Flows & Liquidity

What is needed for IPO activity to normalize?

Global Markets Strategy

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- **While some of the weakness in IPOs YTD may reflect tariff uncertainty, the fact that it has persisted for a prolonged period of three years likely reflects additional headwinds.**
- **In our mind, to get a more meaningful increase in IPO activity, and to ease the bottleneck of pent-up distributions more broadly, we may need to see significantly lower interest rates from here.**
- **Still supportive US financials conditions, an already advanced retrenchment by equity hedge funds, and continued buying by US retail investors, raise the chance that most of the recent US equity market drawdown is behind us, especially if US tariff risk peaks with the April 2nd announcement.**
- **The strong buying of gold by central banks and private investors, coupled with the sharp increase in gold prices vs other financial assets over the past year and a half, has pushed our estimate of the implied allocation to gold by real money investors globally to a new record high of 3.5%, pointing to a structural uptrend in the so-called "debasement trade".**

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 26th Mar 25.

MF & ETF Flows	Min	Max	4 wk avg ($bn)	2024 avg ($bn)
All Equities			5.2	7.6
All Bonds			7.5	10.6
US Equities			-0.8	5.7
US Bonds			3.0	4.3
Non-US Equities			6.1	1.9
Non-US Bonds			4.5	6.3
US HG Bonds			0.2	3.8
US HY Bonds			-0.1	0.4
US Lev. Loans *			-0.9	0.4
US MMFs			-0.1	16.7
EM Equities			0.2	-0.2
EM Bonds			-0.19	-0.37
Japan Equities			1.2	0.2
China Equities			0.29	-0.18
Europe				
Europe Equities			2.9	-0.9
Europe Bonds			2.4	4.7
Europe HG Bonds			0.4	0.9
Europe HY Bonds			0.00	0.23
Europe MMFs			-4.2	5.5
Other Equities			1.47	3.05

* US LL historical flows are monthly averages converted to weekly for comparison.
Source: Lipper, ICI, Bloomberg Finance L.P. and J.P. Morgan Flows & Liquidity.

Cross Asset Positioning Monitor

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

As of 25-Mar-25	MIN	MAX	Current percentile
Equities			0.82
Govt Bonds			0.68
Credit			0.23
Dollar			0.48
Commodities ex Gold			0.52
Gold			0.87
Bitcoin			0.66
EM Equities			0.30
EM Bonds/FX			0.15
Japan Equities			0.34
Europe Equities			0.55
US Equity Sectors:			
Energy			0.46
Materials			0.18
Industrials			0.54
Discretionary			0.58
Staples			0.28
Health Care			0.41
Financials			0.66
Technology			0.56
Communication Services			0.54
Utilities			0.60

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 27 for analyst certification and important disclosures.

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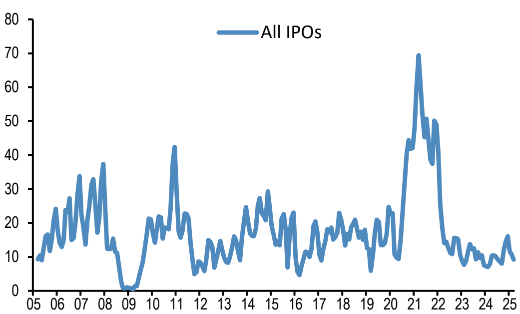
- The ongoing softness in IPOs stands in contrast with the optimism that was prevalent at the start of the year over a recovery in IPO activity as the new administration was due to take over. In particular, this optimism focused around the prospect of more business-friendly policies such as deregulation efforts. But thus far, IPOs have totalled around $28bn YTD and around $10bn in the US. And the recent IPO by Coreweave, a cloud infrastructure provider for AI services, reportedly had to scale down its plan to raise $4bn to $1.5bn due to soft demand.
- What could explain the gap between the optimism heading into 2025 and the realised pace of IPOs thus far? Clearly, the extent to which the Trump administration has focused on tariffs at the outset has taken some by surprise. Looking at the monthly pace of IPO activity (Figure 1), there does appear to have been a pickup in IPOs in 4Q24 to around $16bn per month or just under $50bn in total. However, when we look at the IPOs of PE- or VC-backed companies (Figure 2), there was little sign of a pickup in 4Q, and the modest pickup in 1Q25 is still rather weak historically. This suggests to us that tariff-related uncertainty alone is unlikely to explain all of the weakness. What else could explain it?

Figure 1: Monthly IPO activity globally

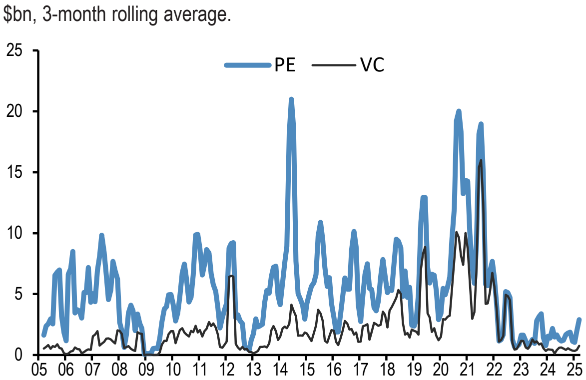
$bn, 3-month rolling average.



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

Figure 2: Monthly IPO activity by PE and VC-backed companies globally

$bn, 3-month rolling average.

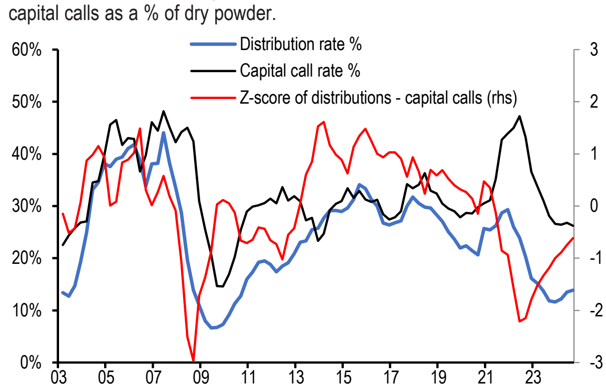


Source: Pitchbook, J.P. Morgan Flows & Liquidity.

- One factor is likely the ongoing bottleneck in exits by PE and VC-backed companies since 2022 as the tailwinds from post-pandemic monetary stimulus via low policy rates and QE turned to a headwind amid rises in policy rates and QT. As we have noted in our sister publication, *Alternative Investments Outlook and Strategy*, in recent years, this bottleneck in exits led to a sharp decline in distribution rates (Figure 3), and net PE cash flows shifting to negative as capital calls exceeded capital calls. While this gap has since narrowed as capital call rates have also declined, the bottleneck of low distributions remains. Similarly, when we look at VC distribution rates as a share of NAV (Figure 4), there was a sharp drop over from still around 26% in end-2021 to just under 7% by the end of 2022, their lowest level since 2009, and have stayed at these lower levels since then. This period low lower distribution rates and lagging exit rates have been reflective of a persistent price gap between what potential buyers have been prepared to pay and what sellers have been willing to accept.

Figure 3: Distribution and capital call rates and the z-score of the difference for US PE

Z-score of 12-month rolling distributions as a % of NAV minus 12-month rolling capital calls as a % of dry powder.



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

Figure 4: Distribution rate as a share of NAV for US VC

In %.

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

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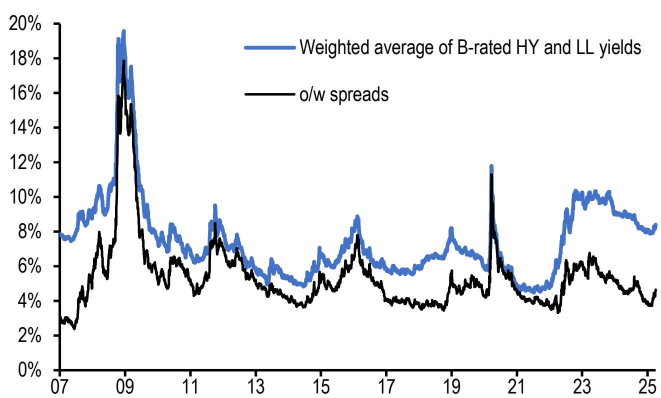
- How does this current period of a drought in IPOs compare with the IPO drought post-Lehman? When we look at Figure 1 and Figure 2 above, the drop in IPOs during the GFC period from still elevated level of close to $40bn per month in late 2007 to around a third of that by mid-2008 and effectively being closed from Oct08 to Jun09. After which it recovered to a $20bn per month pace from Sep09 onwards. Effectively the IPO drought lasted about 4-6 quarters. This time around, the weakness in IPOs since they collapsed from a $50bn per month pace in end-2021 to below $15bn per month after 1Q22 has already lasted three years. The protracted period of a weak pace of IPOs from PE- and VC-backed companies since early 2022 looks similarly more prolonged than the weakness during the GFC. Given the market cap of global equities has effectively doubled from late 2007 levels and the AUM of the PE and VC universe has increased from $1.2tr in end-2006 to $10.4tr in end-2024, this protracted level of soft IPO activity is all the more striking.
- The level of interest rates has likely played an important role. Figure 5 shows the weighted average yield on B-rated US HY bonds and leveraged loans to proxy for the cost of debt financing for PE-backed companies. It suggests that while the rise in the cost of debt during the financial crisis was sharper with rates rising to just below 20%, this period of higher rates was relatively brief with the cost of debt declining to their 2007 lows by late 2009. And this faster normalisation in interest rates after the Lehman crisis coincided with a faster recovery in IPO markets as well. In the current conjuncture, the cost of debt has risen from below 5% for most of 2021 to more than 10% by late 2022, and has remained elevated.

Figure 5: Weighted average yield and spread on B-rated HY bonds and leveraged loans

In %.

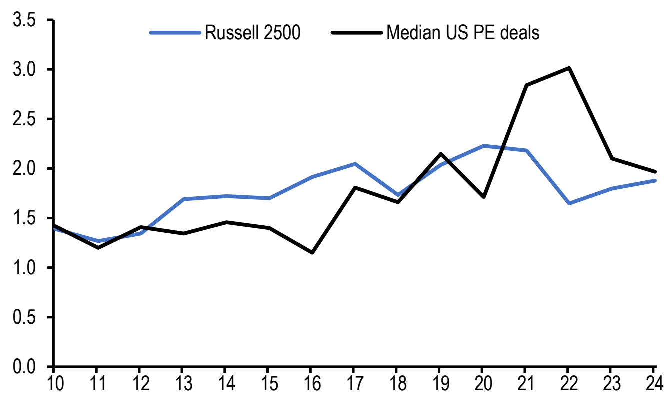


Source: J.P. Morgan Flows & Liquidity.

- Moreover, this period of prolonged higher interest rates follows a period of relatively steady increases in valuations of PE deals from 2016 up to late 2022 (Figure 6) that was also associated with elevated leverage. This implies that the cash flow headwind from higher debt costs is significant. In addition, in order to support distributions to PE investors at the levels that we have seen, some PE funds have also resorted to greater use of NAV financing, payment-in-kind debt and dividend recapitalisations, which adds leverage to finance current payouts.

Figure 6: Median US PE EV/Revenue ratio vs. Russel 2500 EV/12-trailing revenue ratio

EV/Revenue.



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

- Taken together, the above suggests that while some of the weakness in IPOs YTD may reflect tariff uncertainty given that there were some signs of pickup in 4Q24, the fact that it has persisted for a prolonged period likely reflects a combination of a headwind from persistently higher interest rates as well as a lack of willingness among PE funds to accept lower valuations to reflect this headwind. To get a more meaningful increase in IPO activity, and to ease the bottleneck of pent-up distributions more broadly, we may need to see significantly lower interest rates. Given that, despite a rise in spreads over the past month, spreads remain relatively contained still; this means that policy rates would need to decline. Indeed, optimism around more supply-positive parts of the Trump administration's agenda, particularly the deregulatory aspects, would see higher productivity growth that could provide further space for the Fed to cut rates. However, thus far a combination of more supply-negative aspects appear to have taken precedence, which may if anything constrain space for policy easing. This suggests that the softness in IPO activity could continue in coming quarters.

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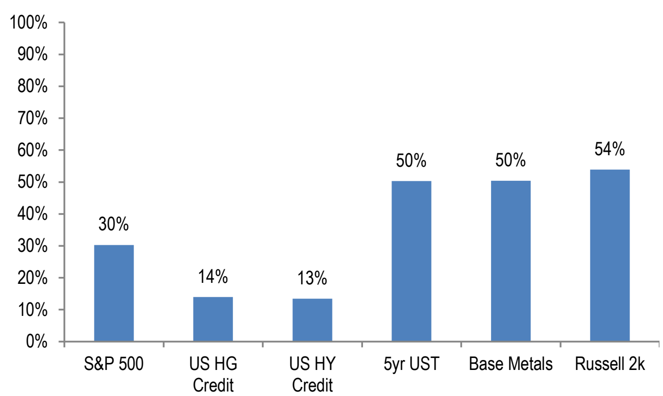
Still supporting US financials conditions; an already advanced retrenchment by equity hedge funds; continued "buying the dip" behavior by US retail investors

- US growth continues to weigh on investor sentiment following last week's weak US consumer spending data and ahead of the April 2nd US tariff announcement. However, as we mentioned previously in our publication, these growth concerns are not reflected in market pricing uniformly across asset classes. US equity markets, in particular, although in agreement with rate markets, continue to price in significantly more elevated recession risk than credit markets. These implied recession probabilities are depicted in Figure 7 for major asset classes.

Figure 7: Implied probability of US recession across asset classes as of March 31st

See text for details.



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

- Our approach in Figure 7 has been to compare the current cycle peak-to-trough moves in asset prices to those seen during previous recessions. The peak-to-trough declines in US equity indices across the previous 12 US recessions are shown in Figure 8. In our opinion, the higher cyclicality and interest rate sensitivity of small caps (due to their greater sensitivity to domestic US economic growth and greater reliance on floating rate debt), makes them a more suitable place to gauge US cyclical risks. And Figure 7 suggests that the current pricing of US small caps embeds around a 54% probability of a typical US recession and 69% probability of a mild US recession. How do we come up with the estimates? Figure 8 shows that the average peak-to-trough decline for US small caps has been around 33% for a typical US recession and 26% for a mild US recession. Since its November 2024 peak, the Russell2000 small cap index has declined by 18% to March 31st, mechanically implying 18%/33%=54% probability of a typical US recession and 18%/26%=69% probability of a mild US recession.
- What is striking in Figure 7 is how low the probability of a US recession implied by credit markets remains compared to US equity markets. The more benign backdrop conveyed by credit markets is consistent with our financial conditions index which continues to point to low US recession risk. This is shown in Figure 9 which updates our US financial conditions index by incorporating recent price changes in financial markets (see F&L, Feb 5th for further detail). As a reminder to our readers, our financial conditions framework is built on a paper by Kasman and Mackie, Aug 2008, on quantifying the impact of financial market developments and monetary policy actions on economic activity. They drew on a methodology described in the IMF paper, "A US financial conditions index: putting credit where credit is due" by A. Swanston, who estimated the impact of changes in six financial variables on the level of US GDP after one to two years. The six financial variables are: 12-month changes in the 3-month short rate, the yield on investment grade corporate bonds, and the spread of high yield corporates over that of high grade, as well as 12-month real equity returns and the 12-month change in the real FX rate and bank lending standards for businesses as reported in loan officer surveys.
- This financial conditions indicator of Figure 9 shows that even as there has been some incremental retracement from the highs in 3Q24, US financial conditions remain a supportive factor for growth. Indeed, even after the recent retracement in US equity prices, the 12-month changes in real equity returns and in short rates remain the two main sources of support. As a result, our US financial conditions composite indicator is still positive and stands above its average during the pre-pandemic expansion.

Figure 8: US small and large cap peak to trough declines during previous US recessions

S&P500 peak	S&P500 trough	S&P500 price decline peak-to-trough	S&P500 EPS decline peak-to-trough	US small-cap decline peak -to-trough	Relative performance of small-cap vs large-cap	Earnings decline
Jun-48	Jun-49	-21%	-3%	-25%	-4%	Mild
Jan-53	Sep-53	-15%	-12%	-16%	-1%	Mild
Jul-56	Dec-57	-22%	-22%	-21%	1%	Deep
Jan-60	Oct-60	-13%	-12%	-12%	2%	Mild
Dec-68	Jul-70	-36%	-13%	-53%	-17%	Mild
Jan-73	Dec-74	-48%	-15%	-55%	-7%	Deep
Feb-80	Apr-80	-17%	-5%	-25%	-8%	Mild
Nov-80	Aug-82	-27%	-19%	-23%	4%	Deep
Dec-89	Oct-90	-20%	-26%	-29%	-9%	Deep
Mar-00	Sep-01	-37%	-23%	-35%	2%	Deep
Oct-07	Mar-09	-57%	-45%	-58%	-2%	Deep
Feb-20	Mar-20	-34%	-21%	-42%	-8%	Deep
Average		-29%	-18%	-33%	-4%	
Median		-24%	-17%	-27%	-3%	
Average in Deep		-35%	-24%	-38%	-3%	
Average in Mild		-20%	-9%	-26%	-6%	

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

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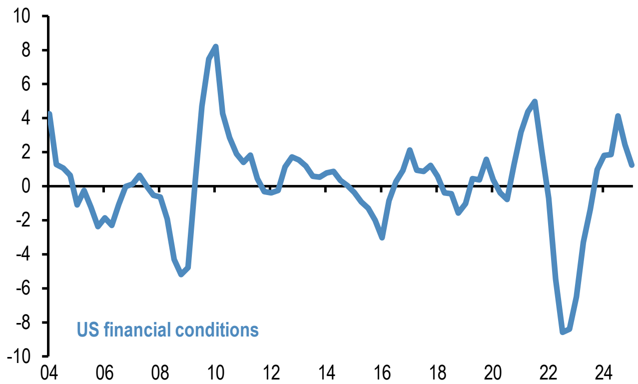
Figure 9: 12-month change in US financial conditions

Positive (negative) numbers represent easing (tightening) in financial conditions



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

Figure 10: US financial conditions indicators, 12-month changes

Positive (negative) numbers represent easing (tightening) in financial conditions.

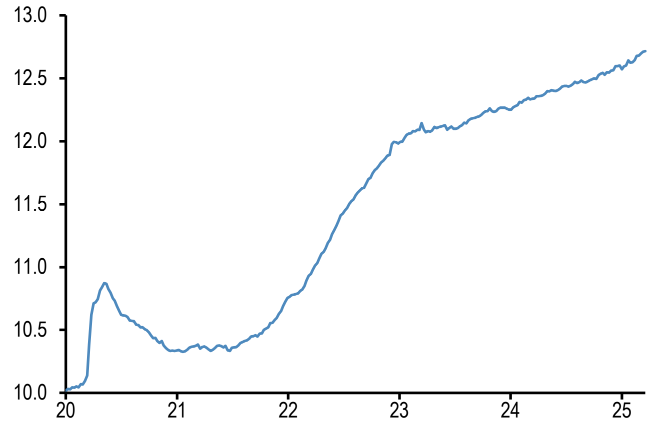
	4Q22		3Q24		4Q24		1Q25	
	Change	Impact	Change	Impact	Change	Impact	Change	Impact
3m rate (bp)	456	-2.4	-78	0.4	-103	0.5	-103	0.5
HG yield (bp)	267	-2.2	-108	0.9	44	-0.4	9	-0.1
HY spread (bp)	185	-0.5	-90	0.2	-75	0.2	-3	0.0
Real eq return (%)	-23	-0.9	22	0.8	29	1.1	16	0.6
Real fx rate (%)	4.0	-0.3	-2.2	0.1	5.1	-0.3	2.5	-0.2
Loan officer survey	57.3	-2.1	-42.9	1.6	-33.9	1.3	-8.3	0.3
Total		-8.4		4.1		2.4		1.2

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

- What about the quantity side? To look at US credit creation, we turn first to bank lending. Figure 11 shows the outstanding loans and leases on bank balance sheets from the Fed's H.8 release. It suggests that there has been some further pickup in loan growth from an annualized pace in 2024 of around 2.6%, or around $320bn, to an annualized pace over the past three months of around 5.4%, or $680bn. The YTD pace of US bank lending is rather strong and stands significantly above its 2017-2019 average.

Figure 11: US commercial banks' loans and leases

$tr.

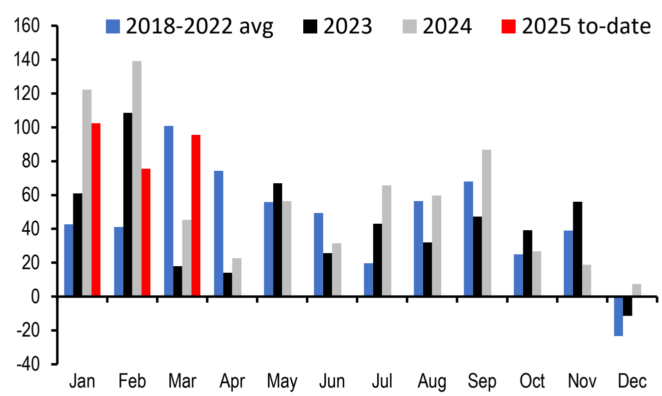


Source: Federal Reserve, J.P. Morgan Flows & Liquidity.

- Another source of credit creation is through net issuance of corporate debt securities. Figure 12 shows the monthly net issuance of USD HG corporate bonds over the last few years as well as the average of the five year period from 2018 to 2022. It suggests that net issuance in 2024 was rather strong overall despite some signs of softening in 4Q, reaching around $680bn, the second strongest year over the past 25 years after the $840bn of net issuance in 2020. The YTD pace is somewhat below the previous year's pace, though still very strong historically.
- Overall, our US financial conditions impulse as well as indicators of US credit creation remain supportive for growth pointing to low US recession risk going forward.

Figure 12: Monthly net issuance of USD HG bonds

$bn. Mar 2025 obs. includes data up to March 27th.



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

- What about recent US equity flows? US retail investors continue their "buying the dip" behavior of the past six weeks. While non-US domiciled retail investors have

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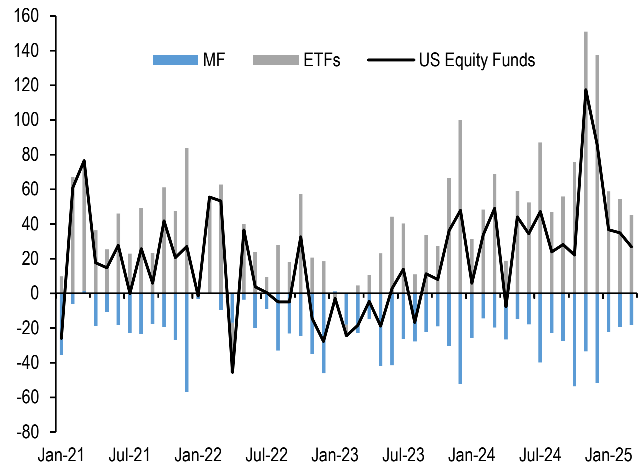
refrained from buying US equity funds in February and March, they have not turned to net sellers and US domiciled investors have continued to be solid buyers, injecting around $50bn per month in US equity ETFs over the past two months and $30bn per month in equity funds including mutual funds (Figure 13). This lack of selling has been positive thus far, but at the same time one could argue that this is the risk for US equities going forward, that retail investors and non-US domiciled investors in particular start selling US equity ETFs propagating the correction in US equities further. Again, we doubt that retail investors will change their behavior turning the flows of Figure 13 materially negative going forward, given the already large drawdowns of US equity indices and given the chance that US tariff risk will peak with the April 2nd announcement.

Figure 13: Equity fund flows that invest in US equities

In $bn.

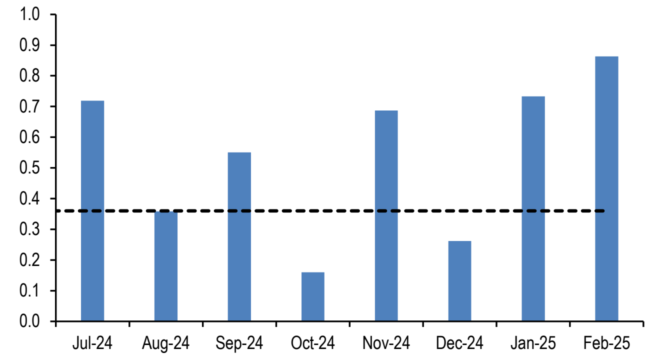


Source: Lipper, Bloomberg Finance L.P. , J.P. Morgan Flows & Liquidity.

- With retail investors not selling US equities, this leaves institutional investors as the likely culprits. We highlighted previously ([F&L](), March 12th) the role that Equity Quant hedge funds and Equity TMT Sector hedge funds played in the US equity market correction during February. It looks like during March more traditional discretionary Equity Diversified Long/Short hedge funds played a bigger role in the correction as they were caught up with elevated equity beta in February (Figure 14). These more traditional discretionary Equity Diversified Long/Short hedge funds tend to be heavier users of either futures or major ETFs such as SPY/QQQ ETFs in order to regulate their equity beta, and the fact that US equity futures (Figure 15) saw some retrenchment in recent weeks, reinforces the thesis that more traditional discretionary Equity Diversified Long/Short hedge funds played a bigger role in the US equity market correction during March. And with the US equity futures impulse in Figure 15 retrenching to levels last seen before the US election, there is a good chance that most of the equity hedge fund retrenchment is behind us.

Figure 14: Equity beta of monthly reporting Equity Diversified Long/ Short hedge funds

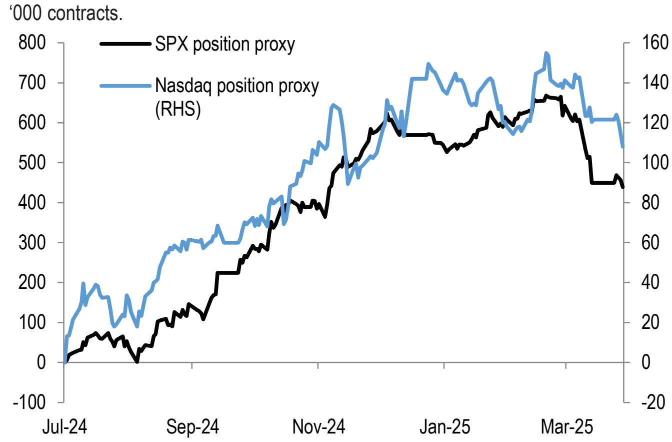
Proxied by the ratio of the monthly performance of Pivotal Path Asset-Weighted Equity Diversified hedge fund index divided by the monthly performance of MSCI AC World Index. Last obs. is Feb 25.



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

Figure 15: Our futures position proxies on S&P 500 and Nasdaq equity futures

'000 contracts.



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

- In all, still supportive US financials conditions, an already advanced retrenchment by equity hedge funds, and continued "buying the dip" behavior by US retail investors, raise the chance that most of the recent US equity market drawdown is behind us, especially if US tariff risk peaks with the April 2nd announcement.

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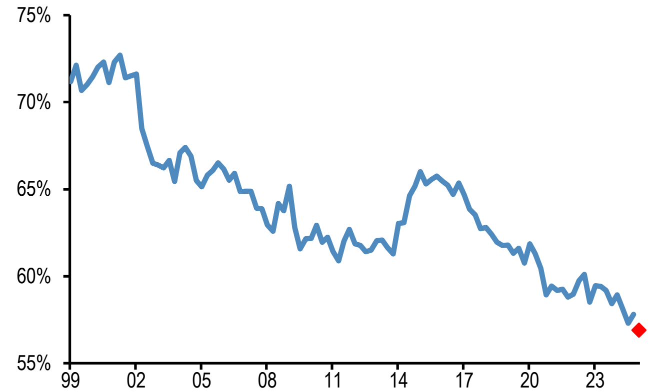
"The debasement trade" gathers pace

- The price of gold moved sharply higher over the past quarter, surpassing the $3100 mark. The 20% increase in the dollar price of gold to some extent reflects a weaker dollar by 5% or so over the past quarter and a decline in the real 10y UST yield by around 40bp. However, the YTD gold price appreciation has gone well beyond the moves implied by dollar and real bond yield shifts. In fact, the cumulative run in gold prices looks even more exceptional if one goes back to September 2023. Since the beginning of September 2023, DXY and the real 10y UST yield are practically unchanged while gold has appreciated by 60%!
- This exceptional run either YTD or cumulatively since September 2023 likely reflects the intensification of what some investors call the "debasement trade".
- The "debasement trade" is a term that reflects a combination of gold demand factors which in our client conversations range from structurally higher geopolitical uncertainty since 2022 which is now even higher after Trump, to elevated uncertainty about the longer-term inflation backdrop especially after recent US tariffs, to concerns about "debt debasement" due to persistently high government deficits across major economies which is further compounded by the recent German fiscal shift, to waning confidence in fiat currencies in certain emerging markets, and to a broader diversification away from the dollar.
- With all the above factors still in place or even intensifying under the policies of the new US administration, it should not be a surprise that the debasement trade gathered pace YTD pushing gold prices to even higher levels.
- The last factor, i.e. the broader diversification away from the dollar, is clearly seen in the declining share of the US dollar in FX reserves which on our estimates declined to a new historical low of below 57% in Q1 2025 (Figure 16). Instead, FX reserve managers and central banks have been flocking into gold since the Russian sanctions of 2022 even as the PBoC slowed somewhat its gold purchases over the past year (Figure 17).

Figure 16: The share of USD in FX reserves as reported by IMF's COFER data

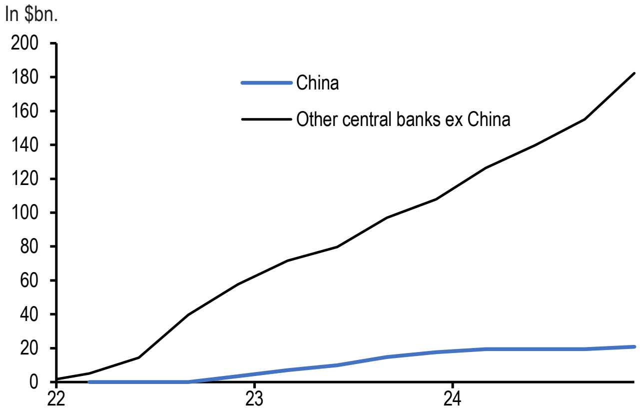
IMF data till Q4 2024.The Q1 2025 dot reflects our own estimate



Source: IMF COFER, J.P. Morgan Flows & Liquidity.

Figure 17: Quarterly gold purchases by the PBoC vs other central banks

In $bn.



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

- Private investors have been also strong and perhaps steadier buyers of gold mostly via purchases of bars and coins. Indeed, at the same time as selling gold ETFs, private investors and individuals have been buying bars and coins in a rather strong and steady manner since 2022 (Figure 18). That said, there appears to have been a change since last June 2024 with a rebound in gold ETF purchases, thus helping the overall private investor impulse into gold to accelerate since last summer.

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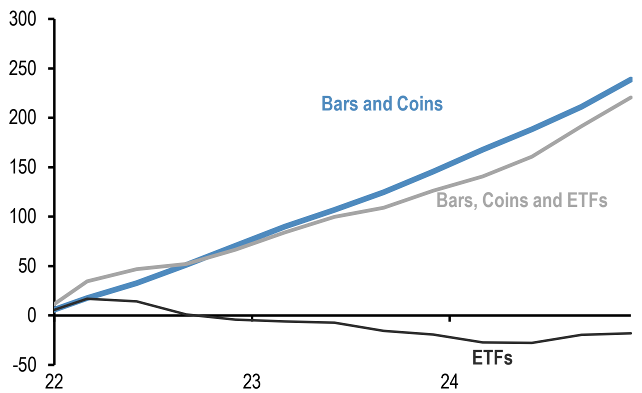
Figure 18: Cumulative gold purchases by private investors

In $bn

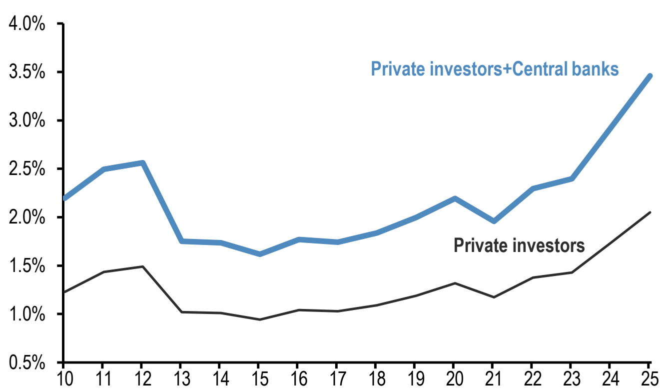


Source: World Gold Council, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- The strong buying of gold by central banks and private investors, coupled with the sharp increase in gold prices vs other financial assets over the past year and a half, pushed our estimate of the implied allocation to gold by real money investors globally to a new record high of 3.5%, pointing to a structural uptrend. That is, around $9tr out of around $260tr of total financial assets globally, including equities, bonds, cash and alternatives, is invested in gold currently (Figure 19). Of this $9tr, around $4tr is held by central banks and around $5tr is held by private investors.

Figure 19: Implied allocation to gold by real money investors globally

as % total financial assets globally including equities, bonds, cash and alternatives

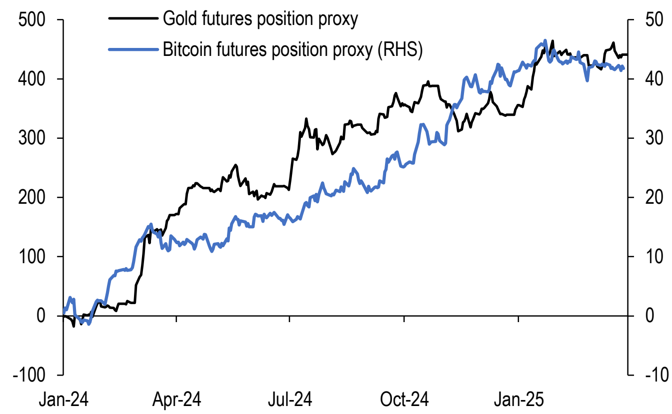


Source: World Gold Council, Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- What about speculative demand by institutional investors? Figure 20 shows our futures position proxies for gold and bitcoin futures. These proxies reveal a strong impulse by speculative investors into both bitcoin and gold futures over the past year but a flattish profile (negative in the case of bitcoin) since mid-January. This implies that the gold rally since mid-January has been most likely driven by private investors or central banks rather than speculative investors such as hedge funds.

Figure 20: Our futures position proxy based on cumulated open interest changes for CME bitcoin and gold futures

In thousands of contracts

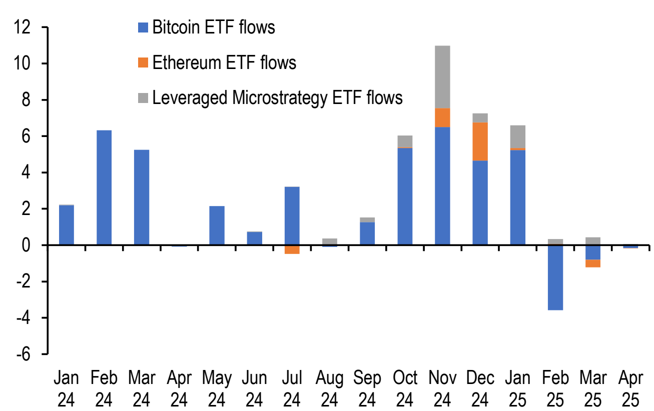


Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- Bitcoin, the other perceived component of the debasement trade, underperformed YTD given its previous outperformance by the end of 2024 and given its naturally higher volatility, risk and correlation with technology stocks. Figure 21 and Figure 22 show that spot bitcoin ETFs have experienced outflows over the past two months, in contrast to continued inflows into gold ETFs, implying a shift by private investors away from bitcoin into gold during February and March.

Figure 21: Net monthly Bitcoin ETF, Ethereum ETF and Leveraged MicroStrategy ETF flows

$bn



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

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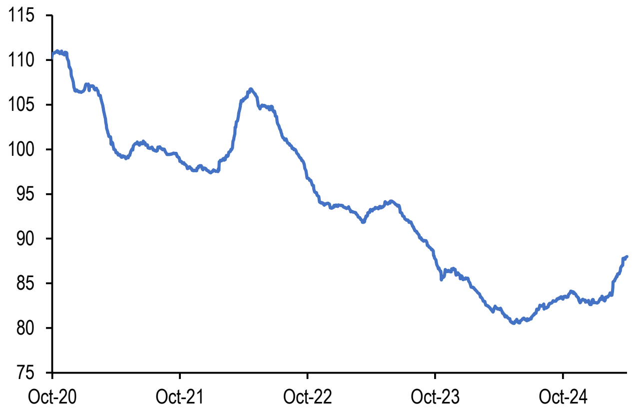
Figure 22: Total Known ETF Holdings of Gold

In millions of troy ounces.

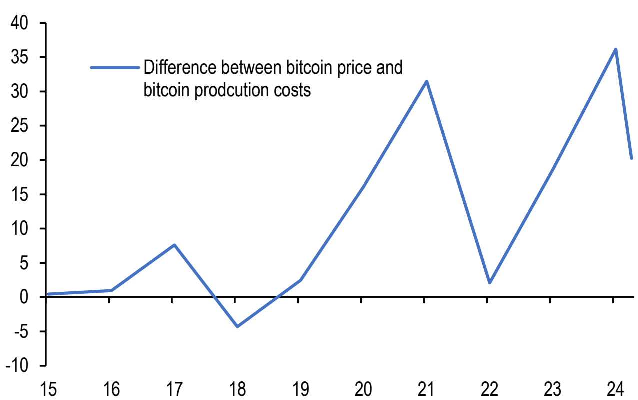


Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- Despite its YTD correction, the bitcoin price remains above our estimated average production cost of $62k, which has historically acted as an empirical lower bound for bitcoin prices (Figure 23), or its volatility-adjusted comparison to gold of $71k (Figure 24). This comparison is constructed by adjusting the market value of total private sector holdings of gold (around $5tr) by the relative volatility of bitcoin vs. gold (bitcoin is more than three times more volatile than gold).

Figure 23: Difference between bitcoin price and our estimate of the average bitcoin production cost

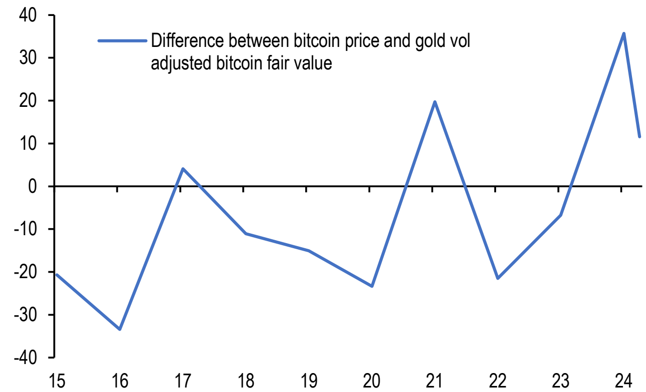
In $k, based on year-end values, 2025 obs for Mar 30th



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

Figure 24: Difference between bitcoin price and our vol-adjusted comparison to gold

In $k, based on the year-end values, 2025 obs for Mar 30th



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

- Looking forward, we see gold continuing to rise as the major beneficiary of the debasement trade especially if tariff uncertainty fails to peak with the April 2nd announcement. In contrast, bitcoin's volatility and correlation with equities raises questions over its "digital gold" narrative.

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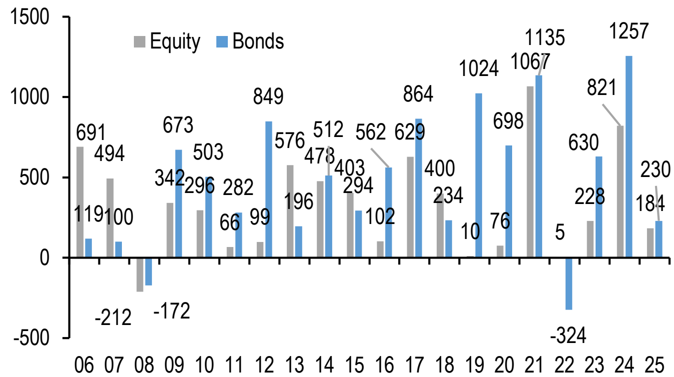
Appendix

Chart A1a: Global equity & bond fund flows

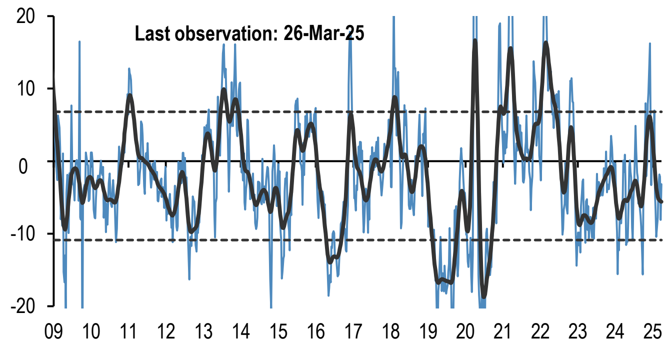
$bn per year of Net Sales, i.e. includes net new sales + reinvested dividends for Mutual Funds and ETFs globally, i.e. for funds domiciled both inside and outside the US. Flows come from ICI (worldwide data up to Q3'24). Data since then are a combination of monthly and weekly data from Lipper and Bloomberg.



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

Chart A2: Fund flow indicator

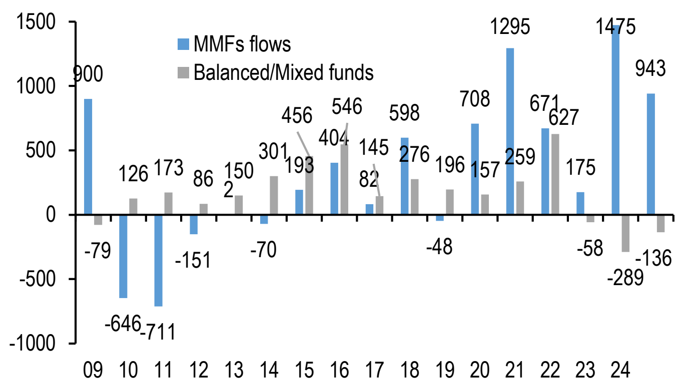
Difference between flows into Equity and Bond funds: $bn per week. Difference between flows into Equity vs. Bond funds in $bn per week. Flows include Mutual Fund and ETF flows globally, i.e. funds domiciled both inside and outside the US (source: Lipper). The thin blue line shows the 4-week average of 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.



Source: Lipper, 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 Q3'24.



Source: ICI, 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 Feb-25	MIN	MAX	Turnover ratio	Vol (tr)	y/y chng
Equities					
EM Equity			0.6	$0.7	-17%
DM Equity			1.1	$8.2	6%
Govt Bonds					
UST cash			12.1	$16.7	3%
UST futures			0.7	$26.6	6%
JGBs			42.2	¥3,814	9%
Bund futures			1.4	€7.4	5%
Credit					
US HG			1.0	$0.7	2%
US HY			0.7	$0.2	-3%
US Convertibles			3.0	$0.04	10%
Commodities					
Gold			41.8	$1.2	39%
Oil			86.9	$2.1	-34%
Copper			1.9	$0.5	41%
Digital Assets					
CME Bitcoin			93.5	$0.150	26%
CME Ethereum			112.0	$0.028	-12%

* 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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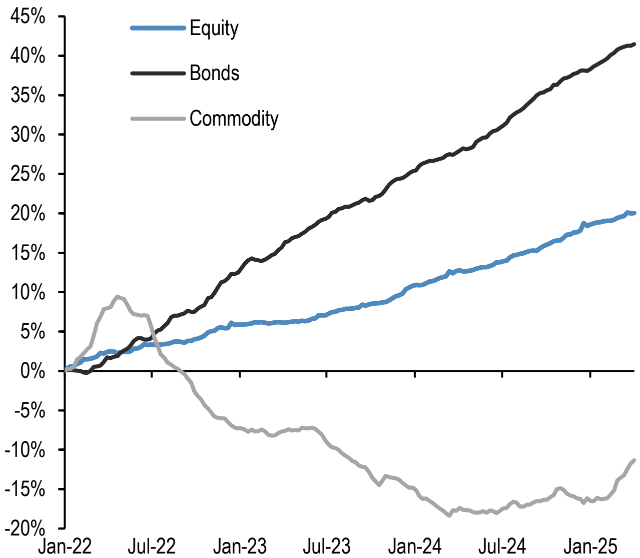
ETF Flow Monitor (as of 2nd Apr)

Chart A3: Global Cross Asset ETF Flows

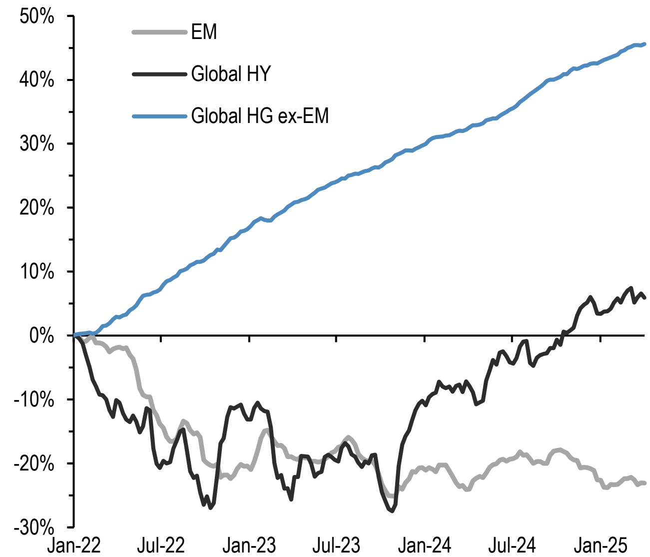
Cumulative flow into ETFs as a % of AUM



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

Chart A4: Bond ETF Flows

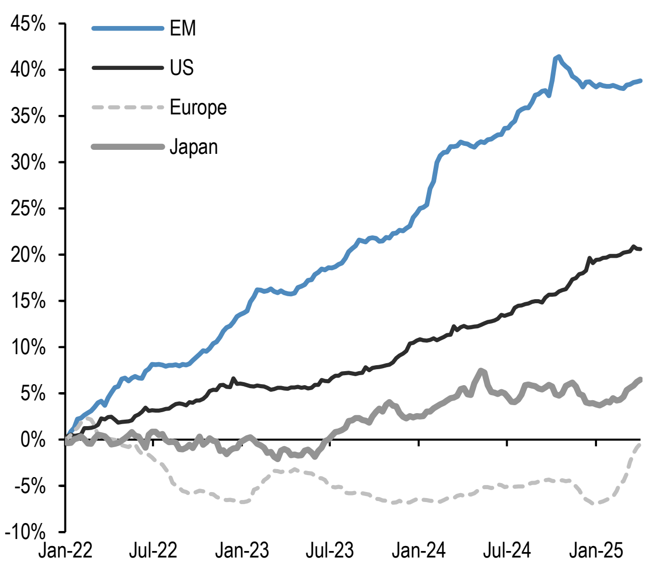
Cumulative flow into bond ETFs as a % of AUM



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

Chart A5: Global Equity ETF Flows

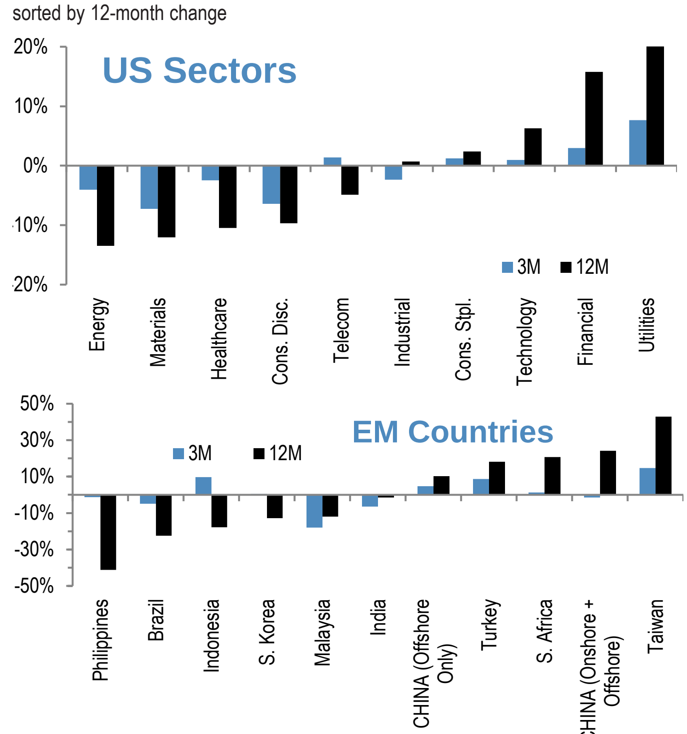
Cumulative flow into global equity ETFs as a % of AUM



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.
Note: We include ETFs with AUM > $200mn in all the flow monitor charts. Chart A5 exclude China On-shore (A-share) ETFs from EM and in Japan. We subtract the BoJ buying of ETFs.

Chart A6: 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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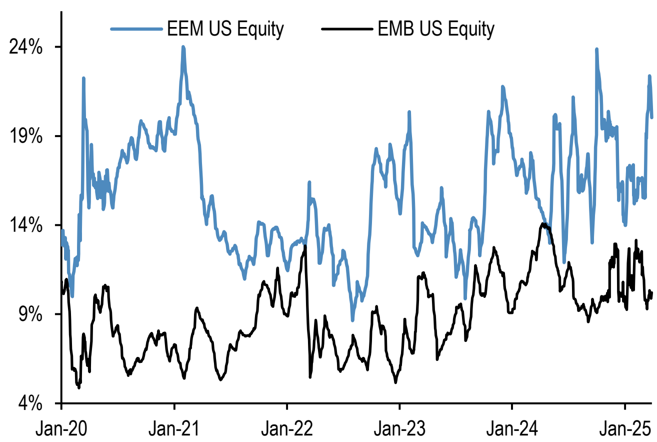
Short Interest Monitor

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

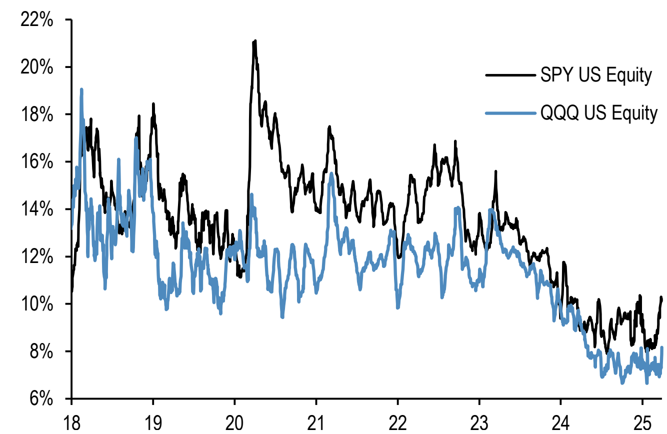
Short Interest as a % share of share outstanding.



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

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

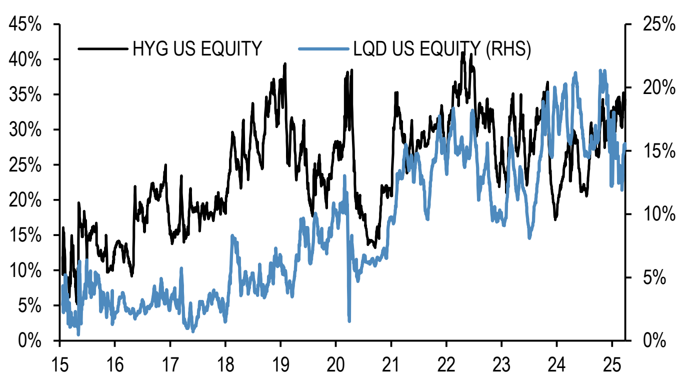
Short Interest as a % share of share outstanding. Last obs is for 28st Mar 2025.



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

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

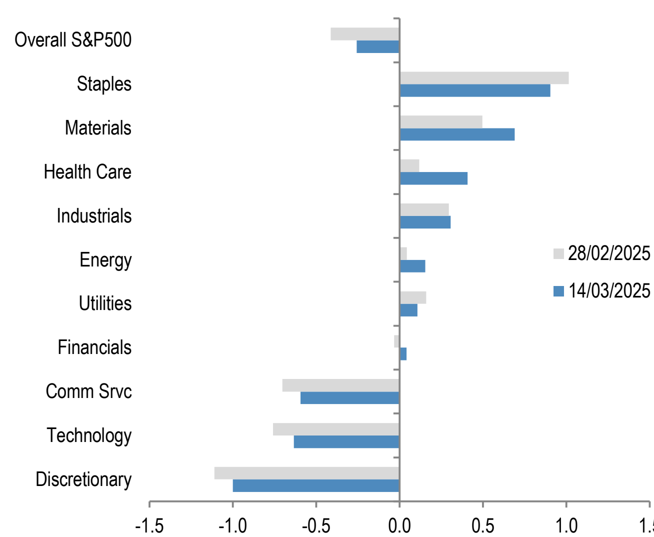
Short Interest as a % share of share outstanding.



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 1st Apr-2025

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	18%	11%	21-May-24	25%	05-Aug-24	7%	7%	0.85x
EuroSTOXX	18%	12%	20-May-24	20%	05-Aug-24	2%	6%	1.03x
Nikkei 225	22%	16%	02-Jul-24	37%	05-Aug-24	15%	6%	1.05x
Hang Seng	23%	18%	05-Sep-24	33%	07-Oct-24	9%	5%	0.84x
MSCI EM	17%	11%	01-May-24	26%	27-Sep-24	9%	6%	0.86x
Gold	15%	13%	28-Jun-24	17%	12-Aug-24	2%	2%	1.44x
Oil (brent)	25%	20%	15-Jul-24	39%	14-Oct-24	14%	5%	1.32x
Copper	19%	16%	18-Dec-24	31%	20-May-24	12%	3%	0.64x
BB commodity index	14%	12%	12-Jul-24	15%	17-Jan-25	2%	2%	2.61x
EUR/USD	12%	8%	04-Apr-24	14%	05-Aug-24	3%	3%	1.20x
USD/NOK	11%	9%	23-May-24	13%	05-Aug-24	3%	1%	1.05x
USD/JPY	7%	6%	12-Jul-24	9%	05-Aug-24	2%	1%	0.75x
GBP/USD	7%	6%	08-Jul-24	11%	13-Jan-25	3%	1%	1.09x
USD/CHF	6%	6%	22-May-24	7%	16-Apr-24	1%	1%	1.04x
10y US swaps	8%	6%	20-May-24	10%	05-Aug-24	2%	2%	0.89x
10y Eur swaps	79%	64%	19-Sep-24	88%	12-Mar-25	9%	15%	0.85x
CDX IG	47%	35%	13-Feb-25	54%	05-Aug-24	7%	12%	1.54x
CDX HY	46%	30%	12-Jun-24	48%	13-Mar-25	2%	16%	1.61x
iTraxx	51%	37%	13-Feb-25	61%	05-Aug-24	10%	14%	1.71x
iTraxx X/O	26%	20%	16-Sep-24	37%	07-Oct-24	11%	6%	0.95x

Source: J.P. Morgan, Bloomberg Finance L.P.

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 (31-Mar-25)
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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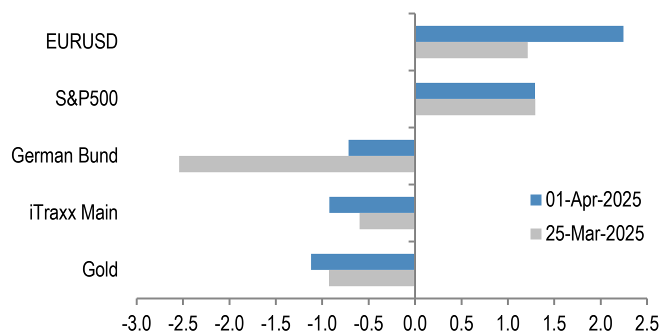
Chart A11b: Option skew monitor

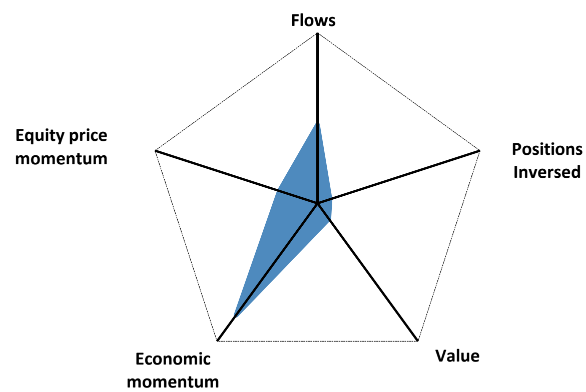
Skew is the difference between the implied volatility of out-of-the-money (OTM) call options and put options. A positive skew implies more demand for calls than puts and a negative skew, higher demand for puts than calls. It can therefore be seen as an indicator of risk perception in that a highly negative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

Explanation of Equity - Bond metric map: Each of the five 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. For example, a reading at the centre for value would mean that risky assets are the most expensive they have ever been while a reading at the other end of the axis would mean they are the cheapest they have ever been. Overall, the larger the blue area within the pentagon, the better for the risky markets. 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. **Value**: The slope of the risk-return trade-off line calculated across USTs, US HG and HY corporate bonds and US equities(see GMOS p. 6, Loeys et al, Jul 6 2011 for more details). **Positions**: Difference between net spec positions on US equities and intermediate sector UST. See Chart A13. **Flow momentum**: The difference between flows into equity funds (incl. ETFs) and flows into bond funds. Chart A1. We then smooth this using a Hodrick-Prescott filter with a lambda parameter of 100. We then take the weekly change in this smoothed series as shown in Chart A1. **Economic momentum**:The 2-month change in the global manufacturing PMI. (See REVISITING: Using the Global PMI as trading signal, Nikolaos Panigirtzoglou, Jan 2012). **Equity price momentum**: The 6-month change in the S&P500 equity index. As of 28th Mar 25.



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

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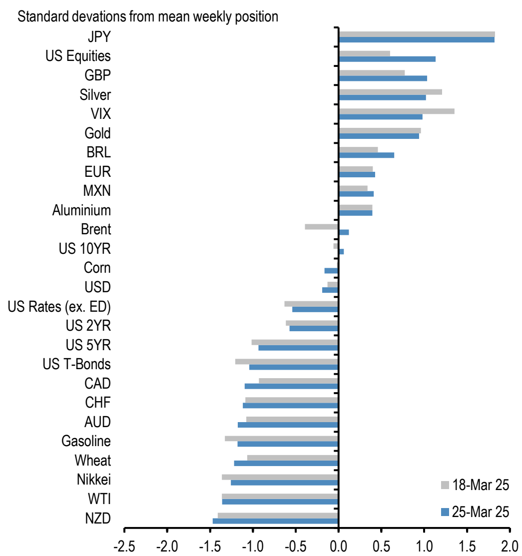
Spec position monitor

Chart A12: Weekly Spec Position Monitor

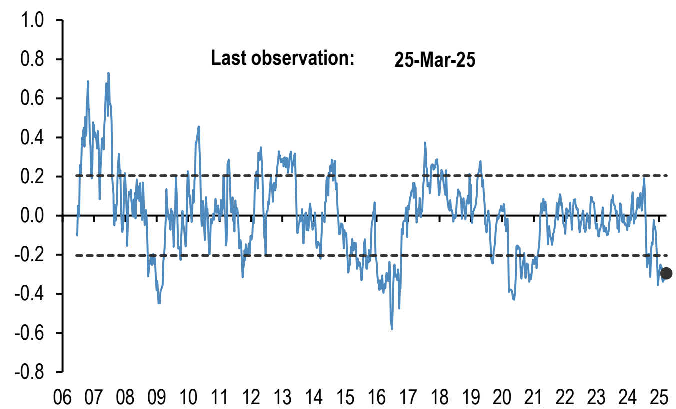
Net spec positions are proxied by the number of long contracts minus the number of short contracts using the speculative category of the Commitments of Traders reports (as reported by CFTC). To proxy for speculative investors for equity and US Treasury bond futures positions we use Asset managers and 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 A14: Spec position indicator on Risky vs. Safe currencies

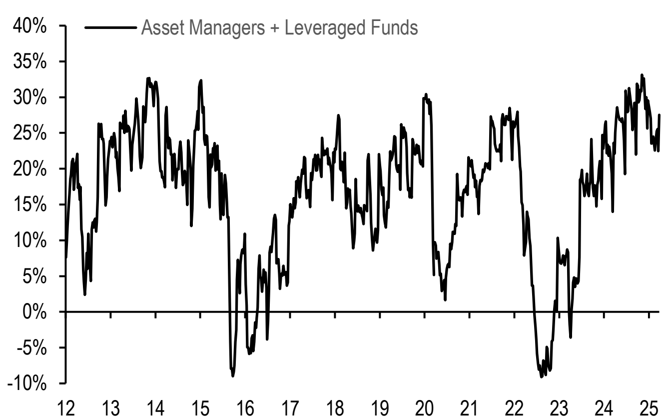
Difference between net spec positions on risky & safe currencies. Net spec position is calculated in USD across 5 'risky' and 3 'safe' currencies (safe currencies also include Gold). These positions are then scaled by open interest and we take an average of 'risky' and 'safe' assets to create two series. 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 A13: Positions in US equity futures by Asset managers and Leveraged funds

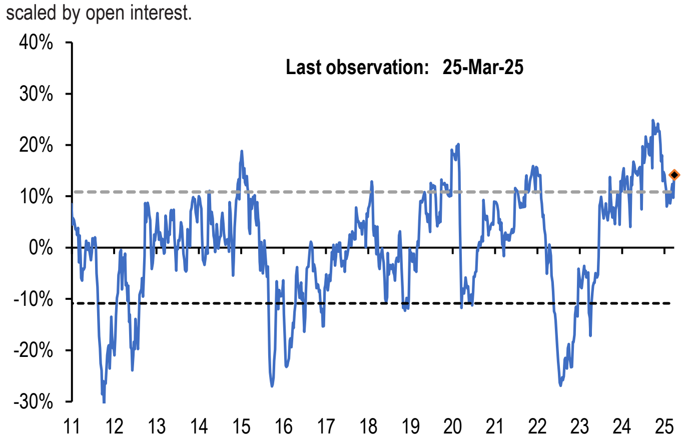
CFTC positions in US equity futures by Leveraged funds and Asset managers (as a % of open interest). It is an aggregate of the S&P500, DowJones, NASDAQ and their Mini futures contracts.



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

Chart 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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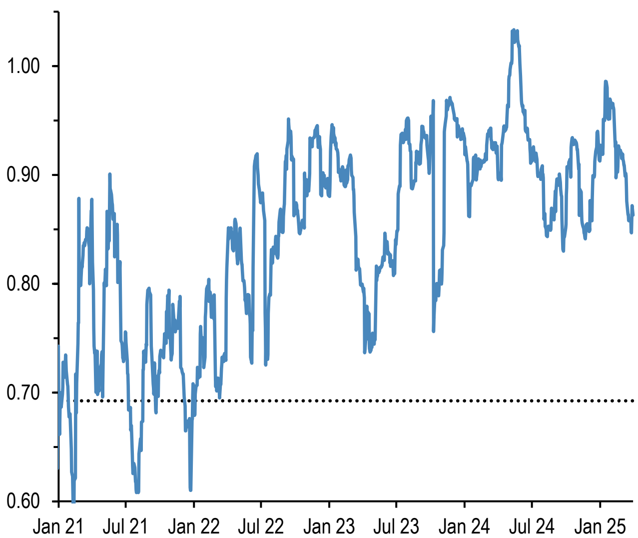
Mutual fund and hedge fund betas

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

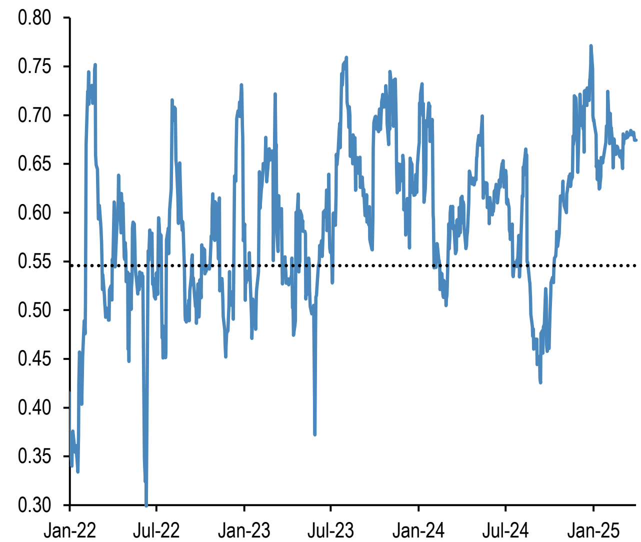
The dotted line shows the average beta since 2013.



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 type of investors

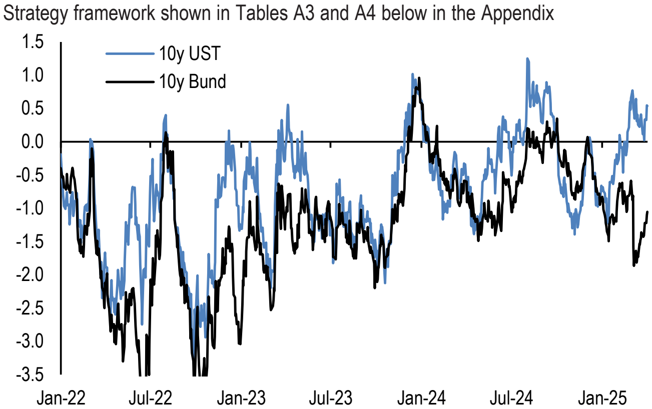
The table depicts the performance of various types of investors in % as of 31st Mar 2025.

Date	2019	2020	2021	2022	2023	2024	2025
Investors							
Equity L/S	12.6%	13.4%	9.3%	-7.0%	11.3%	13.0%	1.9%
Macro ex-CTAs	5.6%	4.9%	4.3%	11.5%	1.3%	6.0%	1.8%
CTAs	7.1%	1.2%	8.8%	14.7%	-2.5%	2.9%	-2.7%
Risk Parity Funds	18.4%	3.5%	4.7%	-18.6%	6.0%	5.0%	2.9%
US Balanced MFs	20.1%	13.2%	14.4%	-13.0%	13.8%	11.4%	0.3%
Benchmark							
MSCI AC World	26.6%	16.3%	16.4%	-18.4%	22.2%	17.5%	-1.3%
Barclays Global Agg	8.2%	5.6%	-2.5%	-11.2%	7.1%	3.4%	1.2%
S&P Riskparity Vol 10	22.8%	11.5%	12.8%	-16.2%	15.0%	5.4%	2.4%
60 US Equity : 40 US Bonds	22.2%	13.3%	14.8%	-15.4%	18.6%	16.4%	-2.1%

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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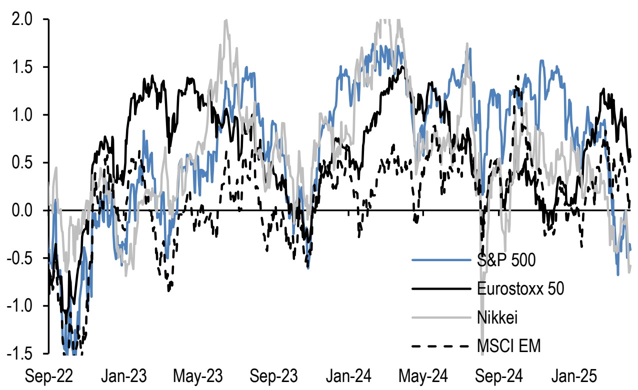
Chart A20: Momentum signals for S&P500

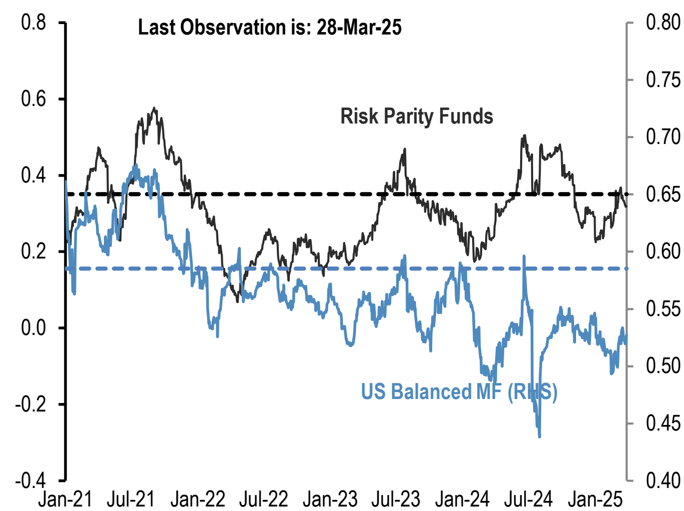
Average z-score of Short- and Long-term momentum signal in our Trend Following Strategy framework shown in Tables A3 and A4 below in the Appendix.



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

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

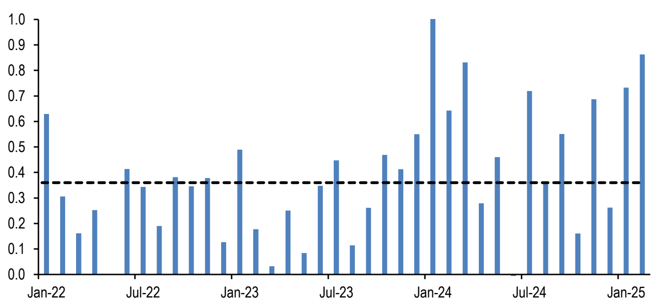
Rolling 42-day equity beta based on a bivariate regression of the daily returns of our Balanced Mutual fund and Risk Parity fund return indices to the daily returns of the S&P 500 and BarCap US Agg indices. Given that these funds invest in both equities and bonds we believe that the bivariate regression will be more suitable for these funds. Our risk parity index consists of 25 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

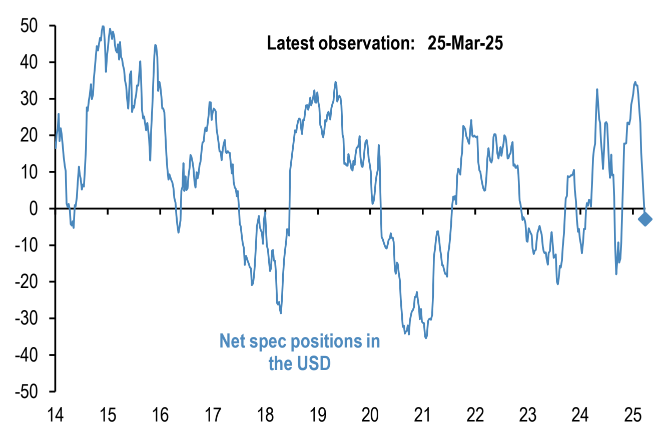
Proxied by the ratio of the monthly performance of Pivotal Path Asset-Weighted Equity Diversified hedge fund index divided by the monthly performance of MSCI AC World Index. Jan 25 obs. is based on provisional data from Pivotal path.



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, Barclay, 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	5.4	22.6	0.24	1	7	0.8	4.8%
	long	462				0	1	0.0	0.6%
Brent	short	84	4.1	21.3	0.19	1	1	0.1	1.8%
	long	504				0	4	0.0	1.0%
Unleaded gas	short	105	3.5	23.3	0.15	1	1	0.2	2.5%
	long	483				-1	34	-0.1	-3.4%
Heat Oil	short	63	4.4	21.6	0.21	0	0	0.0	-0.2%
	long	483				-1	27	-0.2	-4.5%
Gasoil	short	63	7.8	20.5	0.38	0	1	0.0	0.0%
	long	378				-1	27	-0.1	-3.4%
Nat gas	short	105	16.8	35.5	0.47	1	8	1.0	17.6%
	long	315				1	41	0.8	25.2%
EU emission allowances	short	42	11.2	29.7	0.38	-1	30	-0.5	-5.3%
	long	483				-1	30	-0.2	-8.0%
1m fwd TTF Nat gas	short	21	41.5	30.7	1.35	1	0	0.2	1.4%
	long	294				1	0	0.1	6.1%
Gold	short	21	3.3	10.5	0.32	1	0	1.5	4.0%
	long	483				0	45	2.4	28.4%
Silver	short	10	5.3	19.0	0.28	0	0	0.0	0.1%
	long	462				1	218	0.9	18.8%
Palladium	short	42	11.4	22.9	0.50	1	1	0.2	1.8%
	long	273				0	1	0.0	-0.9%
Platinum	short	105	2.9	18.3	0.16	1	3	0.2	1.5%
	long	273				0	0	0.0	-0.4%
Aluminium	short	105	4.7	15.2	0.31	-1	5	-0.5	-4.2%
	long	357				-1	0	-0.1	-1.0%
Copper	short	147	7.0	17.2	0.40	1	19	0.2	2.7%
	long	399				1	19	0.1	3.1%
Lead	short	126	1.4	19.6	0.07	-1	1	-0.2	-2.2%
	long	357				-1	183	-0.4	-8.6%
Nickel	short	42	12.6	23.2	0.54	1	0	0.1	1.0%
	long	336				-1	218	-0.3	-7.8%
Zinc	short	126	8.4	19.8	0.43	-1	63	-0.5	-5.7%
	long	399				-1	0	-0.1	-1.7%
Wheat	short	168	3.8	23.5	0.16	-1	24	-0.6	-6.8%
	long	294				-1	214	-0.8	-12.2%
Kansas wheat	short	147	8.5	21.0	0.41	-1	6	-0.3	-3.6%
	long	483				-1	278	-0.8	-17.0%
Corn	short	63	7.8	16.8	0.47	-1	22	-0.6	-4.4%
	long	399				-1	26	-0.3	-6.6%
Soybeans	short	42	5.9	14.7	0.40	0	0	0.0	0.0%
	long	231				-1	161	-0.2	-3.2%
Cotton	short	168	5.5	18.7	0.29	-1	257	-0.3	-3.9%
	long	483				-1	258	-0.7	-17.5%
Sugar	short	63	6.6	21.7	0.30	1	17	0.5	4.8%
	long	252				1	13	0.2	3.6%
Coffee	short	63	7.8	23.8	0.33	1	18	0.6	5.3%
	long	273				0	99	2.3	44.8%
Cocoa*		10	5.9	29.7	0.20	1	0	0.6	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	7.2	12.4	0.59	-1	25	-0.9	-4.7%
	long	315				1	67	0.2	2.4%
Nasdaq 100	short	84	9.4	16.3	0.58	-1	25	-1.0	-7.5%
	long	462				1	75	0.4	7.1%
Nikkei	short	63	2.6	13.2	0.19	-1	28	-1.1	-6.5%
	long	420				-1	1	-0.1	-2.0%
FTSE 100	short	168	4.8	12.3	0.39	1	63	0.7	4.3%
	long	504				1	641	1.1	12.3%
Eurostoxx 50	short	168	5.0	16.6	0.30	1	61	0.7	5.9%
	long	294				1	369	0.6	7.3%
MSCI EM	short	42	12.4	11.6	1.07	-1	1	-0.1	-0.5%
	long	357				1	312	0.3	5.3%
HYG credit	short	168	0.7	3.3	0.22	-1	24	-0.4	-1.1%
	long	273				-1	8	-0.2	-0.6%
LQD credit	short	10	2.9	6.7	0.44	-1	0	-0.8	-1.0%
	long	189				-1	0	-0.5	-2.7%
2Y USTs	short	252	1.0	1.1	0.89	1	2	0.2	0.2%
	long	462				0	0	0.0	0.0%
5Y USTs	short	252	1.8	2.8	0.64	1	2	0.2	0.6%
	long	420				1	0	0.1	0.3%
10Y USTs	short	42	2.4	3.5	0.69	1	20	1.0	1.4%
	long	441				1	0	0.1	0.4%
2Y Schatz	short	189	0.6	0.8	0.74	-1	3	-1.4	-1.2%
	long	504				0	668	-2.1	-3.5%
5y Bobl	short	63	1.3	1.9	0.72	-1	11	-0.3	-0.3%
	long	483				-1	11	-1.2	-4.0%
10y Bund	short	105	2.3	3.4	0.69	-1	3	-1.1	-2.3%
	long	462				-1	360	-1.1	-5.6%
10Y JGB	short	126	0.9	2.3	0.37	0	42	-1.8	-1.8%
	long	273				0	34	-1.8	-2.4%
10Y Gilts	short	42	2.1	3.9	0.54	-1	19	-0.4	-0.7%
	long	399				0	19	-1.5	-8.0%
10y OAT vs Bund	short	189	0.5	1.5	0.33	1	49	0.9	0.8%
	long	294				1	33	0.4	0.4%
10y BTP vs. Bund	short	84	2.3	6.5	0.36	1	143	0.2	0.6%
	long	273				1	378	0.6	2.5%
Euro	short	42	3.6	6.5	0.56	1	9	0.5	1.1%
	long	273				-1	55	-0.5	-3.0%
Yen	short	21	3.5	6.2	0.56	-1	11	-0.3	-0.5%
	long	462				-1	40	-1.0	-8.5%
Sterling	short	168	1.7	7.1	0.24	-1	8	-0.2	-0.7%
	long	294				-1	116	-0.3	-1.5%
AUD	short	42	4.2	7.9	0.53	-1	8	-0.3	-0.9%
	long	420				-1	130	-0.9	0.0%
CAD	short	168	1.4	6.0	0.24	-1	20	-1.1	-4.1%
	long	504				0	1	-1.5	0.0%

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

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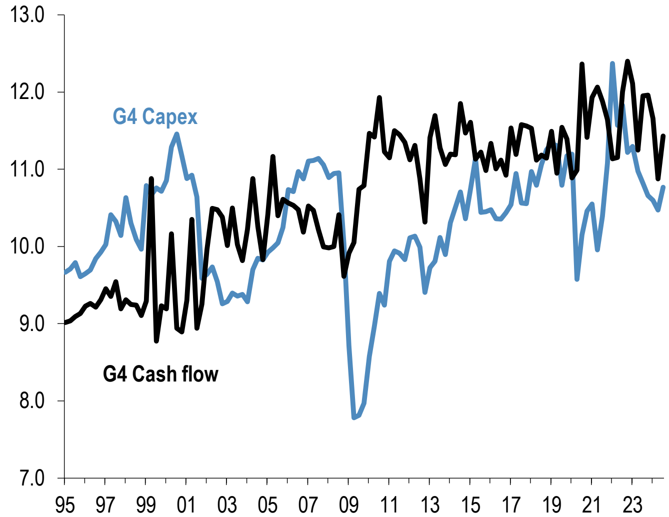
Corporate Activity

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

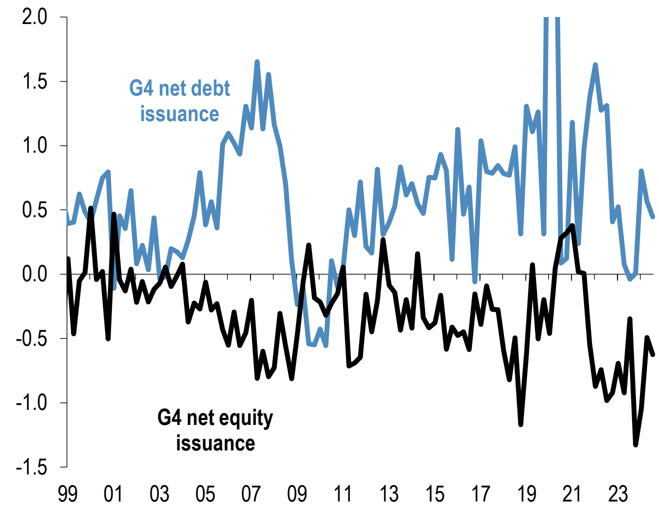
% of GDP, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q3 2024.



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

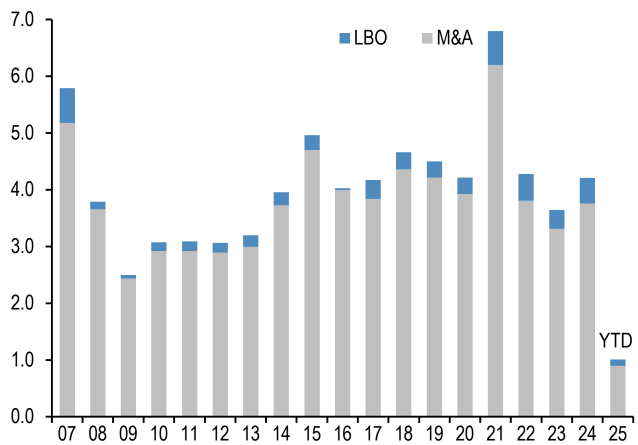
$tr per quarter, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q3 2024.



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

Chart A26: Global M&A and LBO

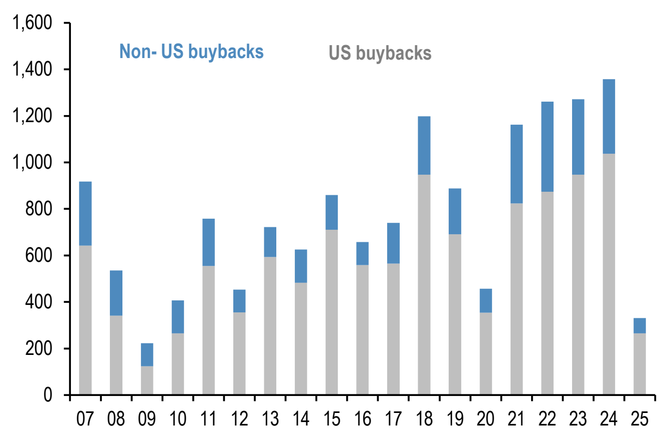
$tr. M&A and LBOs are announced.



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

Chart A27: US and non-US share buyback

$bn, are as of March.



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

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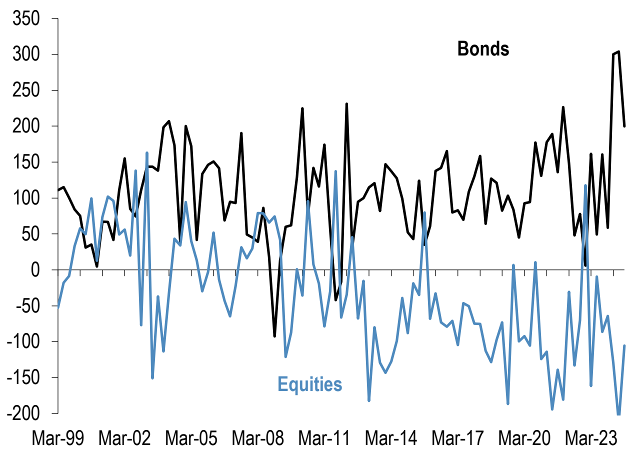
Pension fund and insurance company flows

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

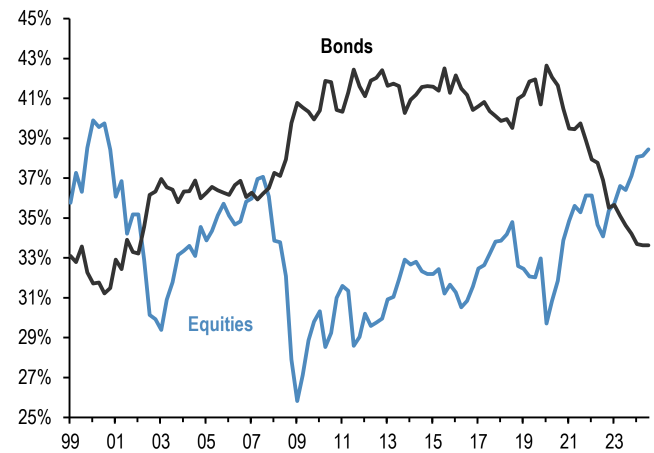
Equity and bond buying in $bn per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q3 2024.



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

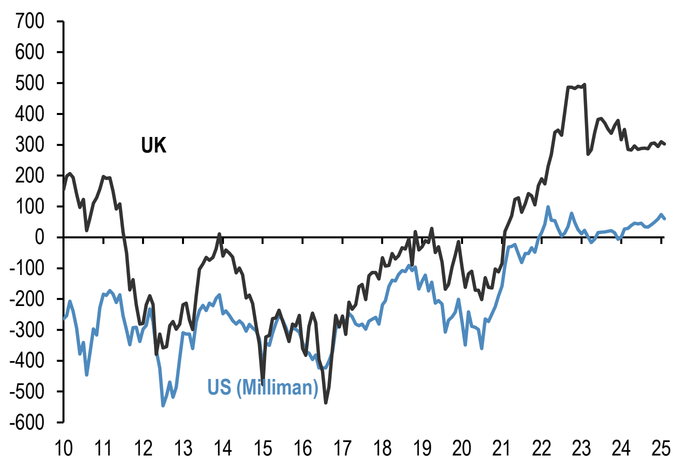
Equity and bond as % of total assets per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q3 2024.



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

Chart A30: Pension fund deficits

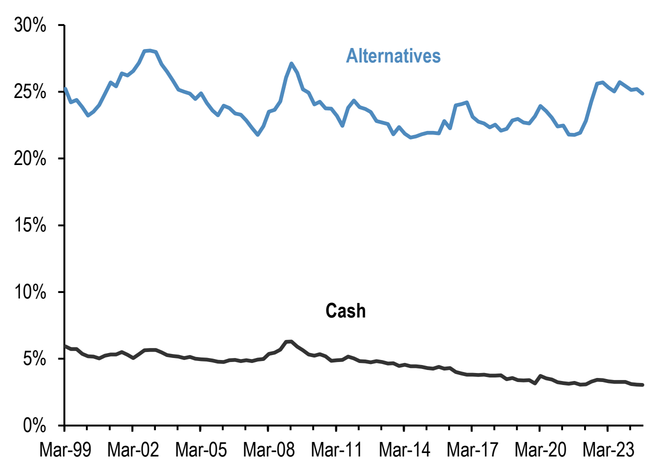
US$bn. For US, funded status of the 100 largest corporate defined benefit pension plans, from Milliman. For UK, funded status of the defined benefit schemes eligible for entry to the Pension Protection Fund, converted to US$ at today's exchange rates. Last obs. is Feb'25 for US & UK.



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 Q3 2024.



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

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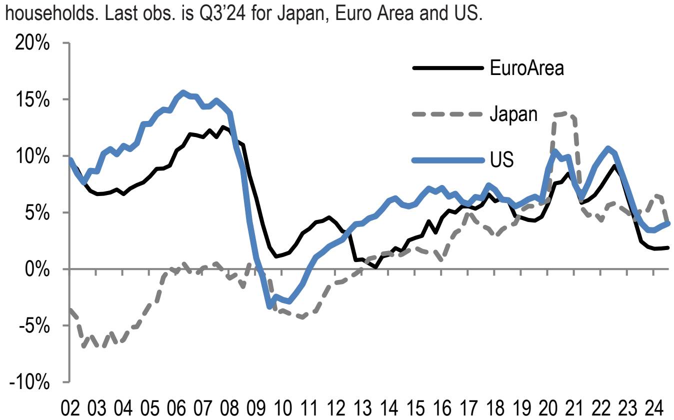
Credit Creation

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

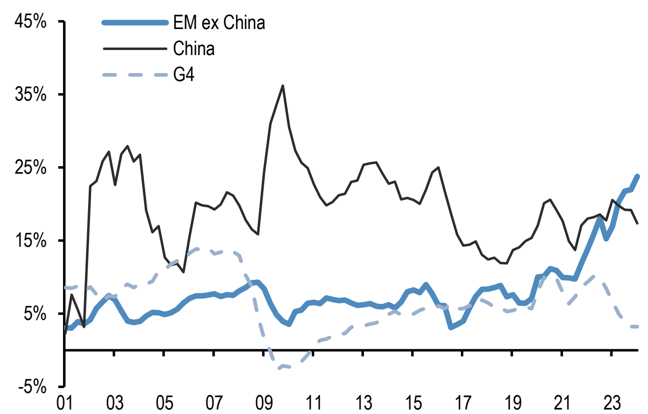
Rolling sum of 4-quarter credit creation as % of GDP. Credit creation includes both bank loans as well as net debt issuance by non-financial corporations and households. Last obs. is Q3'24 for Japan, Euro Area and US.



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

Chart A33: Credit creation in EM

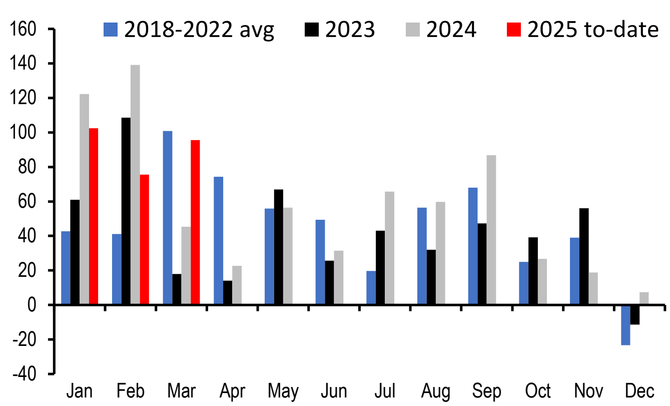
Rolling sum of 4-quarter credit creation as % of GDP. Credit creation includes both bank loans as well as net debt issuance by non-financial corporations and households. Last obs. is for Q2'24.



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. Mar 2025 obs. includes data up to March 27th.



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	28-Mar	4 wk avg	13 wk avg	y/y chng
Global IPOs	1.1	1.7	2.1	34%
Secondary Offerings	11.3	11.3	8.1	2%
Corporate announcements				
M&A - Global	38.2	88.0	69.0	0%
- US Target	27.3	43.8	32.7	-17%
- Non-US Target	10.8	44.3	36.3	18%
Net bond issuance	**Jan-25**	**3 mth avg**	**YTD avg**	**y/y chng**
USD	325	232	325	-3%
Non-USD	252	19	252	-31%

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

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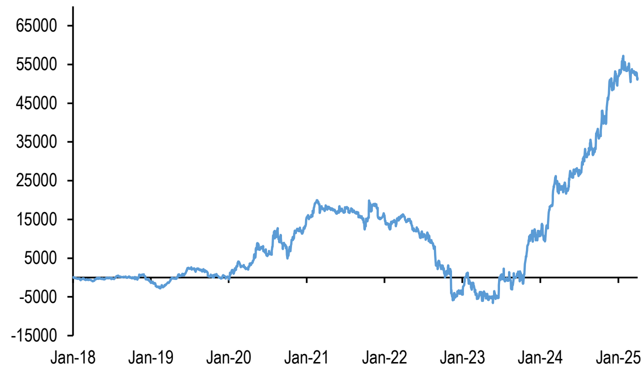
Bitcoin monitor

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

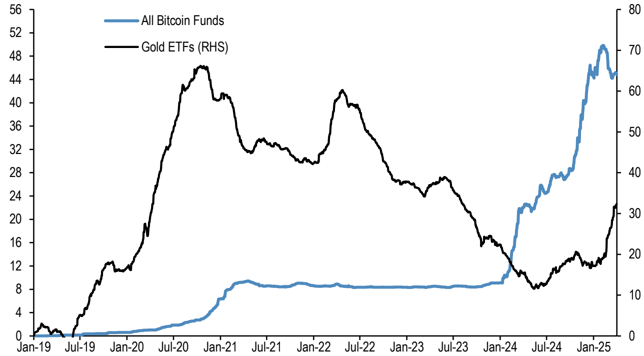
In number of contracts. Last obs. for 1st Apr 2025.



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

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

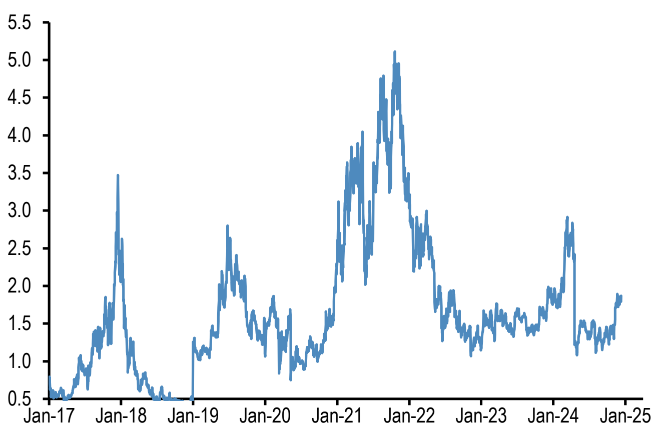
Both the y-axis in $bn.



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

Chart A37: Ratio of bitcoin market price to production cost

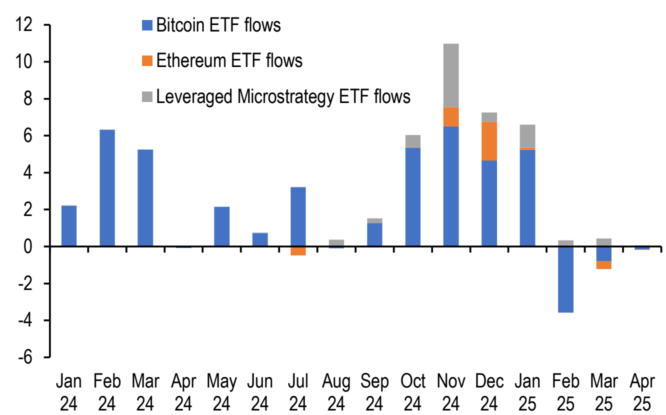
Based on the cost of production approach following Hayes (2018).



Source: Coin Metrics, 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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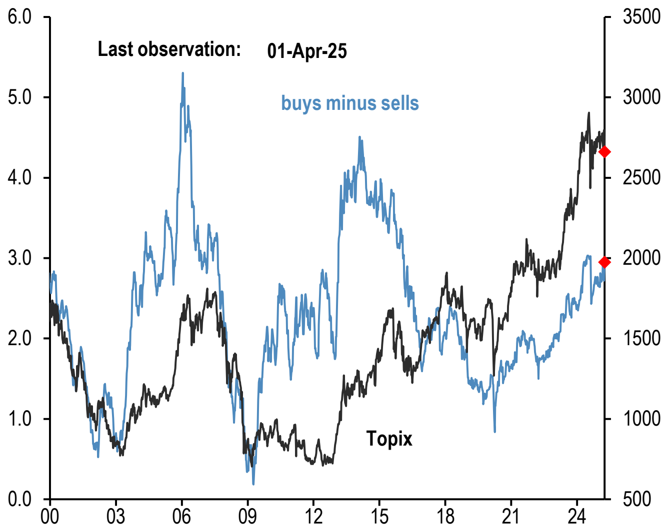
Japanese flows and positions

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

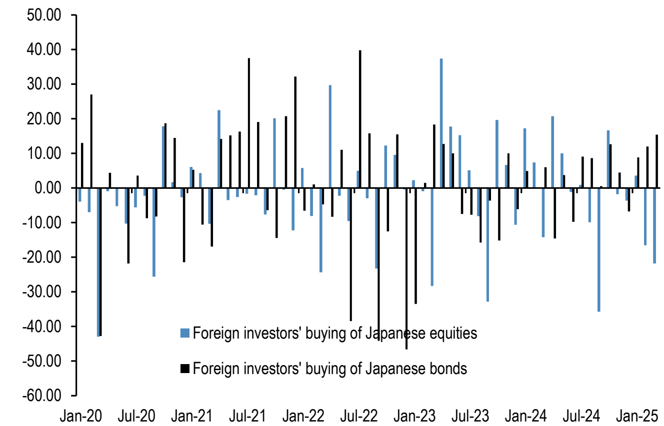
In bn of shares. Topix on right axis.



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

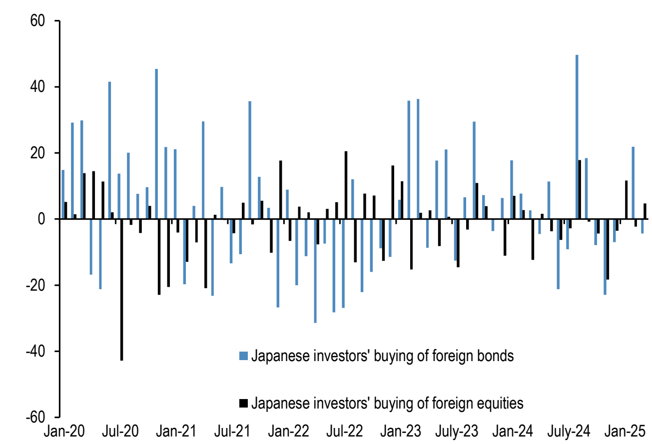
$bn, Last weekly obs. is for 21st Mar' 25.



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

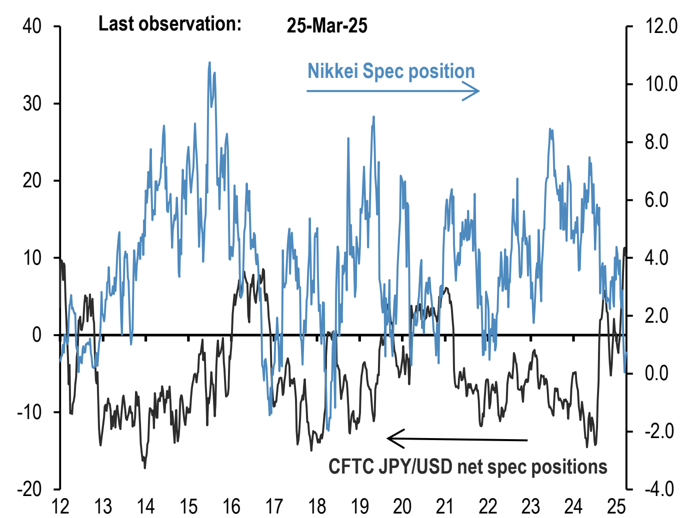
$bn, Last weekly obs. is for 21st Mar' 25.



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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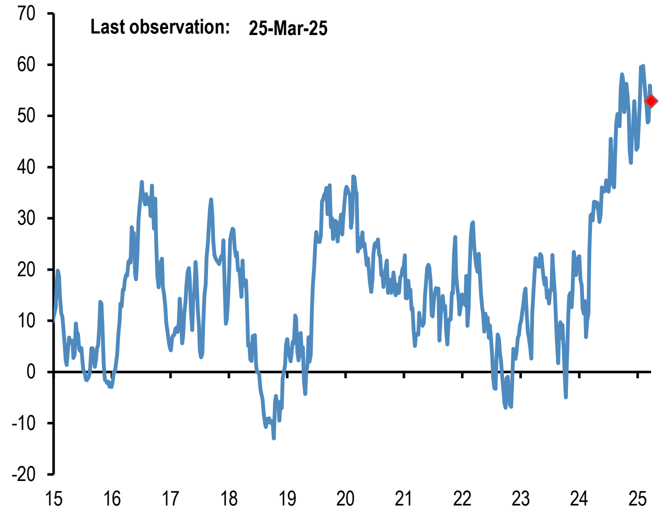
Commodity flows and positions

Chart A43: Gold spec positions

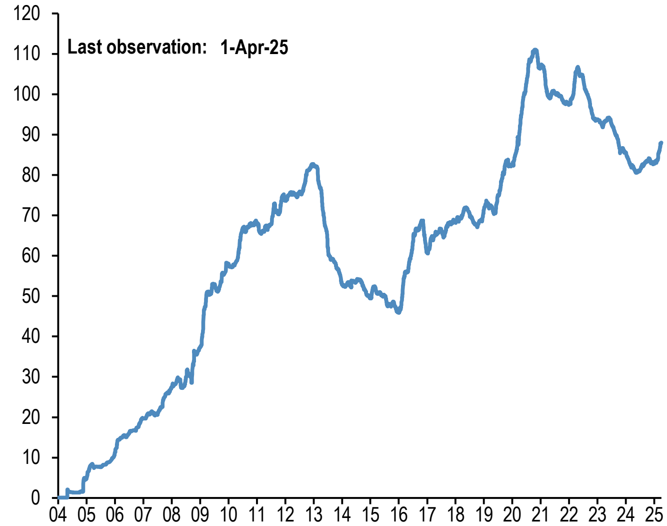
$bn. CFTC net long minus short position in futures for the Managed Money category.



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

Chart A44: Gold ETFs

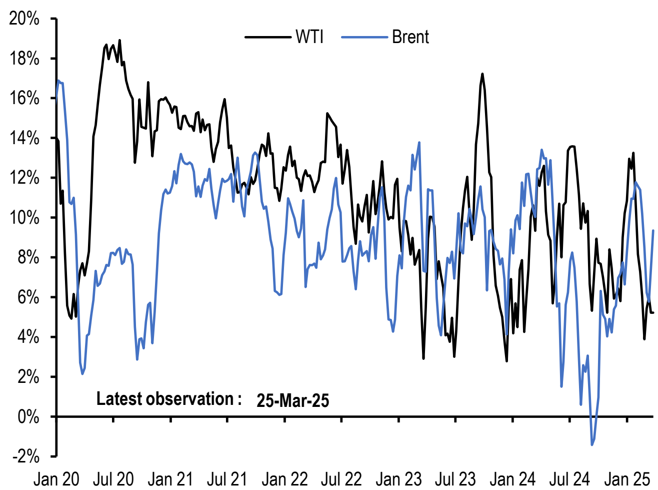
Mn troy oz. Physical gold held by all gold ETFs globally.



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

Chart A45: Oil spec positions

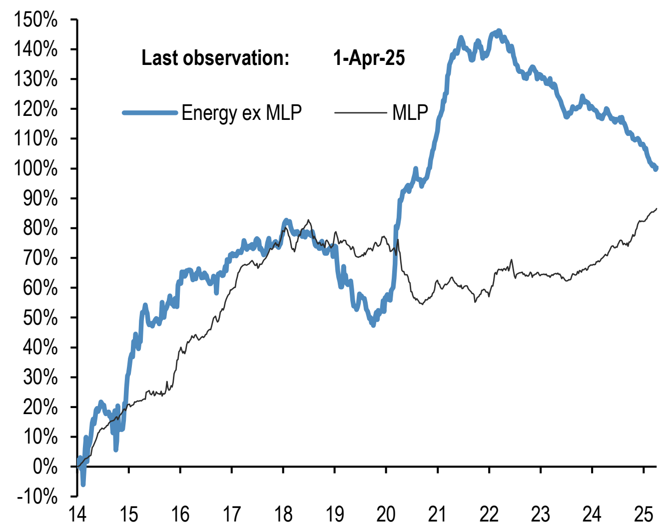
Net spec positions divided by open interest. CFTC futures positions for WTI and Brent are net long minus short for the Managed Money category.



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

Chart A46: Energy ETF flows

Cumulative energy ETFs flow 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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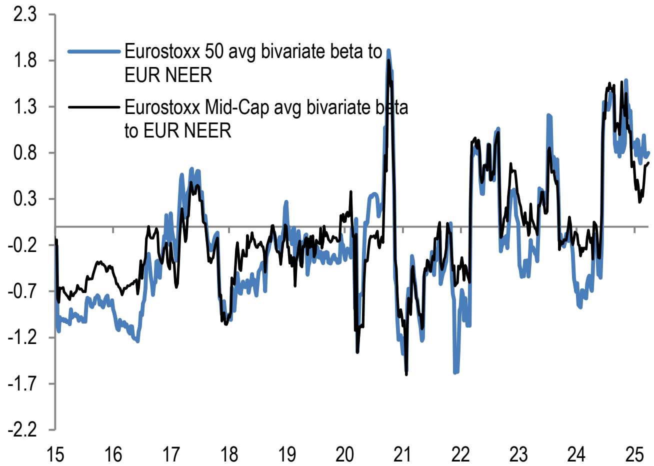
Corporate FX hedging proxies

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

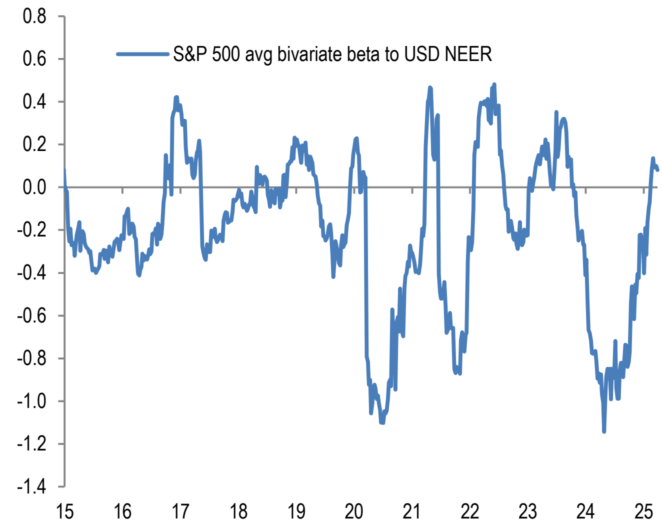
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of individual stocks in the Eurostoxx 50 index to the weekly returns of the MSCI AC World and JPM EUR Nominal broad effective exchange rate (NEER).



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

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

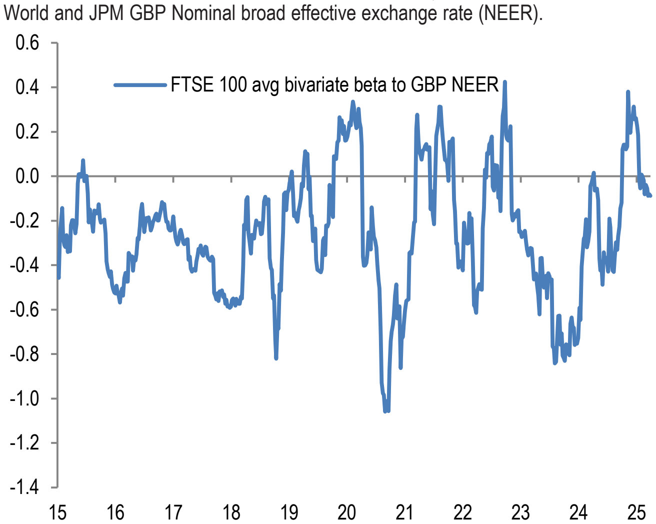
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of stocks in the S&P500 index to the weekly returns of the MSCI AC World and JPM USD Nominal broad effective exchange rate(NEER).



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

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

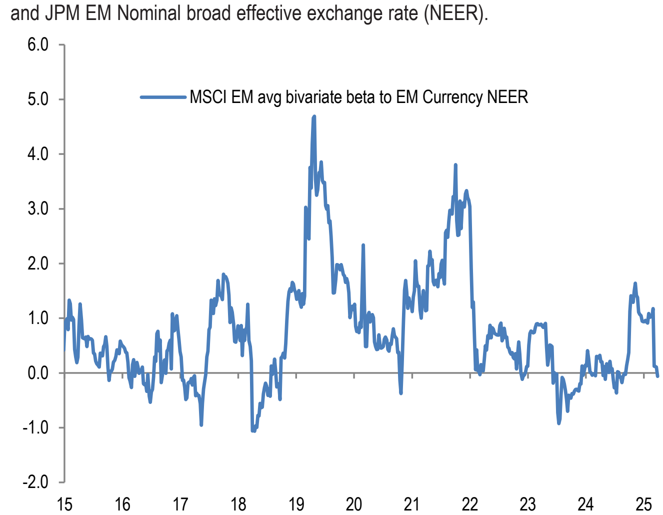
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of individual stocks in the FTSE 100 index to the weekly returns of the MSCI AC World and JPM GBP Nominal broad effective exchange rate (NEER).



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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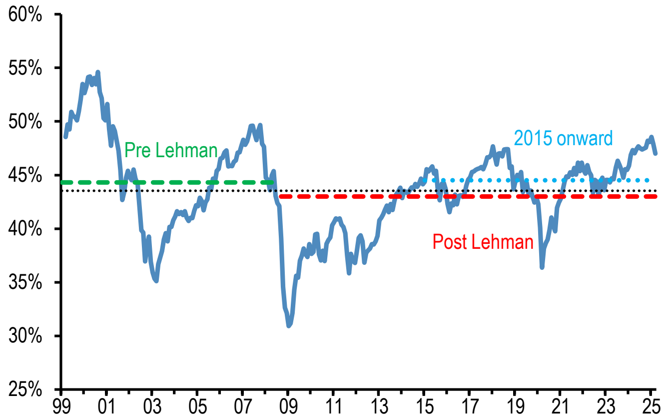
Non-Bank investors' implied allocations

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

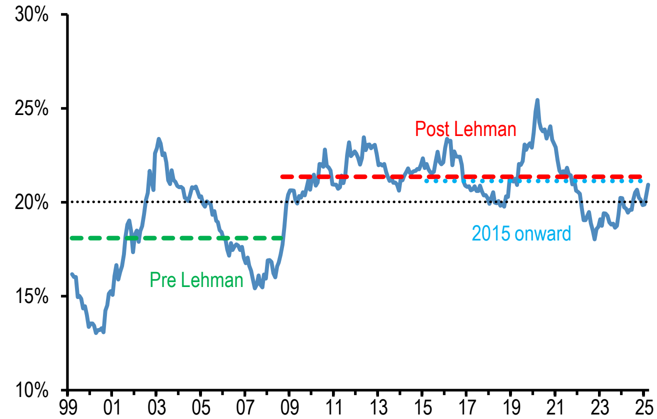
Global equities as % total holdings of equities/bonds/M2 by non-bank investors. Dotted lines are averages.



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

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

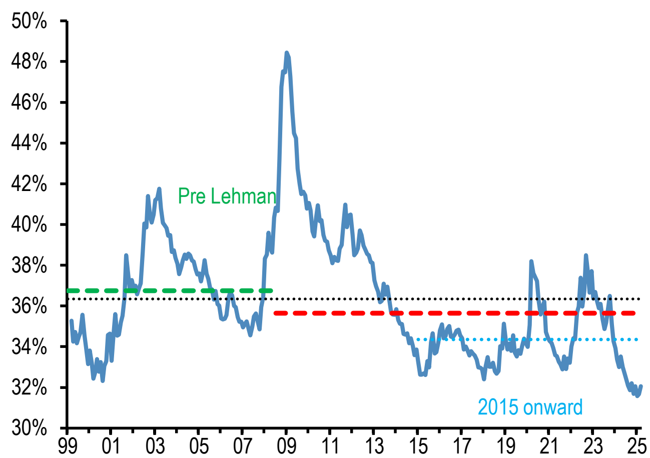
Global bonds as % total holdings of equities/bonds/M2 by non-bank investors. Dotted lines are averages.



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

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

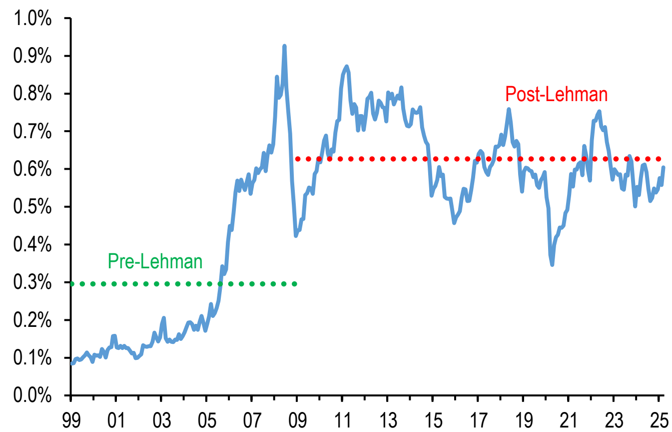
Global cash held by non-bank investors as % total holdings of equities/bonds/M2 by non-bank investors. Dotted lines are averages.



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

Chart A54: Implied commodity allocation by non-bank investors globally

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



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

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