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Flows & Liquidity

Equity vulnerabilities

- **Elevated equity positioning and leverage have re-emerged, albeit to a lesser extent than last June/July, posing some challenge to equities into Q4.**
- **Bond fund inflows likely supported by equity returns YTD, but the duration impulse remains weak.**
- **Corporate hedging shifts might be making the euro trading long vs the dollar even as spec investors are rather short.**

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 23rd Sept 26.

MF & ETF Flows	Min	Max	4 wk avg ($bn)	2025 avg ($bn)
All Equities			6.9	8.1
All Bonds			5.8	11.3
US Equities			2.7	3.5
US Bonds			3.7	4.3
Non-US Equities			4.2	4.6
Non-US Bonds			2.1	7.0
US HG Bonds			8.9	3.4
US HY Bonds			-0.3	0.4
US Lev. Loans *			0.3	0.0
US MMFs			0.3	4.0
EM Equities			-1.7	0.9
EM Bonds			0.79	0.50
Japan Equities			1.3	-0.1
China Equities			-0.56	-0.15
Europe				
Europe Equities			-0.3	0.9
Europe Bonds			-0.2	4.3
Europe HG Bonds			-0.7	0.9
Europe HY Bonds			-0.15	0.17
Europe MMFs			0.3	3.8
Other Equities			5.14	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 29-Sep-26	MIN	MAX	Current percentile
Equities			0.70
Govt Bonds			0.60
Credit			0.29
Dollar			0.74
Commodities ex Gold			0.84
Gold			0.37
Bitcoin			0.85
EM Equities			0.81
EM Bonds/FX			0.20
Japan Equities			0.59
Europe Equities			0.74
US Equity Sectors:			
Energy			0.69
Materials			0.45
Industrials			0.34
Discretionary			0.49
Staples			0.22
Health Care			0.45
Financials			0.20
Technology			0.72
Communication Services			0.46
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 29 for analyst certification and important disclosures.

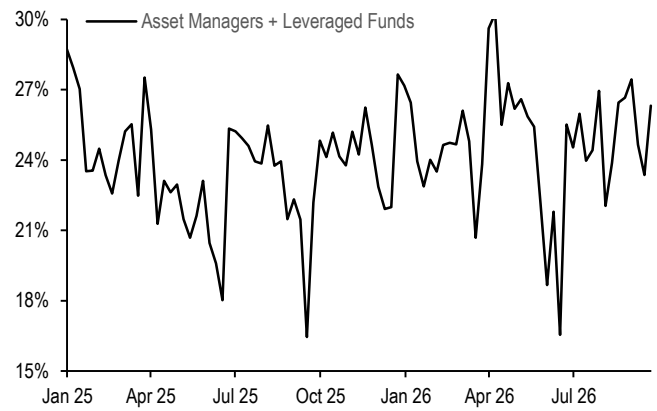
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- We had noted at the end of July (F&L July 29th) that the deleveraging phase that had started in June had advanced faster than we had anticipated and by the end of July, and that previous excesses in leverage and equity positioning had largely unwound.
- Two months later, we find that some of the previous excesses in leverage and equity positioning metrics have returned, which could represent a headwind for equity markets into Q4.
- Where have excesses in equity positioning and leverage re-emerged?
- 1. Starting with hedge funds and other futures-based investors, our positioning metric in US equity futures by asset managers and leveraged funds, which we regularly depict in the Appendix and shown in Figure 1 below for convenience, suggests that leverage via equity futures has rebounded and stands close to YTD highs.

Figure 1: 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, Dow Jones, NASDAQ and their Mini futures contracts.

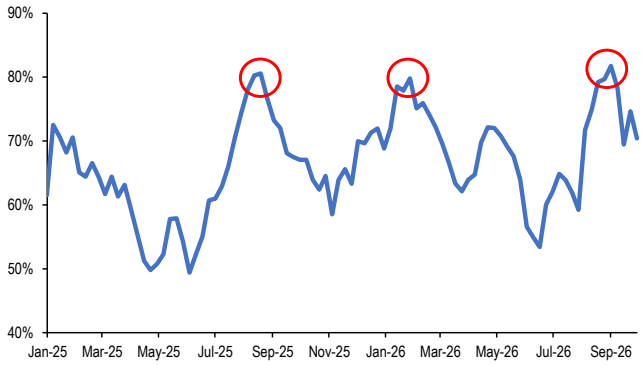


Source: CFTC, Bloomberg Finance L.P. and J.P. Morgan Flows & Liquidity.

- 2. Our broader equity positioning indicator, measured across a wide range of positioning metrics, which is regularly shown in the cross-asset positioning monitor on the front page of our publication and depicted in Figure 2 below for convenience, suggests that overall equity positioning appears to have already peaked in September after reaching previous peaks seen in January 2026 and August 2025.

Figure 2: Broad equity positioning proxy from our cross-asset positioning monitor

Composite percentile since 2016.

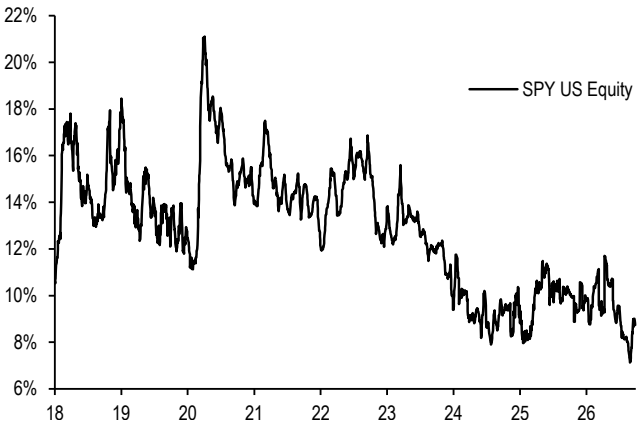


Source: J.P. Morgan Flows & Liquidity.

- 3. The short interest in SPY, the biggest equity ETF in the world appears to be bottoming out after hitting a record low at the start of September (Figure 3).

Figure 3: Short interest in SPY US Equity ETF

% of outstanding shares.



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

- 4. The normalization of previous elevated short interest on important semiconductor ETFs such as SMH and DRAM (Figure 4) suggests that previous short covering is largely behind us.

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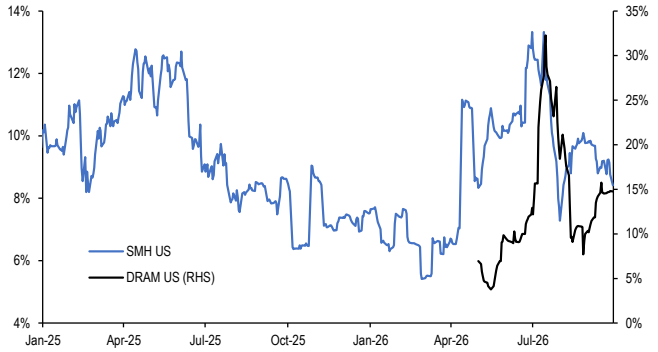
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Figure 4: Short interest on SMH and DRAM US Equity ETFs

Short Interest as a % share of shares outstanding.

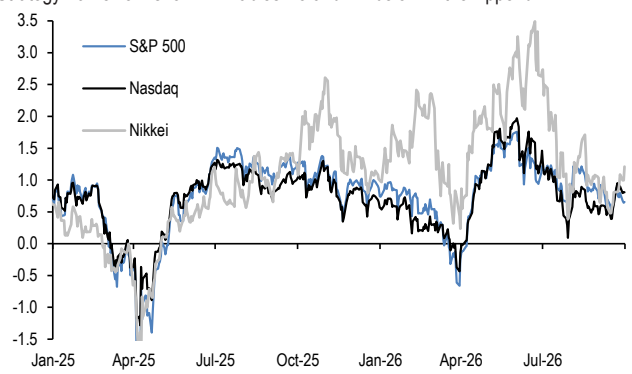


Source: S3, J.P. Morgan Flows & Liquidity.

- 5. Although far from the highs of last May/June in terms of levels, the rebound of momentum signals in tech heavy equity indices suggests that momentum traders such as CTAs have begun to rebuild long positions in Nasdaq, Kospi, Taiwan and Nikkei (Figure 5 and Figure 6), though we remain far from previous extremes. In addition, Figure 6 suggests that the previously popular relative trade during April-June of selling China's internet companies (HSCEI Index) and buying Korea and Taiwan equities, has re-emerged during August-September.

Figure 5: Momentum signals for major equity indices

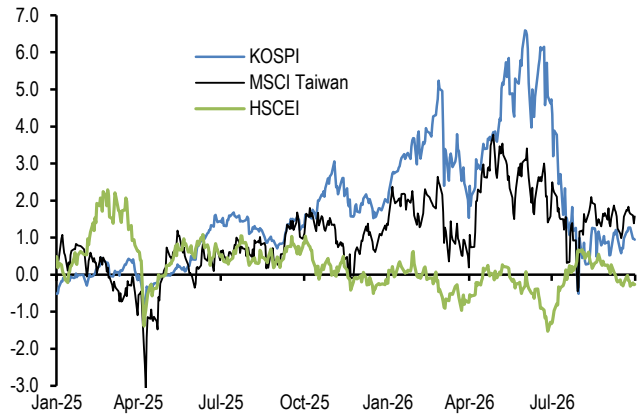
Average z-score of Short- and Long-term momentum signal in our Trend Following Strategy framework shown in Tables A3 and A4 below in the Appendix.



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

Figure 6: Momentum signals for Asian equity indices

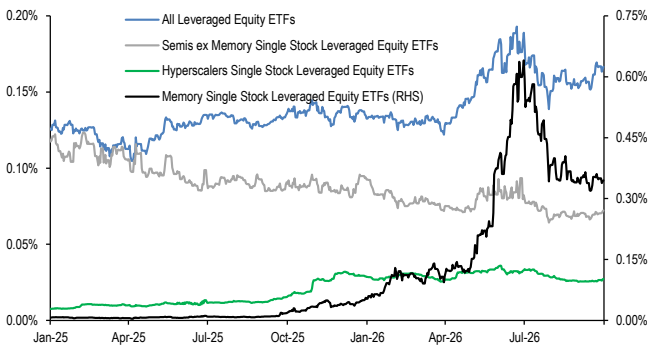
Average z-score of Short- and Long-term momentum signal in our Trend Following Strategy framework shown in Tables A3 and A4 below in the Appendix.



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

- 6. For leveraged equity ETFs, after bottoming out at the end of July, the AUM ratio of leveraged equity ETFs to the market cap of underlying stocks has increased in recent weeks across all leveraged equity ETFs (including both equity index and individual stock leveraged ETFs), standing at around 70% between its low in April and the high in June (blue line in Figure 7). For memory stocks, the ratio has not increased notably, though it still stands at around 50% of its April-June range (black line in Figure 7). In other words, the leveraged ETF problem as a cause of deleveraging and source of excessive volatility could reemerge as an issue for equities if the increase in overall leveraged equity ETFs increases further.

Figure 7: AUM of leveraged equity ETFs as % of the market cap of underlying stocks



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

- 7. Leverage in margin accounts stood at a very elevated level in August, as shown in Figure 8 suggesting that margin account leverage has barely changed because of June/July's deleveraging and still presents a significant vulner-

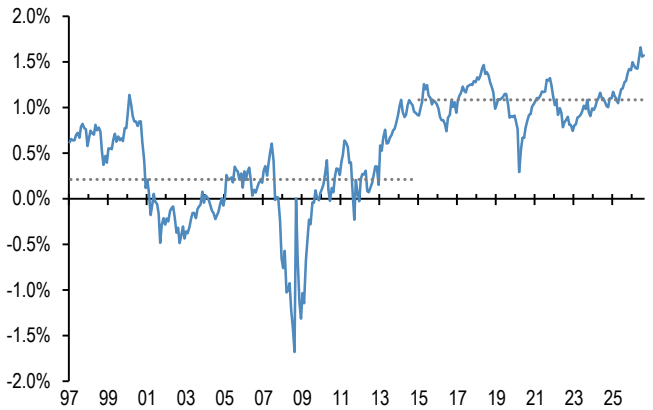
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ability for equities. As a reminder, for margin accounts we use the NYSE Net Debit balance as a proxy for US individual investor leverage. While in principle it includes both retail and institutional investors, we believe the majority is likely retail investors. In contrast to hedge funds, who can get leverage more easily or cheaply via options and futures, individuals rely more on Federal Reserve Regulation T. This regulation, which governs customer cash accounts and the amount of credit that brokerage firms and dealers may extend to customers for the purchase of securities, stipulates that one can borrow up to 50% of the purchase price of securities that can be purchased on margin. The NYSE Net Debit balance is calculated as the difference between margin debit balance minus the sum of total credit balances (cash accounts credit + margin account credit). This leverage proxy suggests that US individual investor leverage via margin accounts stood at a very elevated level in August and therefore still presents a significant vulnerability for equities.

Figure 8: Net Debit balances in NYSE margin accounts

The NYSE margin account Net Debit balance is equal to the margin debit balance minus the sum of total credit balances (cash account credit +margin account credit). The blue line is constructed by the Net Debit balance in $bn divided by the market capitalisation of the S&P500 Index. Last monthly observation is for August 2026.

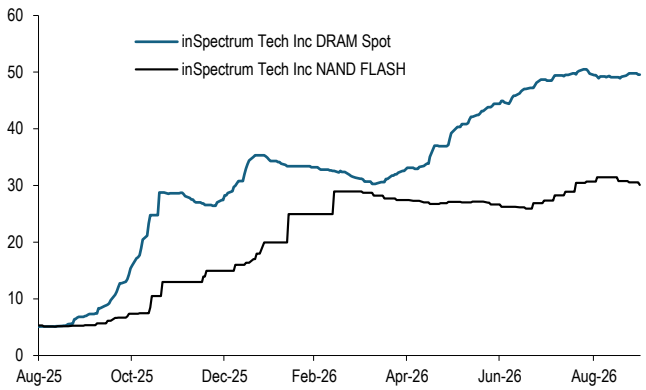


Source: FINRA, J.P. Morgan Flows & Liquidity.

- In all, elevated equity positioning and leverage have re-emerged, albeit to a lesser extent than last June/July, posing some challenge to equities into Q4. Despite the potential headwinds from positioning and leverage noted above, we still see the tech/AI complex being supported fundamentally as highlighted by our equity research teams, implying that any renewed equity VaR shocks like the one seen last June/July would not derail the tech bull market. In particular, we believe the tech/AI complex will continue to receive fundamental support from the following developments:

  1. Memory prices are still on a rising trend providing fundamental support to memory makers, which have been a high beta sector of the tech/AI complex (Figure 9).
  2. The hyperscalers capex projections have been raised significantly by analysts for both 2026 and 2027 (Figure 10) to $805bn and $1.1tr, respectively from $758bn and $925bn on July 1st.
  3. The price of AI compute is holding up as proxied by Hopper rental prices in Figure 11. The price for AI compute would be key for the ability of hyperscalers to monetize their AI capital spending. The higher the price for compute, the higher the ability by hyperscalers to maintain or increase their profit margins. After some persistent downward pressure on compute pricing into end-2025, there have been some signs of improvement in recent months. In addition, the picture of Figure 11 casts doubt on excessive obsolescence/depreciation assumptions made by some investors.

Figure 9: inSpectrum Tech memory prices



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

Figure 10: US hyperscalers capex projections by the consensus of bottom-up analysts as reported by Bloomberg

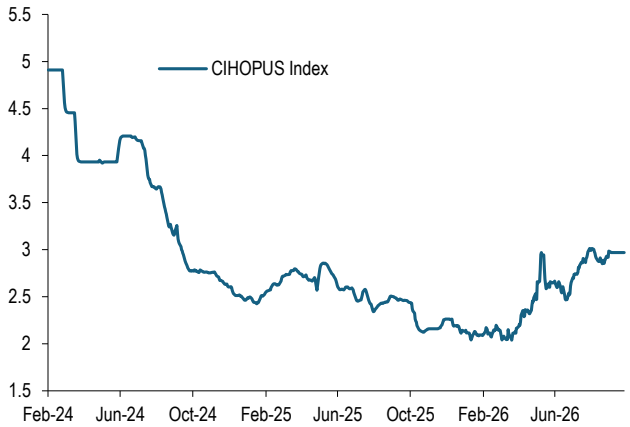
In $bn	23	24	25	26E	27E	28E	29E	30E
Google	32.3	52.5	91.4	201.8	309.4	345.7	344.3	355.5
Amazon	52.7	83.0	131.8	221.6	281.3	301.9	281.1	285.3
Meta	27.3	37.3	69.7	139.3	198.5	215.9	208.6	220.5
Microsoft	28.1	44.5	64.6	158.4	207.8	233.2	260.6	285.4
Oracle	8.7	6.9	21.2	83.9	94.8	104.9	95.1	72.9
Total	149.0	224.1	378.7	804.9	1,091.8	1,201.6	1,189.7	1,219.7
Y/Y growth	-4%	50%	69%	113%	36%	10%	-1%	3%

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

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Figure 11: Compute Desk's Hopper US Index

Aggregates listed on-demand and reserved prices for renting NVIDIA Hopper (H100 and H200) GPUs from US neocloud providers. The Index is priced in US dollars per GPU per hour.



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

Bond fund inflows likely supported by equity returns YTD, but the duration impulse remains weak

- The sell-off in bond markets in recent weeks has raised questions in our conversations over bond fund flows. Looking at the inflow into bond funds globally on an annualized basis, and adjusting the 3Q to-date total by adding the average contribution from quarterly reporting funds over the previous four quarters, suggests that these flows are tracking an annualized pace of around $1.7tr. Despite this strength, it appears to have had little influence in terms of capping yield rises.
- To look at this question, we first revisit our forecasting model for bond fund flows (F&L, Sep 25th 2024). This model projects the current year's bond flows as a % of AUM as a function of the previous year's bond flow and the previous year's bond return. As we noted in our analysis for the global bond supply-demand balance (F&L, Nov 26th 2025), based on the bond fund flows and bond returns in 2025, this would have implied inflows into bond funds of around $1.1tr. This has already been exceeded by the end of September this year.
- An alternative way to use the framework is to add contemporaneous returns to see if this helps explain this year's flow. In particular, given the ongoing strength of equities, it is possible that the strength in bond fund inflows could be a reflection of a rebalancing flow by retail investors to keep their equity weights from rising too much. Figure 12 below shows the regression coefficients for a model that adds contemporaneous equity returns to the forecasting model based on previous years' bond flow and return. Applying annualized YTD equity returns and annualized bond returns and flows as a % of AUM to this model suggests inflows into bond funds of around $1.4tr. This suggests that the strength in equity returns YTD could explain around half of the gap between the $1.1tr inflows implied by the forecasting model and the $1.7tr annualized pace of bond fund inflows.

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Figure 12: Regression model for bond fund flows (as % AUM)

Dependent Variable: BOND_FLOW
Sample (adjusted): 2007 2025
Included observations: 19 after adjustments

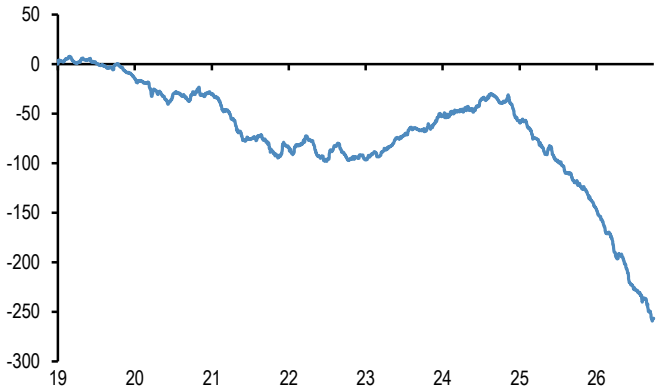
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.04	0.01	3.84	0.00
BOND_FLOW(-1)	-0.22	0.15	-1.44	0.17
BOND_RETURN(-1)	0.31	0.17	1.84	0.09
EQ_RETURN	0.20	0.04	5.48	0.00
R-squared	0.71			

Source: J.P. Morgan Flows & Liquidity.

- But while strong equity returns may help to explain the strength in inflows into bonds, it does not explain the lack of impact from these inflows on yields. One explanation for this could be the duration impulse of inflows into bond funds. We can look at inflows into bond ETFs on a duration-adjusted basis, i.e. adjusting daily bond ETF flows by the empirical duration of each bond ETF. We calculate the empirical duration using the average sensitivity of price returns of each ETF to daily changes in the Bloomberg US Agg index over 1-year rolling periods. We then multiply the flow of each ETF by its empirical duration in years to derive a duration-adjusted bond ETF flow, and convert the aggregated flows across ETFs to US Agg duration equivalents by dividing the adjusted sum by the duration of the Bloomberg US Agg index. Finally, we calculate the difference between this duration-adjusted bond ETF flow and the nominal daily bond ETF flow to estimate the duration impulse. A positive difference indicates bond ETF flows have a longer-than-average duration, and negative numbers suggest a shorter-than-average duration. Figure 13 shows the cumulative sum of this duration impulse, and as we have noted previously, we have seen a shift from a positive duration impulse in 2023 and 2024 to a rather negative duration impulse in 2025 and 2026 to-date.

Figure 13: Duration impulse from net inflows into bond ETFs

In $bn. Measured as the cumulative difference between daily net daily bond ETF flows adjusted to Bloomberg US Agg index duration equivalents and the bond ETF flows in dollar terms.



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

- We can further compare the cumulative inflows into these bond ETFs on a duration-adjusted and unadjusted basis for 2026 to-date. When we do this, we estimate that the duration-adjusted inflow into bond ETFs is running at around half the cumulative pace of the unadjusted inflow. If we assume that this is representative of the duration impulse of inflows into global bond funds, admittedly a strong assumption, this would imply that the inflow into bond ETFs has been running at a pace of around $0.9tr in Global Agg duration equivalent terms, which would be modestly weaker than the $1.1tr bond fund flow from our forecasting model based on last year's bond fund flows and returns. In other words, it appears likely that the apparently limited impact of the record annualized pace that inflows into bond funds is currently tracking on bond yields is due to the weak duration impulse of these inflows.
- Another explanation is positioning by bond investors more broadly. To look at a broader positioning metric, we revisit our metric of bond market reactions to economic news. To construct this indicator, we take as our starting point the economic releases incorporated in our USD and EUR EASI indices, complement them with inflation releases, and calculate for each release the z-score of surprises (actual – survey median) / (std. dev. of past surprises) and the z-score of changes in UST and Bund yields for that day. We calculate separately the average beta (or the ratio of the z-score of UST and Bund yield changes over the z-score of economic surprises) for positive and negative news over rolling two-month windows, and take the difference between the two. An exponential-weighted scheme is used in order to attach a higher weight to more recent observations. This indicator represents an indirect positioning metric, and positive (negative) values suggest

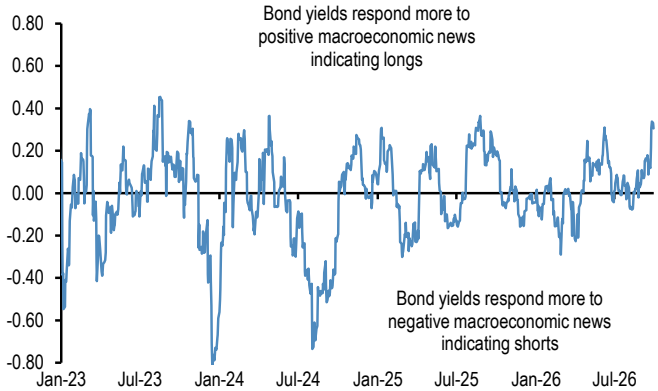
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bond investors have found themselves longer (shorter) duration than desired given the surprises in the economic data flow, rather than necessarily long (short) relative to a benchmark.

- Figure 14 shows this metric, which shows that after having been largely neutral in late August, bond investors have found themselves increasingly longer duration than desired as markets have repriced central bank policy expectations. In addition, our cross-asset positioning metric above, which aggregates across a number of positioning metrics as a way to measure broader positioning, also suggests that bond positions have been on the long side.

Figure 14: Difference in the beta of the average of 10y UST and 10y Bund yields to positive US and Euro area economic news minus beta to negative news (including inflation news)

42 day exponential weighted moving average (lambda = 0.98).



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

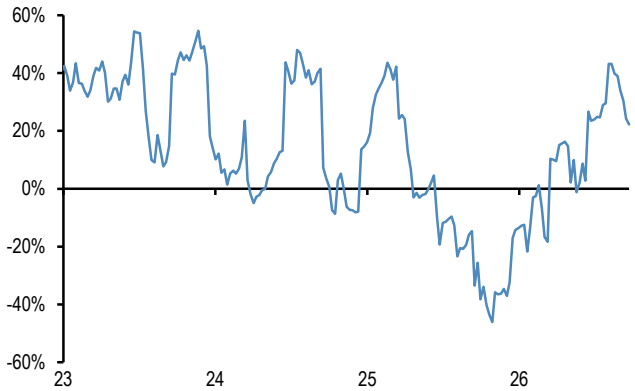
- In all, the strength in bond fund inflows is likely at least in part explained by strong equity returns YTD inducing some rebalancing demand from retail investors to avoid equity weights rising too much. That said, the duration impulse remains weak, providing less support for bond yields, and reactions to macroeconomic news suggest bond investors have found themselves longer duration than desired as markets began to reprice central bank policy expectations.

Corporate hedging shifts might be making the euro trading long vs the dollar even as spec investors are rather short

- The dollar rally over the past month has pushed DXY above 100 and the euro below 1.14 vs the dollar.
- Spec positioning has moved accordingly, with the DXY having reached its most overbought level before retracing and the EUR positioning shifted further into negative territory (Figure 15 and Figure 16). Our momentum signals in Figure 17 are similarly suggesting that momentum traders, such as CTAs are also short the euro and long the dollar.

Figure 15: Net spec position in DXY

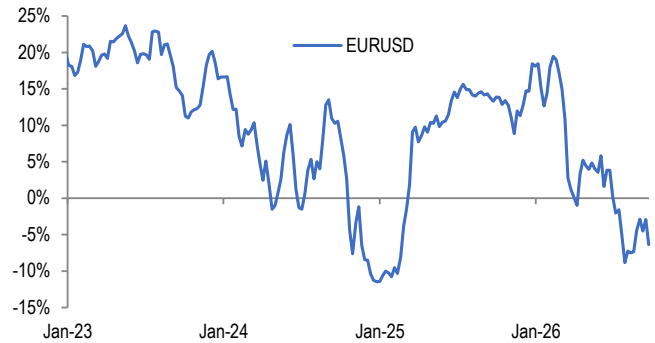
As a % of open interest. Last obs. is 22nd Sep 2026.



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

Figure 16: Net spec position in EURUSD

As a % of open interest. Last obs. is 22nd Sep 2026.



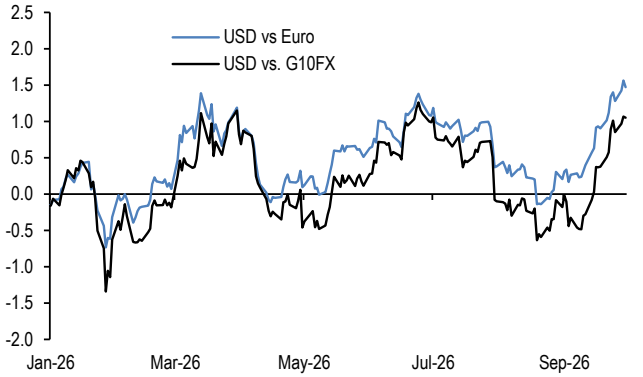
Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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Figure 17: Momentum signals for dollar vs Euro and G10FX

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

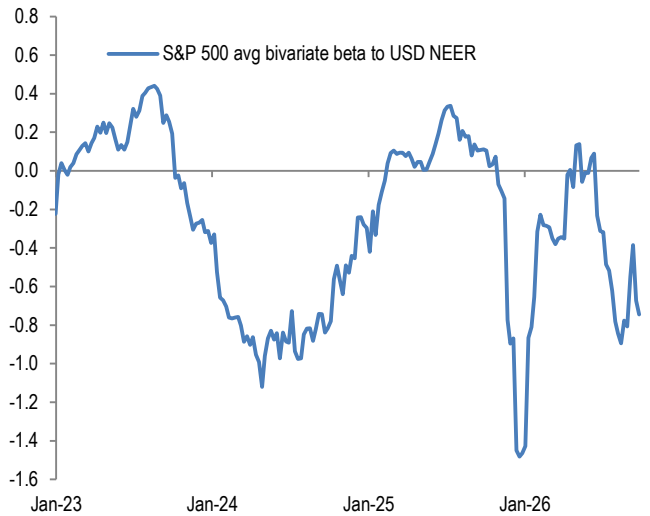


Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- If spec positioning suggests the euro is oversold vs the dollar, how come the euro is trading long?
- One explanation might be the previous stance of corporate hedgers. As shown in Figure 18 and Figure 19 our corporate hedging proxies suggest that in recent months, ahead of the past month's dollar rally, Euro corporates went effectively rather long the euro while US corporates went rather short the dollar. Assuming this assessment is correct, then it is possible that corporate hedgers are currently scrambling to normalize their effective fx exposures by trying to move closer to neutral, thus exerting downward pressure on the euro and upward pressure on the dollar. Given the lagging nature of the proxies in Figure 18 and Figure 19, it would take at least a few weeks before any normalization in the effective fx exposures by corporates shows up in these proxies.

Figure 18: Average beta of S&P500 companies to trade-weighted US dollar

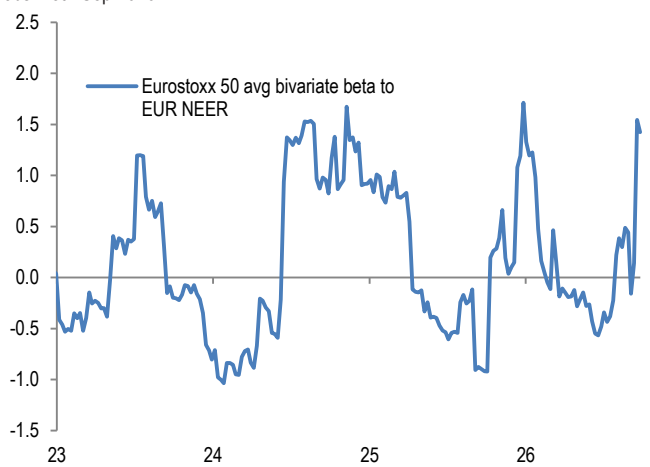
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of stocks in the S&P500 index to the weekly returns of the MSCI AC World and JPM USD Nominal broad effective exchange rate (NEER). Last obs. 25th Sep 2026.



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

Figure 19: Average beta of Eurostoxx 50 companies 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). Last obs. 25th Sep 2026.



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

- Gauging corporate hedging behavior or their currency exposure is a difficult task given that corporates face multiple currency influences both in terms of cash flow and balance sheet items. In addition, their reporting on hedges is rather sporadic, lagged and incomplete. To overcome this difficulty, the academic literature devised indirect ways to gauge corporates' currency exposures via measur-

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ing the sensitivity of equity values to foreign exchange changes. Effectively, we follow the extensive academic literature built on the original paper by Adler and Dumas ("Exposure to Currency Risk" 1984) as discussed in our past (F&L , Sep 1st 2017) and we proxy the currency exposure of corporates via the following bivariate regression at the individual firm level:

- $R_{i,t} = a + c_i \times RM,t + b_i \times \Delta FX,t + residual$

- where $R_{i,t}$ is the return on the equity value of the firm i for the period t-1 to t, RM,t is the return on the market portfolio proxied by the MSCI AC World in local currency terms, c_i is the firm's market beta, ΔFX, t is the change in the relevant trade weighted exchange rate for the period t-1 to t and b_i is the firm's exchange rate beta. This exchange rate beta coefficient is used as a proxy for each firm's net currency exposure. It effectively reflects the change in each firm's value that can be explained by movements in the exchange rate after conditioning on the market return. Most empirical academic studies follow the above specification, i.e. they include the return to a market portfolio along with the exchange rate variable in their regression models. The market portfolio return not only controls for "macro" influences on a firm's value outside the exchange rate, but also improves the precision of the regression coefficient estimates as the residual variance of the model is dramatically reduced.
- For convenience, we update these proxies regularly in the Appendix of our publication in Charts 47-50.

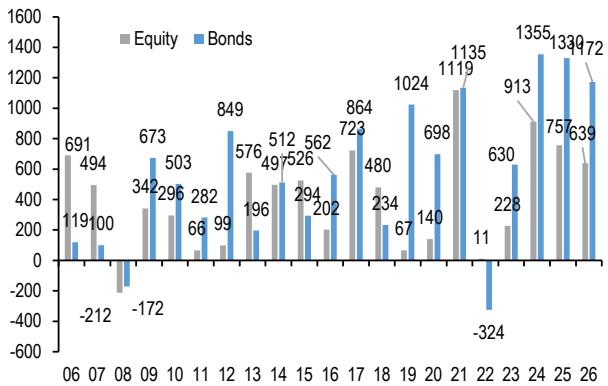
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Appendix

Chart A1a: Global equity & bond fund flows

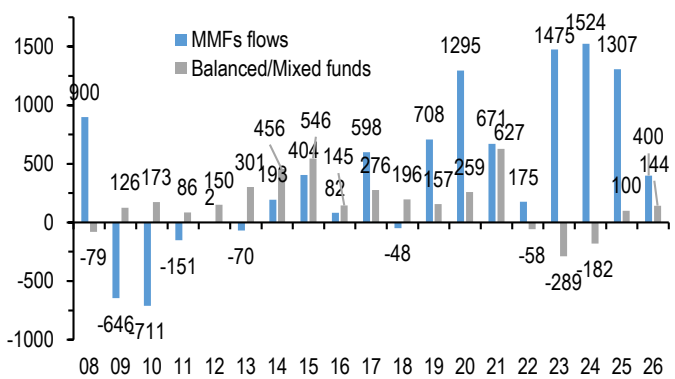
$bn per year of Net Sales, i.e. includes net new sales + reinvested dividends for Mutual Funds and ETFs globally, i.e. for funds domiciled both inside and outside the US. Flows come from ICI (worldwide data up to Q2'26). Data since then are a combination of monthly and weekly data from Lipper and Bloomberg.



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

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

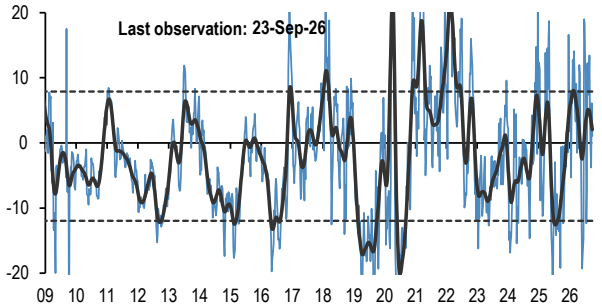
$bn per quarter of Net Sales, i.e. includes net new sales + reinvested dividends for Mutual Funds and ETFs globally, i.e. for funds domiciled both inside and outside the US. Data come from ICI (worldwide data) and are till Q2'26.



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			1.3	$1.5	118%
DM Equity			1.5	$13.8	43%
Govt Bonds					
UST cash			12.2	$17.8	8%
UST futures			0.8	$27.1	10%
JGBs			48.3	¥4,165	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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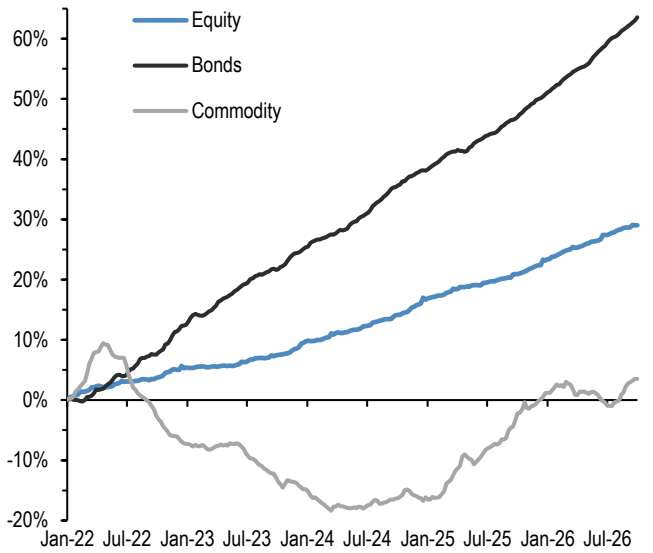
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ETF Flow Monitor (as of 30th September)

Chart A3: Global Cross Asset ETF Flows

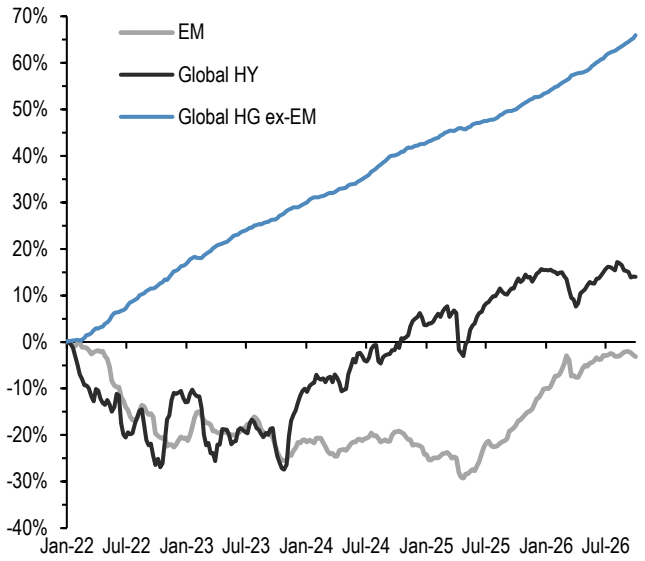
Cumulative flows into ETFs as a % of AUM



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

Chart A4: Bond ETF Flows

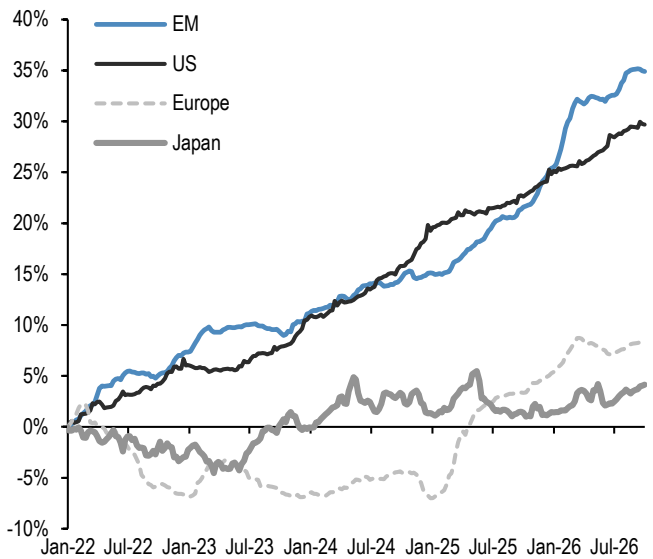
Cumulative flows into bond ETFs as a % of AUM



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

Chart A5: Global Equity ETF Flows

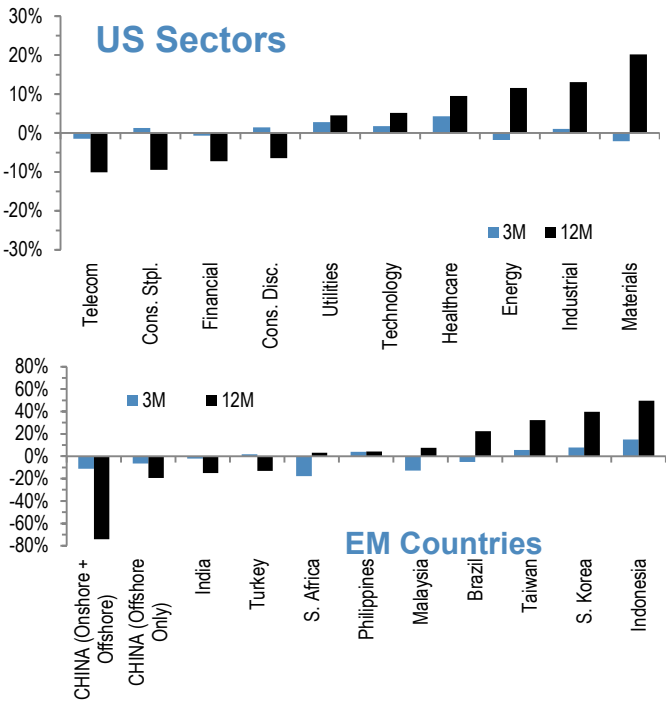
Cumulative flows into global equity ETFs as a % of AUM



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



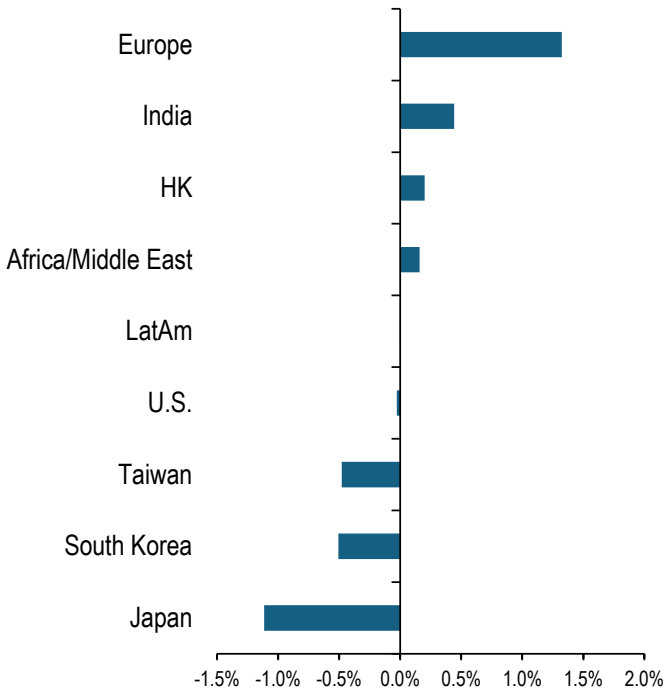
Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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Chart A6b: Regional Equity Allocation Monitor Implied by ETFs

In %.



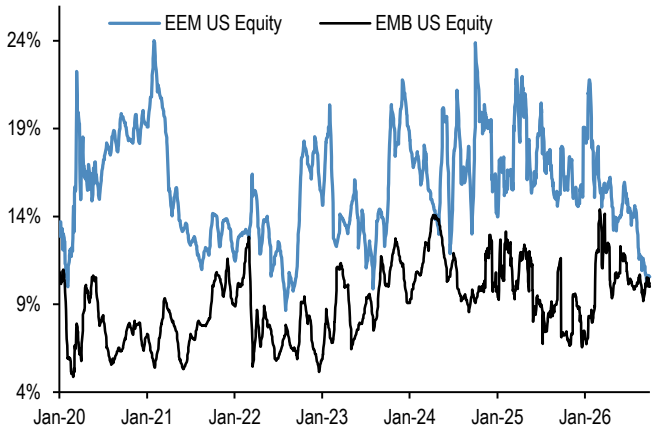
Source: Bloomberg Finance L.P., MSCI and J.P. Morgan Flows & Liquidity.
Note: Our regional equity allocation monitor implied by ETFs is based on a comparison of the share of each region in the equity ETF space relative to their corresponding shares in global equity indices.

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Short Interest Monitor

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

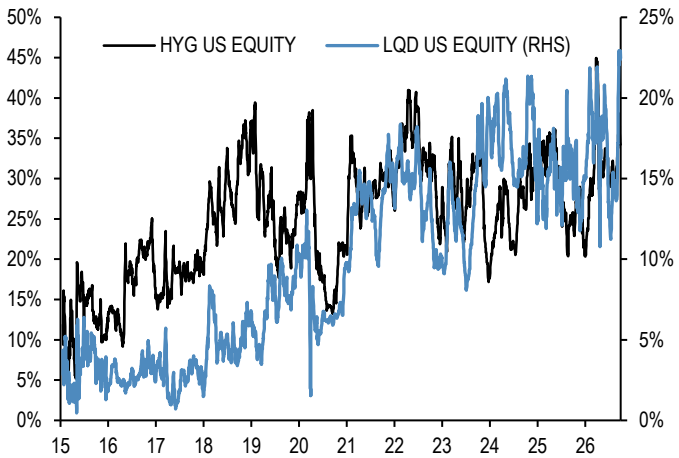
Short Interest as a % share of shares outstanding.



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

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

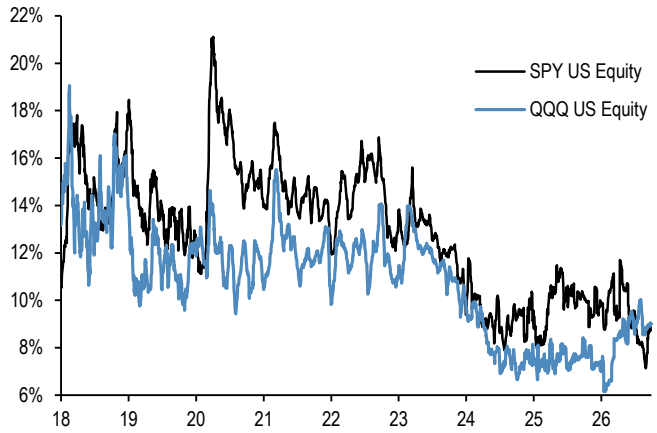
Short Interest as a % share of shares outstanding.



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

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

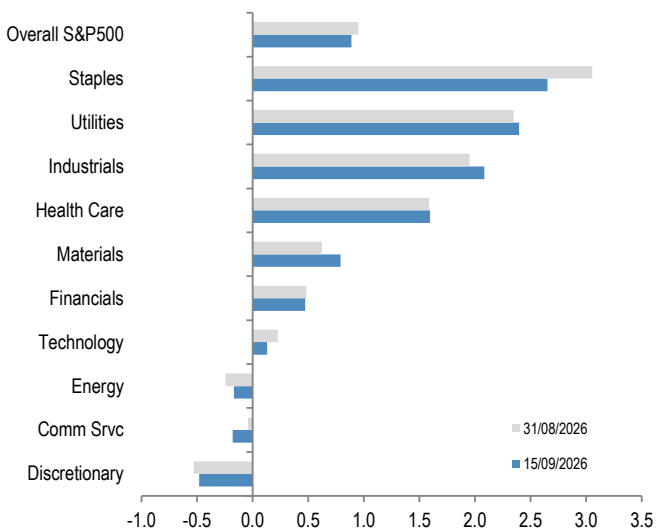
Short Interest as a % share of shares outstanding. Last obs is for 28th Sept 2026.



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 28th 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	14%	14%	03-Sep-26	24%	27-Mar-26	10%	1%	1.22x
EuroSTOXX	16%	14%	05-Jan-26	26%	27-Mar-26	11%	2%	1.27x
Nikkei 225	24%	20%	03-Oct-25	33%	31-Mar-26	9%	5%	1.24x
Hang Seng	18%	17%	04-Sep-26	24%	26-Mar-26	7%	1%	1.37x
MSCI EM	24%	14%	09-Dec-25	38%	01-Jul-26	14%	9%	1.05x
Gold	21%	16%	03-Oct-25	33%	26-Mar-26	12%	6%	0.98x
Oil (brent)	51%	27%	11-Nov-25	89%	30-Mar-26	38%	25%	1.25x
Copper	21%	18%	13-Jul-26	37%	03-Feb-26	16%	3%	0.73x
BB commodity index	19%	13%	10-Dec-25	25%	30-Mar-26	6%	5%	1.37x
EUR/USD	6%	5%	15-Jun-26	8%	13-Mar-26	2%	1%	1.54x
USD/NOK	8%	8%	17-Dec-25	11%	30-Mar-26	3%	0%	1.38x
USD/JPY	9%	7%	16-Jul-26	10%	27-Mar-26	1%	2%	0.73x
GBP/USD	6%	6%	14-Aug-26	8%	27-Mar-26	2%	0%	1.50x
USD/CHF	7%	6%	29-May-26	9%	29-Jan-26	2%	1%	1.33x
10y US swaps	99%	62%	27-Jan-26	99%	28-Sep-26	0%	37%	1.45x
10y Eur swaps	89%	43%	26-Feb-26	97%	27-Mar-26	8%	46%	1.33x
CDX IG	42%	37%	22-Sep-26	62%	27-Mar-26	20%	6%	2.14x
CDX HY	39%	31%	09-Jan-26	57%	30-Mar-26	18%	8%	2.03x
iTraxx	45%	37%	09-Jan-26	70%	27-Mar-26	24%	8%	1.67x
iTraxx X/O	46%	38%	16-Jun-26	66%	27-Mar-26	20%	8%	1.62x

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 (28-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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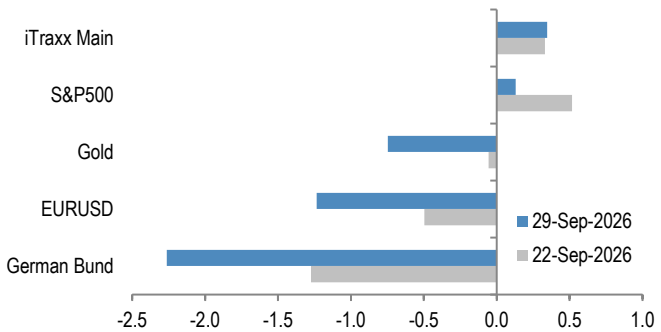
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Chart A11b: Option skew monitor

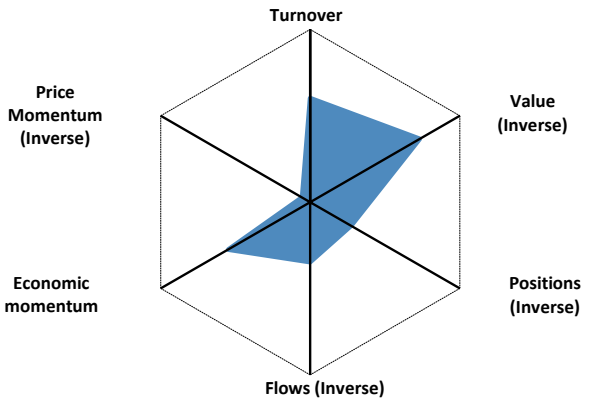
Skew is the difference between the implied volatility of out-of-the-money (OTM) call options and put options. A positive skew implies more demand for calls than puts and a negative skew, higher demand for puts than calls. It can therefore be seen as an indicator of risk perception in that a highly negative 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 25th Sep.



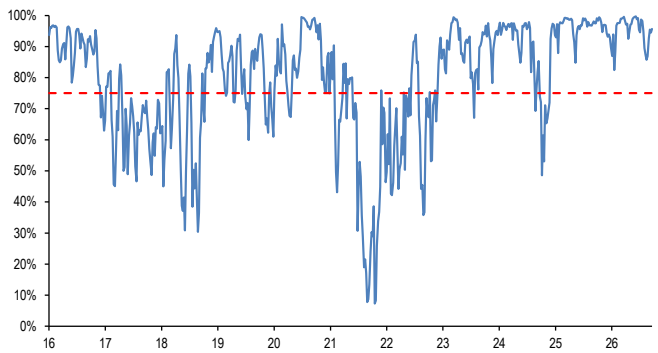
Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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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

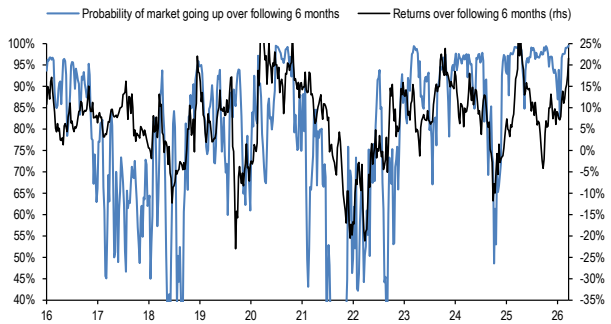
In %. Based on the methodology laid out in the F&L, 25th June 2025.

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



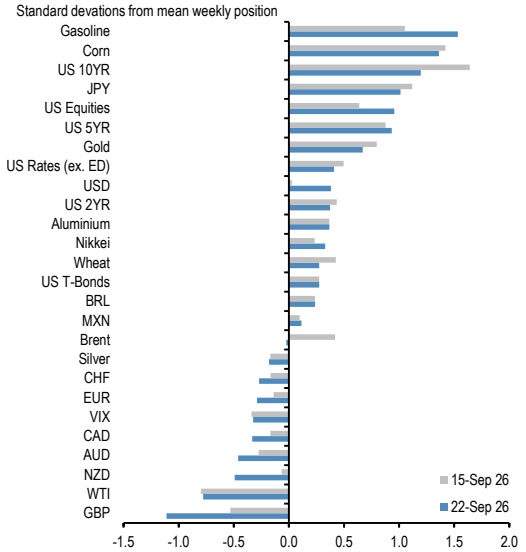
Source: J.P. Morgan Flows & Liquidity.

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Spec position monitor

Chart A12: Weekly Spec Position Monitor

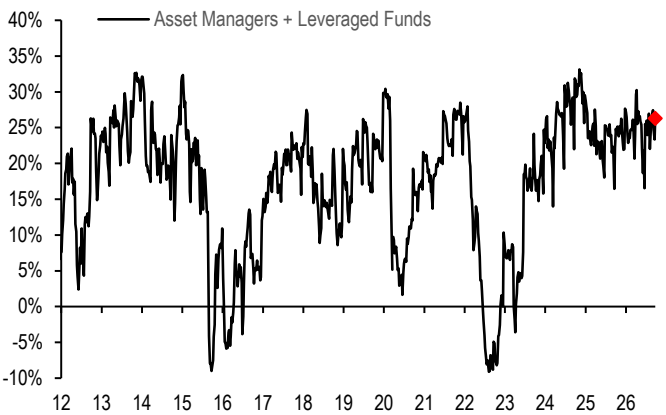
Net spec positions are proxied by the number of long contracts minus the number of short contracts using the speculative category of the Commitments of Traders reports (as reported by CFTC). To proxy for speculative investors for equity and US Treasury bond futures positions we use Asset managers and 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

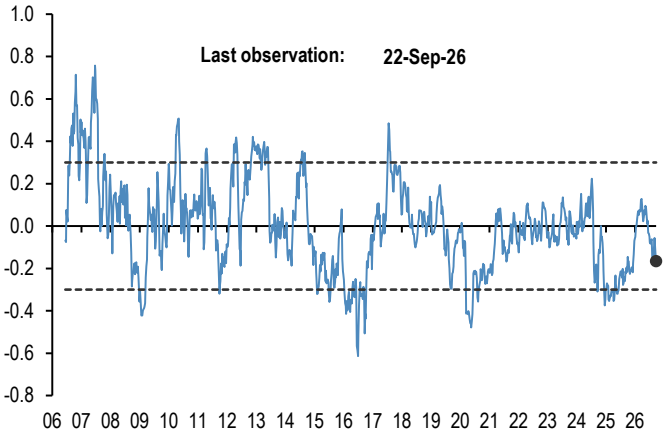
CFTC positions in US equity futures by Leveraged funds and Asset managers (as a % of open interest). It is an aggregate of the S&P500, DowJones, NASDAQ and their Mini futures contracts.



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

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

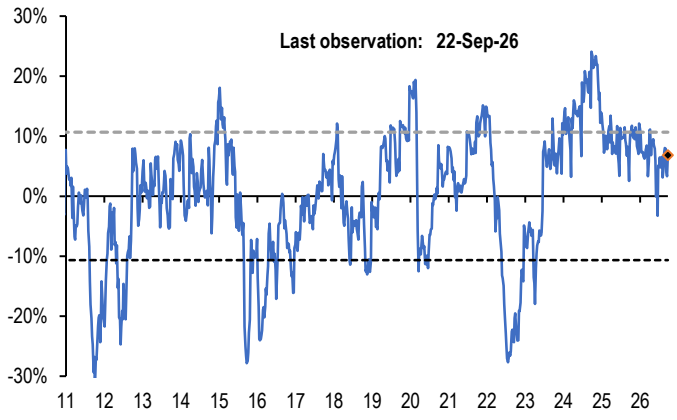
Difference between net spec positions on risky & safe currencies. Net spec position is calculated in USD across 5 'risky' and 3 'safe' currencies (safe currencies also include Gold). These positions are then scaled by open interest and we take an average of 'risky' and 'safe' assets to create two series. 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.

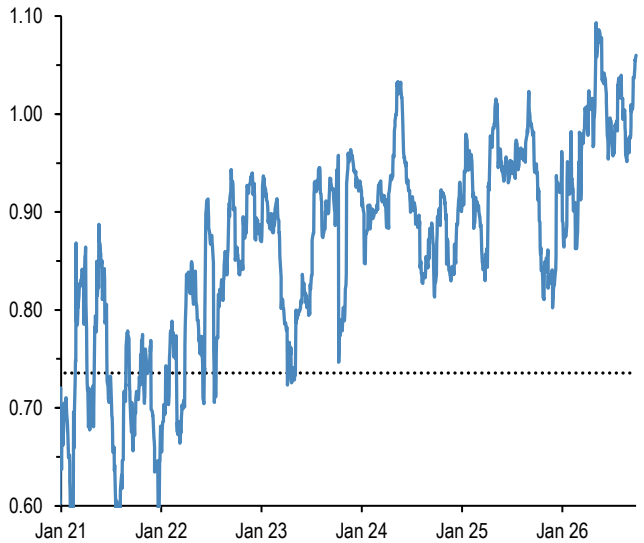
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Mutual fund and hedge fund betas

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

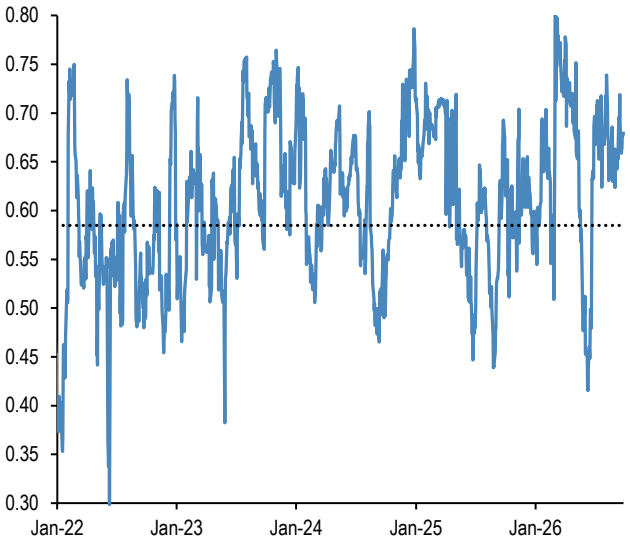
The dotted line shows the average beta since 2013.



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

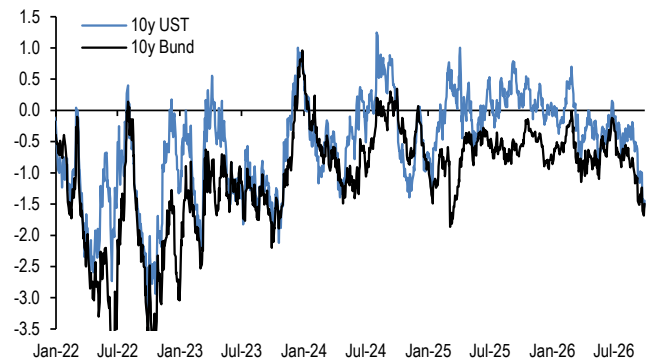
The table depicts the performance of various types of investors in % as of 29th Sept 2026.

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%	5.9%
US Balanced MFs	13.2%	14.4%	-13.0%	13.8%	11.4%	14.4%	6.3%
Benchmark							
MSCI AC World	16.3%	16.4%	-18.4%	22.2%	17.5%	22.3%	13.1%
Barclays Global Agg	5.6%	-2.5%	-11.2%	7.1%	3.4%	4.9%	-1.4%
S&P Riskparity Vol 10	11.5%	12.8%	-16.2%	15.0%	5.4%	15.9%	13.5%
60 US Equity : 40 US Bonds	13.3%	14.8%	-15.4%	18.6%	16.4%	12.7%	7.1%

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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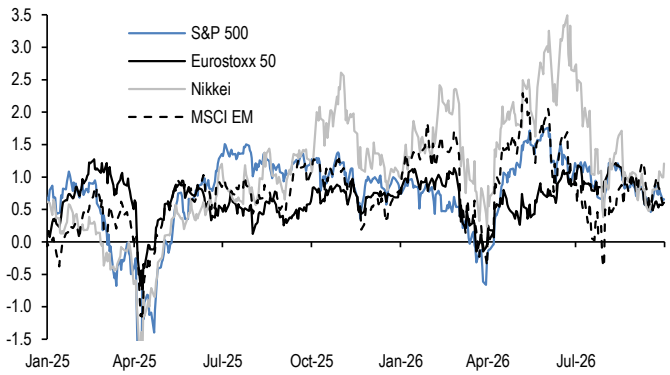
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Chart A20: Momentum signals for S&P500

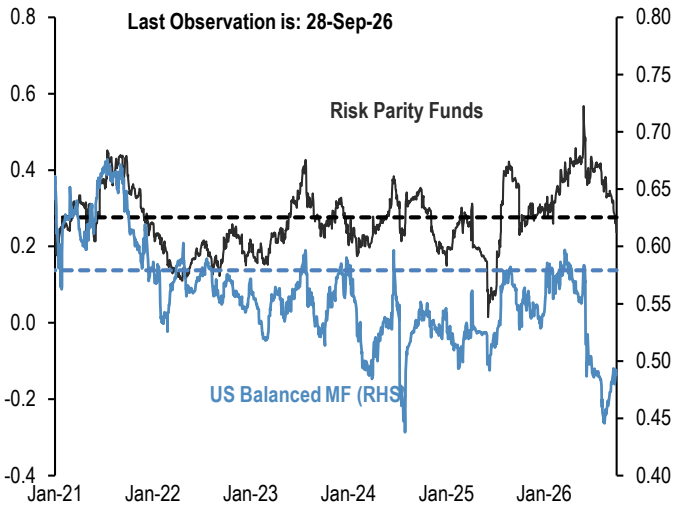
Average z-score of Short- and Long-term momentum signal in our Trend Following Strategy framework shown in Tables A3 and A4 below in the Appendix.



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

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

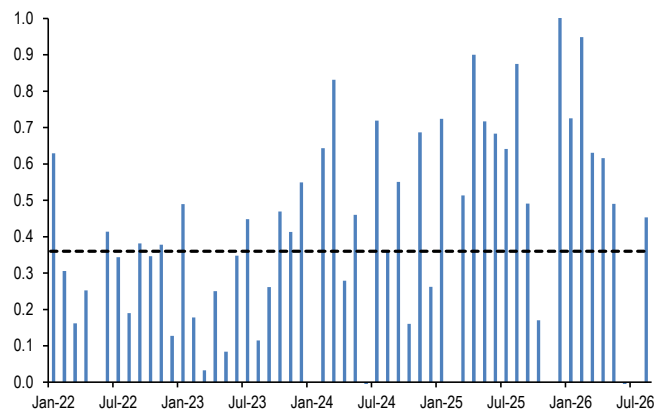
Rolling 42-day equity beta based on a bivariate regression of the daily returns of our Balanced Mutual fund and Risk Parity fund return indices to the daily returns of the S&P 500 and BarCap US Agg indices. Given that these funds invest in both equities and bonds we believe that the bivariate regression 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

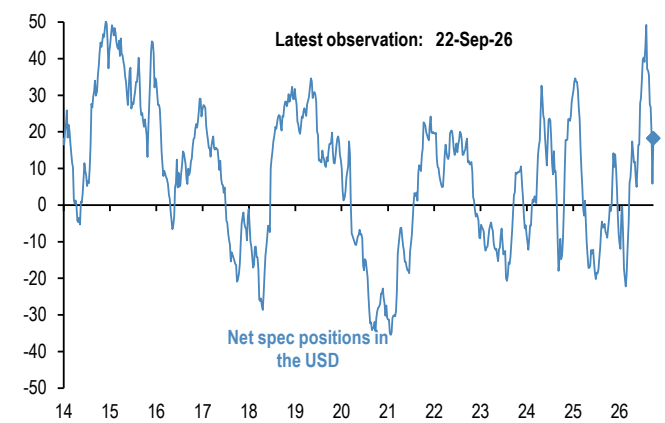
Proxied by the ratio of the monthly performance of Pivotal Path Asset-Weighted Equity Diversified hedge fund index divided by the monthly performance of MSCI AC World Index. Latest obs. is Aug 26 based on provisional data.



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	6.3	22.8	0.28	-1	1	-0.4	-2.5%
	long	462				0	21	1.7	49.1%
Brent	short	84	4.5	21.4	0.21	1	3	1.3	15.9%
	long	504				0	22	2.0	58.1%
Unleaded gas	short	105	3.7	23.3	0.16	1	3	1.1	15.2%
	long	483				0	67	2.6	69.7%
Heat Oil	short	63	4.7	22.0	0.21	1	4	1.3	13.3%
	long	483				0	151	3.4	108.3%
Gasoil	short	63	8.9	21.4	0.42	0	23	1.8	20.1%
	long	378				0	67	3.8	114.3%
Nat gas	short	105	13.5	35.8	0.38	-1	2	-0.3	-4.8%
	long	315				-1	172	-0.5	-15.8%
Emission allowances	short	42	10.6	28.7	0.37	1	31	0.1	1.4%
	long	483				1	80	0.2	10.0%
TTF	short	21	43.4	43.5	1.00	-1	3	-0.4	-4.9%
	long	294				1	7	1.1	68.0%
Gold	short	21	3.2	10.7	0.30	-1	0	-1.3	-3.5%
	long	483				1	83	0.4	4.8%
Silver	short	10	6.0	19.7	0.31	-1	0	-1.4	-4.9%
	long	462				1	74	0.4	9.3%
Palladium	short	42	11.3	23.2	0.49	-1	14	-1.0	-8.4%
	long	273				-1	96	-0.8	-19.7%
Platinum	short	105	3.3	18.7	0.18	-1	5	-0.6	-5.9%
	long	273				-1	14	-0.8	-11.8%
Aluminium	short	105	5.7	15.1	0.38	-1	72	-0.4	-3.4%
	long	357				1	77	0.5	6.8%
Copper	short	147	7.5	17.2	0.43	1	164	0.6	7.3%
	long	399				1	170	1.1	23.5%
Lead	short	126	0.9	19.2	0.05	-1	82	-0.3	-3.2%
	long	357				-1	183	-0.4	-8.4%
Nickel	short	42	11.8	22.9	0.52	-1	23	-0.6	-4.8%
	long	336				-1	14	-0.2	-6.3%
Zinc	short	126	8.2	19.6	0.42	1	132	0.8	8.6%
	long	399				1	262	1.1	24.7%
Wheat	short	168	3.9	23.3	0.17	1	19	0.5	5.9%
	long	294				1	19	0.8	11.9%
Kansas wheat	short	147	8.4	20.9	0.40	1	15	0.4	4.9%
	long	483				1	62	0.7	14.0%
Corn	short	63	7.5	16.6	0.45	1	15	0.7	5.2%
	long	399				1	27	0.3	4.7%
Soybeans	short	42	4.9	14.6	0.34	1	13	0.5	2.9%
	long	231				1	35	0.7	9.2%
Cotton	short	168	5.3	18.6	0.28	-1	1	-0.1	-1.6%
	long	483				0	1	0.0	0.3%
Sugar	short	63	6.5	21.6	0.30	1	12	0.9	8.6%
	long	252				1	39	0.9	16.6%
Coffee	short	63	8.0	24.0	0.33	-1	16	-0.3	-2.6%
	long	273				0	0	0.0	-0.3%
Cocoa		10	5.2	31.5	0.17	-1	19	-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	7.8	12.3	0.63	1	9	0.3	1.5%
	long	315				1	76	1.0	10.3%
Nasdaq 100	short	84	9.5	16.1	0.59	1	8	0.4	3.2%
	long	462				1	65	1.2	23.8%
Nikkei	short	63	3.5	13.3	0.26	1	0	0.3	1.8%
	long	420				0	130	2.1	32.7%
FTSE 100	short	168	5.4	12.0	0.45	1	149	0.4	2.4%
	long	504				1	6	1.4	15.9%
Eurostoxx 50	short	168	4.9	16.6	0.29	1	125	0.5	4.3%
	long	294				1	132	0.7	8.3%
MSCI EM	short	42	12.6	11.5	1.09	-1	0	-0.1	-0.6%
	long	357				1	57	1.0	16.3%
LQD credit return	short	168	0.4	3.4	0.12	-1	4	-0.3	-0.7%
	long	273				-1	4	-0.3	-0.9%
HYG credit return	short	10	2.4	6.5	0.37	-1	4	-0.5	-0.6%
	long	189				-1	21	-0.3	-1.3%
2Y USTs	short	252	0.9	1.1	0.81	0	5	-1.5	-1.8%
	long	462				-1	150	-1.1	-2.1%
5Y USTs	short	252	1.6	2.8	0.57	0	5	-1.6	-4.0%
	long	420				-1	116	-1.2	-4.3%
10Y USTs	short	42	2.1	3.6	0.59	0	5	-1.8	-2.4%
	long	441				-1	116	-1.1	-5.2%
2Y Schatz	short	189	0.6	0.8	0.81	0	33	-2.1	-1.8%
	long	504				0	149	-2.1	-3.7%
5y Bobl	short	63	1.5	1.9	0.77	0	15	-1.9	-1.8%
	long	483				0	14	-1.6	-5.5%
10y Bund	short	105	2.4	3.4	0.69	0	5	-1.7	-3.5%
	long	462				-1	751	-1.3	-6.8%
10Y JGB	short	126	0.9	2.3	0.39	0	4	-1.8	-1.9%
	long	273				0	151	-2.5	-3.8%
10Y Gilts	short	42	2.5	4.1	0.60	-1	1	-1.2	-2.0%
	long	399				0	4	-1.5	-8.2%
10y OAT vs Bund	short	189	0.5	1.5	0.32	0	9	-3.4	-3.0%
	long	294				0	6	-2.8	-2.7%
10y BTP vs. Bund	short	84	2.2	6.2	0.35	-1	15	-0.4	-1.0%
	long	273				-1	9	-0.2	-1.0%
Euro	short	42	3.3	6.4	0.51	-1	12	-0.9	-2.0%
	long	273				-1	160	-0.9	-5.0%
Yen	short	21	3.4	6.3	0.55	-1	7	-0.4	-0.6%
	long	462				-1	44	-1.0	-8.6%
Sterling	short	168	1.6	7.1	0.23	-1	23	-0.6	-2.3%
	long	294				-1	154	-0.6	-3.2%
AUD	short	42	3.7	7.8	0.48	-1	6	-0.8	-2.2%
	long	420				0	0	0.0	0.4%
CAD	short	168	1.5	5.9	0.26	-1	107	-1.0	-3.9%
	long	504				-1	389	-1.1	-7.1%
G10 FX	short	42	2.1	5.1	0.41	1	10	1.0	1.7%
	long	189				1	12	0.6	2.3%
EMCI	short	42	2.5	4.9	0.51	-1	6	-1.0	-1.8%
	long	189				-1	4	-0.4	-1.4%

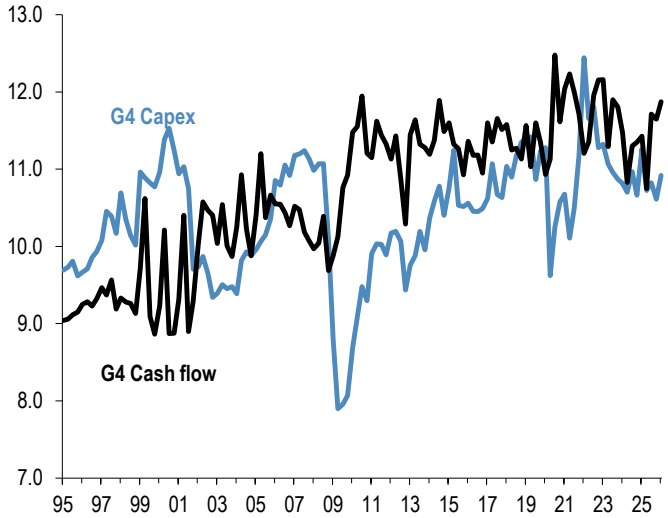
Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

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Corporate Activity

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

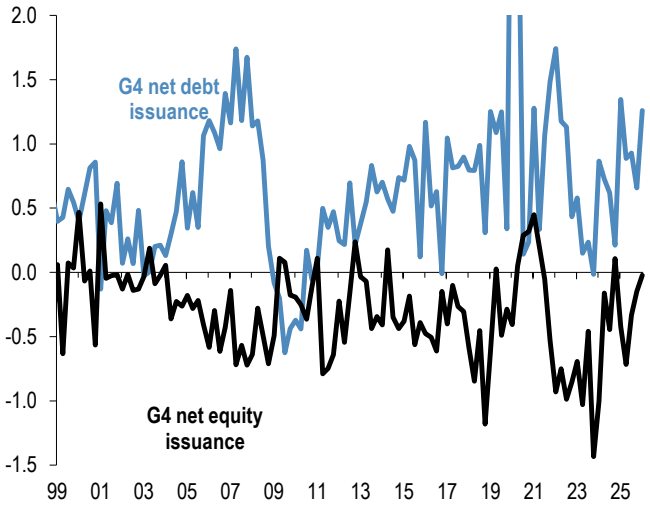
% of GDP, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q1 2026.



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

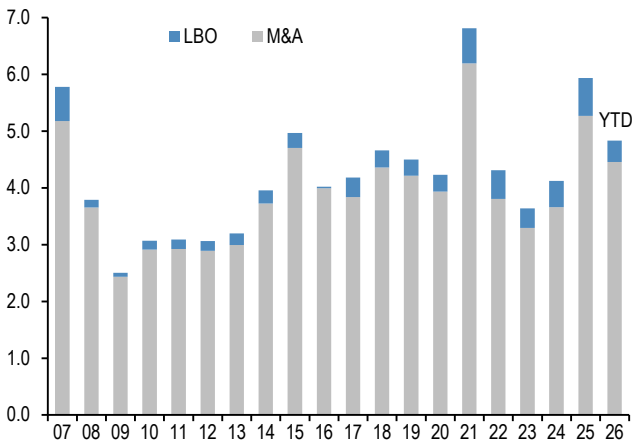
$tr per quarter, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q1 2026.



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

Chart A26: Global M&A and LBO

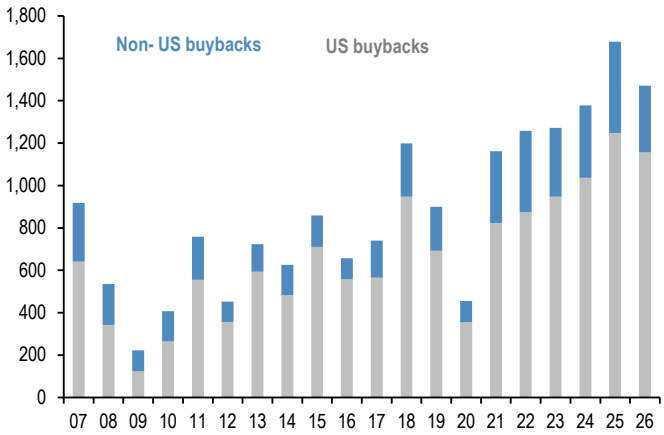
$tr. M&A and LBOs are announced.



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

Chart A27: US and non-US share buyback

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



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

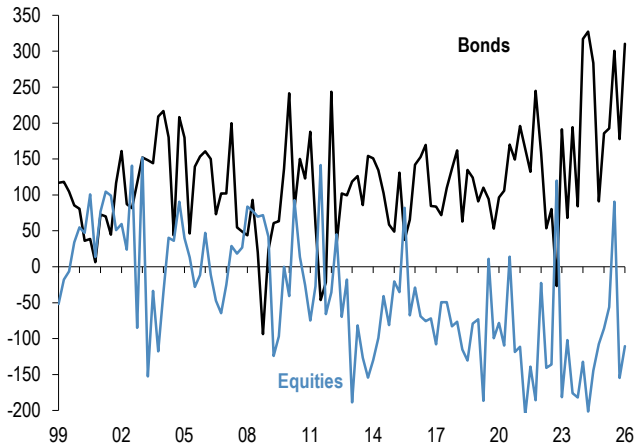
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Pension fund and insurance company flows

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

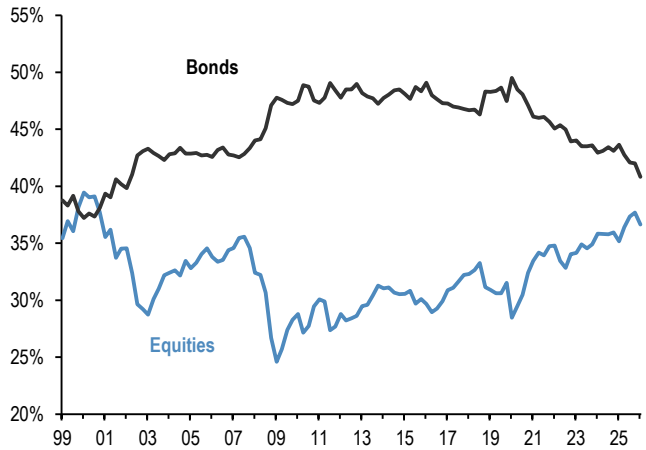
Equity and bond buying in $bn per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q1 2026.



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

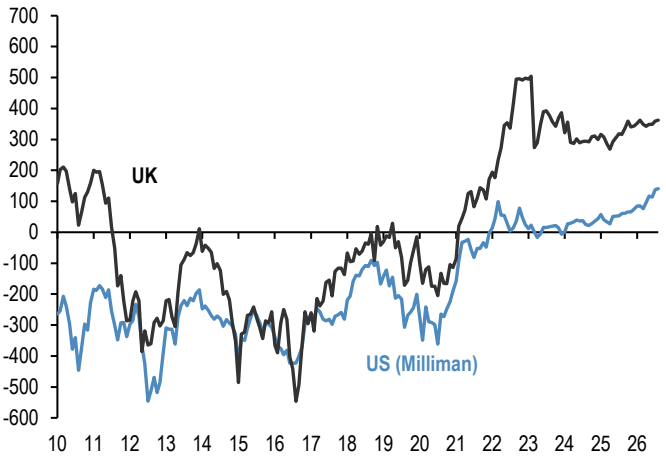
Equity and bond as % of total assets per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q1 2026.



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

Chart A30: Pension fund deficits

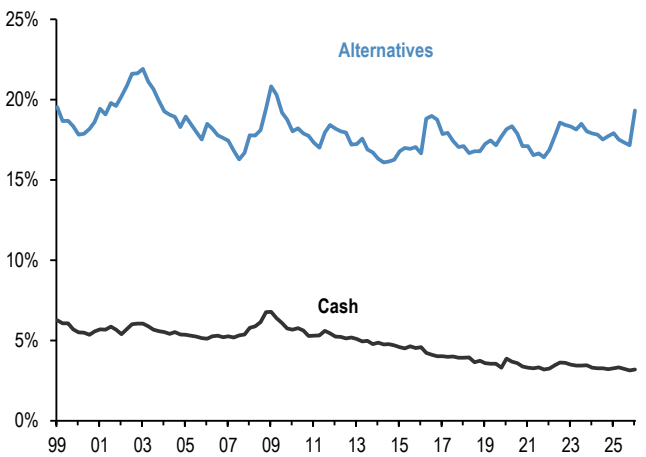
US$bn. For US, funded status of the 100 largest corporate defined benefit pension plans, from Milliman. For UK, funded status of the defined benefit schemes eligible for entry to the Pension Protection Fund, converted to US$ at today's exchange rates. Last obs. is August'26 for US & UK.



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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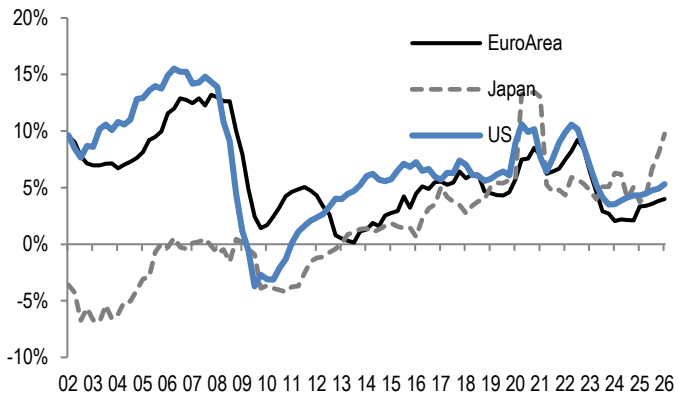
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Credit Creation

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

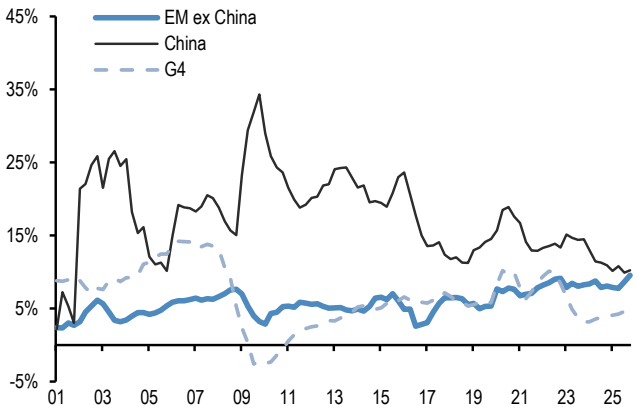
Rolling sum of 4-quarter credit creation as % of GDP. Credit creation includes both bank loans as well as net debt issuance by non-financial corporations and households. Last obs. is Q1'26 for Japan, Euro Area and US.



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

Chart A33: Credit creation in EM

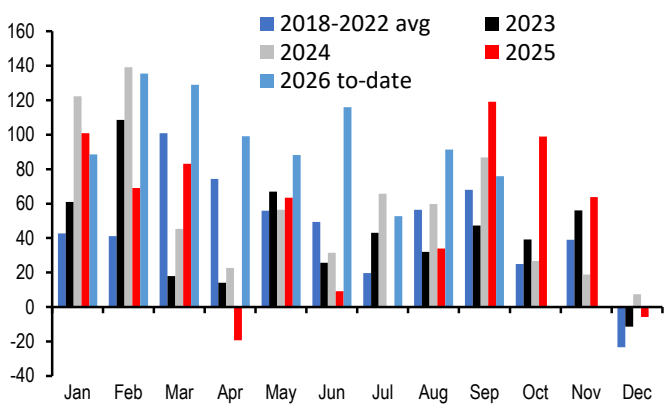
Rolling sum of 4-quarter credit creation as % of GDP. Credit creation includes both bank loans as well as net debt issuance by non-financial corporations and households. The chart uses the FX rates as of the latest observation to calculate the credit creation at constant exchange rates. Last obs. is 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 24th.



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	18-Sep	4 wk avg	13 wk avg	y/y chng
Global IPOs	2.5	2.5	4.2	153%
Secondary Offerings	5.8	10.6	15.4	44%
Corporate announcements				
M&A - Global	73.8	92.7	102.2	34%
- US Target	28.0	41.0	44.2	49%
- Non-US Target	45.8	51.6	58.0	22%
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.



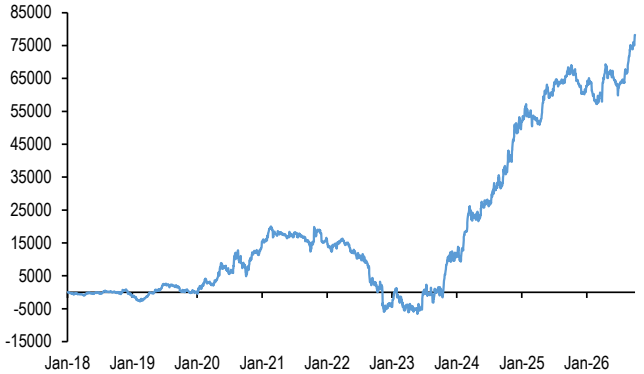
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Bitcoin monitor

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

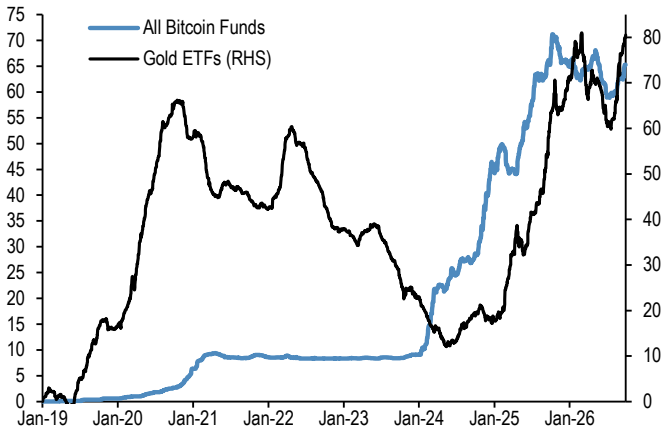
In number of contracts. Last obs. for 29th Sep 2026



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

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

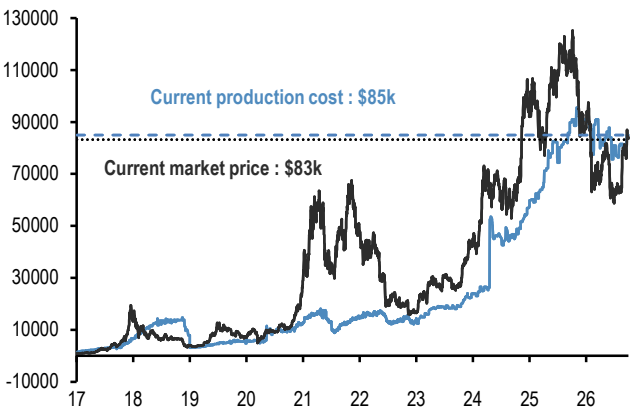
Both the y-axis in $bn.



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

Chart A37: Ratio of bitcoin market price to production cost

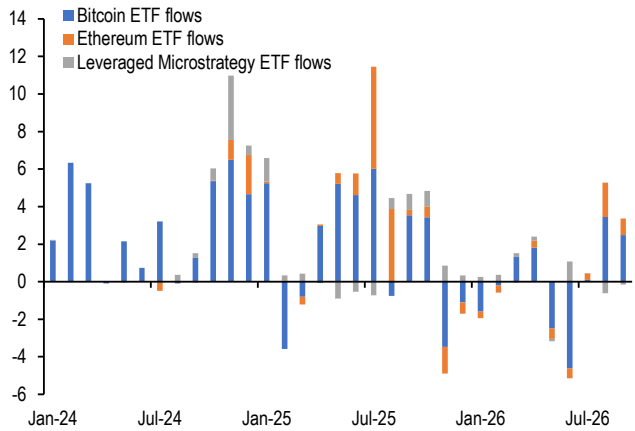
Based on the cost of production approach following Hayes (2018).



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

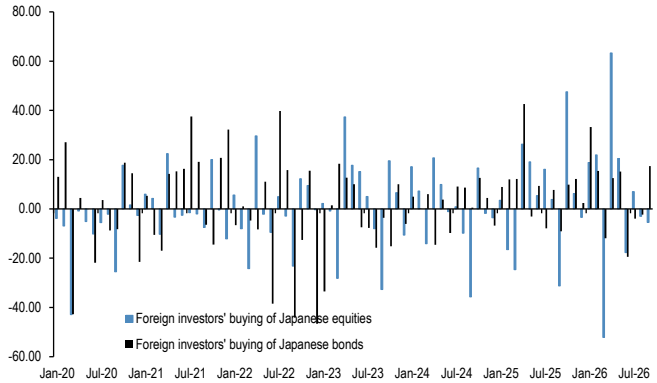
In bn of shares. Topix on right axis.



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

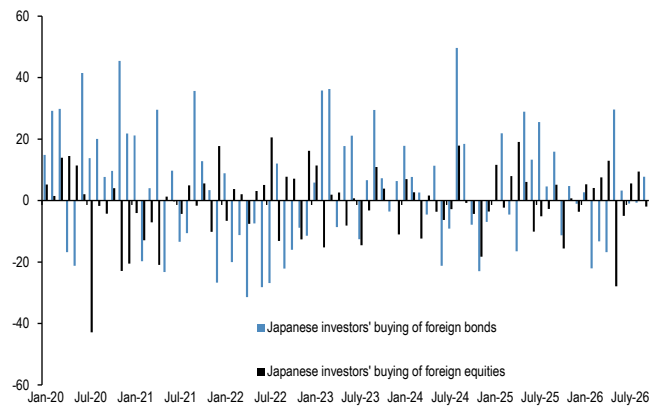
$bn, Last weekly obs. is for 11th Sep' 26.



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

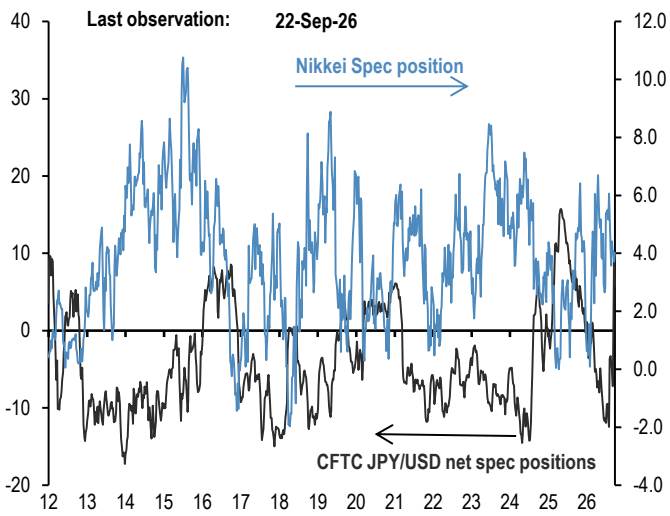
$bn, Last weekly obs. is for 11th Sep' 26.



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.

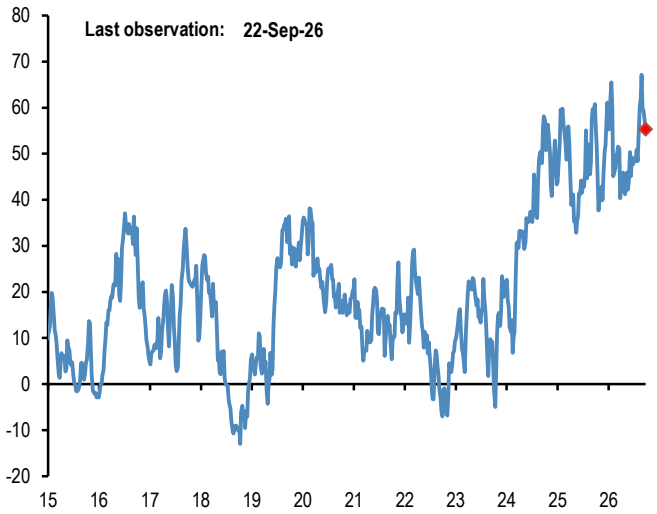
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Commodity flows and positions

Chart A43: Gold spec positions

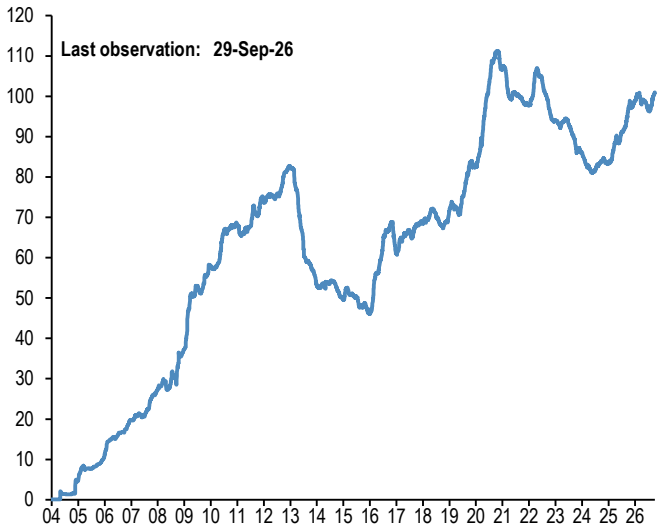
$bn. CFTC net long minus short position in futures for the Managed Money category.



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

Chart A44: Gold ETFs

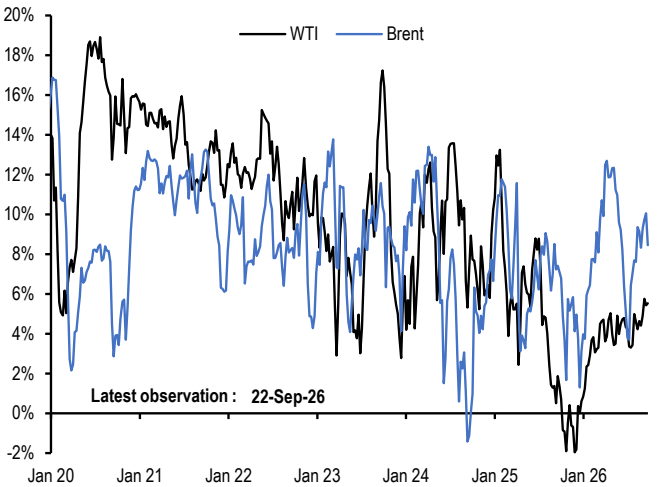
Mn troy oz. Physical gold held by all gold ETFs globally.



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

Chart A45: Oil spec positions

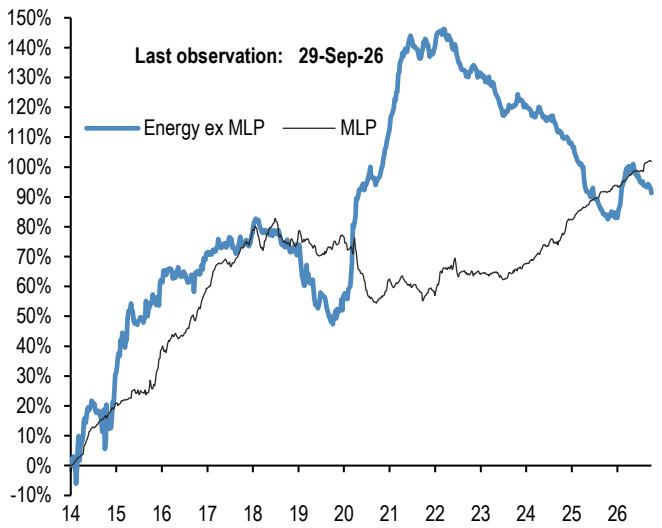
Net spec positions divided by open interest. CFTC futures positions for WTI and Brent are net long minus short for the Managed Money category.



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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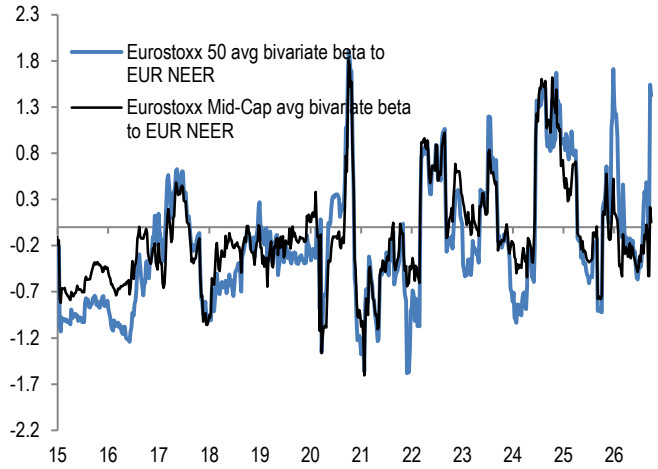
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Corporate FX hedging proxies

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

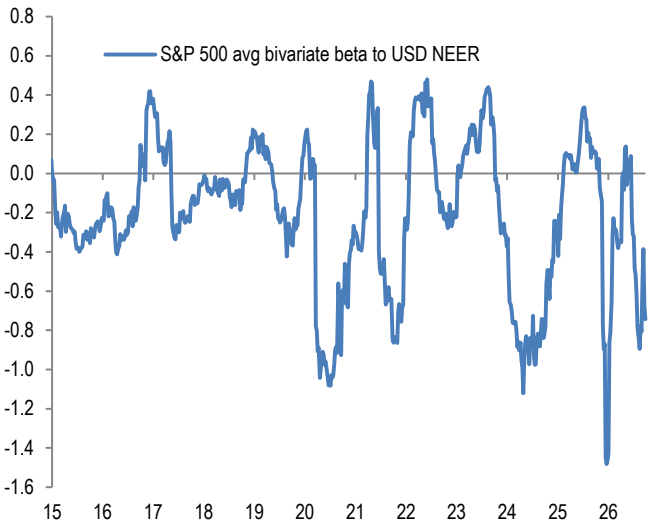
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of individual stocks in the Eurostoxx 50 index to the weekly returns of the MSCI AC World and JPM EUR Nominal broad effective exchange rate (NEER).



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

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

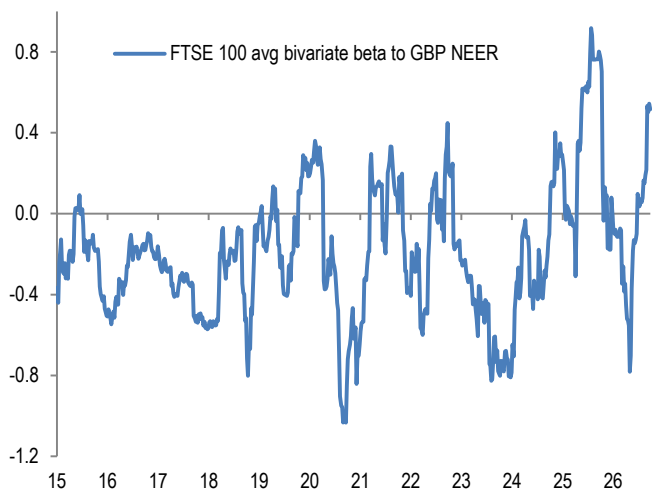
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of stocks in the S&P500 index to the weekly returns of the MSCI AC World and JPM USD Nominal broad effective exchange rate(NEER).



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

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

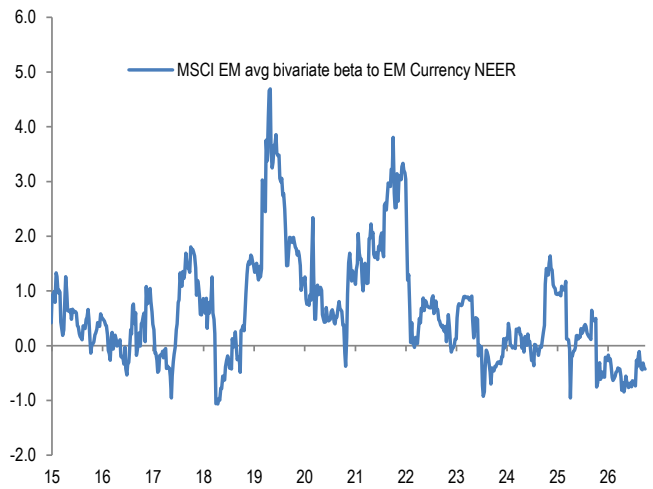
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of individual stocks in the FTSE 100 index to the weekly returns of the MSCI AC World and JPM GBP Nominal broad effective exchange rate (NEER).



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.

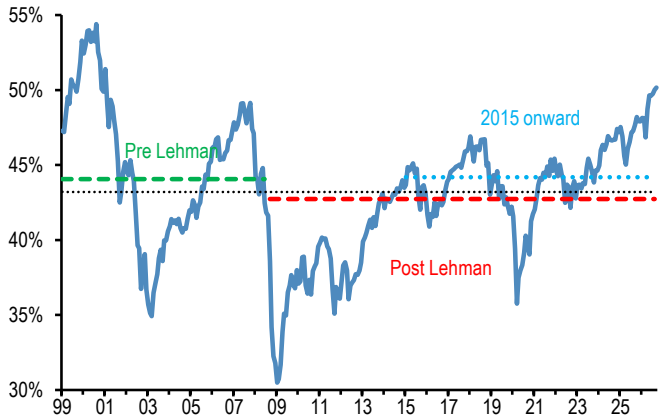
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Non-Bank investors' implied allocations

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

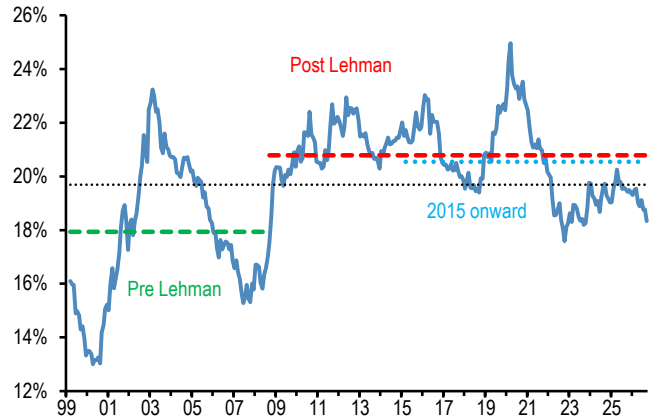
Global equities as % total holdings of equities/bonds/M2 by non-bank investors/ Commodities including gold held by private investors. Dotted lines are averages.



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

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

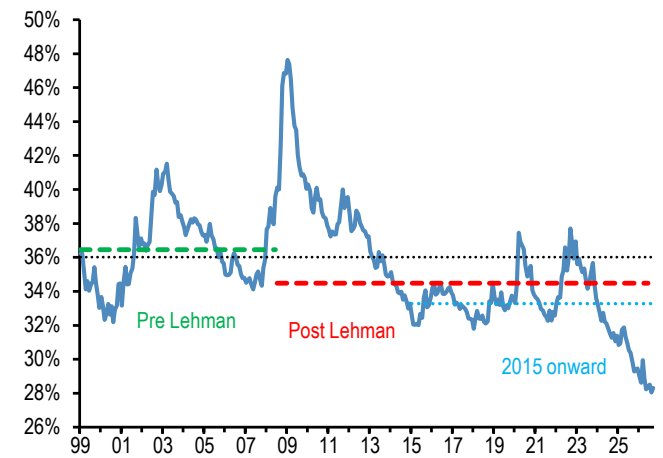
Global bonds as % total holdings of equities/bonds/M2 by non-bank investors/ Commodities including gold held by private investors. Dotted lines are averages.



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

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

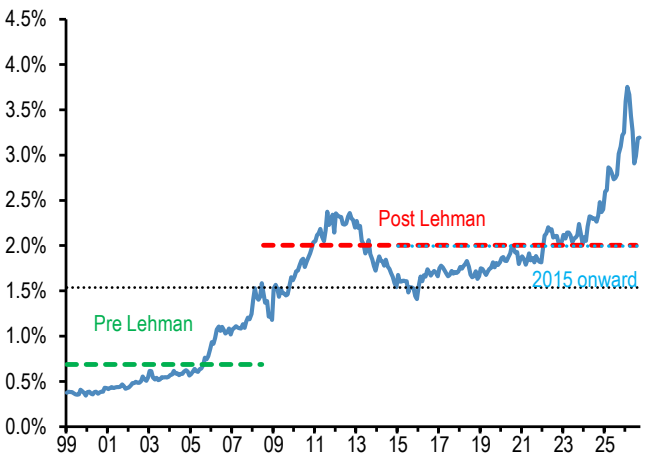
Global cash held by non-bank investors as % total holdings of equities/bonds/M2 by non-bank investors/Commodities including gold held by private investors. Dotted lines are averages.



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.

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