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Flows & Liquidity

How much upward pressure on global bond yields from tech bond issuance?

- **While there has been an increase in the duration impulse of corporate issuance, in the context of overall net issuance of bonds globally the $260bn increase in net bond issuance by tech companies for 2026 looks manageable and on our calculations it would put perhaps 10-15bp of upward pressure on Global Agg bond index yields.**
- **Similar to April 2024, this month's weakness in equity fund flows is likely to prove short lived.**
- **Momentum signals reach more extreme territory for 10y Bunds and 10y OATs vs. Bunds.**
- **While we recognize that other factors might also affect the bitcoin and gold trajectories going forward, from a positioning point of view, the more elevated short interest in the IBIT vs. GLD ETF could create more support for bitcoin vs gold from here if hedging demand is reduced.**

Global Markets Strategy

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Cross Asset Fund Flow Monitor

Current level shows the latest percentile of weekly flows; Min is denoted by 0 and Max by 1. As of 9th Sept 26.

MF & ETF Flows	Min	Max	4 wk avg ($bn)	2025 avg ($bn)
All Equities			7.2	8.1
All Bonds			8.9	11.3
US Equities			-2.6	3.5
US Bonds			5.6	4.3
Non-US Equities			9.7	4.6
Non-US Bonds			3.3	7.0
US HG Bonds			7.4	3.4
US HY Bonds			-0.6	0.4
US Lev. Loans *			0.5	0.0
US MMFs			[illegible]	4.0
EM Equities			0.2	0.9
EM Bonds			0.82	0.50
Japan Equities			0.8	-0.1
China Equities			-0.18	-0.15
Europe				
Europe Equities			1.5	0.9
Europe Bonds			[illegible]6	4.3
Europe HG Bonds			-0.4	0.9
Europe HY Bonds			-0.03	0.17
Europe MMFs			8.5	3.8
Other Equities			7.45	3.00

Source: Lipper, ICI, Bloomberg Finance L.P. and J.P. Morgan Flows & Liquidity.
* US LL historical flows are monthly averages converted to weekly for comparison. China onshore A-share ETFs have been excluded.

Cross Asset Positioning Monitor

Current level shows the latest percentile, Min is denoted by 0 and Max by 1.

As of 15-Sep-26	MIN	MAX	Current percentile
Equities			0.75
Govt Bonds			0.55
Credit			0.21
Dollar			0.49
Commodities ex Gold			0.87
Gold			0.45
Bitcoin			0.73
EM Equities			0.71
EM Bonds/FX			0.26
Japan Equities			0.51
Europe Equities			0.66
US Equity Sectors:			
Energy			0.76
Materials			0.50
Industrials			0.34
Discretionary			0.53
Staples			0.25
Health Care			0.42
Financials			0.26
Technology			0.57
Communication Services			0.34
Utilities			0.32

Source: J.P. Morgan Flows & Liquidity.
Cross Asset Positioning Monitor aggregates across the various position indicators of Appendix ranging from positioning proxies across various futures contracts, momentum signals as proxies of how trend-following funds/ CTAs are positioned, mutual fund betas as proxies of how mutual fund managers are positioned, risk parity fund positioning and leverage proxies, hedge fund betas as proxies of how hedge fund managers are positioned, client surveys, asset allocation estimates of private non-bank investors at global level, short interest indicators, etc.

See page 26 for analyst certification and important disclosures.

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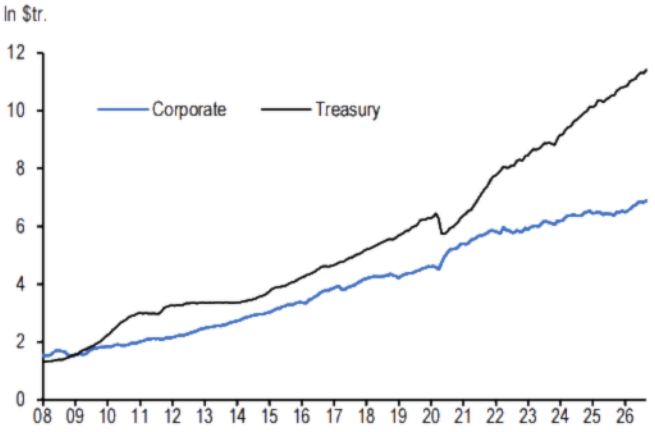
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- The question of supply of AI related debt and whether it is putting upward pressure on bond yields has been a regular feature in our conversations. In a sense, it is related to the question of how much of the rise in real bond yields has been related to a re-assessment of long-term growth prospects on greater optimism for productivity growth from these investments vs. term premia we looked at last week (F&L, Sep 9th), but from a flow perspective. We focus below on the bond issuance component, given that the duration impulse from leveraged loans and private credit is typically rather modest.
- One way to put the increases in supply into context is to take a holistic approach and look at the duration impulse embedded in the evolution of the stock of outstanding bonds. To do this, we look at the notional outstanding stock of bonds in the US Agg and EuroAgg indices, split by corporate and government bonds. We then convert them to 10y equivalents by multiplying the stock of notional outstandings with the ratio of the duration of the index and the duration of 10y USTs and Bunds, respectively.
- Figure 1 shows this for the US Agg corporate and Treasury indices. This suggests that corporate duration supply in 10y equivalent terms has shown a relatively flattish impulse in 2024 and 2025, and that there has been a notable increase in that duration impulse in 2026 to-date. This comes against the backdrop of a notable increase in HG corporate net supply from around $615bn in 2025 to our forecast of nearly $1tr of net supply in 2026. In addition, as our colleagues in credit research have noted, longer-end issuance from hyperscalers has been a driver (Credit Markets Outlook and Strategy, Sep 11th). By comparison, the duration impulse embedded in the notional outstanding stock of Treasury bonds has increased relatively steadily both in 2025 and in 2026. In terms of proportions, of the combined duration impulse in the corporate and Treasury indices, the corporate index accounted for less than 10% in 2025 and around 40% in 2026. In other words, while the duration impulse of corporates has clearly increased, Treasuries continue to account for the majority of the combined duration impulse.

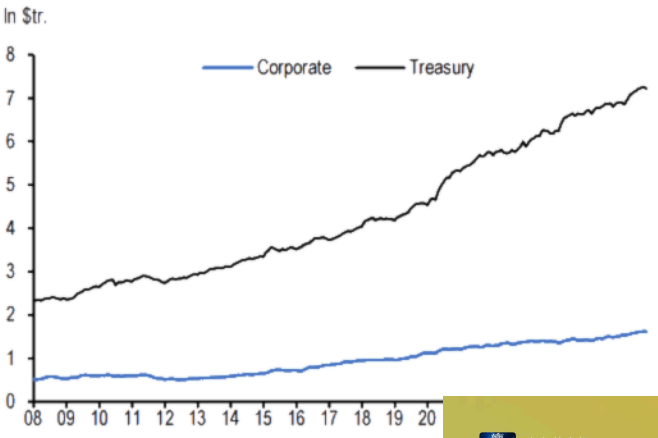
Figure 1: Notional outstanding amounts in US Agg Treasury and corporate indices in 10y UST equivalent terms



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- Figure 2 shows the same breakdown for the EuroAgg corporate and Treasury indices. It suggests a relatively steady increase in the duration impulse of corporate bonds in 2025 and 2026 to-date, though given the shorter average duration of corporate bonds in the EuroAgg index the overall impulse is clearly lower relative to the impulse in the Treasury index. The duration impulse for the Treasury index, by contrast, has increased somewhat this year relative to last year. In terms of proportions, the corporate index accounted for around 40% of the combined duration impulse in 2025, but this proportion has decreased to around 20% in 2026 to-date.

Figure 2: Notional outstanding amounts in Euro Agg Treasury and corporate indices in 10y Bund equivalent terms



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- Another way to put it into context is t
tech sector net bond issuance impulse
For the US tech sector net bond issua
around $140bn in 2025 for HG and H

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casts for 2026 now suggest around $335bn for 2026, suggesting a net increase of around $200bn in 2026 vs. 2025. For European HG and HY, our strategists do not track net issuance by sector, but gross tech issuance looks to be tracking just over €90bn annualized based on YTD vs. full year issuance patterns last year. This compares to around €35bn in 2025. With the vast majority of the increase this year likely net, this suggests an increase in net issuance of around €55bn, or close to $60bn, taking the increase in the combined tech net issuance to around $260bn this year vs. 2025.

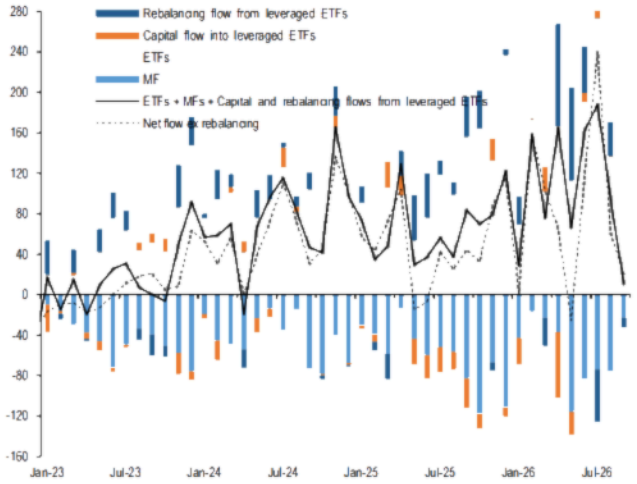
- This $260bn increase in net issuance is relatively modest in the context of the overall net issuance of bonds globally, which in our global bond supply/demand analysis (F&I., Jun 24th) we estimated to be around $4.9tr. Moreover, from this analysis the relationship between annual changes in the excess supply (the difference between supply and demand) and Global Agg index yields implies that a $260bn deterioration in the supply/demand balance would put around 10-15bp of upward pressure on Global Agg yields. In principle, an argument can be made to take into account changes in policy rate expectations in the regression and look at the partial beta of the excess supply to changes in Global Agg yields. Given policy rates can influence the excess bond supply, effectively a measure of net demand for bond capital, the two are not independent variables, which can make regression estimates somewhat less reliable. Nonetheless, we include an annual change in 6-month OIS rates in the regression; this reduces the impact of a $260bn deterioration in the supply/demand balance to around 5-10bp.
- In all, the above suggests that while there has been an increase in the duration impulse of corporate issuance, in the context of overall net issuance of bonds globally the $260bn increase in net bond issuance by tech companies is manageable and would put perhaps 10-15bp of upward pressure on Global Agg bond index yields.

Similar to April 2024, this month's weakness in equity fund flows is likely to prove short lived

- Equity fund flows saw a sharp deceleration in September following five consecutive strong months. This deceleration in equity fund flows to close to zero in September (including leveraged ETF rebalancing flows) is rather uncommon by recent standards, as shown in Figure 3. In fact, it has only happened once before, in April 2024, since the retail impulse via equity funds started emerging strongly from Q4 2023 onwards.

Figure 3: Flows stemming from equity funds globally

In $bn per month.



Source: Bloomberg Finance L.P., LSEG Lipper, J.P. Morgan Flows & Liquidity.

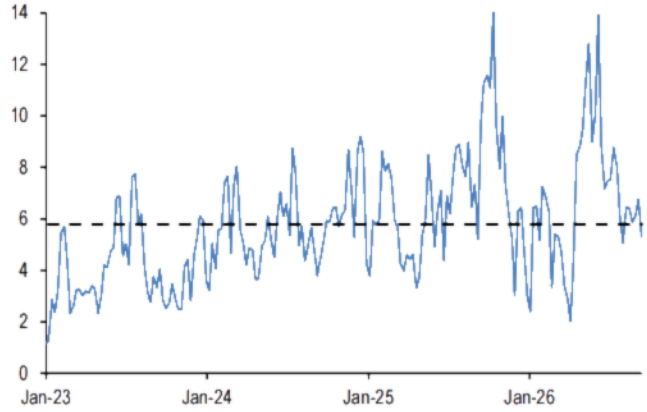
- During April 2024, we had a similar backdrop of rising policy rate expectations by major central banks and of rising bond yields. The weakness in equity fund flows from that rate-driven episode of April 2024 proved a contrarian signal as it was short lived and as the equity fund impulse re-emerged strongly from May 2024 onwards. Whether this month's weakness in equity fund flows proves to be a contrarian signal again remains to be seen. But given the rather low level of two other retail impulse metrics, the call option buying in Figure 4 and the relative performance of retail favorites in Figure 5, our bias is that, similar to April 2024, this month's weakness in equity fund flows is likely to prove short lived.

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Figure 4: Exchange-traded Call Option Buys at Open minus Sells at Open for Customers with less than 10 contracts for options on individual equities

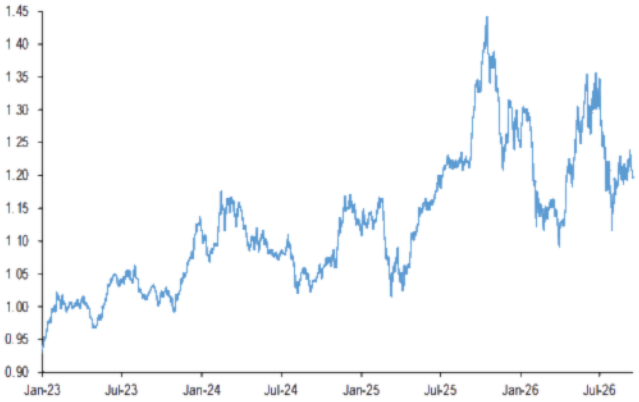
In mn contracts. Last obs is for the week ending 11th Sep 2026.



Source: OCC, J.P. Morgan Flows & Liquidity.

Figure 5: Retail Investors' Favourite US equity basket vs. S&P500 index

Ratio of two return indices.



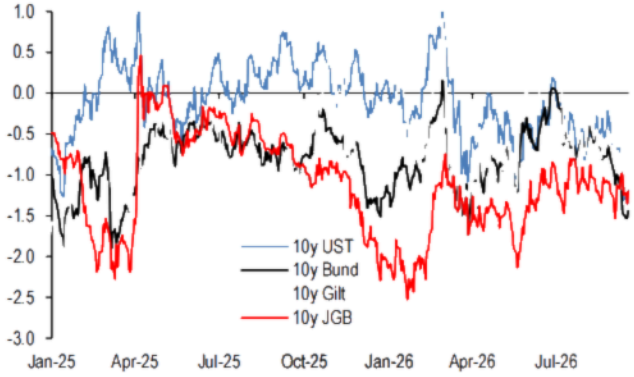
Source: GS, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Momentum signals reach more extreme territory for 10y Bunds and 10y OATs vs. Bunds

- The sharp rise in yields over the past couple of weeks has raised questions in our conversations about positioning by momentum-based investors such as CTAs. We update below on some of our signals outlined in Table A3 and A4 in the Appendix.
- Turning first to major bond markets, Figure 6 shows the average z-score of the longer- and shorter-term momentum signals for futures contracts on 10y USTs, Bunds, gilts and JGBs. It suggests that the signal for Bunds was just below -1.5 standard deviations, suggesting it entered more extreme territory where the risk of mean reversion/ profit taking signals kicking in begins to increase, before moderating somewhat with the signal at -1.4 at the time of writing. Similarly, 10y USTs and JGBs reached around -1.4 standard deviations before reverting to around -1.2 at the time of writing. For 10y gilts, the average z-score reached around -1.2, before moderating to -0.8.

Figure 6: Momentum signals for 10y UST, Bund, gilt and JGB futures

Average z-score of short- and long-term momentum signal in our trend following strategy framework (Table A3 and A4 in the Appendix), adjusted for the ratio of volatilities of the past 10 years and the past 6 months.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- Figure 7 shows the average z-score of the momentum signals for 10y OATs and BTPs vs. Bunds. It suggests that similar to outright duration positions, momentum signals in 10y OATs vs. Bunds reached extreme territory with an average z-score of -1.6 on Sep 15th, and remains at -1.5 at the time of writing.

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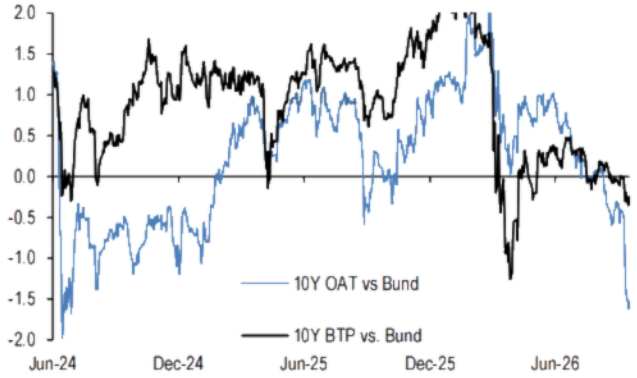
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Figure 7: Momentum signals for 10y OAT vs Bund futures and 10y BTP vs Bund futures

Average z-score of short- and long-term momentum signal in our trend following strategy framework (Table A3 and A4 in the Appendix), adjusted for the ratio of volatilities of the past 10 years and the past 6 months.

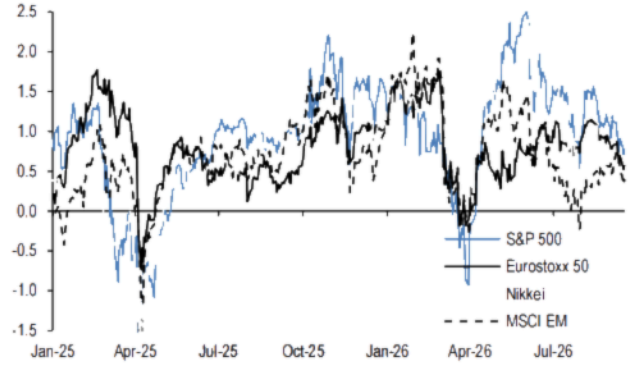


Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- For equities, Figure 8 shows the average z-score of the longer- and shorter-term signals for the S&P 500, Eurostoxx 50, Nikkei and MSCI EM. All three have moderated somewhat since the start of the month, though at between +0.4 and +0.8 are not signalling extreme levels in contrast to earlier this year.

Figure 8: Momentum signals for S&P 500, Eurostoxx 50, Nikkei and MSCI EM futures

Average z-score of short- and long-term momentum signal in our trend following strategy framework (Table A3 and A4 in the Appendix), adjusted for the ratio of volatilities of the past 10 years and the past 6 months.



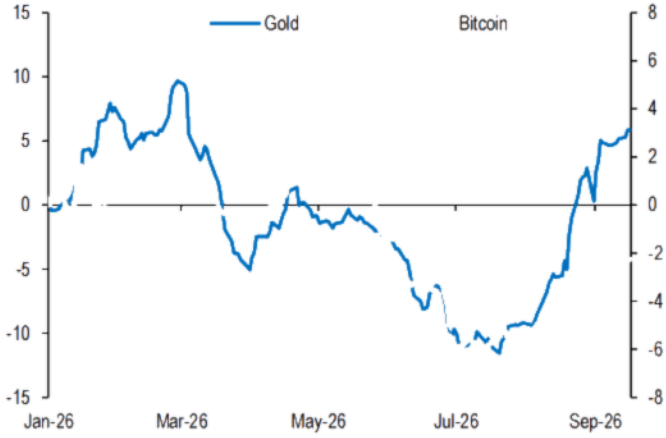
Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

From a positioning perspective, the more elevated short interest in the IBIT vs. GLD ETF could create more support for bitcoin vs. gold from here

- While the debasement trade, manifested via gold and bitcoin, had re-emerged strongly following the FOMC meeting at the end of July, it retreated more recently, over the past week or so, in response to the sharp rise in real bond yields and the failure by the Senate to advance the Clarity Act. How have flows and positions evolved for gold and bitcoin more recently?
- Figure 9 shows that both gold and bitcoin ETFs saw significant inflows since the end of July. That said, the recovery in ETF demand has been stronger for gold, with gold ETFs having fully recaptured the outflows seen earlier in the year. By comparison, bitcoin ETFs have recovered around half of their previous outflows, with some signs of retreat in recent days, suggesting that there could be more room for bitcoin ETF demand to normalize from here, assuming the news flow improves.

Figure 9: Cumulative flows into gold and bitcoin ETFs

In $bn, bitcoin in RHS



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

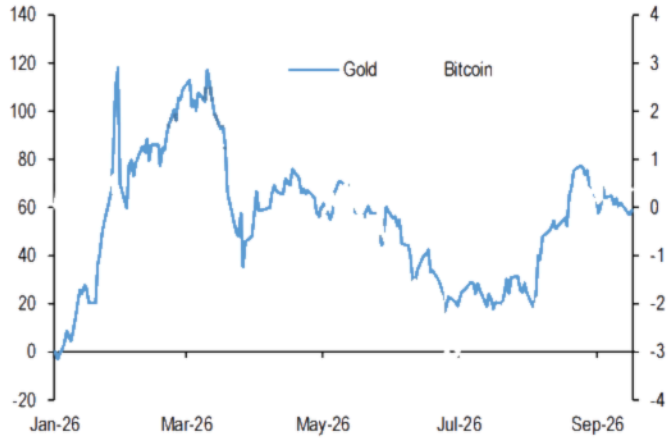
- A similar pattern of strong buying is evident in futures markets, which tend to be driven more by institutional rather than retail investors. Our futures position proxies for both gold and bitcoin currently stand at elevated levels, as shown in Figure 10, indicating that institutional investors supported both manifestations of the debasement trade in the futures space with only modest signs of retreat in recent days.

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Figure 10: Our futures position proxy based on open interest changes in CME gold and bitcoin futures contracts

In $bn, bitcoin in RHS

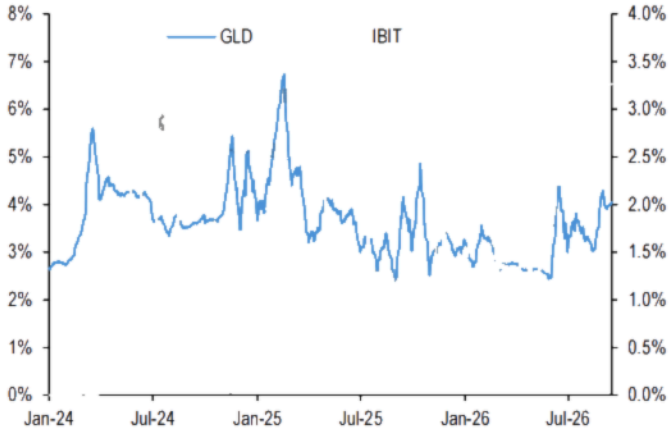


Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- The key difference in the positioning backdrop between gold and bitcoin lies in ETF short interest. Short interest in IBIT remains close to year-to-date highs, while short interest in the GLD ETF stands at historically below average levels as seen Figure 11. This contrast suggests that bitcoin still faces an overall more sceptical positioning backdrop than gold, perhaps due to more elevated hedging demand, despite the recent inflows and build up of futures positioning. The above thesis of potentially more elevated hedging demand currently for bitcoin is also consistent with the put-to-call open interest ratio gap between the two main bitcoin and gold ETFs, IBIT and GLD as shown in Figure 12.

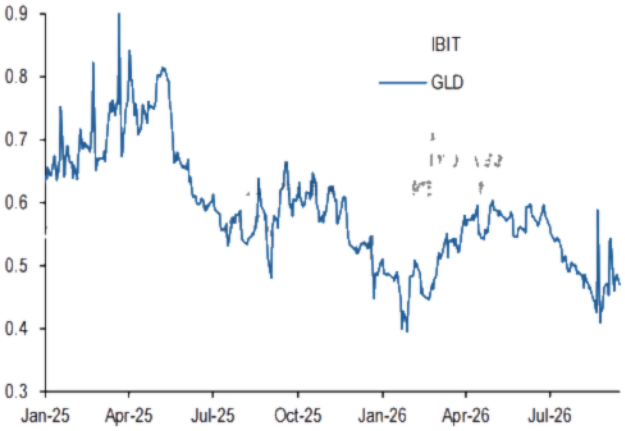
Figure 11: Short interest ratio for top gold and bitcoin ETF

In %, IBIT in RHS



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Figure 12: Put-to-call open interest ratio for IBIT and GLD ETFs



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- While we recognize that other factors might also affect the bitcoin and gold trajectories going forward, from a positioning point of view, the more elevated short interest in the IBIT vs. GLD ETF could create more support for bitcoin vs gold from here if hedging demand is reduced.

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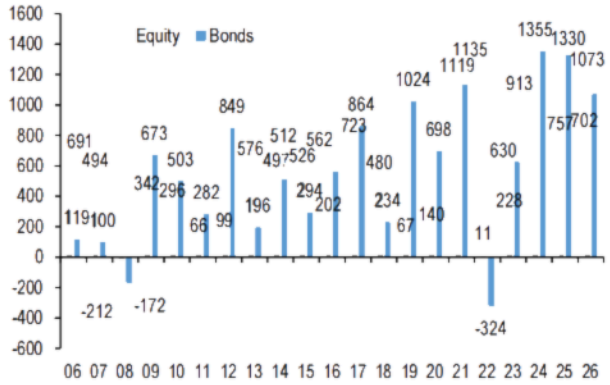
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Appendix

Chart A1a: Global equity & bond fund flows

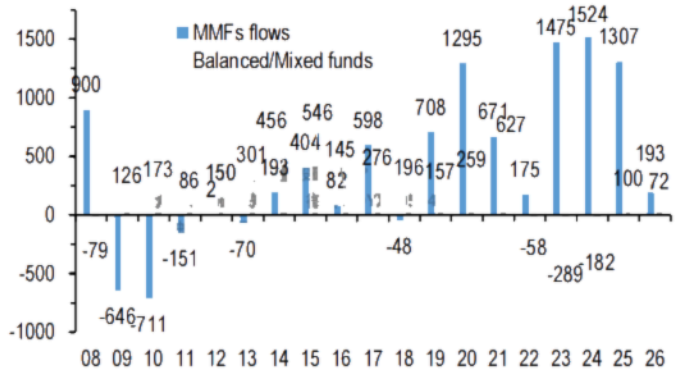
$bn per year of Net Sales, i.e. includes net new sales + reinvested dividends for Mutual Funds and ETFs globally, i.e. for funds domiciled both inside and outside the US. Flows come from ICI (worldwide data up to Q1'26). Data since then are a combination of monthly and weekly data from Lipper and Bloomberg.



Source: ICI, LSEG Lipper, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A1b: Quarterly Balanced/Mixed funds & MMFs flows worldwide

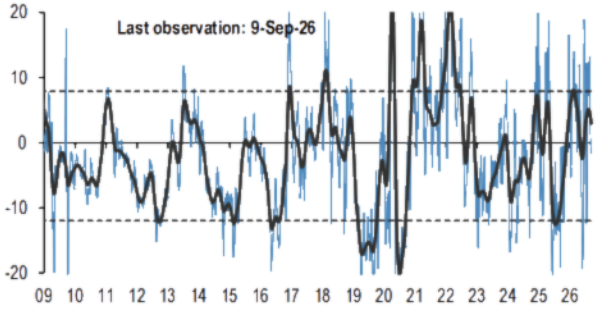
$bn per quarter of Net Sales, i.e. includes net new sales + reinvested dividends for Mutual Funds and ETFs globally, i.e. for funds domiciled both inside and outside the US. Data come from ICI (worldwide data) and are till Q1'26.



Source: ICI, J.P. Morgan Flows & Liquidity.

Chart A2: Fund flow indicator

Difference between flows into Equity and Bond funds: $bn per week. Difference between flows into Equity vs. Bond funds in $bn per week. Flows include Mutual Fund and ETF flows globally, i.e. funds domiciled both inside and outside the US (source: Lipper). The thin blue line shows the 4-week average of difference between Equity and Bond fund flows. Dotted lines depict ±1 StDev of the blue line since 2009. The thick black line shows a smoothed version of the same series. The smoothing is done using a Hodrick-Prescott filter with a Lambda parameter of 100. China onshore A-share ETFs have been excluded.



Source: LSEG Lipper, J.P. Morgan Flows & Liquidity.

Table A2: Trading turnover monitor

Volumes are monthly and Turnover ratio is annualised (monthly trading volume annualised divided by the amount outstanding). UST Cash is primary dealer transactions in all US government securities. UST futures are from Bloomberg Finance L.P. JGBs are OTC volumes in all Japanese government securities. Bunds, Gold, Oil and Copper are futures. Gold includes Gold ETFs. Min-Max chart is based on Turnover ratio. For Bunds and Commodities, futures trading volumes are used while the outstanding amount is proxied by open interest. The diamond reflects the latest turnover observation. The thin blue line marks the distance between the min and max for the complete time series since Jan-2005 onwards. Y/Y change is change in YTD notional volumes over the same period last year.

As of Aug-26	MIN	MAX	Turnover ratio	Vol (tr)	y/y chng
Equities					
EM Equity*			1.4	$1.8	129%
DM Equity*			1.4	$13.7	43%
Govt Bonds					
UST cash			12.2	$17.8	8%
UST futures			0.8	$27.1	10%
JGBs*			48.0	¥4,663	12%
Bund futures			1.3	€6.9	20%
Credit					
US HG			1.1	$0.7	18%
US HY			0.3	$0.1	-5%
US Convertibles			3.2	$0.04	11%
Commodities					
Gold			54.8	$1.9	32%
Oil			83.3	$2.4	6%
Copper			1.9	$0.9	68%
Digital Assets					
CME Bitcoin			120.2	$0.084	-35%
CME Ethereum			134.8	$0.032	-17%

* Data with one month lag

Source: Bloomberg Finance L.P., Federal Reserve, Trace, Japan Securities Dealer Association, WFE, J.P. Morgan Flows & Liquidity.

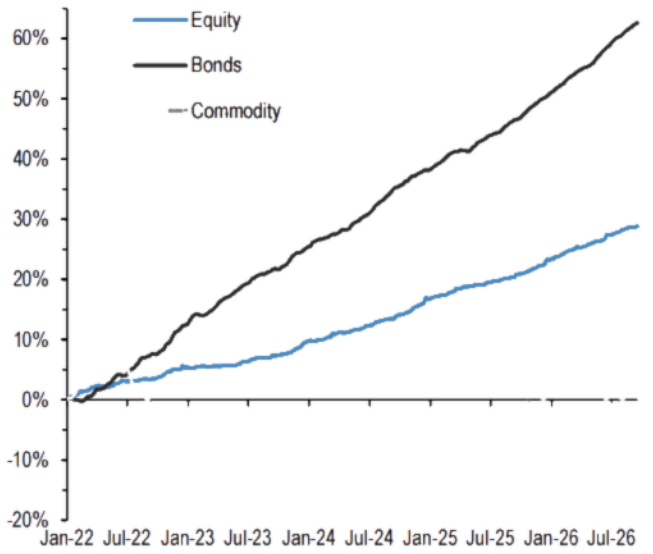
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ETF Flow Monitor (as of 16th September)

Chart A3: Global Cross Asset ETF Flows

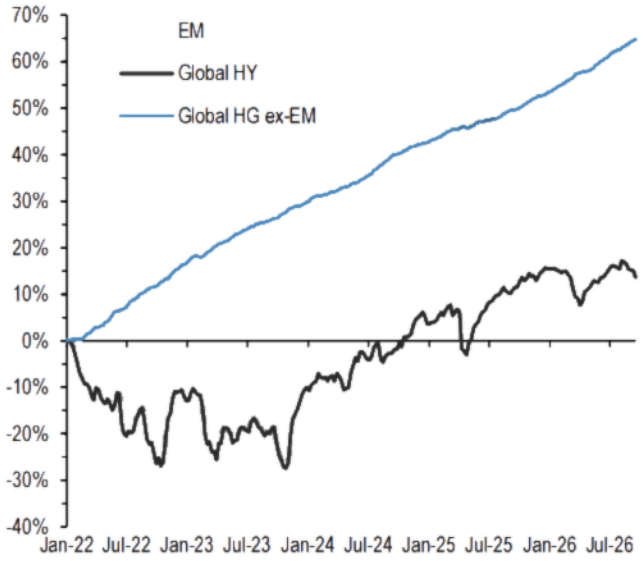
Cumulative flows into ETFs as a % of AUM



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity. China onshore A-share ETFs have been excluded.

Chart A4: Bond ETF Flows

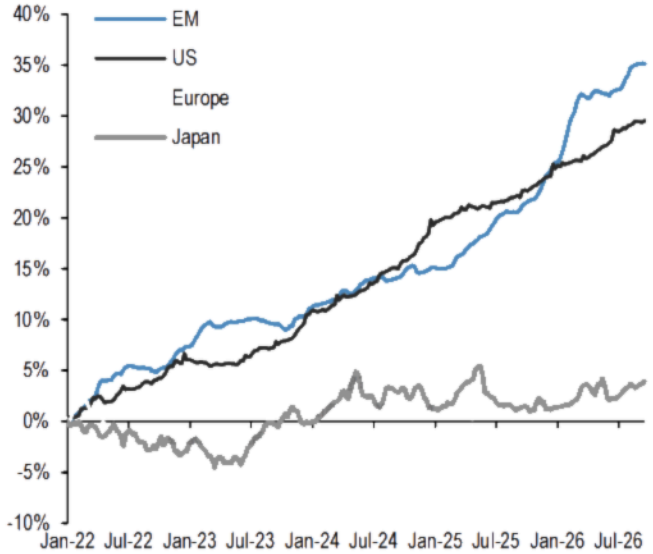
Cumulative flows into bond ETFs as a % of AUM



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A5: Global Equity ETF Flows

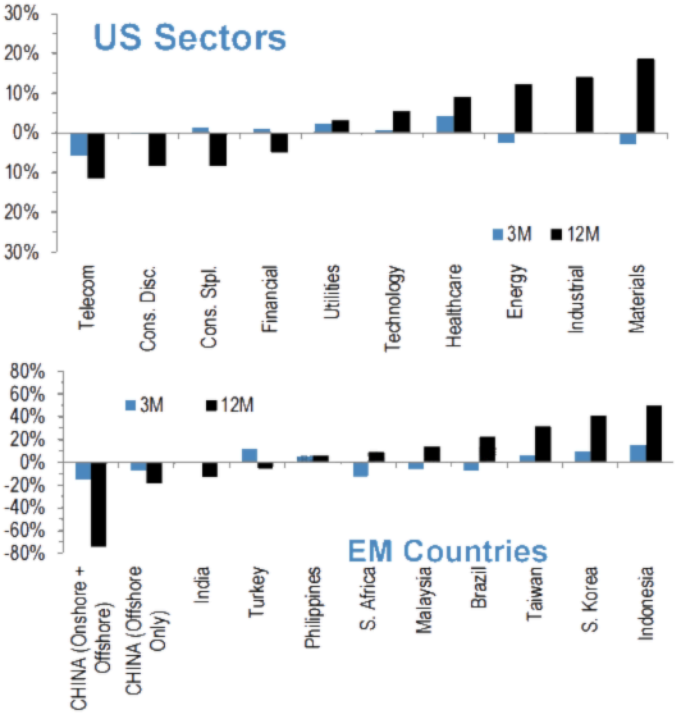
Cumulative flows into global equity ETFs as a % of AUM



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.
Note: We include ETFs with AUM > $200mn in all the flow monitor charts. In Chart A5 for Japan, we subtract the BoJ buying of ETFs. China onshore A-share ETFs have been excluded.

Chart A6a: Equity Sectoral and Regional ETF Flows

Rolling 3-month and 12-month change in cumulative flows as a % of AUM. Both sorted by 12-month change



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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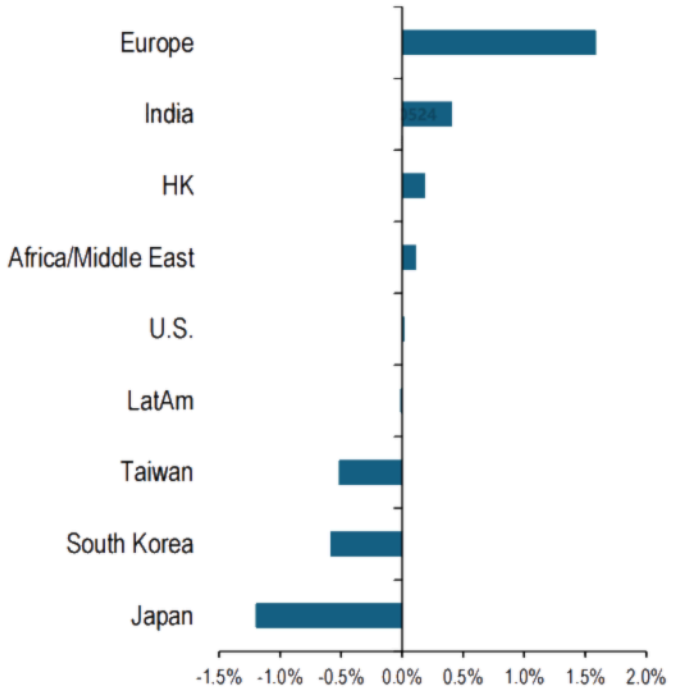
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Chart A6b: Regional Equity Allocation Monitor Implied by ETFs

In %.



Source: Bloomberg Finance L.P., MSCI and J.P. Morgan Flows & Liquidity.
Note: Our regional equity allocation monitor implied by ETFs is based on a comparison of the share of each region in the equity ETF space relative to their corresponding shares in global equity indices.

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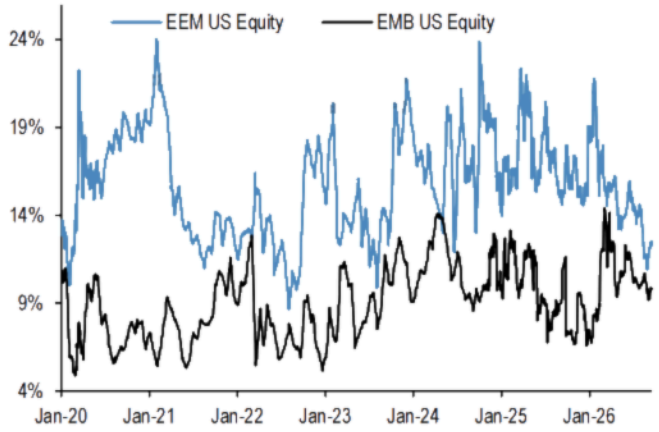
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Short Interest Monitor

Chart A7: Short interest on the EEM and EMB US ETF

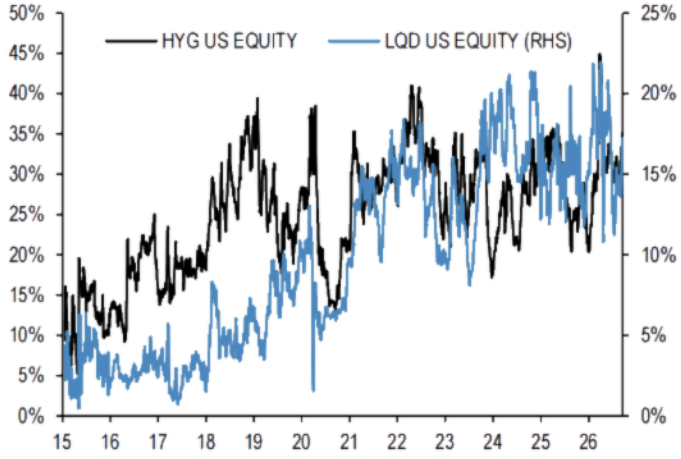
Short Interest as a % share of shares outstanding.



Source: S3, J.P. Morgan Flows & Liquidity.

Chart A8: Short interest on the LQD and HYG US ETF

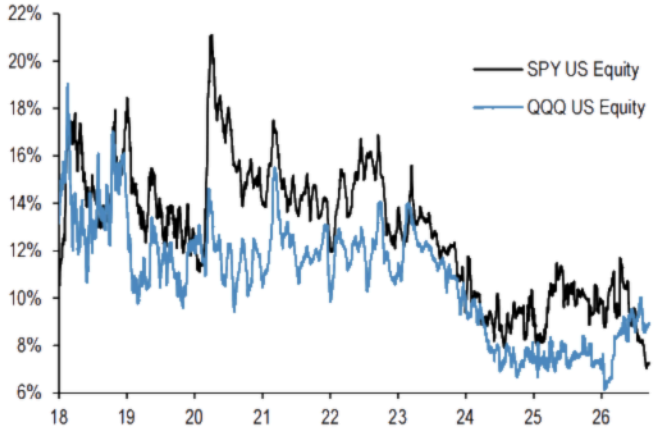
Short Interest as a % share of shares outstanding.



Source: S3, J.P. Morgan Flows & Liquidity.

Chart A9: Short interest on the SPY and QQQ US ETF

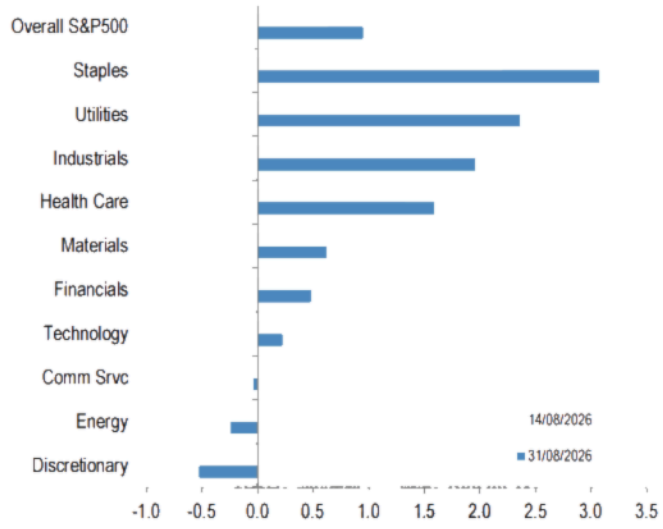
Short Interest as a % share of shares outstanding. Last obs is for 7th Sept 2026.



Source: S3, J.P. Morgan Flows & Liquidity.

Chart A10: S&P500 sector short interest

Short interest as a % of shares outstanding based on z-scores. A strategy which overweights the S&P500 sectors with the highest short interest z-score (as % of shares o/s) vs. those with the lowest, produced an information ratio of 0.7 with a success rate of 56% (see F&L, Jun 28,2013 for more details).



Source: NYSE, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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Chart A11a: Cross Asset Volatility Monitor 3m ATM Implied Volatility (1y history), as of 15th Sep-2026

This table shows the richness/cheapness of current three-month implied volatility levels (red dot) against their one-year historical range (thin blue bar) and the ratio to current realised volatility. Assets with implied volatility outside their 25th/75th percentile range (thick blue bar) are highlighted. The implied-to-realised volatility ratio uses 3-month implied volatilities and 1-month (around 21 trading days) realised volatilities for each asset.

Asset	Current	Low	Low date	High	High date	Upside	Downside	Implied/realized volatility
S&P 500	15%	14%	03-Sep-26	24%	27-Mar-26	9%	1%	1.61x
EuroSTOXX	17%	13%	18-Sep-25	26%	27-Mar-26	10%	3%	1.51x
Nikkei 225	27%	20%	24-Sep-25	33%	31-Mar-26	7%	7%	1.45x
Hang Seng	18%	17%	04-Sep-26	24%	26-Mar-26	6%	1%	1.27x
MSCI EM	24%	14%	18-Sep-25	38%	01-Jul-26	14%	10%	1.22x
Gold	24%	15%	19-Sep-25	33%	26-Mar-26	10%	9%	0.99x
Oil (brent)	52%	27%	19-Sep-25	89%	30-Mar-26	37%	25%	1.31x
Copper	21%	16%	16-Sep-25	37%	03-Feb-26	16%	4%	0.77x
BB commodity index	19%	13%	10-Dec-25	25%	30-Mar-26	6%	6%	1.58x
EUR/USD	6%	5%	15-Jun-26	8%	13-Mar-26	2%	0%	1.42x
USD/NOK	9%	8%	17-Dec-25	11%	30-Mar-26	3%	0%	1.31x
USD/JPY	9%	7%	16-Jul-26	10%	27-Mar-26	1%	2%	0.87x
GBP/USD	6%	6%	14-Aug-26	8%	27-Mar-26	2%	0%	2.01x
USD/CHF	7%	6%	29-May-26	9%	29-Jan-26	2%	1%	1.02x
10y US swaps	82%	62%	27-Jan-26	96%	27-Mar-26	15%	19%	1.29x
10y Eur swaps	75%	43%	26-Feb-26	97%	27-Mar-26	22%	32%	1.54x
CDX IG	42%	37%	29-May-26	62%	27-Mar-26	20%	5%	2.27x
CDX HY	39%	31%	09-Jan-26	57%	30-Mar-26	18%	8%	2.23x
iTraxx	47%	37%	09-Jan-26	70%	27-Mar-26	23%	9%	2.10x
iTraxx X/O	47%	38%	16-Jun-26	66%	27-Mar-26	19%	8%	2.01x

Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Note: Swaps volatility is 3m 10y payer ATMF implied annualized BP vol and credit volatility is 3m 5y on-the-run ATM spread volatility. MSCI EM, Gold, Oil, Copper, BB Commodity Index and Treasury futures are 3m implied vol from Bloomberg.

Definitions:

Current:	Latest available closing level (15-Sep-26)
Low:	Lowest closing level in the last 1y
Low date:	Date the lowest closing level was reached (or the first time it was reached in the case of several identical low closing levels)
High:	Highest closing level in the last 1y
High date:	Date the highest closing level was reached (or the first time it was reached in the case of several identical high closing levels)
Graph:	Shows the current level and the 25th/75th percentile relative to the 1y high/low
Upside:	Implied return/volatility percentage points from current level up to the High (note: return is calculated as simple difference for spread products)
Upside (σ):	Upside in terms of standard deviations (Upside / Current 1y realized volatility)
Downside:	Implied return/volatility percentage points from current level down to the Low (note: return calculated as simple difference for spread products)
Downside (σ):	Downside in terms of standard deviations (Downside / Current 1y realized volatility)
Implied/realized volatility:	Current 3m implied volatility / current realized 3m volatility

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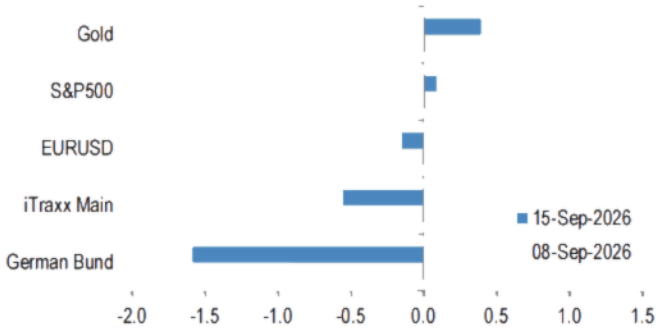
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Chart A11b: Option skew monitor

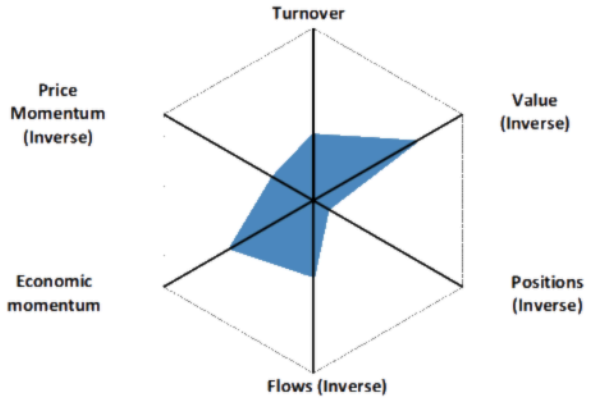
Skew is the difference between the implied volatility of out-of-the-money (OTM) call options and put options. A positive skew implies more demand for calls than puts and a negative skew, higher demand for puts than calls. It can therefore be seen as an indicator of risk perception in that a highly negative skew in equities is indicative of a bearish view. The chart shows z-score of the skew, i.e. the skew minus a rolling 2-year avg skew divided by a rolling two-year standard deviation of the skew. A negative skew on iTraxx Main means investors favour buying protection, i.e. a short risk position. A positive skew for the Bund reflects a long duration view, also a short risk position.



Source: J.P. Morgan Flows & Liquidity.

Chart A11c: Equity market health map

Each of the six axes corresponds to a key indicator for markets. The position of the blue line on each axis shows how far the current observation is from the extremes at either end of the scale. Overall, the larger the blue area within the hexagon, the better the outlook for the S&P500. All variables are expressed as the percentile of the distribution that the observation falls into. I.e. a reading in the middle of the axis means that the observation falls exactly at the median of all historical observations. **Turnover**: Percentile rank of the 21-day rolling S&P500 turnover since 2007. **Value**: Inverse of percentile rank of our quarterly S&P 500 Equity Risk Premium (ERP) estimate since 1957 as described in "A fair value model for US Bonds, Credit and Equities", Panigirtzoglou and Loeys, Jun 2005. **Positions**: Percentile rank of the difference between government bonds and equity positioning from the cross-asset positioning monitor on the front page of our publication since 2016. **Flows**: Inverse of percentile rank of the difference between equity and bond fund flows from the cross-asset fund flow monitor on the front page of our publication since 2007. **Economic momentum**: Percentile rank of the 2-month change in the global manufacturing PMI since 1998, see "REVISITING: Using the Global PMI as trading signal", Nikolaos Panigirtzoglou, Jan 2012). **Price momentum**: Inverse of the percentile rank of the z-score of the difference in the momentum signal of S&P500 vs. 10y USTs since 2016 (based on the average z-score of Short- and Long-term momentum signal in our Trend Following Strategy framework shown in Tables A3 and A4 in the Appendix). China onshore A-share ETFs have been excluded. Last obs. as of 4th Sep.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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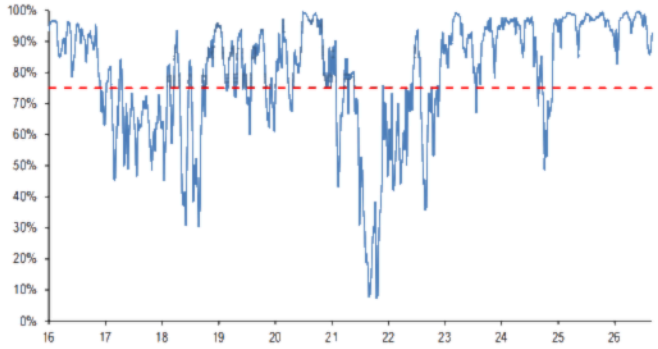
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Chart A11d: Implied probability of the S&P500 rising over the next six months with a cutoff set at 75%

Based on the methodology laid out in the F&L, 25th June 2025.



Source: J.P. Morgan Flows & Liquidity.

Chart A11e: Logistic regression model for direction of the S&P 500 over a 6 month horizon & Ex-ante probability of an up-move from the logistic regression algorithm vs. the ex-post realised 6-month return in the S&P 500

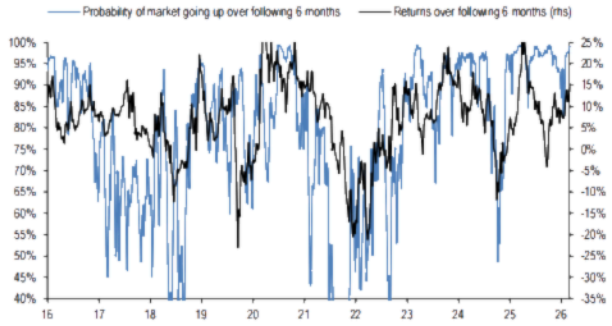
In %. Based on the methodology laid out in the F&L, 25th June 2025.

Dependent Variable: S&500 UP (1) or DOWN (0) over the next six months
Method. ML - Binary Logit (Newton-Raphson / Marquardt steps)

Sample (adjusted): 1/08/2016 12/20/2024
Included observations: 468 after adjustments

Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	3.42	0.84	4.08	0.00
TURNOVER	2.97	0 72	4.15	0.00
VALUE	-3.47	0.90	-3.88	0.00
POSITIONS	-0.77	0.55	-1.39	0.16
FLOWS	-1.79	0.53	-3.38	0.00
ECON_MOMENTUM	3.35	0.62	5.42	0.00
MOMENTUM	-1.36	0 62	-2 19	0.03



Source: J.P. Morgan Flows & Liquidity.

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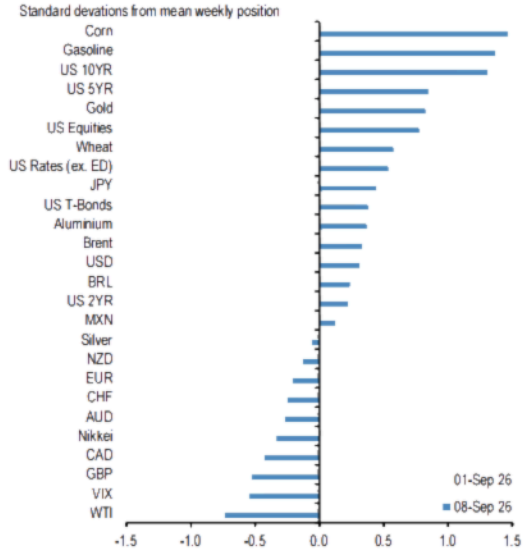
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Spec position monitor

Chart A12: Weekly Spec Position Monitor

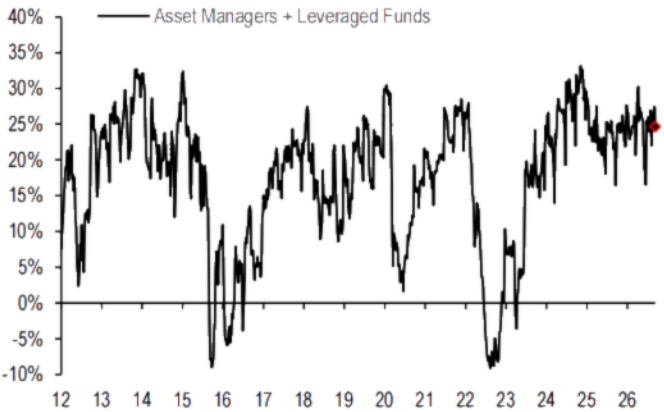
Net spec positions are proxied by the number of long contracts minus the number of short contracts using the speculative category of the Commitments of Traders reports (as reported by CFTC). To proxy for speculative investors for equity and US Treasury bond futures positions we use Asset managers and leveraged funds (see Chart A13), whereas for other assets we use the legacy Non-Commercial category. This net position is then converted to a dollar amount by multiplying by the contract size and then the corresponding futures price. We then scale the net positions by open interest. The chart shows the z-score of these net positions. US rates is a duration-weighted composite of the individual UST futures contracts excluding the Eurodollar contract.



Source: Bloomberg Finance L.P., CFTC, J.P. Morgan Flows & Liquidity.

Chart A13: Positions in US equity futures by Asset managers and Leveraged funds

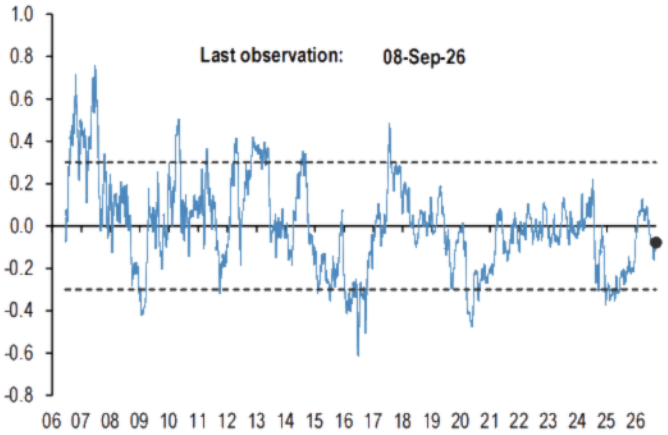
CFTC positions in US equity futures by Leveraged funds and Asset managers (as a % of open interest). It is an aggregate of the S&P500, DowJones, NASDAQ and their Mini futures contracts.



Source: CFTC, Bloomberg Finance L.P. and J.P. Morgan Flows & Liquidity.

Chart A14: Spec position indicator on Risky vs. Safe currencies

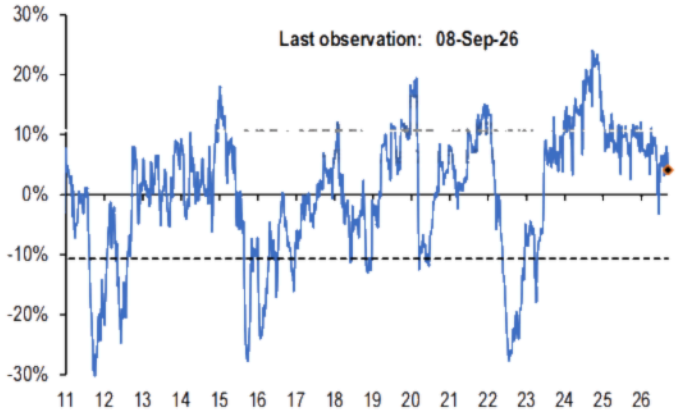
Difference between net spec positions on risky & safe currencies. Net spec position is calculated in USD across 5 'risky' and 3 'safe' currencies (safe currencies also include Gold). These positions are then scaled by open interest and we take an average of 'risky' and 'safe' assets to create two series. The chart is then simply the difference between the"risky" and "safe" series. The final series shown in the chart below is demeaned using data since 2006. The risky currencies are: AUD, NZD,CAD, MXN and BRL. The safe currencies are: JPY, CHF and Gold.



Source: Bloomberg Finance L.P., CFTC, J.P. Morgan Flows & Liquidity.

Chart A15: Spec position indicator on US equity futures vs. intermediate sector UST futures

Difference between net spec positions on US equity futures vs. intermediate sector UST futures. This indicator is derived by the difference between total CFTC positions in US equity futures by Asset managers + Leveraged Funds scaled by open interest minus the Asset managers + Leveraged Funds spec position on intermediate sector UST futures (i.e. all UST futures duration weighted ex ED and ex 2Y UST futures) also scaled by open interest.



Source: CFTC, Bloomberg Finance L.P. and J.P. Morgan Flows & Liquidity.

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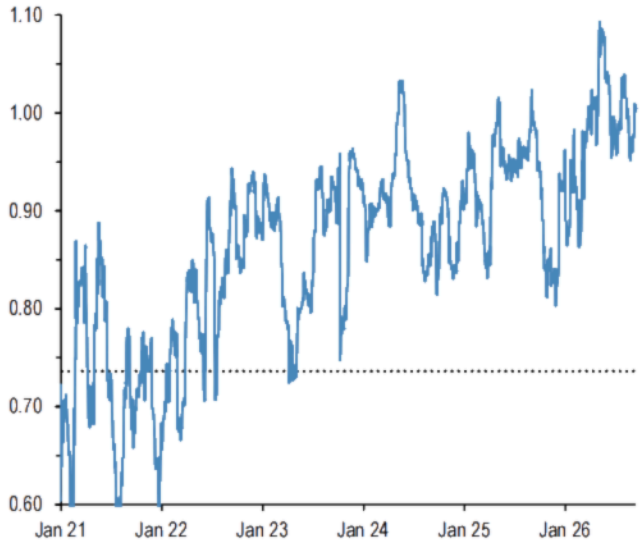
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Mutual fund and hedge fund betas

Chart A16: 21-day rolling beta of 20 biggest active US bond mutual fund managers with respect to the US Agg Bond Index

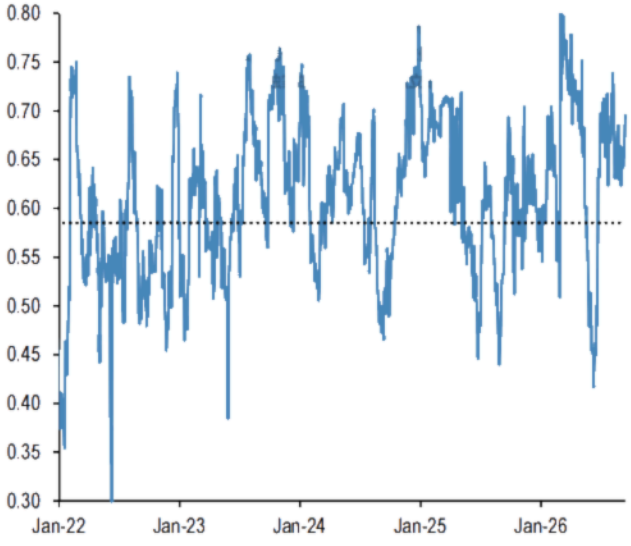
The dotted line shows the average beta since 2013.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A17: 21-day rolling beta of 20 biggest active Euro bond mutual fund managers with respect to the Euro Agg Bond Index

The dotted line shows the average beta since 2013.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A18: Performance of various types of investors

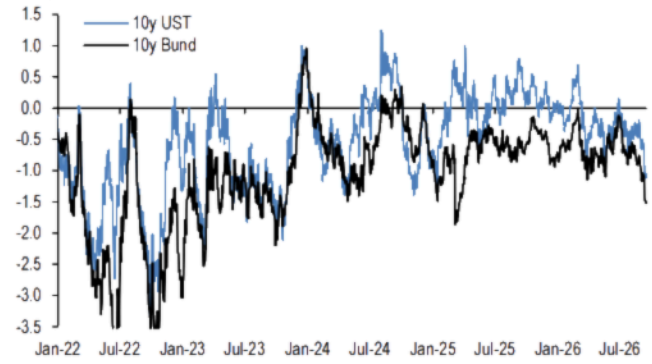
The table depicts the performance of various types of investors in % as of 15th Sept 2026.

Date	2020	2021	2022	2023	2024	2025	2026
Investors							
Equity L/S	13.4%	9.3%	-7.0%	11.3%	13.0%	15.5%	8.3%
Macro ex-CTAs	4.9%	4.3%	11.5%	1.3%	6.0%	10.2%	6.1%
CTAs	1.2%	8.8%	14.7%	-2.5%	2.9%	-1.1%	9.4%
Risk Parity Funds	3.5%	4.7%	-18.6%	6.0%	5.0%	17.3%	7.3%
US Balanced MFs	13.2%	14.4%	-13.0%	13.8%	11.4%	14.4%	7.0%
Benchmark							
MSCI AC World	16.3%	16.4%	-18.4%	22.2%	17.5%	22.3%	12.4%
Barclays Global Agg	5.6%	-2.5%	-11.2%	7.1%	3.4%	4.9%	-0.8%
S&P Riskparity Vol 10	11.5%	12.8%	-16.2%	15.0%	5.4%	15.9%	15.7%
60 US Equity : 40 US Bonds	13.3%	14.8%	-15.4%	18.6%	16.4%	12.7%	6.7%

Source: Bloomberg Finance L.P., HFR, Pivotal Path, J.P. Morgan Flows & Liquidity.

Chart A19: Momentum signals for 10Y UST and 10Y Bunds

Average z-score of Short- and Long-term momentum signal in our Trend Following Strategy framework shown in Tables A3 and A4 below in the Appendix.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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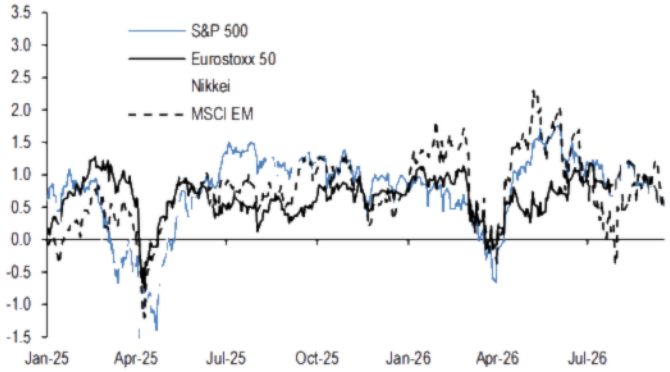
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Chart A20: Momentum signals for S&P500

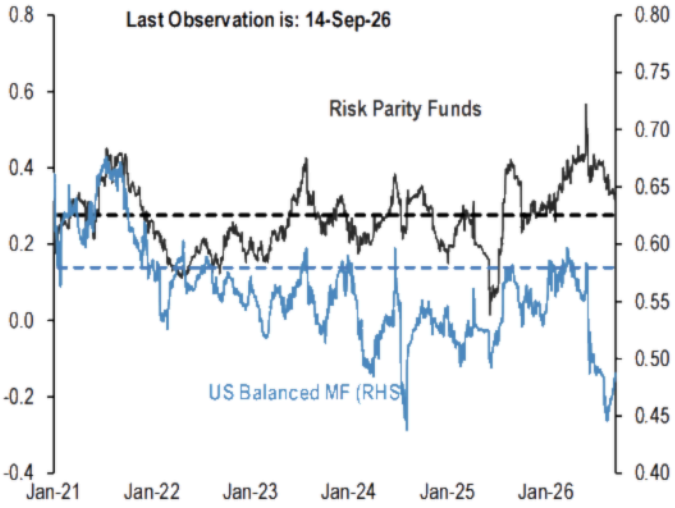
Average z-score of Short- and Long-term momentum signal in our Trend Following Strategy framework shown in Tables A3 and A4 below in the Appendix.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A21: Equity beta of US Balanced Mutual funds and Risk Parity funds

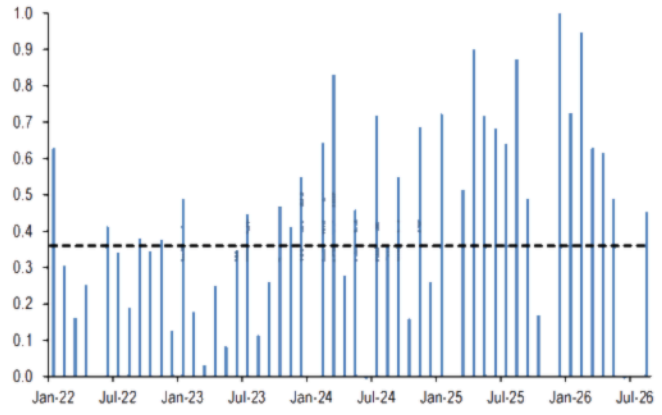
Rolling 42-day equity beta based on a bivariate regression of the daily returns of our Balanced Mutual fund and Risk Parity fund return indices to the daily returns of the S&P 500 and BarCap US Agg indices. Given that these funds invest in both equities and bonds we believe that the bivariate regression will be more suitable for these funds. Our risk parity index consists of 40 daily reporting Risk Parity funds. Our Balanced Mutual fund index includes the top 20 US-based active funds by assets and that have existed since 2006. Our Balanced Mutual fund index has a total AUM of $700bn, which is around half of the total AUM of $1.5tr of US based Balanced funds which we believe to be a good proxy of the overall industry It excludes tracker funds and funds with a low tracking error. Dotted lines are average since 2015.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A22: Equity beta of monthly reporting Equity Long/Short hedge funds

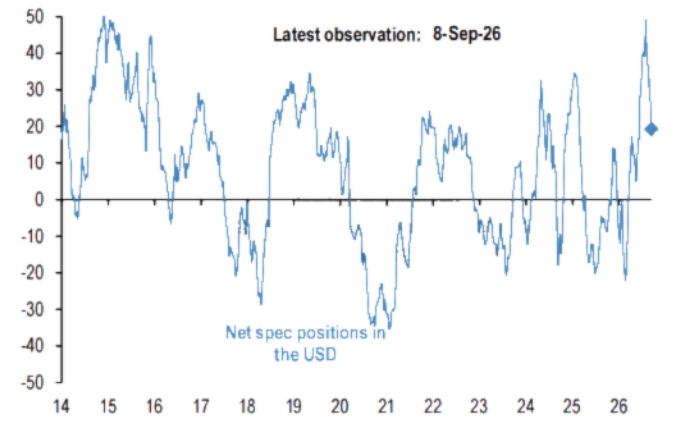
Proxied by the ratio of the monthly performance of Pivotal Path Asset-Weighted Equity Diversified hedge fund index divided by the monthly performance of MSCI AC World Index. Latest obs. is Aug 26 based on provisional data.



Source: Bloomberg Finance L.P., Pivotal Path, J.P. Morgan Flows & Liquidity.

Chart A23: USD exposure of currency hedge funds

The net spec position in the USD as reported by the CFTC. Spec is the non-commercial category from the CFTC.



Source: CFTC, Barclays, Datastream, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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CTAs – Trend following investors' momentum indicators

Table A3: Simple return momentum trading rules across various commodities

Optimal look-back period of each momentum strategy combined with a mean reversion indicator that turns signal neutral when momentum z-score more than 1.5 standard deviations above or below mean, and a filter that turns neutral when the z-score is low (below 0.05 and above -0.05) to avoid excessive trading. Look-backs, current signals and z-scores are shown for shorter-term and longer-term momentum separately, along with performance of a combined signal. Annualised return, volatility and information ratio of the signal; current signal; and z-score of the current return over the relevant look-back period; data from 1999 onward.

		Lookback (moving avg, days)	Annualized return (%)	Vol (%)	IR	Current signal	Time since last change (days)	Z-score	% Change of return index from its moving average
WTI	short	21	6.4	22.8	0.28	0	5	2.3	14.1%
	long	462				0	11	2.3	67.5%
Brent	short	84	4.4	21.5	0.20	0	5	2.1	25.1%
	long	504				0	12	2.5	70.7%
Unleaded gas	short	105	3.6	23.3	0.15	0	1	1.5	21.2%
	long	483				0	57	2.9	78.5%
Heat Oil	short	63	4.4	22.0	0.20	0	13	3.1	32.9%
	long	483				0	141	4.3	135.0%
Gasoil	short	63	8.6	21.3	0.40	0	27	3.6	39.1%
	long	378				0	57	4.6	137.1%
Nat gas	short	105	13.6	35.8	0.38	-1	50	-0.3	-4.6%
	long	315				-1	162	-0.6	-16.4%
Emission allowances	short	42	10.6	28.8	0.37	1	21	0.2	2.1%
	long	483				1	70	0.3	10.2%
TTF	short	21	44.2	43.5	1.02	1	3	1.0	11.5%
	long	294				0	5	1.6	95.0%
Gold	short	21	3.2	10.7	0.30	-1	8	-1.1	-3.0%
	long	483				1	73	0.7	9.3%
Silver	short	10	6.1	19.7	0.31	-1	4	-0.9	-3.0%
	long	462				1	64	0.6	15.2%
Palladium	short	42	11.1	23.1	0.48	-1	4	-0.4	-3.2%
	long	273				-1	86	-0.6	-14.7%
Platinum	short	105	3.2	18.7	0.17	-1	4	-0.1	-1.3%
	long	273				-1	4	-0.4	-5.7%
Aluminium	short	105	5.7	15.1	0.38	-1	62	-0.4	-3.2%
	long	357				1	67	0.6	8.8%
Copper	short	147	7.4	17.3	0.43	1	154	0.4	4.7%
	long	399				1	160	0.9	20.8%
Lead	short	126	0.8	19.2	0.04	-1	72	-0.4	-4.9%
	long	357				-1	173	-0.5	-10.1%
Nickel	short	42	11.7	22.9	0.51	-1	13	-0.7	-5.8%
	long	336				-1	4	-0.2	-6.1%
Zinc	short	126	8.2	19.6	0.42	1	122	0.8	8.9%
	long	399				1	252	1.0	23.9%
Wheat	short	168	4.1	23.3	0.18	1	9	1.1	12.8%
	long	294				1	9	1.2	18.4%
Kansas wheat	short	147	8.7	20.9	0.42	1	5	1.2	14.5%
	long	483				1	52	1.1	22.9%
Corn	short	63	7.6	16.6	0.46	1	5	1.4	10.8%
	long	399				1	17	0.4	7.2%
Soybeans	short	42	4.9	14.6	0.34	1	3	1.3	6.7%
	long	231				1	25	0.9	11.9%
Cotton	short	168	5.6	18.5	0.30	1	69	0.4	6.1%
	long	483				1	34	0.3	7.2%
Sugar	short	63	6.5	21.6	0.30	1	2	1.2	10.7%
	long	252				1	29	0.8	15.4%
Coffee	short	63	8.0	24.0	0.33	-1	6	-0.6	-5.7%
	long	273				-1	6	-0.2	-4.6%
Cocoa		10	4.9	31.5	0.16	-1	9	-0.5	-2.0%

*For cocoa, uses only short-term momentum and a z-score threshold of 3 rather than 1.5 as for other contracts

Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Table A4: Simple return momentum trading rules across international equity indices, bond futures and FX

Optimal look-back period of each momentum strategy combined with a mean reversion indicator that turns signal neutral when momentum z-score more than 1.5 standard deviations above or below mean, and a filter that turns neutral when the z-score is low (below 0.05 and above -0.05) to avoid excessive trading. Look-backs, current signals and z-scores are shown for shorter-term and longer-term momentum separately, along with performance of a combined signal. Annualised return, volatility and information ratio of the signal; current signal; and z-score of the current return over the relevant look-back period; data from 1999 onward.

		Lookback (moving avg, days)	Annualized return (%)	Vol (%)	IR	Current signal	Time since last change (days)	Z-score	% Change of return index from its moving average
S&P 500	short	84	7.7	12.3	0.63	1	34	0.1	0.7%
	long	315				1	66	1.0	9.9%
Nasdaq 100	short	84	9.4	16.1	0.58	-1	2	-0.2	-1.5%
	long	462				1	55	1.0	19.0%
Nikkei	short	63	3.6	13.3	0.27	-1	20	-0.7	-3.8%
	long	420				0	120	1.8	28.5%
FTSE 100	short	168	5.4	12.1	0.44	1	139	0.5	3.0%
	long	504				1	1	1.5	16.8%
Eurostoxx 50	short	168	4.8	16.6	0.29	1	115	0.4	3.4%
	long	294				1	122	0.6	7.6%
MSCI EM	short	42	12.6	11.5	1.09	1	0	0.1	0.7%
	long	357				1	47	1.1	17.6%
LQD credit return	short	168	0.4	3.4	0.13	-1	49	-0.2	-0.4%
	long	273				-1	47	-0.1	-0.5%
HYG credit return	short	10	2.4	6.5	0.37	0	3	0.0	0.0%
	long	189				-1	11	-0.1	-0.7%
2Y USTs	short	252	0.9	1.1	0.80	-1	142	-1.3	-1.5%
	long	462				-1	140	-0.9	-1.7%
5Y USTs	short	252	1.6	2.8	0.56	-1	135	-1.4	-3.3%
	long	420				-1	106	-1.0	-3.5%
10Y USTs	short	42	2.1	3.6	0.58	-1	15	-1.3	-1.8%
	long	441				-1	106	-0.9	-4.1%
2Y Schatz	short	189	0.6	0.8	0.81	0	23	-2.3	-2.0%
	long	504				0	139	-2.2	-3.8%
5y Bobl	short	63	1.5	1.9	0.77	0	5	-2.3	-2.2%
	long	483				0	4	-1.6	-5.5%
10y Bund	short	105	2.3	3.4	0.68	0	4	-1.7	-3.6%
	long	462				-1	741	-1.3	-6.8%
10Y JGB	short	126	0.9	2.3	0.39	0	3	-1.5	-1.6%
	long	273				0	141	-2.3	-3.6%
10Y Gilts	short	42	2.4	4.1	0.60	0	4	-1.8	-2.8%
	long	399				0	4	-1.6	-8.7%
10y OAT vs Bund	short	189	0.5	1.5	0.30	0	1	-1.6	-1.4%
	long	294				-1	23	-1.1	-1.1%
10y BTP vs. Bund	short	84	2.2	6.2	0.35	-1	5	-0.2	-0.5%
	long	273				-1	2	-0.1	-0.4%
Euro	short	42	3.2	6.4	0.50	-1	2	-0.2	-0.5%
	long	273				-1	150	-0.6	-3.6%
Yen	short	21	3.4	6.3	0.55	1	2	0.8	1.2%
	long	462				-1	34	-0.9	-7.6%
Sterling	short	168	1.6	7.1	0.22	-1	13	-0.3	-1.1%
	long	294				-1	144	-0.3	-1.8%
AUD	short	42	3.8	7.8	0.48	1	31	0.1	0.2%
	long	420				1	169	0.3	2.9%
CAD	short	168	1.5	5.9	0.25	-1	97	-0.8	-2.8%
	long	504				-1	379	-0.9	-6.0%
G10 FX	short	42	2.1	5.1	0.40	-1	34	-0.1	-0.2%
	long	189				1	2	0.2	0.6%
EMCI	short	42	2.5	4.9	0.50	1	0	0.1	0.1%
	long	189				1	308	0.2	0.7%

Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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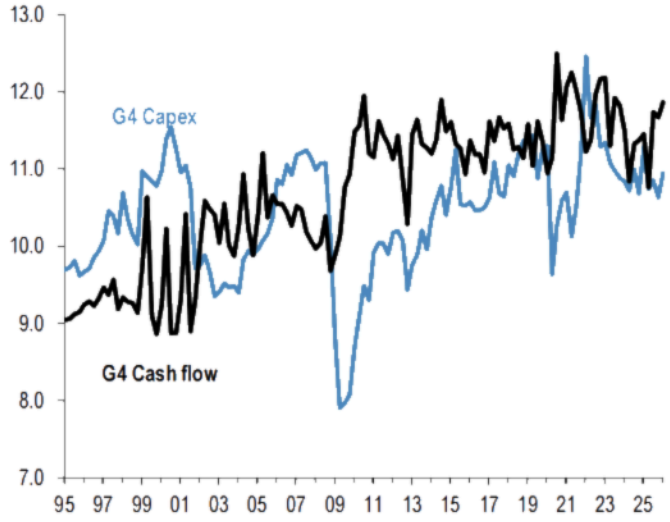
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Corporate Activity

Chart A24: G4 non-financial corporate capex and cash flow as % of GDP

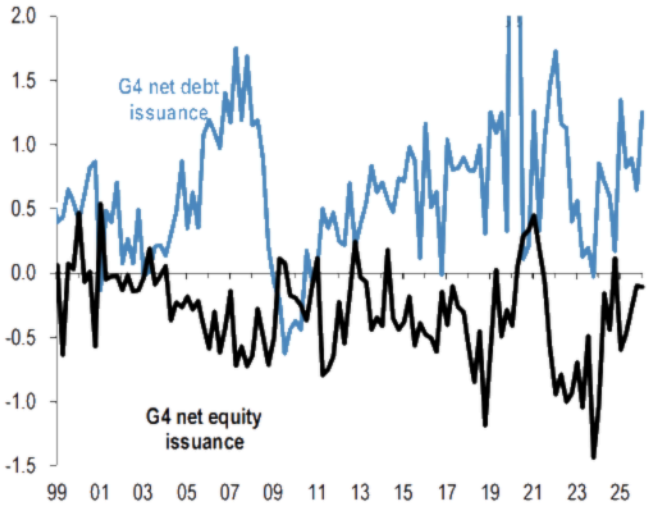
% of GDP, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q1 2026.



Source: ECB, BOJ, BOE, Federal Reserve flow of funds, J.P. Morgan Flows & Liquidity.

Chart A25: G4 non-financial corporate sector net debt and equity issuance

$tr per quarter, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q1 2026.



Source: ECB, BOJ, BOE, Federal Reserve flow of funds, J.P. Morgan Flows & Liquidity.

Chart A26: Global M&A and LBO

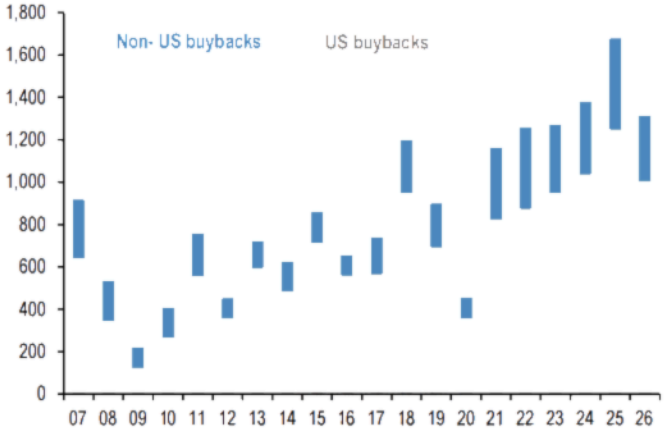
$tr. M&A and LBOs are announced.



Source: Dealogic, J.P. Morgan Flows & Liquidity.

Chart A27: US and non-US share buyback

$bn, are as of Aug 26. Buybacks are as announced.



Source: Bloomberg Finance L.P., LSEG, J.P. Morgan Flows & Liquidity.

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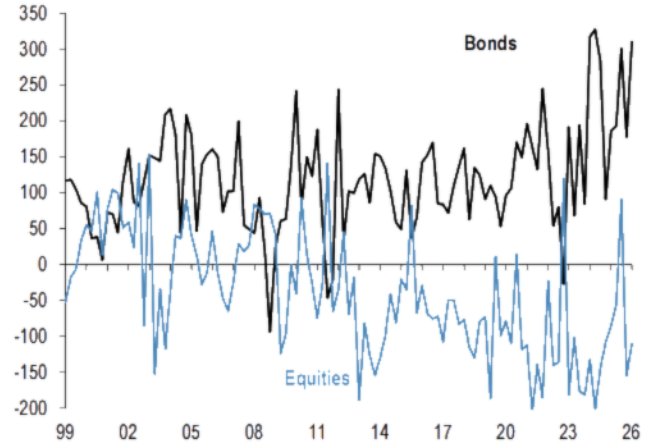
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Pension fund and insurance company flows

Chart A28: G4 pension funds and insurance companies equity and bond flows

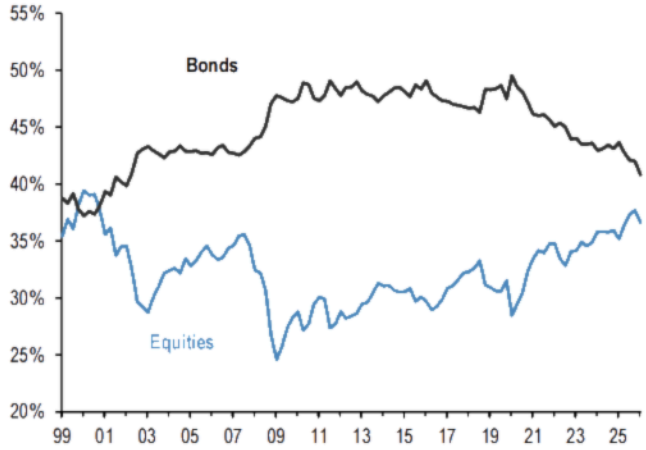
Equity and bond buying in $bn per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q1 2026.



Source: ECB, BOJ, BOE, Federal Reserve flow of funds, J.P. Morgan Flows & Liquidity.

Chart A29: G4 pension funds and insurance companies equity and bond levels

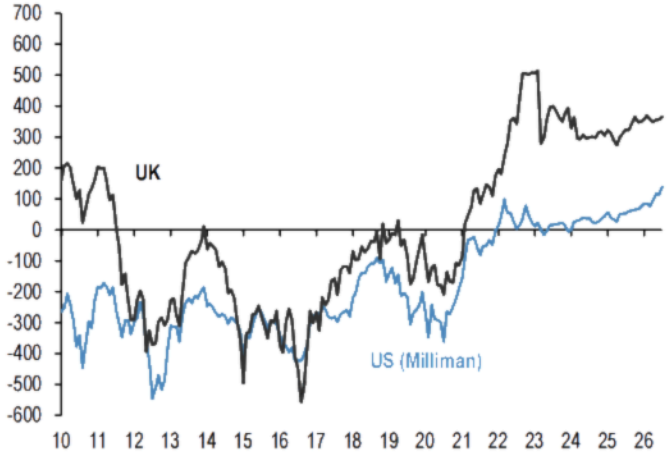
Equity and bond as % of total assets per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q1 2026.



Source: ECB, BOJ, BOE, Federal Reserve flow of funds, J.P. Morgan Flows & Liquidity.

Chart A30: Pension fund deficits

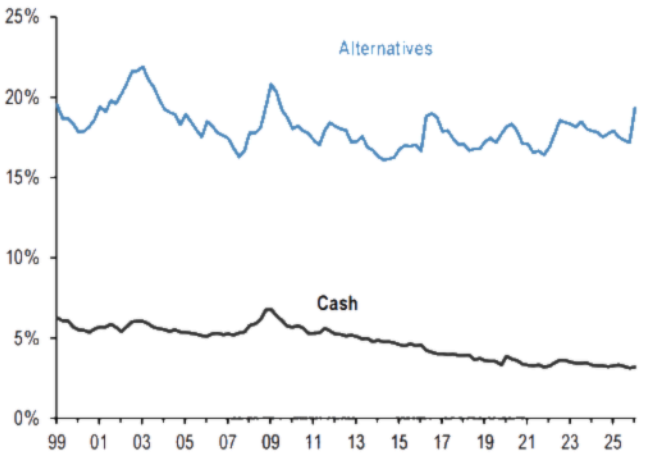
US$bn. For US, funded status of the 100 largest corporate defined benefit pension plans, from Milliman. For UK, funded status of the defined benefit schemes eligible for entry to the Pension Protection Fund, converted to US$ at today's exchange rates. Last obs. is July'26 for US & UK.



Source: Milliman, UK Pension Protection Fund, J.P. Morgan Flows & Liquidity.

Chart A31: G4 pension funds and insurance companies cash and alternatives levels

Cash and alternative investments as % of total assets per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q1 2026.



Source: ECB, BOJ, BOE, Federal Reserve flow of funds, J.P. Morgan Flows & Liquidity.

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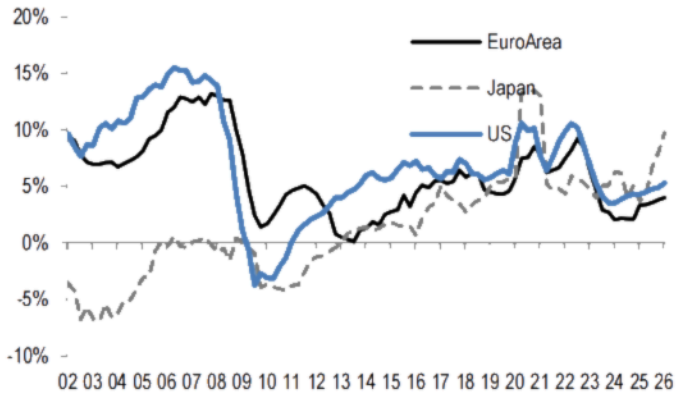
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Credit Creation

Chart A32: Credit creation in the US, Japan and Euro area

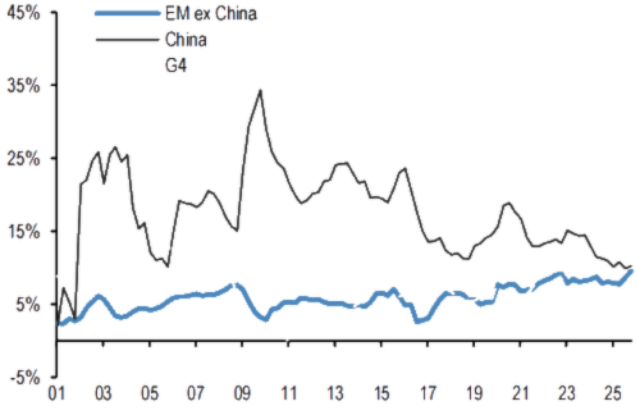
Rolling sum of 4-quarter credit creation as % of GDP. Credit creation includes both bank loans as well as net debt issuance by non-financial corporations and households. Last obs. is Q1'26 for Japan, Euro Area and US.



Source: Fed, ECB, BoJ, Bloomberg Finance L.P., and J.P. Morgan Flows & Liquidity.

Chart A33: Credit creation in EM

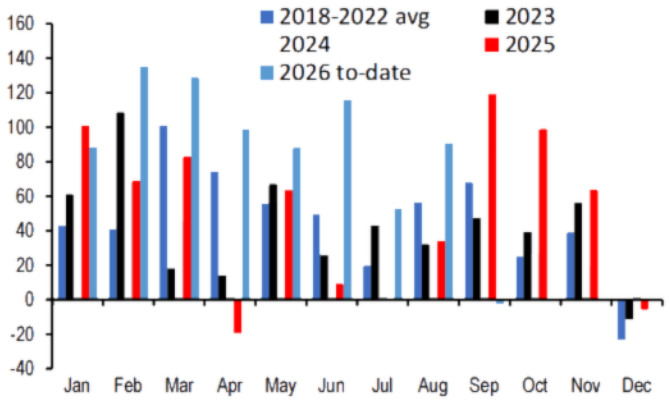
Rolling sum of 4-quarter credit creation as % of GDP. Credit creation includes both bank loans as well as net debt issuance by non-financial corporations and households. The chart uses the FX rates as of the latest observation to calculate the credit creation at constant exchange rates. Last obs. is for Q4'25.



Source: G4 Central banks FoF, BIS, ICI, Barcap, Bloomberg Finance L.P., IMF, and J.P. Morgan Flows & Liquidity.

Chart A34: Monthly net issuance of US HG bonds

$bn. Up to September 3rd.



Source: Dealogic, J.P. Morgan Flows & Liquidity.

Table A5: Equity and Bond issuance

$bn, Equity supply and corporate announcements are based on announced deals, not completed. M&A is announced deal value and buybacks are announced transactions. Y/Y change is change in YTD announcements over the same period last year.

Equity Supply	4-Sep	4 wk avg	13 wk avg	y/y chng
Global IPOs	2.2	2.6	11.4	167%
Secondary Offerings	7.7	15.2	15.3	45%
Corporate announcements				
M&A - Global	114.2	89.3	116.5	35%
- US Target	66.0	39.1	57.3	53%
- Non-US Target	48.1	50.2	59.2	21%
Net bond issuance	**Feb-26**	**3 mth avg**	**YTD avg**	**y/y chng**
USD	8	144	179	-50%
Non-USD	162	129	277	-4%

Source: Bloomberg Finance L.P., Dealogic, Thomson Reuters, J.P. Morgan Flows & Liquidity.

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Bitcoin monitor

Chart A35: Our Bitcoin position proxy, based on open interest in CME Bitcoin futures contracts

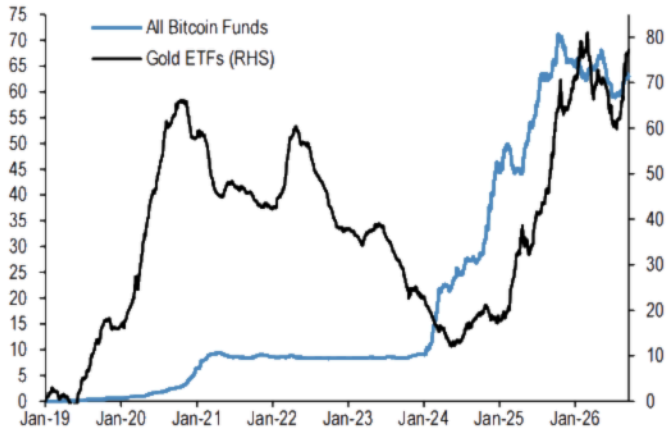
In number of contracts. Last obs. for 15th September 2026.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A36: Cumulative Flows in all Bitcoin funds and Gold ETF holdings

Both the y-axis in $bn.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A37: Ratio of bitcoin market price to production cost

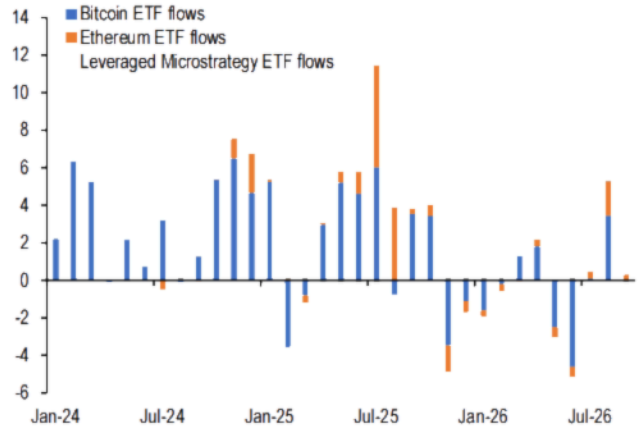
Based on the cost of production approach following Hayes (2018).



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A38: Monthly flows into spot bitcoin ETFs, spot ethereum ETFs and leveraged MicroStrategy ETF

$bn.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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Japanese flows and positions

Chart A39: Tokyo Stock Exchange margin trading: total buys minus total sells

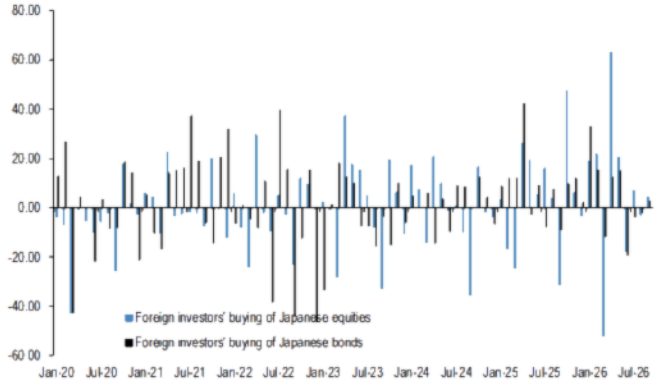
In bn of shares. Topix on right axis.



Source: Tokyo Stock Exchange, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A40: Monthly net purchases of Japanese bonds and Japanese equities by foreign residents

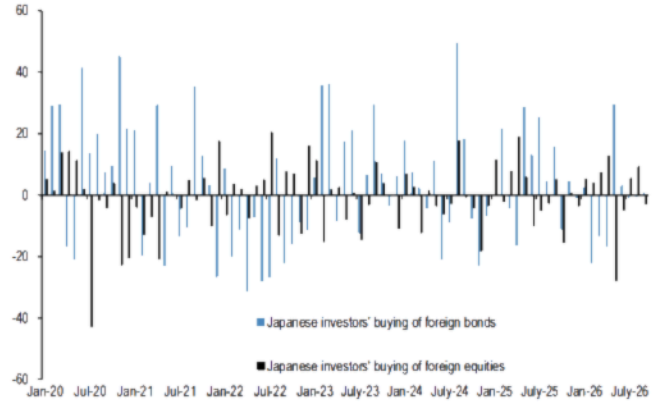
$bn, Last weekly obs. is for 4th Sep' 26.



Source: Japan MoF, Bloomberg Finance L.P., and J.P. Morgan Flows & Liquidity.

Chart A41: Monthly net purchases of foreign bonds and foreign equities by Japanese residents

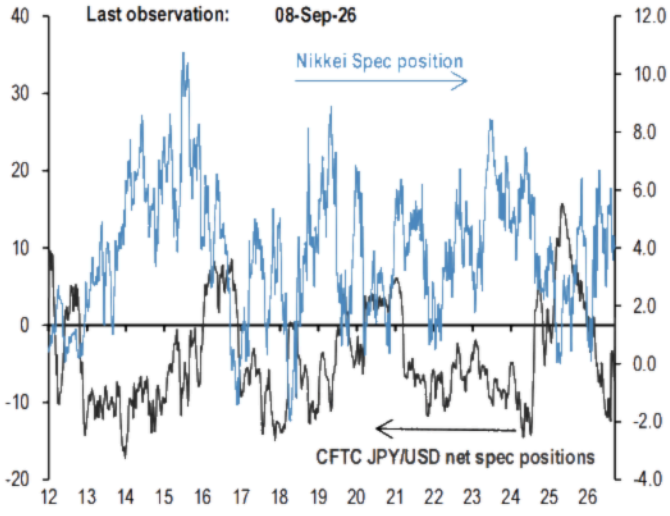
$bn, Last weekly obs. is for 4th Sep' 26.



Source: Japan MoF, Bloomberg Finance L.P., and J.P. Morgan Flows & Liquidity.

Chart A42: Overseas CFTC spec positions

CFTC spec positions are in $bn. For Nikkei we use CFTC positions in Nikkei futures (USD & JPY) by Leveraged funds and Asset managers.



Source: Bloomberg Finance L.P., CFTC, J.P. Morgan Flows & Liquidity.

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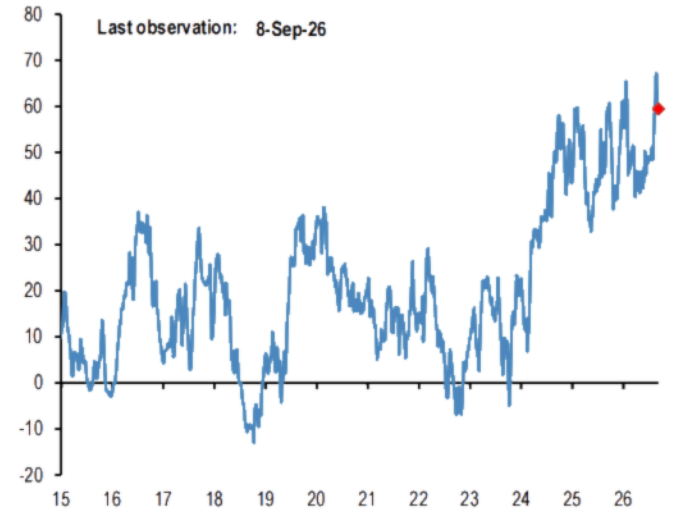
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Commodity flows and positions

Chart A43: Gold spec positions

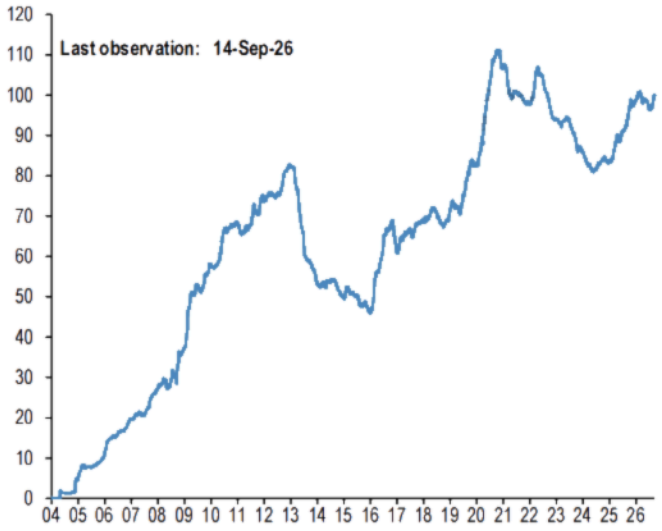
$bn. CFTC net long minus short position in futures for the Managed Money category.



Source: CFTC, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A44: Gold ETFs

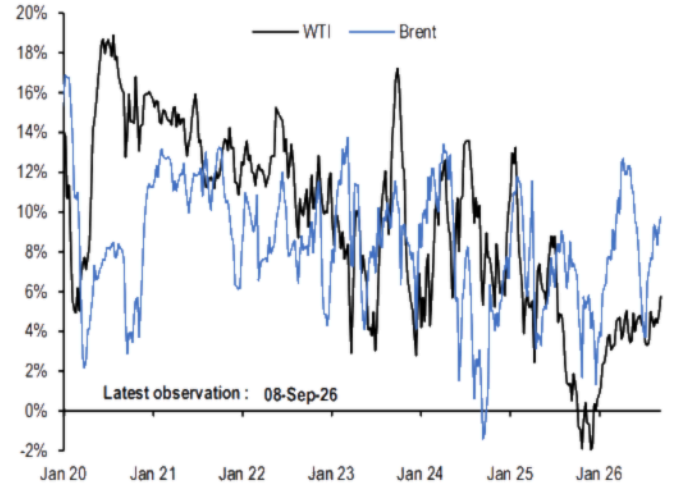
Mn troy oz. Physical gold held by all gold ETFs globally.



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A45: Oil spec positions

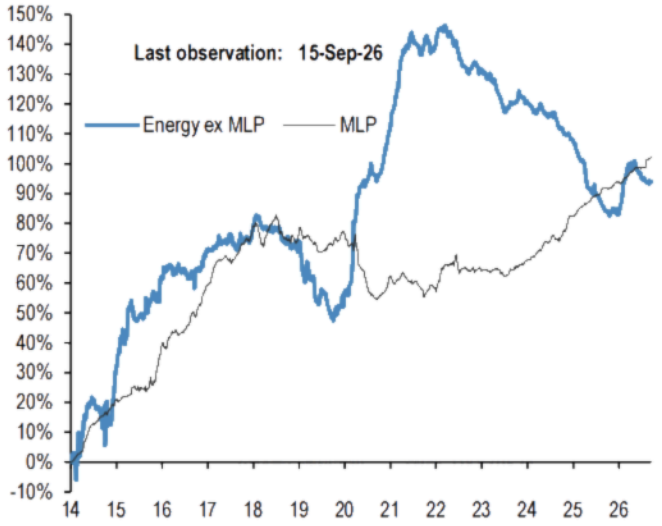
Net spec positions divided by open interest. CFTC futures positions for WTI and Brent are net long minus short for the Managed Money category.



Source: CFTC, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A46: Energy ETF flows

Cumulative energy ETFs flows as a % of AUM. MLP refers to the Alerian MLP ETF.



Source: CFTC, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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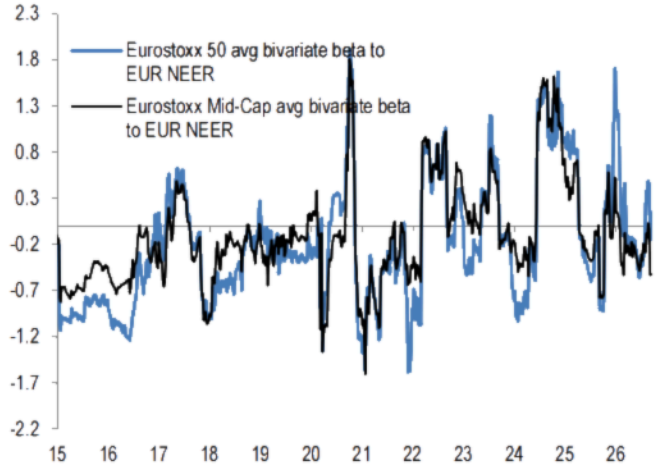
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Corporate FX hedging proxies

Chart A47: Average beta of Eurostoxx 50 companies and Eurostoxx Mid-Cap to trade-weighted EUR

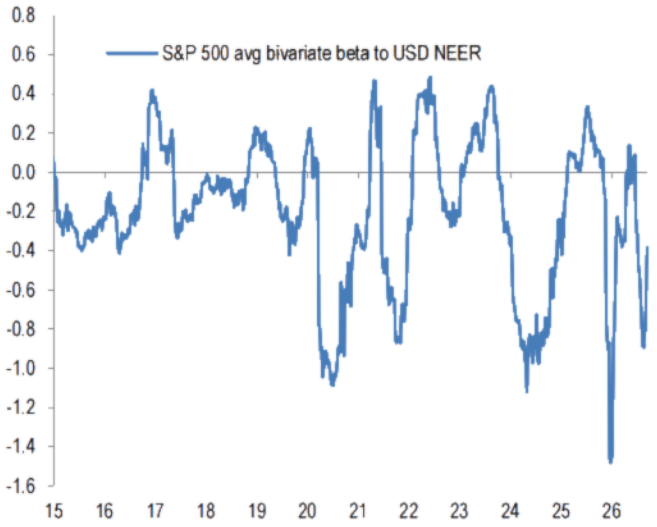
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of individual stocks in the Eurostoxx 50 index to the weekly returns of the MSCI AC World and JPM EUR Nominal broad effective exchange rate (NEER).



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A48: Average beta of S&P500 companies to trade-weighted US dollar

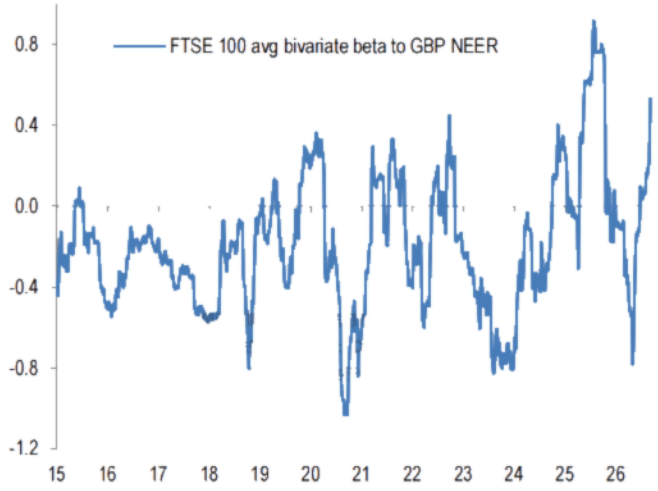
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of stocks in the S&P500 index to the weekly returns of the MSCI AC World and JPM USD Nominal broad effective exchange rate(NEER).



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A49: Average beta of FTSE 100 companies to trade-weighted GBP

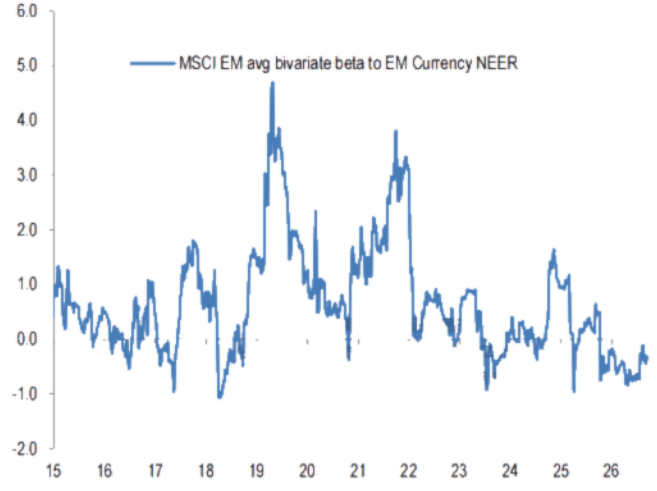
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of individual stocks in the FTSE 100 index to the weekly returns of the MSCI AC World and JPM GBP Nominal broad effective exchange rate (NEER).



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

Chart A50: Average beta of MSCI EM companies to trade-weighted EM Currency Index

Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of individual stocks in the MSCI EM index to the weekly returns of the MSCI AC World and JPM EM Nominal broad effective exchange rate (NEER).



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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Non-Bank investors' implied allocations

Chart A51: Implied equity allocation by non-bank investors globally

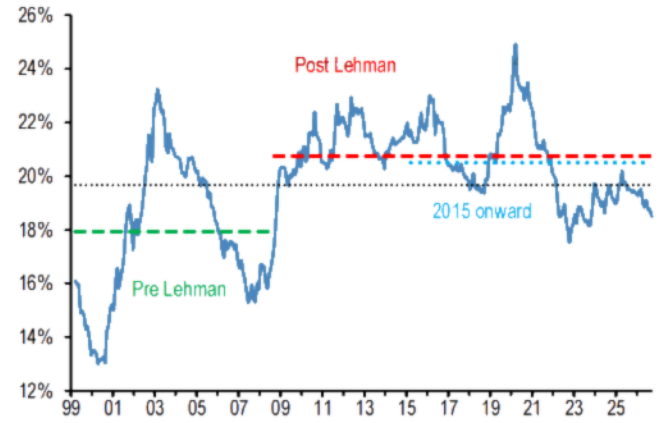
Global equities as % total holdings of equities/bonds/M2 by non-bank investors/ Commodities including gold held by private investors. Dotted lines are averages.



Source: Bloomberg Finance L.P., LSEG DataStream, J.P. Morgan Flows & Liquidity.

Chart A52: Implied bond allocation by non-bank investors globally

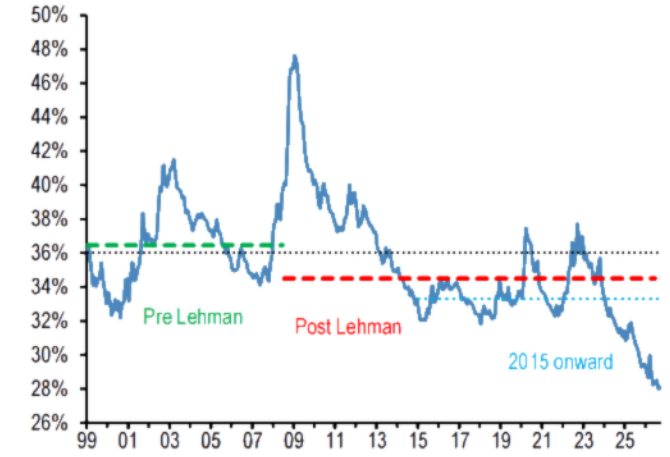
Global bonds as % total holdings of equities/bonds/M2 by non-bank investors/ Commodities including gold held by private investors. Dotted lines are averages.



Source: Bloomberg Finance L.P., LSEG DataStream, J.P. Morgan Flows & Liquidity.

Chart A53: Implied cash allocation by non-bank investors globally

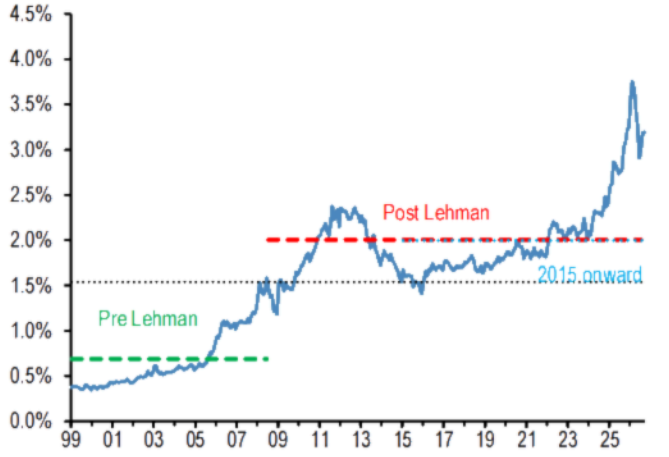
Global cash held by non-bank investors as % total holdings of equities/bonds/M2 by non-bank investors/Commodities including gold held by private investors. Dotted lines are averages.



Source: Bloomberg Finance L.P., LSEG DataStream, J.P. Morgan Flows & Liquidity.

Chart A54: Implied commodity allocation (including privately held gold) by non-bank investors globally

Proxied by the open interest of commodity futures ex gold and privately held gold as % of the stock of equities, bonds, cash held by non-bank investors globally and commodities including gold held by private investors.



Source: Bloomberg Finance L.P., LSEG DataStream, J.P. Morgan Flows & Liquidity.