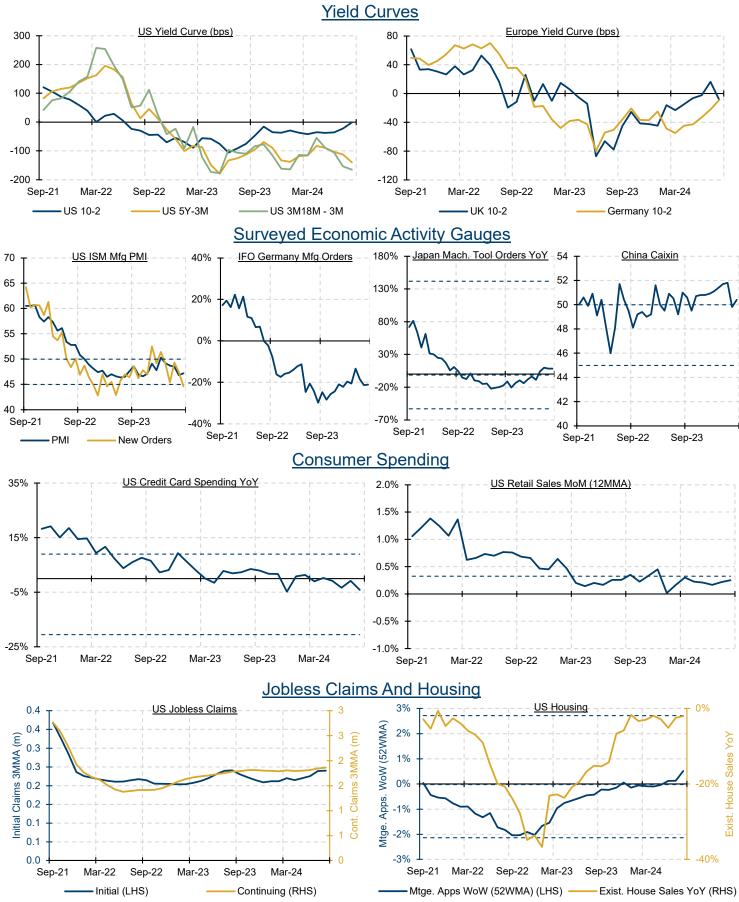
## Liquidity

This page shows money growth (top row) and two of its principal components: fiscal (second) and monetary policy (third). The final row shows M&A volumes to give a sense of how quickly liquidity is flowing around economies. All else equal, we would expect more liquidity = more growth = better environment for taking risk



Sources: Bloomberg. M&A volumes are monthly values. Where the charts include horizontal blue dashed lines this indicate the trailing 10 year maximum, median and minimum for the navy blue line in the respective chart

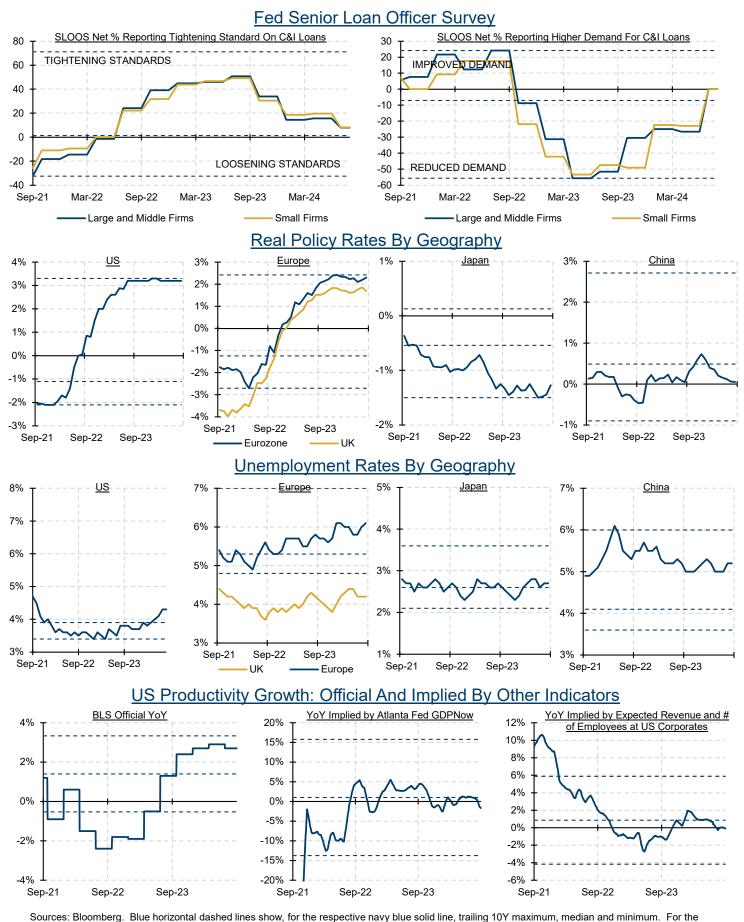
#### Activity Various metrics we watch to give a forward read on general economic activity



Sources: Bloomberg. Credit card spending data from Consumer Edge. Blue horizontal dashed lines show, for the respective navy blue solid line, the trailing 10Y maximum, median and minimum. The only exceptions to this are the US ISM Mfg. PMI and the China Caixin PMI, where we just show 2 dashed blue lines representing the 50 level that separates economic expansion from contraction, and the 45 level which has been historically consistent with recession **FUNDAMENTALS** 

### Credit And Labour Availability

Easier lending standards, low and falling real rates, falling unemployment rates and rising participation rates, all augur for better fundamental growth. And vice versa. We also watch productivity, both the official data and two more real time metrics

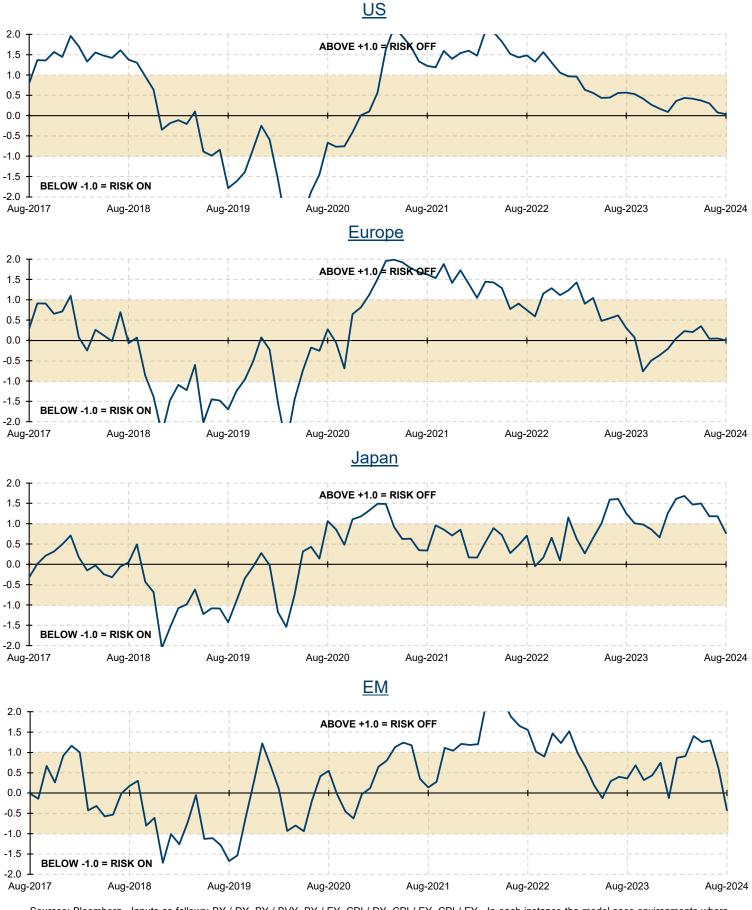


unemployment rates, instead of the median we show min + 50bps, reflecting the traditional recession heuristic (albeit the actual rule is +50bps from cycle low, not the trailing 10Y). Where only 2 horizontal lines can be seen we have cut off the y-axis so the maximum cannot be seen, in the interests of legibility

**FUNDAMENTALS** 

## Composite Valuation Indicator (CVI)

The CVI measures the extent to which valuation conditions are supportive of higher levels of risk-taking. Where equity yields are high relative to bond yields and inflation the model will be risk-on, and vice versa. Detailed inputs follow on the next page

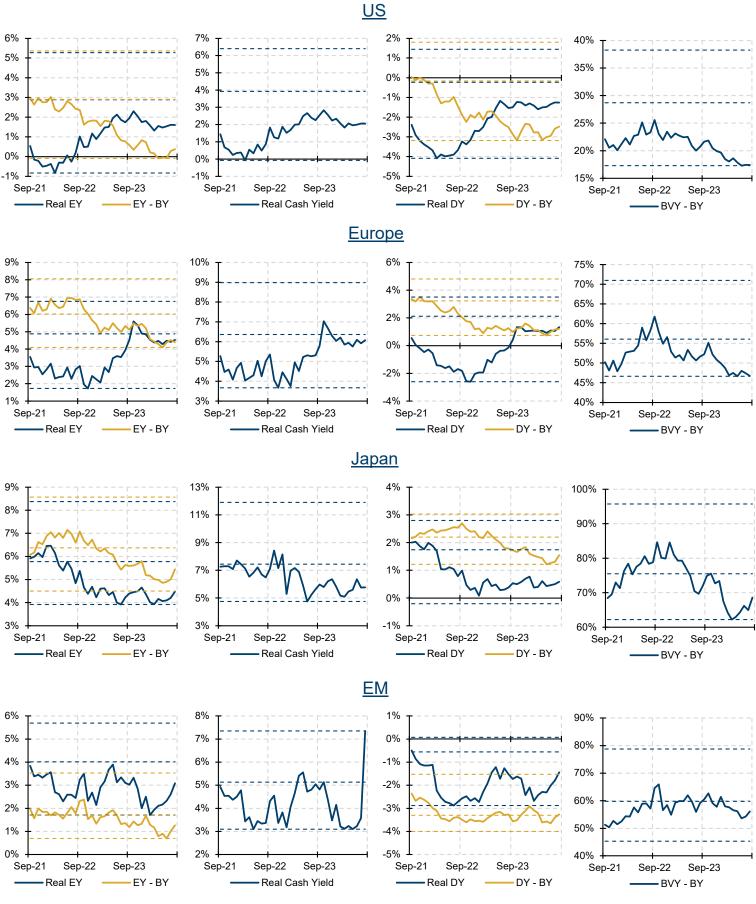


Sources: Bloomberg. Inputs as follows: BY / DY, BY / BVY, BY / EY, CPI / DY, CPI / EY, CPI / EY. In each instance the model sees environments where equity yields are high relative to bond yields and inflation as being propitious for risk taking, i.e. a low reading on the charts above, and vice versa. All indices are MSCI

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## **CVI Inputs**

This page shows the inputs that go into the CVI model. Each chart shows, for the given geography, a flavour of earnings yield discounted by either the bond yield or inflation

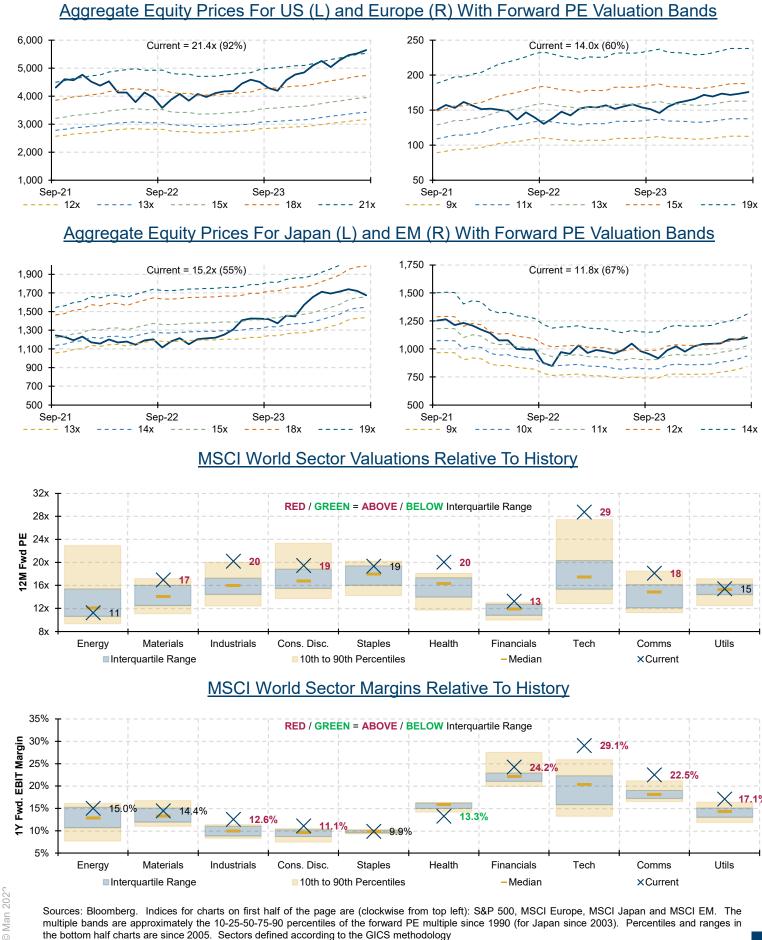


EY, CY and BVY are averages of trailing and 12 month forward yields. DY is pure forward. To calculate real values we use the average of headline CPI YoY and the 5Y5Y breakeven swap. Bond yields are those on the geographically relevant 10 year. All indices are MSCI

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## **Other Equity Valuation Indicators**

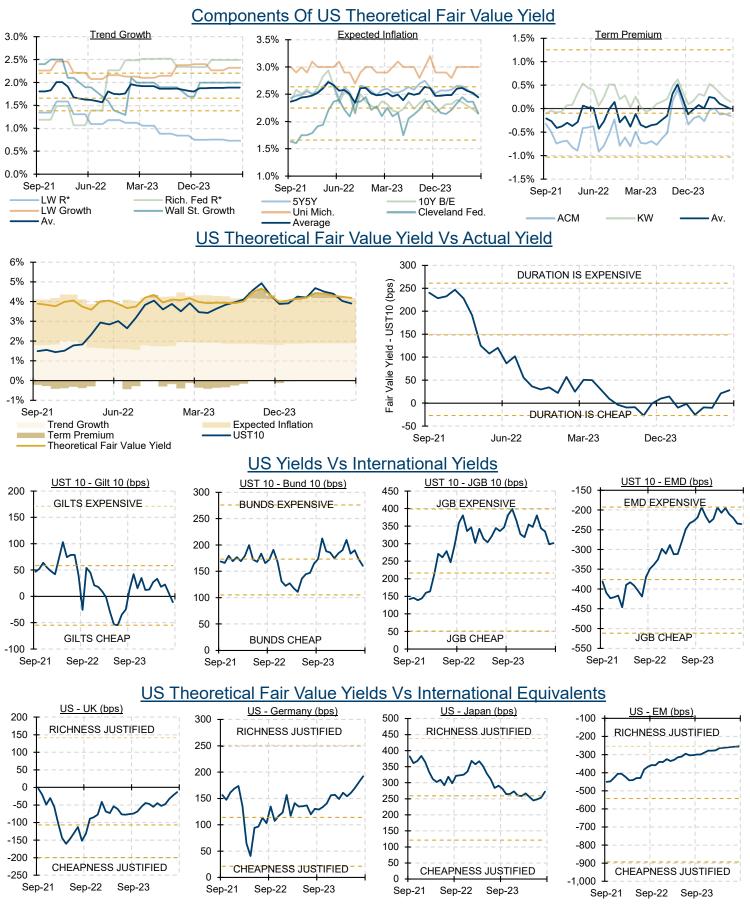
This page shows some other ways of thinking about valuation. The top half shows different equity geographies, where they trade now, and where they would trade if the multiple was at different levels. The second half of the page looks through a sector lens, and details forward multiples and expected margins



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## **Duration Valuation**

In the top half of the page we compare the UST10 yield against the theoretical yield comprised of trend growth + expected inflation + term premium. In the bottom half we compare US yields to international yields, and the extent to which the spread is justified by relative theoretical fair value spreads



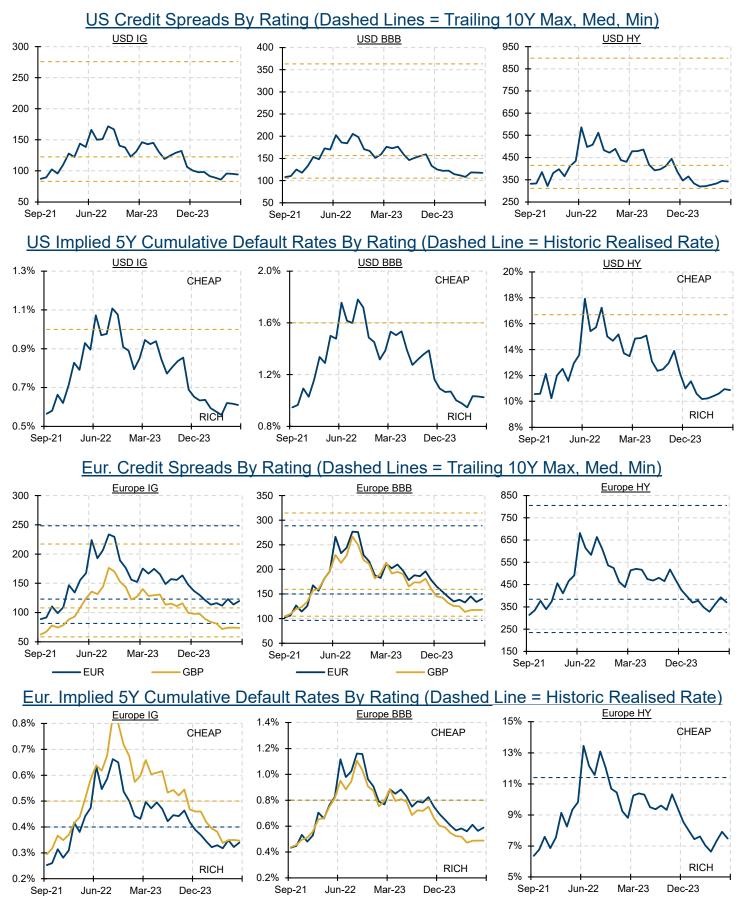
Sources: Bloomberg. When summing the components of US theoretical fair value yield we use the average of the various metrics we identify for each component. When comparing US theoretical fair value yields to international peers, we make the simplifying assumption that the term premium is the same for the US and the comparator geography. Horizontal dashed yellow lines are the trailing 10Y maximum, median and minimum

VALUATION

### **Credit Valuation**

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We monitor credit spreads against their prior 10 year history (first and third rows), as well as looking at what default rate that credit spread implies (based on a 40% recovery rate), relative to long term realised default rates (second and fourth)

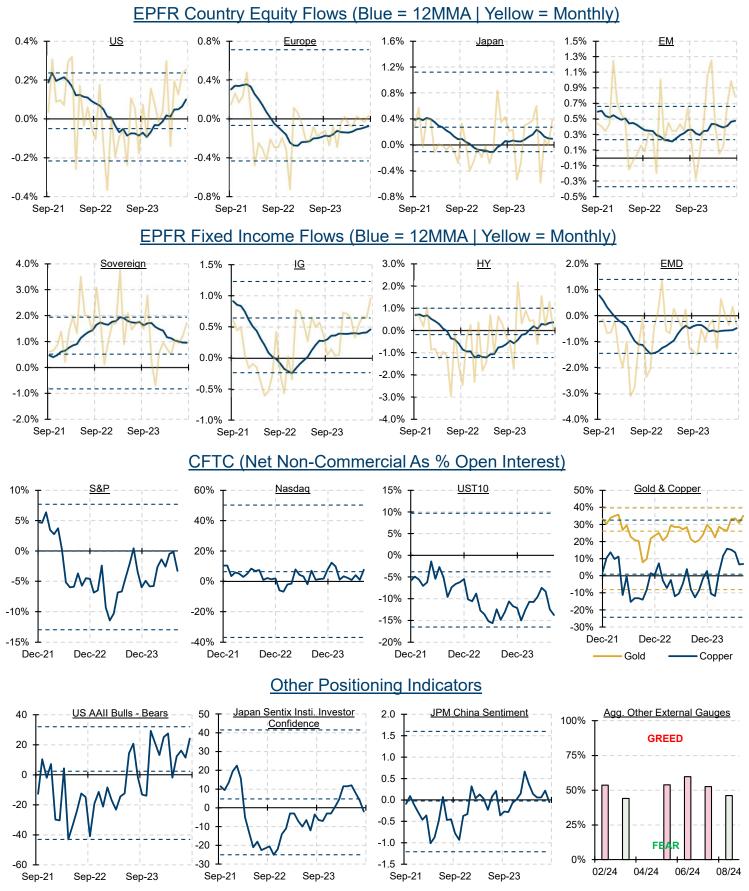


Calculating implied default rates: 1 – Solve for the spread that would equalise the implied default rate with the average realised default rate, per the formula in Step Four. 2 – Find the average spread the segment has traded at through history. 3 – Take the answer from (1) and divide it by that for (2) to calculate the % of the spread which is compensating for 'Default' risk. Assume 'Downgrade' risk is the remainder. 4 – Calculate annual implied default rate as 'Default' spread / (1 – recovery rate). To get the cumulative we do 1 – e ^ (- annual implied default rate \* index maturity). We then scale this to 5 years **VALUATION** 

VALUATION

## Positioning

In general, we view very light positioning as indicative of overly fearful sentiment and a buying opportunity. And vice versa. We view light positioning where flows are starting to turn up as particularly propitious and, again, the opposite is also the case

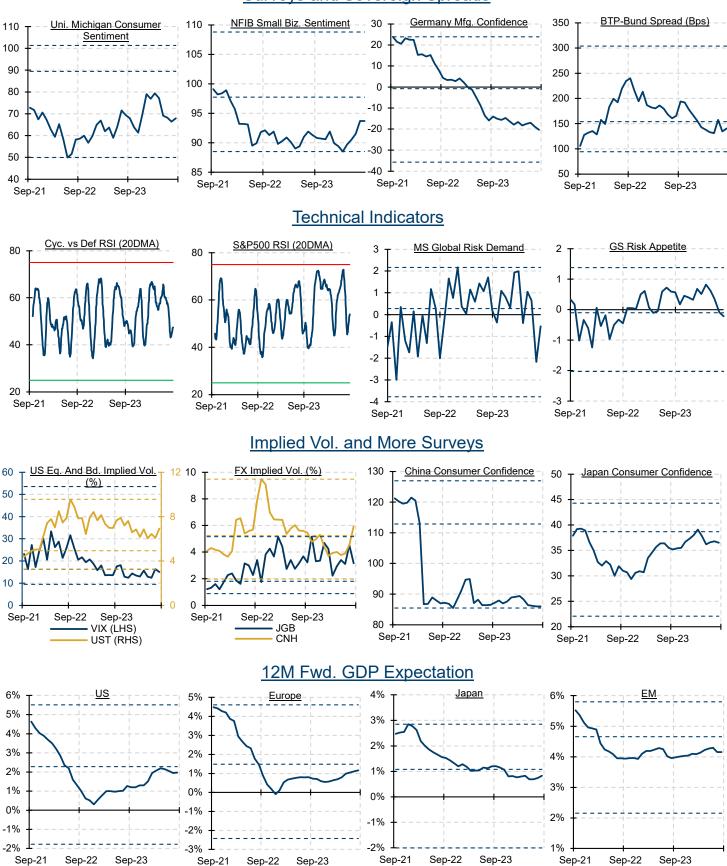


Sources: EPFR, CFTC, Bloomberg. Agg Other External Gauges combines BAML Bull & Bear and BAML Fund Manager survey (with kind permission) with the Morgan Stanley prime brokerage data

SENTIMENT

## Sentiment

Various measures for getting a view on market sentiment



Sources: Bloomberg. Germany manufacturing confidence as measured by the EU Commission. Japan Consumer Confidence uses an index from the Economic and Social Research Institute of Japan. China Consumer Confidence comes from the Chinese National Bureau of Statistics. Where only 2

Surveys and Sovereign Spreads

SENTIMENT

dashed lines can be seen the MIN is cut off for sake of legibility

# Performance Summary



	August 2024		Performance (%chg)				
	Perf. (% chg)	Zscore	YTD	1Y	3Y		
		EQUITY					
Geography (Local FX)							
DM	1.9	0.2	15	22	23		
EM	0.4	0.1	11	14	-1		
US	2.4	0.3	16	24	23		
	1.0	0.0	11	16	34		
Europe (ex-UK)	1.4	0.2	11	16	15		
Japan	0.5	0.0	14	20	9		
Style (Long/Short) Value	-4.1	-1.4	0	7	25		
Growth	-4.1	0.7	4	1	-23		
Mom.	3.7	0.3	38	47	89		
(Large) Size	1.3	0.3	2	6	17		
Risk	-5.3	-1.5	0	-1	-8		
Quality	1.3	0.2	4	6	34		
Cyc. vs Def.	-2.1	-0.9	4	3	13		
Sector (US - S&P 500)		010		•			
Energy	-1.7	-0.5	9	1	109		
Materials	2.4	0.3	9	14	15		
Industrials	2.8	0.3	13	22	27		
Cons. Disc.	-1.0	-0.2	5	12	4		
Cons. Staples	5.9	1.3	18	21	25		
Health Care	5.1	1.0	16	21	20		
Financials	4.5	0.6	21	34	24		
Tech	1.2	0.0	21	31	50		
Comm. Services	1.2	0.1	20	30	5		
Utilities	4.9	0.8	22	28	21		
Real Estate	5.8	0.8	11	24	-1		
		FIXED INCOME					
DM Gowies	2.6	1.1	1	7	-16		
EMD Ext.	2.3	0.8	6	13	-4		
EMD Loc.	3.1	1.0	1	7	-6		
USD IG	1.6	0.6	4	11	-6		
USD HY	1.6	0.6	6	13	7		
TIPS	0.8	0.4	4	7	-4		
Converts	1.4	0.4	4	8	-8		
		COMMODS					
BBUXALC	-0.6	-0.1	-2	-9	-5		
Oil (Brent) \$73 per barrel	-2.4	-0.3	-5	-19	1		
Nat. Gas \$2.19 per MMBtu	4.5	0.2	-13	-15	-54		
Copper \$4.00 per lb	-0.8	-0.2	3	5	-8		
Gold \$2,491 pertoz	3.2	0.6	20	29	36		
Wheat \$5.52 per bushel	1.0	0.2	-12	-4	-23		
Sugar \$0.19 per lb	2.3	0.3	-5	-27	-1		
Lean Hogs \$0.83 per lb	-10.9	-1.1	21	-1	-8		
¢0.00 por IN	1010	FX	<u> </u>	· · · · · · · · · · · · · · · · · · ·	<u> </u>		
DXY	-2.3	-1.2	0	-3	10		
EMFX	0.2	0.4	-5	-4	-20		
GBP 1.31 (\$ per £)	2.1	0.9	3	4	-5		
JPY 145 (JPY per \$)	2.6	0.9	-3	2	-24		
EUR 1.11 (\$ per £)	2.0	1.0	0	3	-7		
AUD 1.49 (AUD per \$)	3.4	1.1	-1	5	-10		
Bitcoin 56,532 (\$ per XBT)	-8.7	-0.6	33	120	-10		
	-0.7	OTHER		120	3		
US 60/40 2.0 0.4 11 18 12							
Trend	-4.5	-1.3	1	-3	24		
попа	-4.0	-1.5	I.	-0	24		

Source: Bloomberg, Man DNA. Z scores based on 3 year lookback, monthly periodicity. Style indices are US L/S (top/bottom quintile) constructed by Goldman Sachs. The organizations and/or financial instruments mentioned are for reference purposes only. The content of this material should not be construed as a recommendation for their purchase or sale. Past performance is not indicative of future results.

# Biographies



#### Henry Neville

Portfolio Manager

Henry Neville is portfolio manager within Man Group's multi-asset offering. Henry joined Man Group in 2016. Prior to this, he completed the graduate program at Hoares Bank. Henry studied History and Economics at St. Andrew's University. He is also a CFA charterholder.

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