Flows & Liquidity

Gauging capital flow taxes

Global Markets Strategy

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- **The provisions in Section 899 have generated considerable uncertainty given the potential for broad application and discretion afforded to the Treasury Secretary.**
- **While portfolio income from bonds issued by US entities are largely exempt, dividends, rents and income from bonds issued by non-US entities are not and Section 899 could in principle affect up to $350bn of annual investment income, and with a 20% rate around $70bn of tax could potentially be raised.**
- **But past experience suggests that even modest taxes on capital can result in notable shifts due to altering incentives of both investors and issuers, and of the theoretical up to $70bn that Section 899 could conceivably raise, only a portion would likely eventually be raised as foreign issuers are incentivized to migrate to Eurobond markets and US companies could shift further away from returning capital to shareholders as dividends in favor of buybacks.**
- **We are skeptical of the hypothesis that unwinding previous cross border borrowing in euros or yen played a significant role in this year's dollar weakness.**
- **We view the gap that has opened between the short interest of SPY and QQQ ETFs as a bullish equity market signal.**

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 28th May 25.

MF & ETF Flows	Min	Max	4 wk avg ($bn)	2024 avg ($bn)
All Equities			2.2	7.6
All Bonds			17.1	10.6
US Equities			-3.1	5.7
US Bonds			7.4	4.3
Non-US Equities			5.2	1.9
Non-US Bonds			9.6	6.3
US HG Bonds			1.0	3.8
US HY Bonds			1.2	0.4
US Lev. Loans *			0.5	0.4
US MMFs			7.7	16.7
EM Equities			0.5	-0.2
EM Bonds			0.25	-0.37
Japan Equities			-2.4	0.2
China Equities			0.06	-0.18
Europe				
Europe Equities			1.7	-0.9
Europe Bonds			6.8	4.7
Europe HG Bonds			1.1	0.9
Europe HY Bonds			0.57	0.23
Europe MMFs			-0.8	5.5
Other Equities			5.39	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 27-May-25	MIN	MAX	Current percentile
Equities			0.55
Govt Bonds			0.71
Credit			0.17
Dollar			0.33
Commodities ex Gold			0.43
Gold			0.73
Bitcoin			0.80
EM Equities			0.47
EM Bonds/FX			0.11
Japan Equities			0.48
Europe Equities			0.48
US Equity Sectors:			
Energy			0.21
Materials			0.34
Industrials			0.56
Discretionary			0.59
Staples			0.36
Health Care			0.26
Financials			0.60
Technology			0.73
Communication Services			0.55
Utilities			0.64

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 25 for analyst certification and important disclosures.

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- Following the House of Representatives passing the fiscal package in the 'One Big Beautiful Bill Act', provisions in Section 899 have raised plenty of questions in our conversations. These provisions would ostensibly respond to "unfair foreign taxes", specifically naming Digital Sales Taxes, the Under Taxed Profits Rule (UTPR) under OECD tax proposals, as well as Diverted Profits Taxes, and would give the Treasury Secretary some discretion over naming other 'extraterritorial' or 'discriminatory' taxes as unfair. Effectively, the provisions could override existing tax treaties. Part of the provisions subject foreign multinationals to a more stringent base erosion anti-abuse tax (BEAT). However, the potential for foreign investors' holdings of US assets to be caught in scope of the bill is causing concerns more broadly, as it could effectively lead to higher withholding taxes.
- The scope of countries that could quality for retaliation is very broad. The Tax Foundation calculate that it could affect countries that account for more than 80% of the stock of US inbound FDI (What are the goals of retaliatory tax policies?, May 21st), and argue that the more stringent BEAT provisions disincentivise FDI flows which the administration is trying to attract. In principle, as our colleagues in US credit research noted (Section 899: Potential implications for corporate credit, May 28th) it appears that portfolio interest earned is excluded, which includes interest on Treasury bonds, corporate bonds issued by US companies, and loans to US borrowers. The House Budget Committee report appears to confirm that Section 899 does not apply to income that is exempt from taxation under the Internal Revenue Code including portfolio interest, but that it would apply to income that would otherwise qualify for a treaty exemption. The provisions would apply to other forms of US income, including dividends and rents, as well as interest on corporate bonds issued by non-US companies and loans to non-US borrowers. Some have also argued it could affect cross-border income flows of certain types of asset managers such as hedge funds, private equity funds and their portfolio companies, regulated investment companies, BDC, REITS and potentially sovereign wealth funds, that might up to now have paid 0% withholding taxes on dividends, for example.
- How much annual income could be affected? As we have noted previously, the US flow of funds show that foreign investors hold around $16.5tr of US corporate equities, and the dividend yield on the MSCI US index is around 1.3%. This implies annual dividend income of around $215bn. For bonds, foreign entities in the US have debt security liabilities of around $3.8tr and loan liabilities of $1.4tr. If we assume a JULI coupon rate of 4.5% for bonds and a leveraged loan index yield of 8.8% for loans, this would imply $170bn and $120bn of annual coupon payments for bonds and loans, respectively. If we assume foreign investors' share is broadly similar to the rest of the world share of US corporate bonds of around 35%, a combined $100bn of interest income could be affected. And for real estate, we estimate that foreign investors hold around 10% of private funds and underlying real estate, a market that MSCI estimates at around $5.5tr, suggesting foreign holdings of $550bn. Assuming a coupon of around 5%, that implies around $30bn of rental income. Putting these together, it suggests around $350bn of annual dividend, interest and rental income of foreign investors could be affected, and with a 20% tax rate around $70bn that could potentially be raised.
- Moreover, while the proposed Section 899 provisions are intended to serve as negotiation tools, it would make them a permanent feature that could be employed at the discretion of the US Treasury. While it is possible that diplomatic negotiations as a result of this threat being levied at other countries could yield results that lead to their withdrawal, the prospect that this threat might be levied in subsequent negotiations for leverage could pressure other countries to employ similar retaliatory mechanisms. This has already been the case with tariffs, where tariffs imposed on other countries have in many cases led to retaliation.
- As a result, there is considerable uncertainty over the ultimate scope of these provisions and it may change as it makes its way through Congress. But it raises questions over what effectively constitutes taxes on capital flows more broadly.
- Taxes on capital flows in of themselves are not new. Indeed, there were some suggestions following the financial crisis to tax capital flows to mitigate the consequences of persistent imbalances, on the basis that financial flows can encourage greater leverage and ultimately result in defaults which could be mitigated by a tax (see e.g. Global Imbalances and Taxing Capital Flows, Goodhart et al, 2013). Capital inflow taxes have been used more frequently in developing economies. And in practice, the introduction of taxes on capital flows have often been motivated by the fact that sudden stalls in international capital flows have been a driver of financial crises, e.g. the Mexican and Asian financial crises. In addition to conventional capital controls and the use of FX reserves to stabilise conditions, countries have used measures such as unremunerated reserve requirements, particularly on short-term lending, or transaction taxes, as well as taxes on capital withdrawals within a specific period to encourage longer-term portfolio investments. Indeed, in the context of using taxes on capital flows and reserves to alleviate financial and economic risks, a recent study using panel data for 90 countries globally found evidence that

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they could mitigate particularly financial risks (Taxation on cross-border capital flows, foreign exchange reserves rescue and risk prevention, Yang et al, May 2025).

- That said, there are also past examples of the imposition of taxes on capital that have had notable unintended consequences. For example, in late 1987 Germany announced a 10% withholding tax on interest income earned by both domestic and foreign investors in German bonds and deposits to combat tax evasion, as investors were believed to underreport income from capital investments. This had the effect of creating an incentive for both German and foreign investors to buy DEM-denominated bonds issued offshore and for financial firms to set up offshore funds in low tax jurisdictions such as Luxembourg and Switzerland to facilitate this demand. As a result, there was upward pressure on domestic bond yields, in turn giving an incentive for issuers to raise funds through offshore subsidiaries as well, furthering the growth of Eurobond markets and facilitating the growth of offshore centres within Europe.
- One of the lessons of the episode was that even relatively modest taxes on capital can create substantial shifts by altering investor incentives. With Section 899, even if the amount it might raise appears relatively modest by our calculations above, a risk is that, given its broad scope and discretion afforded to the Treasury, and the uncertainty associated with whether investors from a particular country will be targeted or how long for, this may generate an incentive for some activity in US capital markets to shift to other jurisdictions.
- For example, if interest income on corporate bonds issued by non-US entities face a higher tax as a result of Section 899, it could incentivise companies to issue dollar bonds offshore via Eurobond markets. Similarly, given income in the form of dividends and rents are also affected, it could affect the attractiveness of US equity markets for foreign investors and corporates, or encourage US corporations to explore secondary listings in other jurisdictions. But we think it would be more likely that it reinforces an already existing preference among US corporates for buybacks over dividends as a way to return capital to shareholders, which is already evident in the fact that the dividend yield on companies in the MSCI US index is around 1.3% while the dividend yield on the MSCI ACWI ex US index is around 3%.
- In all, the provisions in Section 899 have generated considerable uncertainty given the potential for broad application and discretion afforded to the Treasury Secretary. While portfolio income from bonds issued by US entities are largely exempt, dividends, rents and income from bonds issued by non-US entities are not, and Section 899 could in principle affect up to $350bn of annual investment income. But past experience suggests that even modest taxes on capital can result in notable shifts due to altering incentives for both investors and issuers, and, of the theoretical up to $70bn that Section 899 could conceivably raise, only a portion would likely eventually be raised as foreign issuers are incentivised to migrate to Eurobond markets and US companies could shift further away from returning capital to shareholders as dividends in favour of buybacks.

We are sceptical of the hypothesis that unwinding of previous cross border borrowing in euros or in yen played a significant role in this year's dollar weakness

- We had argued previously that so far there has been little indication of either increased demand for hedging dollar exposures in cross-currency basis swaps (beyond ongoing wide levels in Taiwan) or selling of US assets by foreign investors. And despite the rather large figures often mentioned in dollar terms for the stock of US assets held by the rest of the world, relative to the total financial assets of households in the rest of the world, the allocations to US assets typically stand at around 10%-20% or so, a level that does not look high compared to the 50%-60% US share in global equities and bonds.
- If this assessment is correct, it leaves currency traders, such as macro hedge funds as the most likely culprits for the past months' dollar weakness. Indeed, our spec positioning metrics in **Figure 1** to **Figure 3** suggest that spec investors continue to hold elevated long euro and long yen positions. However, another explanation for the dollar weakness has been raised in our client conversations: could previous cross border borrowing in euros or in yen be backfiring this year,
- forcing borrowers to repay previous euro or yen liabilities, thus inducing euro/yen strengthening?

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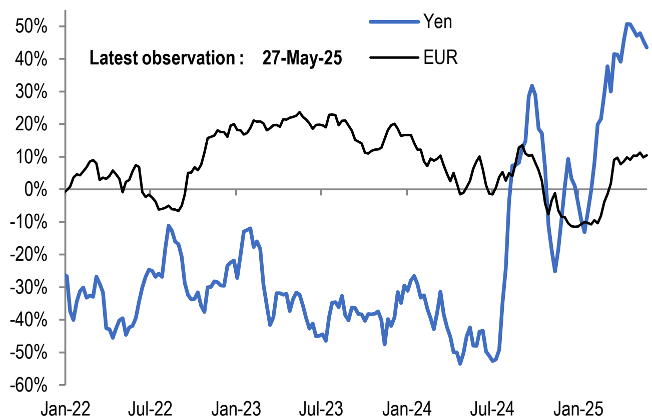
Figure 1: Spec positions in EUR and JPY futures as reported by CFTC as % of open interest

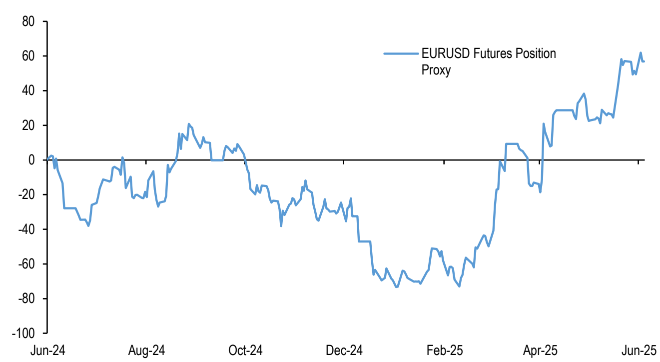
Latest obs. 27th May 2025.



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

Figure 2: Our futures positioning proxy for EUR futures

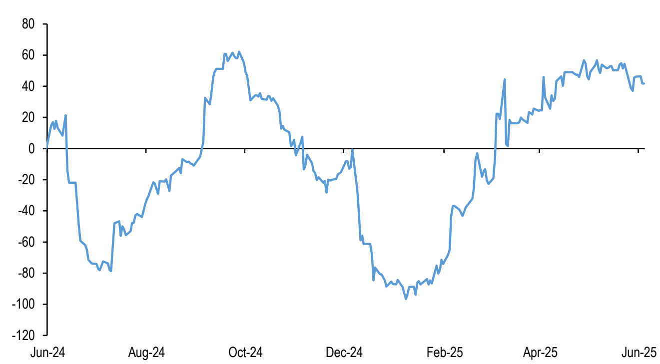
In '000s of contracts, latest obs. 30th May 2025.



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

Figure 3: Our futures positioning proxy for JPY futures

In '000s of contracts, latest obs. 3rd June 2025.

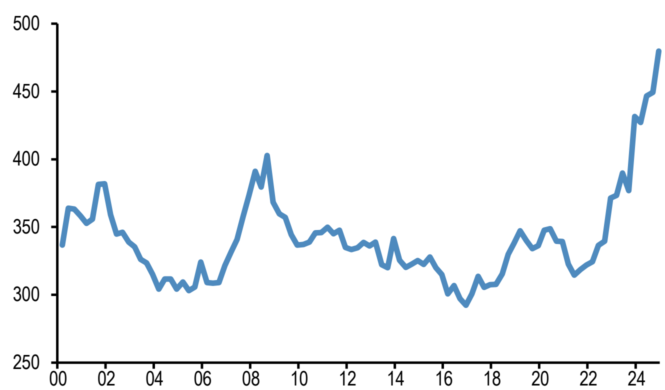


Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.

- We highlighted previously that cross border borrowing, and in particular foreign investors or corporates borrowing in yen to fund the acquisition of foreign assets, is one component of the so-called yen carry trade. Cross-border borrowing in yen by foreign non-bank investors had increased sharply since the BoJ trade theme emerged at the end of 2022 and had grown to around $480bn by the end of 2024 according to BIS data (Figure 4). Unfortunately, it is difficult to gauge this second component of the yen carry trade on a high frequency basis as the BIS data are quarterly and reported with a lag and as much of this cross-border borrowing involves bank loans (on which there is little disclosure) rather than debt securities. That said, by looking at the net issuance of yen-denominated debt securities issued by non-bank entities outside Japan, we find evidence of slower issuance but no evidence of repayment or negative net issuance (Figure 5). In other words, it is likely that this component of the yen carry trade slowed rather than contracted YTD.

Figure 4: Total credit in yen to non-bank borrowers outside Japan

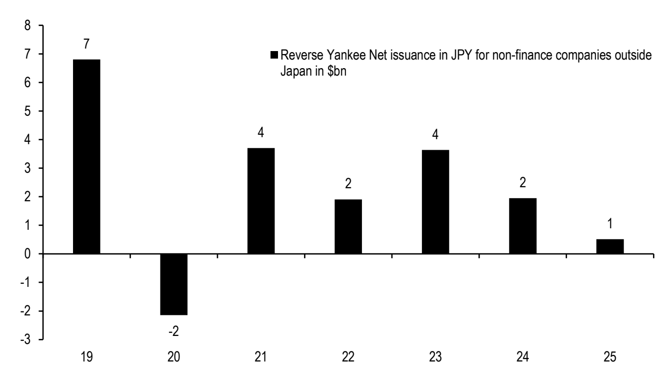
$bn.



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

Figure 5: JPY Reverse Yankee net issuance

JPY net bond issuance by non-financial companies outside Japan in $bn per year. 2025 is as of May'25.



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

- What about the other two components of the yen carry trade? A second component of the yen carry trade directly

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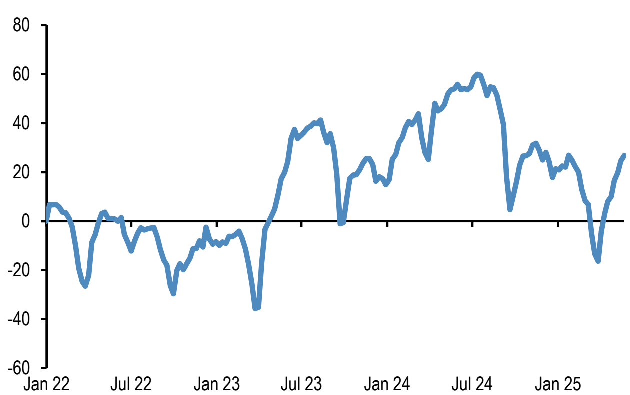
related to equities has been the purchase of Japanese equities by foreign investors on a currency hedged basis. Currency hedging implies a short yen leg which is combined (as a package) with the Japanese equity leg. As the short yen leg backfired in August 2024, investors were forced to unwind the whole package, i.e. to unwind the Japanese equity leg also. Assuming that much of the previous $60bn cumulative increase in foreign investors' Japanese equity holdings from the end of 2022 till July 2024 was currency hedged, given the seemingly relentless yen weakness during that period, around half of that got unwound but that unwinding took place in August/September of last year rather than this year (Figure 6). And there is a third component of the yen carry trade which is domestic and the biggest component, and which involves Japanese investors buying of foreign equities and bonds. For example, Japanese pension funds buying foreign equities or bonds do so to meet their yen-denominated future liabilities, making it an implicit carry trade. Japan's net international investment position, excluding banks, showed portfolio investments into foreign equities and bonds were worth around $3.5tr last year, 60% of which reflected foreign equities. Weekly MoF balance of payments data suggest that if anything this component increased last year (Figure 7). In all, our assessment suggests that of the three components of the yen carry trade, none got unwound this year and only one (purchases of Japanese equities by foreign investors on a currency hedged basis) got unwound last year during August/September 2024.

Figure 6: Cumulative inflows into Japanese equities from foreign residents

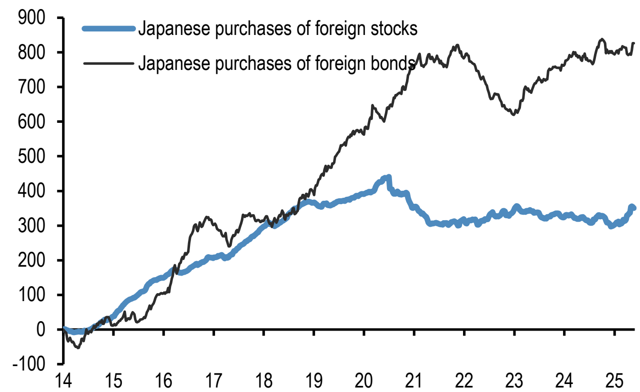
In $bn.



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

Figure 7: Cumulative inflows into foreign equities and bonds by Japanese residents

In $bn.



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

- What about the euro? Is there an equivalent euro carry trade? We are sceptical of the idea that there is an equivalent euro carry trade like the yen carry trade described above. The second component of the yen carry trade had been the result of the BoJ trade theme that had emerged between the end of 2022 and July 2024, and there has been no equivalent theme for euro area equities. Similarly, the first component, i.e. cross border borrowing in euros has been rising for more than a decade since the euro debt crisis of 2012 with little interruption (Figure 8) and with lack of any depreciating trend for the euro. In our opinion, all these point to trend accumulation of matching euro assets rather than the emergence of a euro/ECB equivalent to the BoJ trade theme that had emerged at the end of 2022. The third component, a more likely reflection of the euro carry trade in our mind, involves euro area investors buying of foreign equities and bonds, such as euro area pension funds and insurance companies buying foreign equities and bonds to meet euro-denominated future liabilities. This third component retrenched in the equity space as euro area residents sold foreign equities in both February and March, but there has been no sign of retrenchment in terms of their purchases of foreign bonds which continued to be strong in both February and March (Figure 9).

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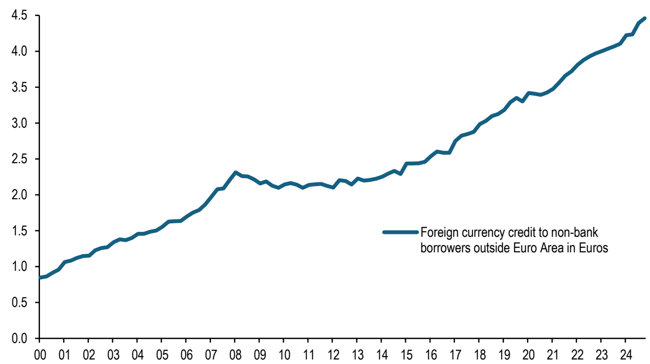
Figure 8: Total credit in euros to non-bank borrowers outside the Euro area

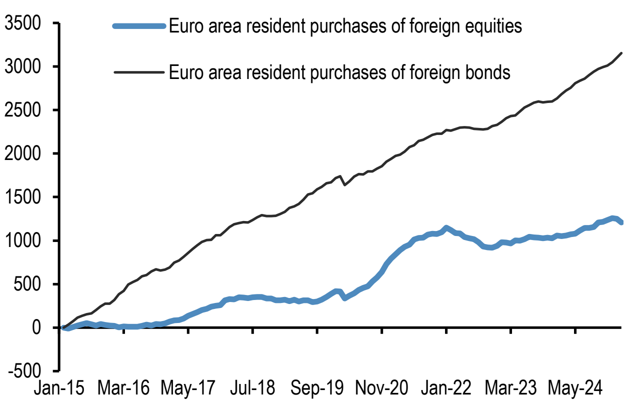
€tr



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

Figure 9: Cumulative inflows into foreign equities and bonds by Euro area residents

$bn.



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

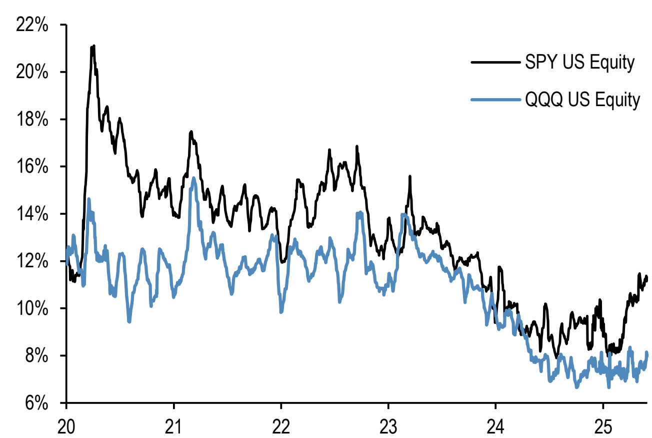
- In all, we are sceptical of the hypothesis that unwinding of previous cross border borrowing in euros or in yen played a significant role in this year's dollar weakness. In terms of the yen carry trade, our assessment suggests that of the three components of the yen carry trade we identified in the past, none got unwound this year and only one (purchases of Japanese equities by foreign investors on a currency hedged basis) got unwound last year during August/September 2024. And while euro area residents sold foreign equities in both February and March, there has been no sign of retrenchment in terms of their purchases of foreign bonds.

We view the gap that has opened between the short interest of SPY and QQQ ETFs as a bullish equity market signal

- We had argued previously in our publication (F&L, May 7th) that, while macro managers remain overall cautious on risk assets such as equities, equity-focused hedge funds (including equity quant and equity long/short hedge funds) appear to have rebuilt their equity exposures from April already, thus benefiting from the past two months V-shaped recovery. The cautious stance of macro managers has also been reflected in the short interest of SPY ETF which opened a gap vs the short interest of its QQQ counterpart, as shown in Figure 10. Such a gap is not unusual during equity market corrections. A similar gap between the short interest of the SPY and QQQ ETFs had opened during the pandemic of March 2020 or during the equity market correction of 2022. In both instances, that gap proved a bullish equity market signal as it got eventually closed with the short interest of the SPY ETF declining towards that of the QQQ ETF.

Figure 10: Short interest on the SPY and QQQ US ETFs

Short Interest as a % share of shares outstanding. Last obs is for 30th May 2025.



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

- What reflects this gap? We believe that, similar to the mini S&P500 futures contract, the SPY ETF is more extensively used by macro managers to adjust their equity exposure. As a result, when macro managers turn cautious, the short interest of the SPY ETF rises by more opening a gap vs the short interest of the QQQ ETF.
- In fact, we observe a similar gap in the futures space. As shown in Figure 11, in the recent equity market correction, our position proxy for S&P500 futures had retrenched by more opening a gap vs the equivalent position proxy for Nasdaq futures. And while the latter has almost returned to its pre-correction level, the S&P500

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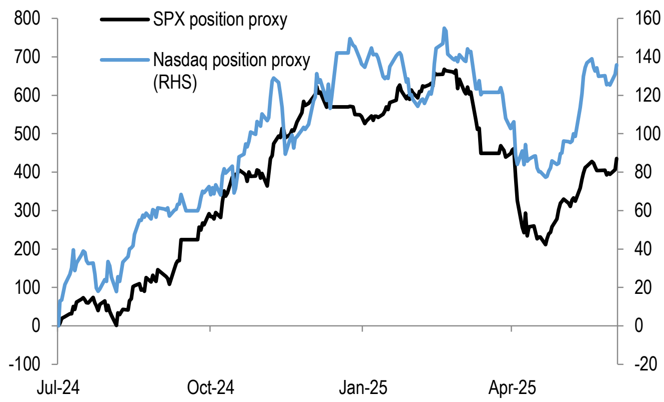
futures position proxy has yet to return to its pre-correction level. Again, we view this as a bullish signal. We saw an even bigger gap opening between our S&P500 vs Nasdaq futures position proxies during March 2020 or during 2022, and eventually these gaps were closed by investors rebuilding their positions in S&P500 futures (Figure 12).

Figure 11: Our futures position proxies on S&P 500 and Nasdaq equity futures since 2024

'000 contracts, latest obs. 2nd June 2025.



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

Figure 12: Our futures position proxies on S&P 500 and Nasdaq equity futures since 2020

'000 contracts, latest obs. 2nd June 2025.

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

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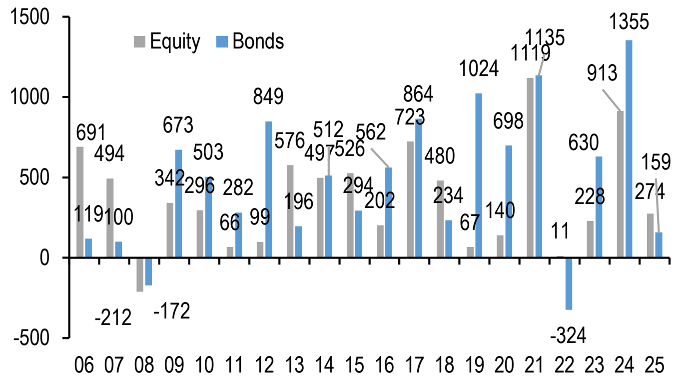
Appendix

Chart A1a: Global equity & bond fund flows

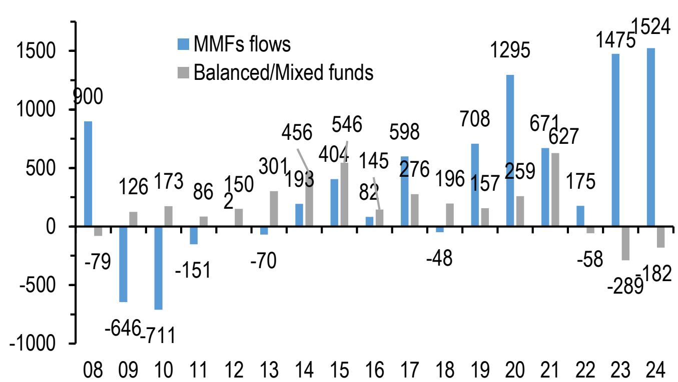
$bn per year of Net Sales, i.e. includes net new sales + reinvested dividends for Mutual Funds and ETFs globally, i.e. for funds domiciled both inside and outside the US. Flows come from ICI (worldwide data up to Q4'24). Data since then are a combination of monthly and weekly data from Lipper and Bloomberg.



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

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

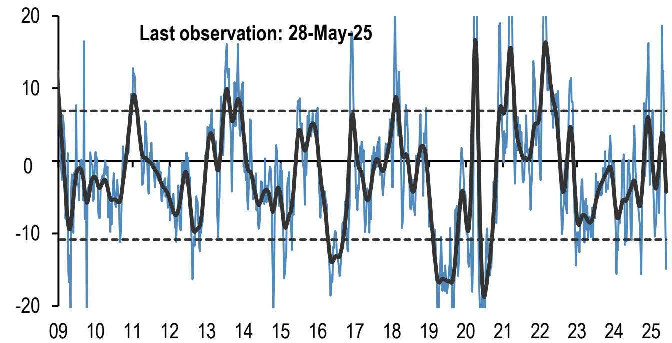
$bn per quarter of Net Sales, i.e. includes net new sales + reinvested dividends for Mutual Funds and ETFs globally, i.e. for funds domiciled both inside and outside the US. Data come from ICI (worldwide data) and are till Q4'24.



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.



Source: 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 Apr-25	MIN MAX	Turnover ratio	Vol (tr)	y/y chng
Equities				
EM Equity*		0.6	$0.7	-16%
DM Equity*		1.2	$9.8	10%
Govt Bonds				
UST cash		13.5	$23.4	21%
UST futures		0.9	$21.8	20%
JGBs*		42.4	¥4,075	5%
Bund futures		1.7	€7.9	13%
Credit				
US HG		1.1	$0.8	12%
US HY		0.8	$0.1	4%
US Convertibles		3.5	$0.04	17%
Commodities				
Gold		53.6	$2.0	27%
Oil		86.7	$2.7	-39%
Copper		2.3	$0.6	20%
Digital Assets				
CME Bitcoin		98.5	$0.115	63%
CME Ethereum		138.9	$0.022	44%

* 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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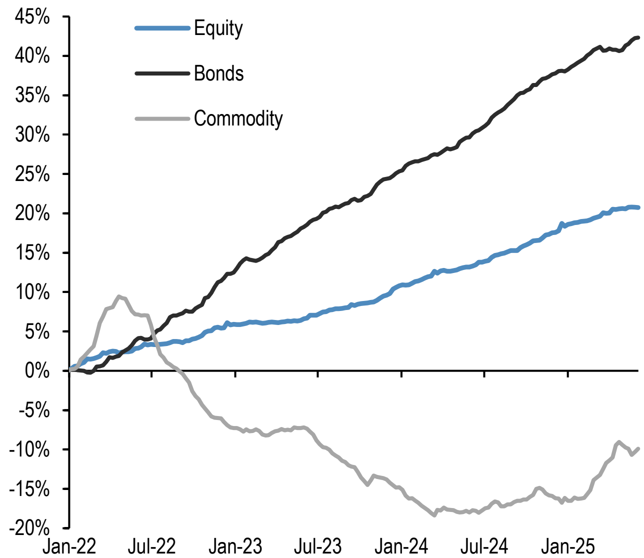
ETF Flow Monitor (as of 4th June)

Chart A3: Global Cross Asset ETF Flows

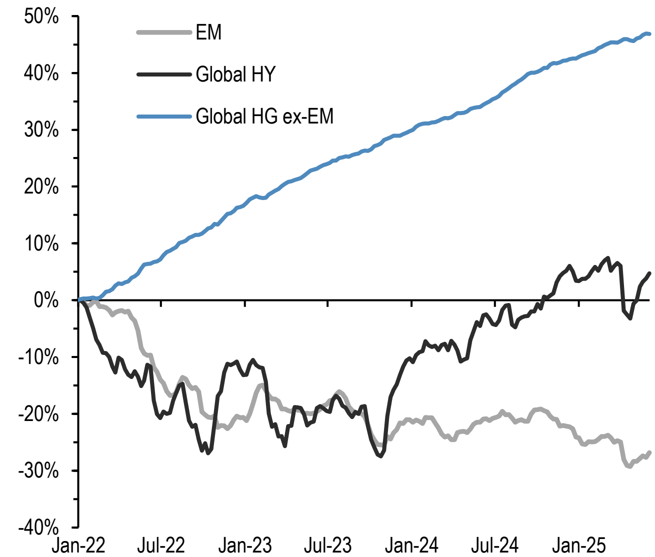
Cumulative flows into ETFs as a % of AUM



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

Chart A4: Bond ETF Flows

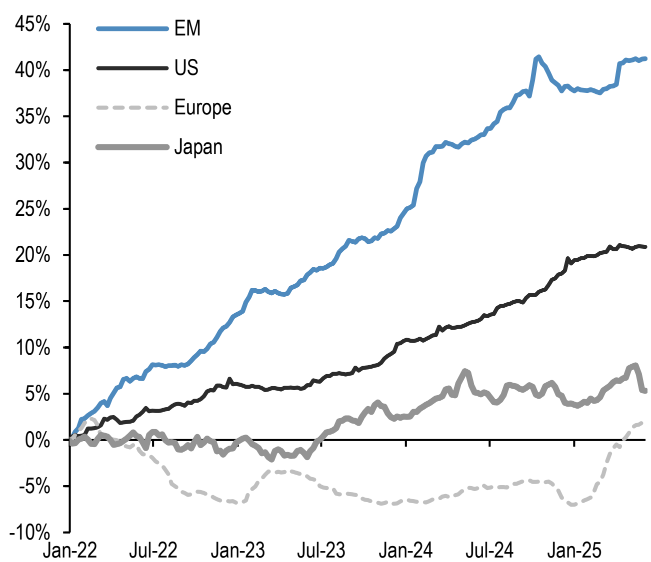
Cumulative flows into bond ETFs as a % of AUM



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

Chart A5: Global Equity ETF Flows

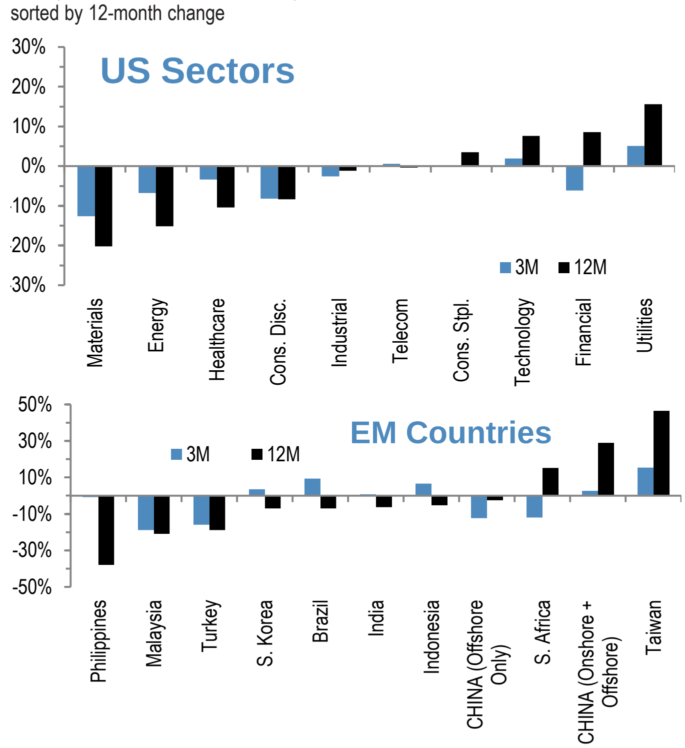
Cumulative flows into global equity ETFs as a % of AUM



Source: Bloomberg Finance L.P., J.P. Morgan Flows & Liquidity.
Note: We include ETFs with AUM > $200mn in all the flow monitor charts. Chart A5 excludes 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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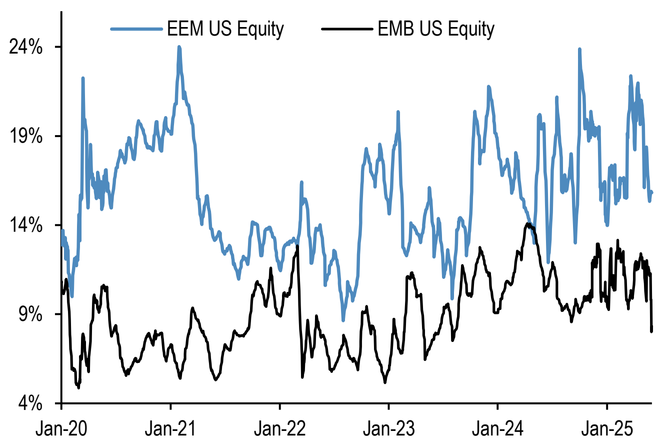
Short Interest Monitor

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

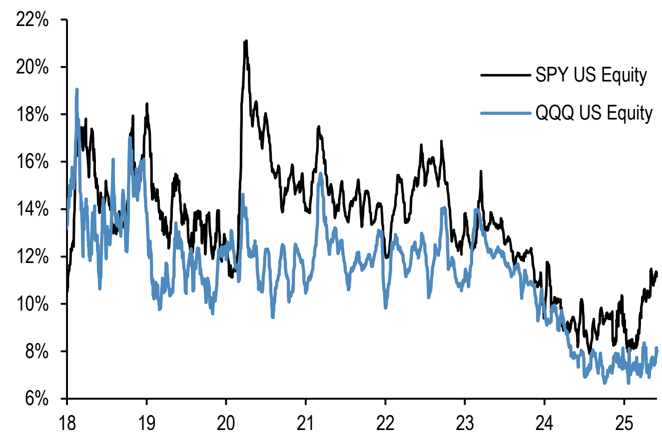
Short Interest as a % share of shares outstanding.



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

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

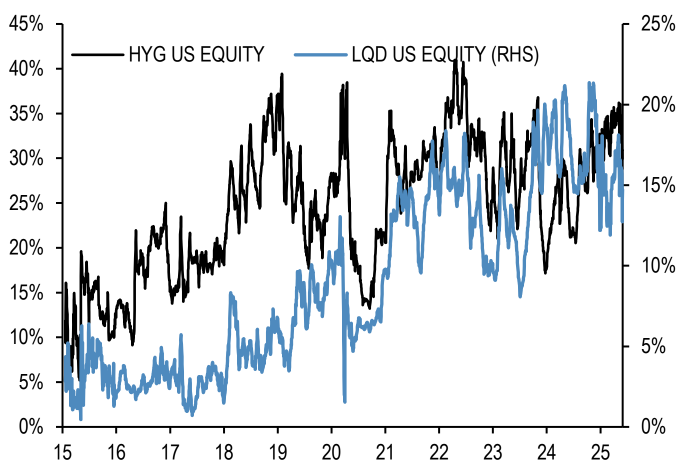
Short Interest as a % share of shares outstanding. Last obs is for 30th May 2025.



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

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

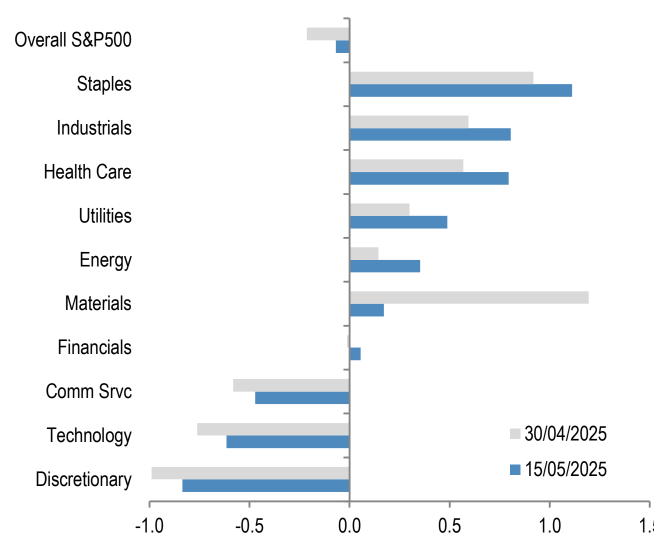
Short Interest as a % share of shares outstanding.



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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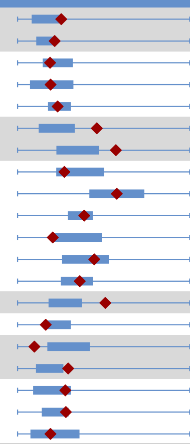
Chart A11a: Cross Asset Volatility Monitor 3m ATM Implied Volatility (1y history), as of 2nd Jun-2025

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	17%	11%	12-Jun-24	33%	08-Apr-25	16%	5%	1.00x
EuroSTOXX	16%	12%	06-Jun-24	32%	09-Apr-25	16%	4%	1.32x
Nikkei 225	20%	16%	02-Jul-24	37%	05-Aug-24	18%	4%	1.32x
Hang Seng	22%	18%	05-Sep-24	36%	07-Apr-25	14%	3%	1.08x
MSCI EM	17%	12%	01-Jul-24	34%	08-Apr-25	17%	5%	1.41x
Gold	17%	13%	28-Jun-24	22%	22-Apr-25	5%	4%	0.59x
Oil (brent)	33%	20%	15-Jul-24	43%	30-Apr-25	10%	13%	1.45x
Copper	19%	16%	18-Dec-24	28%	07-Apr-25	9%	3%	0.65x
BB commodity index	14%	12%	12-Jul-24	16%	30-Apr-25	2%	2%	0.96x
EUR/USD	12%	9%	10-Jul-24	17%	09-Apr-25	5%	3%	1.38x
USD/NOK	10%	10%	04-Jun-24	14%	11-Apr-25	4%	1%	0.93x
USD/JPY	11%	9%	18-Jun-24	14%	11-Apr-25	3%	2%	0.89x
GBP/USD	8%	6%	08-Jul-24	11%	13-Jan-25	3%	2%	1.22x
USD/CHF	9%	6%	12-Jul-24	12%	11-Apr-25	3%	3%	0.90x
10y US swaps	7%	6%	18-Feb-25	11%	08-Apr-25	4%	1%	0.70x
10y Eur swaps	66%	64%	19-Sep-24	90%	09-Apr-25	24%	3%	1.04x
CDX IG	45%	35%	13-Feb-25	72%	09-Apr-25	26%	11%	0.69x
CDX HY	39%	30%	12-Jun-24	63%	08-Apr-25	24%	9%	0.67x
iTraxx	48%	37%	13-Feb-25	77%	09-Apr-25	29%	11%	0.88x
iTraxx X/O	24%	20%	16-Sep-24	39%	07-Apr-25	15%	3%	0.49x



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 (02-Jun-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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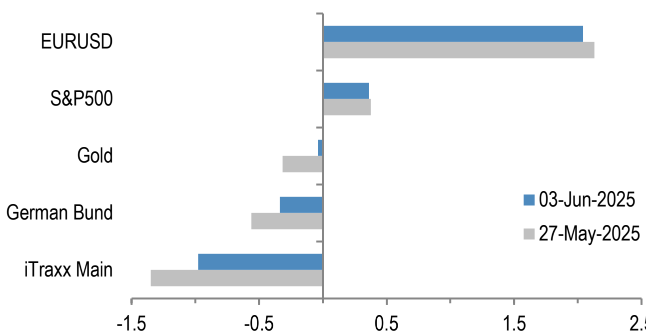
Chart A11b: Option skew monitor

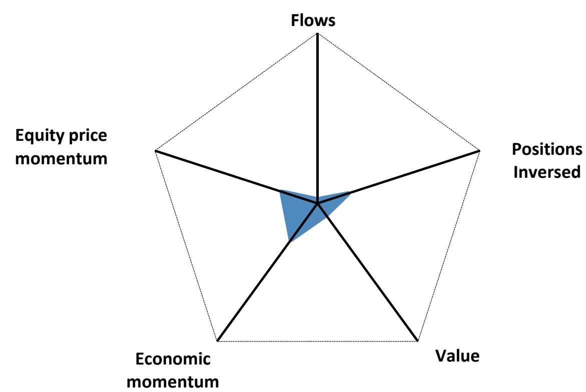
Skew is the difference between the implied volatility of out-of-the-money (OTM) call options and put options. A positive skew implies more demand for calls than puts and a negative skew, higher demand for puts than calls. It can therefore be seen as an indicator of risk perception in that a highly negative 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 30th May 25.



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

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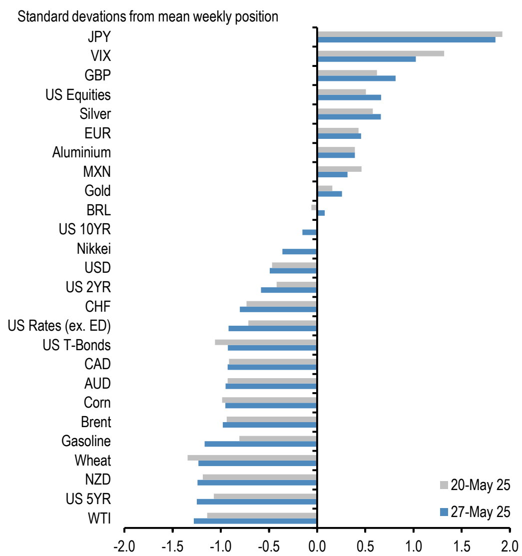
Spec position monitor

Chart A12: Weekly Spec Position Monitor

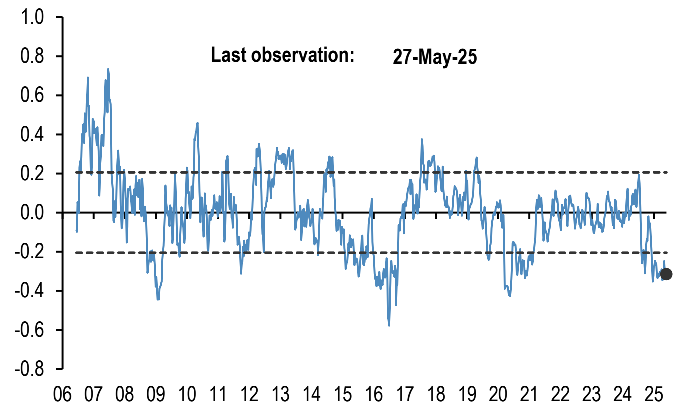
Net spec positions are proxied by the number of long contracts minus the number of short contracts using the speculative category of the Commitments of Traders reports (as reported by CFTC). To proxy for speculative investors for equity and US Treasury bond futures positions we use Asset managers and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

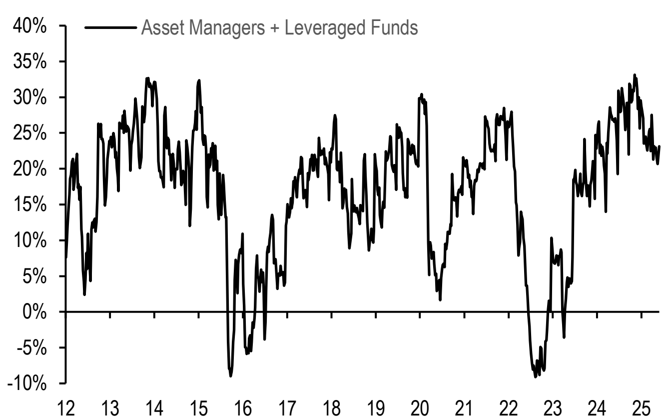
Difference between net spec positions on risky & safe currencies. Net spec position is calculated in USD across 5 'risky' and 3 'safe' currencies (safe currencies also include Gold). These positions are then scaled by open interest and we take an average of 'risky' and 'safe' assets to create two series.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

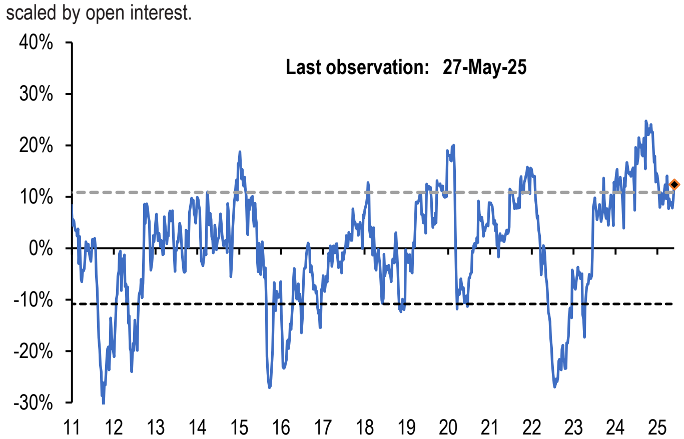
CFTC positions in US equity futures by Leveraged funds and Asset managers (as a % of open interest). It is an aggregate of the S&P500, DowJones, NASDAQ and their Mini futures contracts.



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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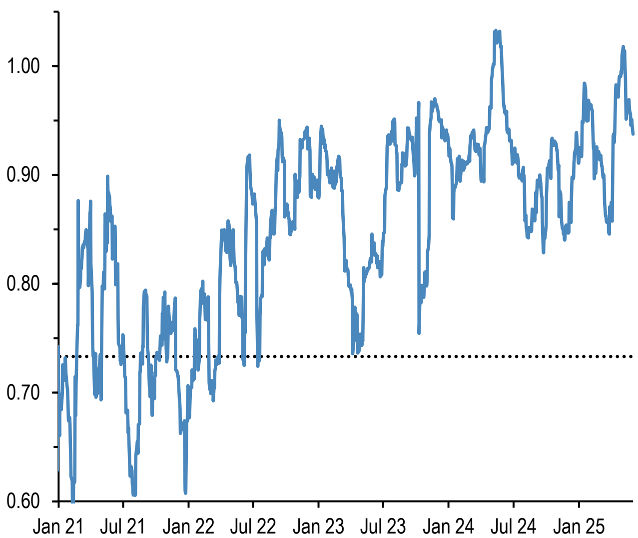
Mutual fund and hedge fund betas

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

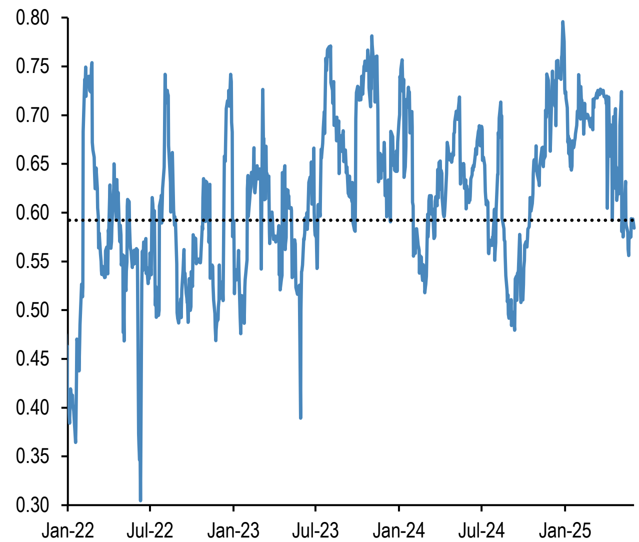
The dotted line shows the average beta since 2013.



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

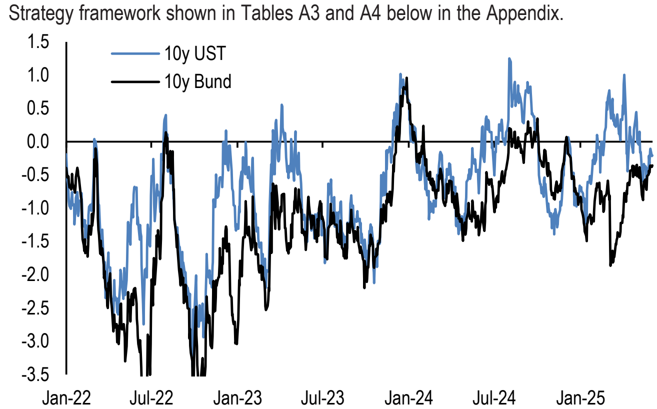
The table depicts the performance of various types of investors in % as of 2nd June 2025.

Date	2019	2020	2021	2022	2023	2024	2025
Investors							
Equity L/S	12.6%	13.4%	9.3%	-7.0%	11.3%	13.0%	0.7%
Macro ex-CTAs	5.6%	4.9%	4.3%	11.5%	1.3%	6.0%	2.7%
CTAs	7.1%	1.2%	8.8%	14.7%	-2.5%	2.9%	-8.8%
Risk Parity Funds	18.4%	3.5%	4.7%	-18.6%	6.0%	5.0%	4.7%
US Balanced MFs	20.1%	13.2%	14.4%	-13.0%	13.8%	11.4%	3.7%
Benchmark							
MSCI AC World	26.6%	16.3%	16.4%	-18.4%	22.2%	17.5%	6.1%
Barclays Global Agg	8.2%	5.6%	-2.5%	-11.2%	7.1%	3.4%	1.8%
S&P Riskparity Vol 10	22.8%	11.5%	12.8%	-16.2%	15.0%	5.4%	4.3%
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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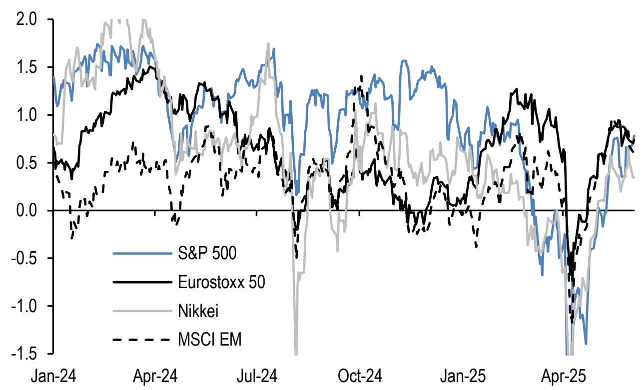
Chart A20: Momentum signals for S&P500

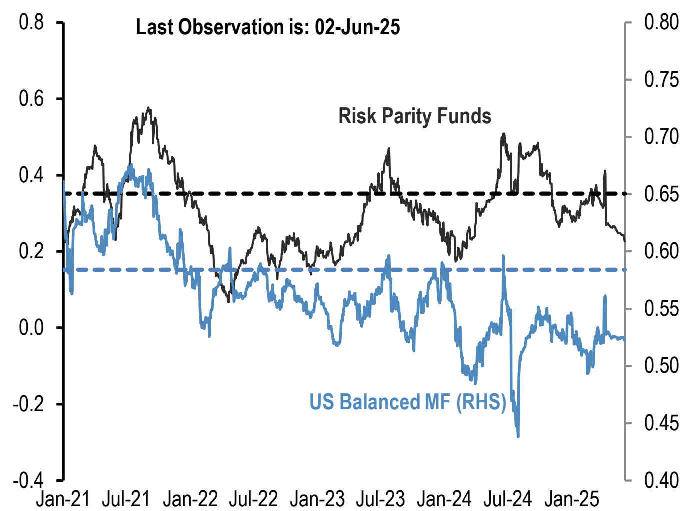
Average z-score of Short- and Long-term momentum signal in our Trend Following Strategy framework shown in Tables A3 and A4 below in the Appendix.



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

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

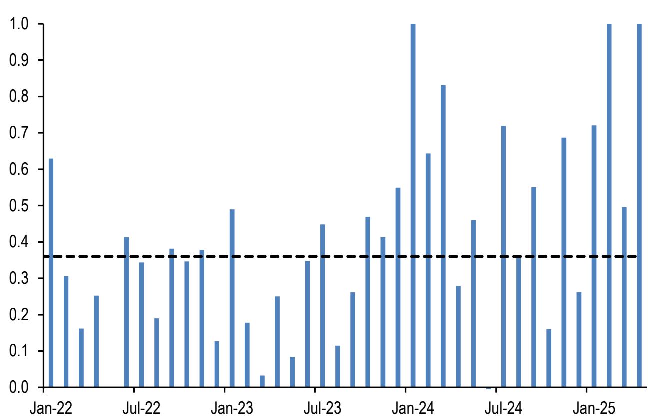
Rolling 42-day equity beta based on a bivariate regression of the daily returns of our Balanced Mutual fund and Risk Parity fund return indices to the daily returns of the S&P 500 and BarCap US Agg indices. Given that these funds invest in both equities and bonds we believe that the bivariate regression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

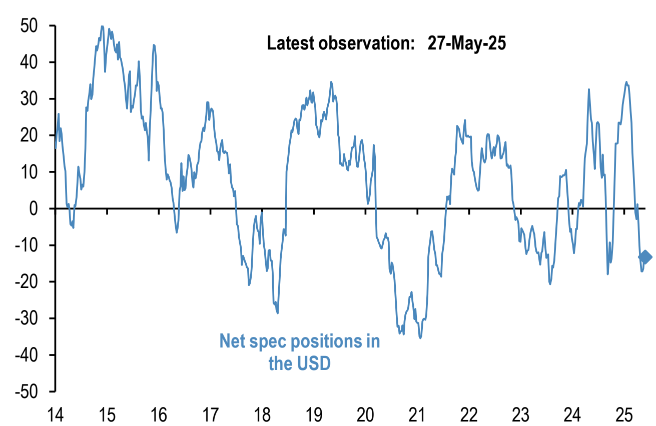
Proxied by the ratio of the monthly performance of Pivotal Path Asset-Weighted Equity Diversified hedge fund index divided by the monthly performance of MSCI AC World Index. Apr 25 obs. is based on provisional data from Pivotal path.



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	0	0.5	2.7%
	long	462				-1	42	-0.3	-9.7%
Brent	short	84	4.2	21.5	0.19	-1	42	-0.4	-4.4%
	long	504				-1	42	-0.4	-10.9%
Unleaded gas	short	105	3.4	23.3	0.15	-1	42	-0.3	-4.6%
	long	483				-1	78	-0.4	-11.4%
Heat Oil	short	63	4.3	21.7	0.20	-1	2	-0.1	-1.4%
	long	483				-1	71	-0.4	-11.8%
Gasoil	short	63	8.1	20.6	0.39	-1	42	-0.2	-1.8%
	long	378				-1	71	-0.4	-11.4%
Nat gas	short	105	15.3	35.7	0.43	-1	15	-0.5	-9.0%
	long	315				1	0	0.1	4.3%
EU emission allowances	short	42	10.5	29.6	0.36	1	19	0.4	3.8%
	long	483				-1	7	-0.1	-3.6%
1m fwd TTF Nat gas	short	21	40.9	30.7	1.33	-1	1	-0.1	-1.2%
	long	294				-1	41	-0.3	-14.5%
Gold	short	21	3.1	10.5	0.29	1	0	0.8	2.2%
	long	483				0	89	2.7	32.1%
Silver	short	10	4.9	19.0	0.26	1	0	1.2	3.9%
	long	462				1	262	0.8	16.6%
Palladium	short	42	10.4	22.9	0.45	1	0	0.4	2.8%
	long	273				0	0	0.0	-1.1%
Platinum	short	105	2.4	18.3	0.13	1	12	0.7	6.5%
	long	273				1	9	0.4	5.6%
Aluminium	short	105	4.7	15.2	0.31	-1	49	-0.5	-3.6%
	long	357				-1	12	-0.2	-3.2%
Copper	short	147	6.2	17.2	0.36	1	19	0.3	3.7%
	long	399				1	0	0.1	2.1%
Lead	short	126	1.2	19.6	0.06	0	0	0.0	-0.4%
	long	357				-1	227	-0.3	-7.4%
Nickel	short	42	12.5	23.2	0.54	0	0	0.0	0.3%
	long	336				-1	262	-0.4	-10.4%
Zinc	short	126	8.6	19.8	0.44	-1	107	-0.5	-5.2%
	long	399				-1	44	-0.3	-6.5%
Wheat	short	168	3.9	23.4	0.17	-1	68	-0.5	-6.5%
	long	294				-1	258	-0.8	-12.2%
Kansas wheat	short	147	8.6	20.9	0.41	-1	50	-0.5	-6.6%
	long	483				-1	322	-0.9	-18.4%
Corn	short	63	8.0	16.8	0.48	-1	25	-0.8	-6.1%
	long	399				-1	35	-0.5	-9.9%
Soybeans	short	42	5.7	14.6	0.39	-1	1	-0.2	-1.3%
	long	231				-1	1	-0.1	-1.5%
Cotton	short	168	5.7	18.8	0.30	-1	301	-0.4	-5.0%
	long	483				-1	302	-0.8	-18.9%
Sugar	short	63	6.7	21.7	0.31	-1	39	-0.7	-6.7%
	long	252				-1	39	-0.5	-8.6%
Coffee	short	63	7.6	23.7	0.32	-1	15	-1.0	-8.3%
	long	273				1	9	0.9	16.7%
Cocoa*		10	5.2	30.1	0.17	-1	6	-1.5	-5.4%

* 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	7.3	12.4	0.58	1	15	0.8	4.1%
	long	315				1	24	0.6	6.3%
Nasdaq 100	short	84	9.1	16.3	0.56	1	15	0.8	6.5%
	long	462				1	28	0.8	15.7%
Nikkei	short	63	2.6	13.3	0.20	1	21	0.6	3.3%
	long	420				1	6	0.1	1.7%
FTSE 100	short	168	4.7	12.3	0.38	1	29	0.9	5.8%
	long	504				1	37	1.2	13.5%
Eurostoxx 50	short	168	4.8	16.7	0.28	1	28	0.7	6.2%
	long	294				1	28	0.7	8.5%
MSCI EM	short	42	12.3	11.6	1.06	1	26	0.7	3.7%
	long	357				1	32	0.5	8.0%
HYG credit	short	168	0.7	3.4	0.21	-1	0	-0.4	-1.0%
	long	273				-1	52	-0.2	-0.8%
LQD credit	short	10	2.9	6.7	0.43	-1	42	-0.2	-0.3%
	long	189				-1	42	-0.4	-1.9%
2Y USTs	short	252	0.9	1.1	0.84	-1	15	-0.2	-0.2%
	long	462				-1	17	-0.1	-0.3%
5Y USTs	short	252	1.7	2.8	0.59	-1	0	-0.1	-0.2%
	long	420				-1	0	-0.1	-0.2%
10Y USTs	short	42	2.3	3.6	0.65	-1	17	-0.3	-0.4%
	long	441				-1	17	-0.1	-0.7%
2Y Schatz	short	189	0.6	0.8	0.73	-1	47	-1.0	-0.8%
	long	504				0	712	-1.7	-2.9%
5y Bobl	short	63	1.3	1.9	0.70	1	6	0.3	0.3%
	long	483				-1	55	-0.8	-2.8%
10y Bund	short	105	2.2	3.4	0.66	0	2	0.0	0.0%
	long	462				-1	404	-0.8	-3.9%
10Y JGB	short	126	0.8	2.4	0.32	-1	16	-0.8	-0.8%
	long	273				-1	39	-1.3	-1.7%
10Y Gilts	short	42	2.1	3.9	0.54	-1	16	-0.6	-1.0%
	long	399				0	15	-1.6	-8.3%
10y OAT vs Bund	short	189	0.5	1.5	0.31	1	93	1.3	1.2%
	long	294				1	28	1.1	1.1%
10y BTP vs. Bund	short	84	2.4	6.5	0.36	1	28	0.4	1.2%
	long	273				1	422	0.7	3.0%
Euro	short	42	3.5	6.5	0.54	1	2	0.4	0.9%
	long	273				1	10	0.4	2.2%
Yen	short	21	3.3	6.3	0.52	1	2	0.6	0.9%
	long	462				-1	84	-0.5	-3.8%
Sterling	short	168	1.6	7.1	0.23	1	36	0.9	4.0%
	long	294				1	14	0.5	2.7%
AUD	short	42	4.0	7.9	0.51	1	35	0.5	1.5%
	long	420				-1	174	-0.5	0.0%
CAD	short	168	1.3	6.0	0.21	1	2	0.2	0.9%
	long	504				-1	42	-0.9	0.0%

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

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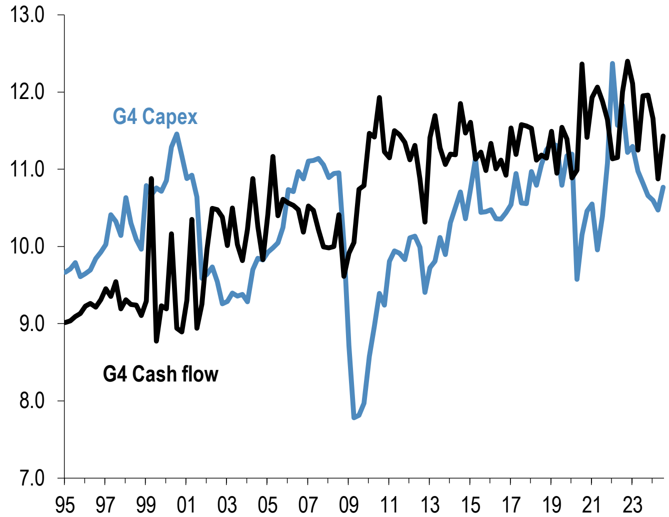
Corporate Activity

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

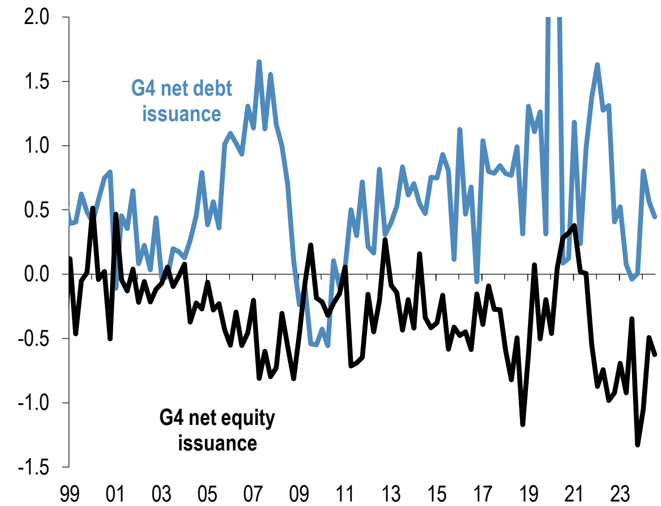
% of GDP, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q3 2024.



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

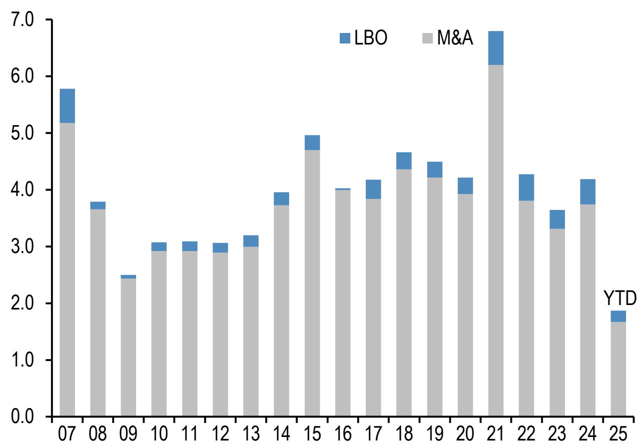
$tr per quarter, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q3 2024.



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

Chart A26: Global M&A and LBO

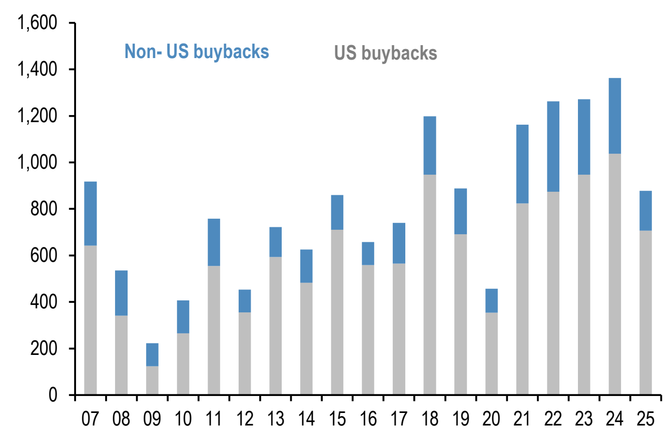
$tr. M&A and LBOs are announced.



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

Chart A27: US and non-US share buyback

$bn, are as of 22th May 25. Buybacks are as announced.



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

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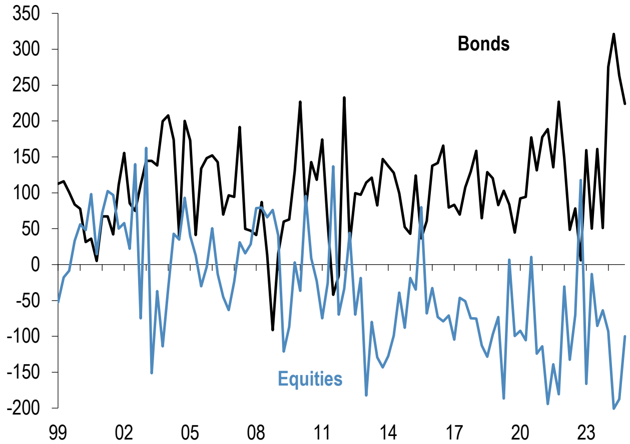
Pension fund and insurance company flows

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

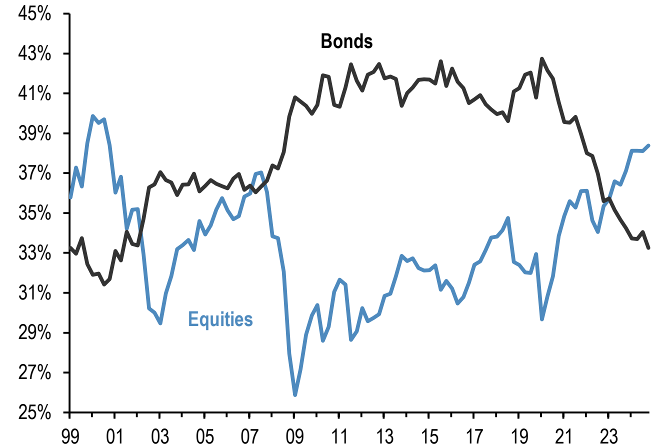
Equity and bond buying in $bn per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q3 2024.



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

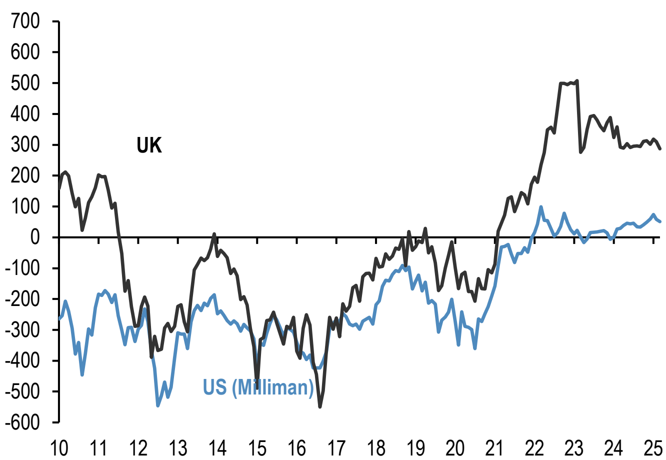
Equity and bond as % of total assets per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q4 2024.



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

Chart A30: Pension fund deficits

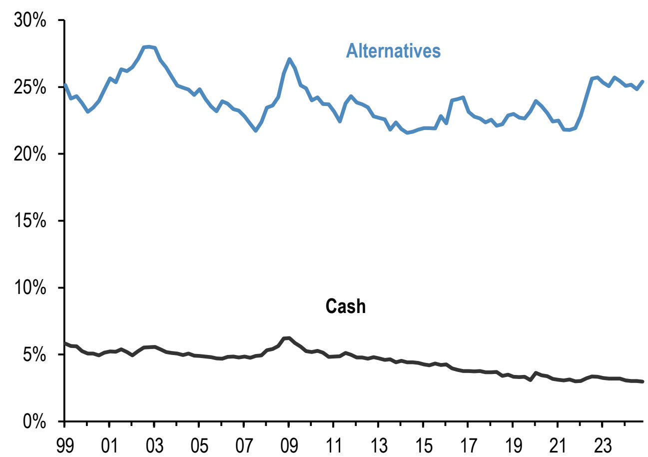
US$bn. For US, funded status of the 100 largest corporate defined benefit pension plans, from Milliman. For UK, funded status of the defined benefit schemes eligible for entry to the Pension Protection Fund, converted to US$ at today's exchange rates. Last obs. is Mar'25 for US & UK.



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 Q4 2024.



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

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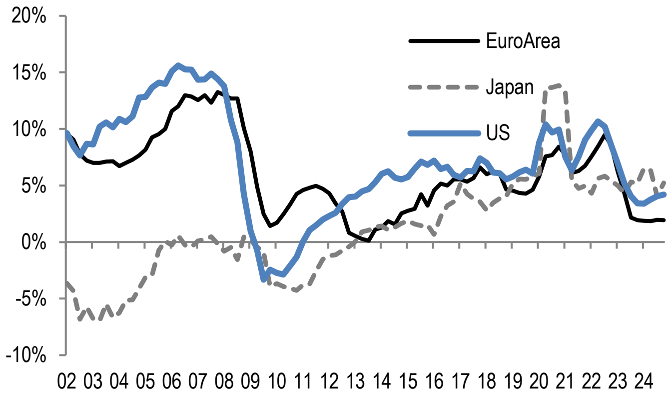
Credit Creation

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

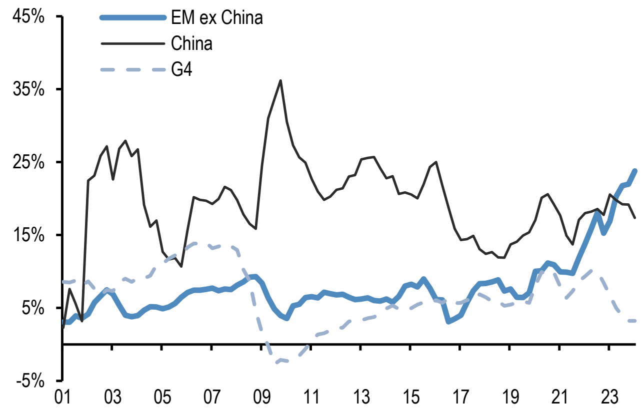
Rolling sum of 4-quarter credit creation as % of GDP. Credit creation includes both bank loans as well as net debt issuance by non-financial corporations and households. Last obs. is Q4'24 for Japan, Euro Area and US.



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

Chart A33: Credit creation in EM

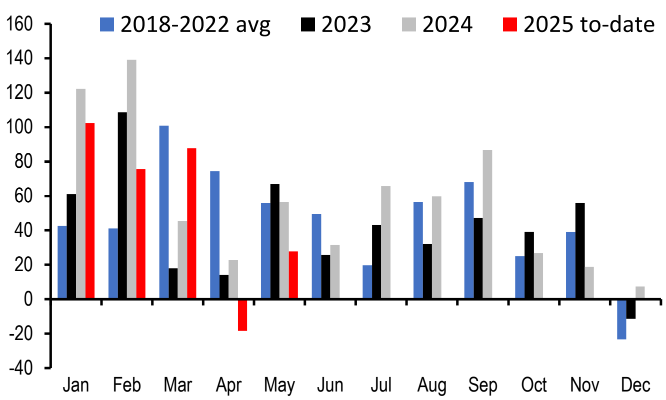
Rolling sum of 4-quarter credit creation as % of GDP. Credit creation includes both bank loans as well as net debt issuance by non-financial corporations and households. Last obs. is for Q2'24.



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. Up to May 15th.



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	23-May	4 wk avg	13 wk avg	y/y chng
Global IPOs	4.7	3.0	2.3	6%
Secondary Offerings	9.9	8.8	8.3	2%
Corporate announcements				
M&A - Global	60.9	83.2	92.6	11%
- US Target	39.8	41.7	41.5	-3%
- Non-US Target	21.1	41.4	51.0	26%
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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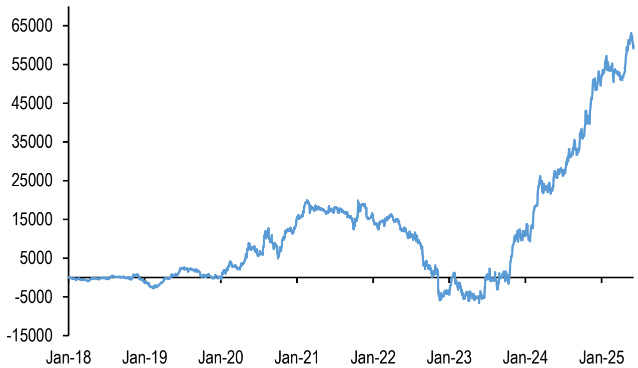
Bitcoin monitor

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

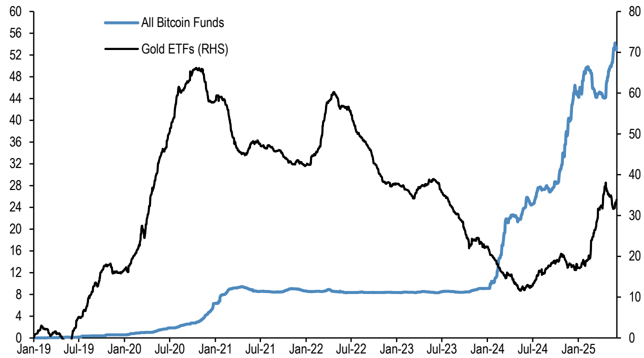
In number of contracts. Last obs. for 3rd June 2025.



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

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

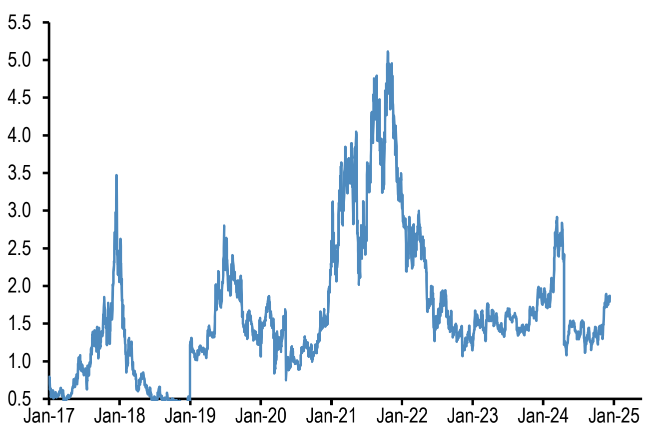
Both the y-axis in $bn.



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

Chart A37: Ratio of bitcoin market price to production cost

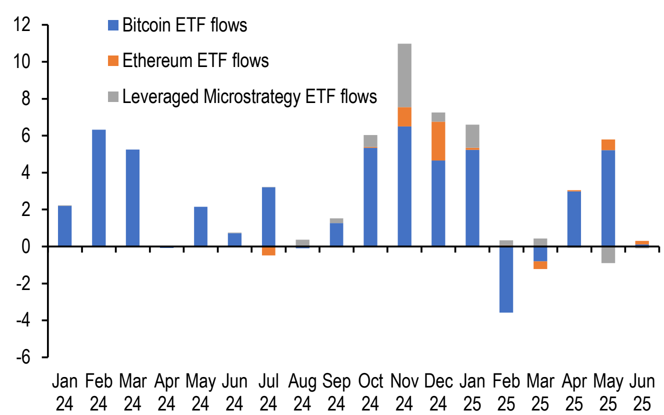
Based on the cost of production approach following Hayes (2018).



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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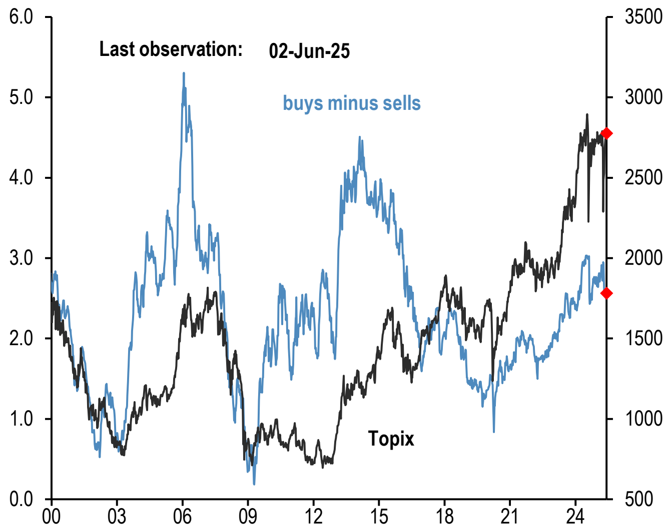
Japanese flows and positions

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

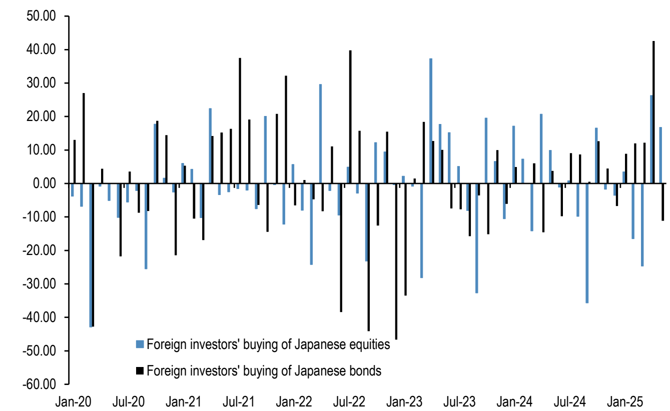
In bn of shares. Topix on right axis.



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

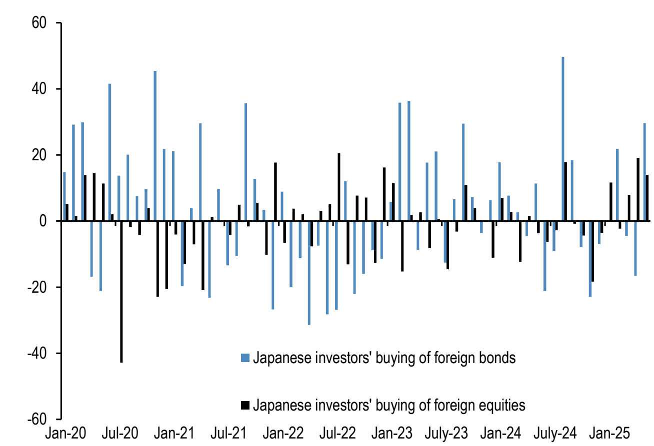
$bn, Last weekly obs. is for 23rd May' 25.



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

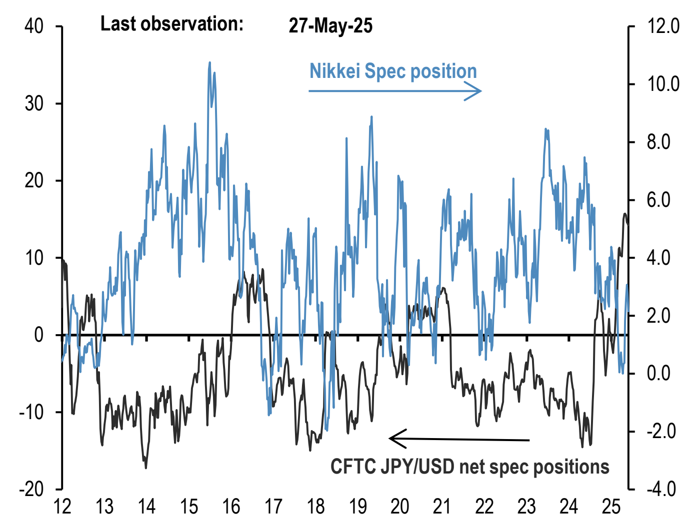
$bn, Last weekly obs. is for 23rd May' 25.



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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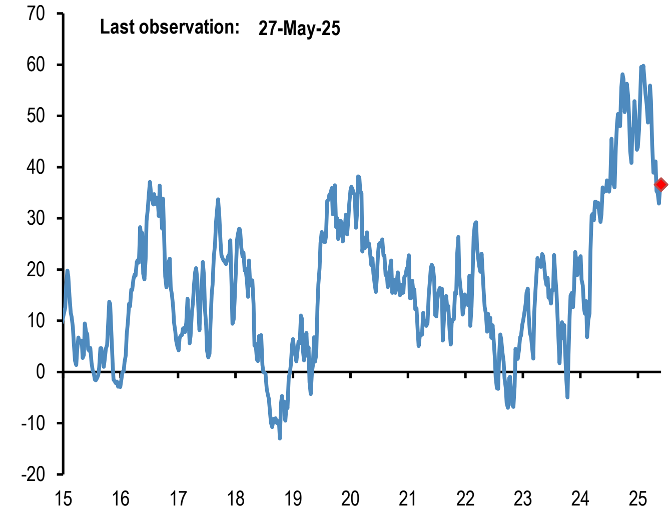
Commodity flows and positions

Chart A43: Gold spec positions

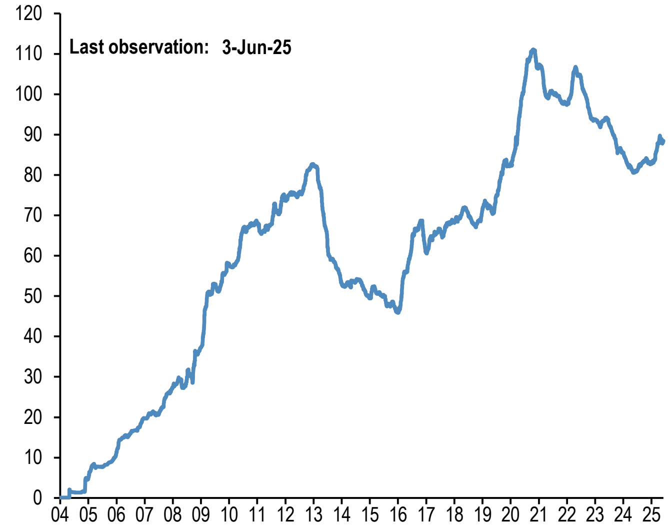
$bn. CFTC net long minus short position in futures for the Managed Money category.



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

Chart A44: Gold ETFs

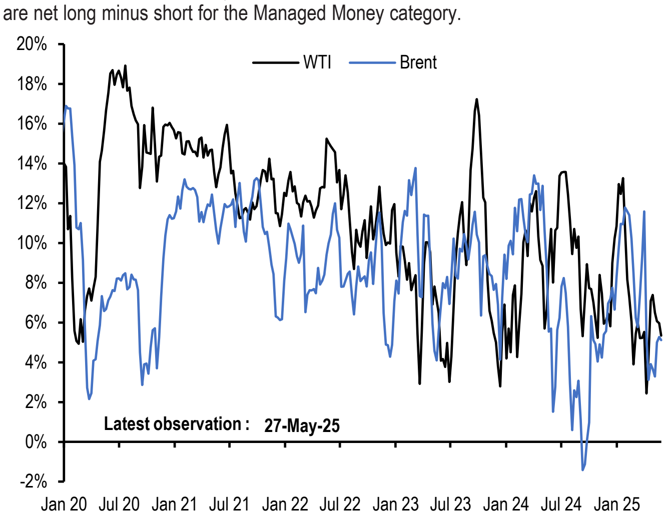
Mn troy oz. Physical gold held by all gold ETFs globally.



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

Chart A45: Oil spec positions

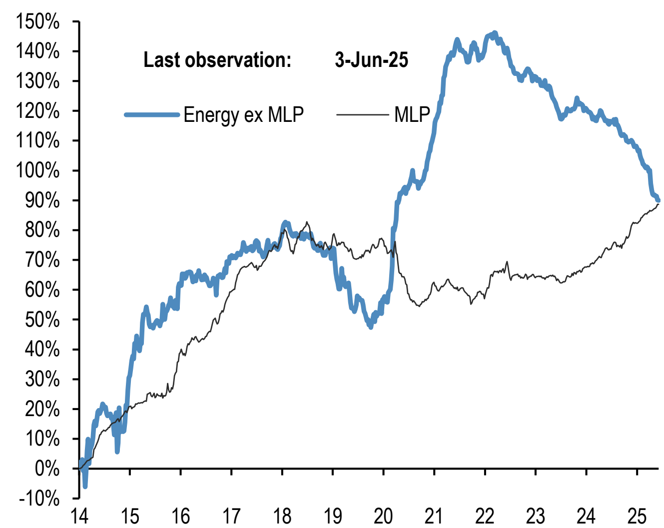
Net spec positions divided by open interest. CFTC futures positions for WTI and Brent are net long minus short for the Managed Money category.



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

Chart A46: Energy ETF flows

Cumulative energy ETFs 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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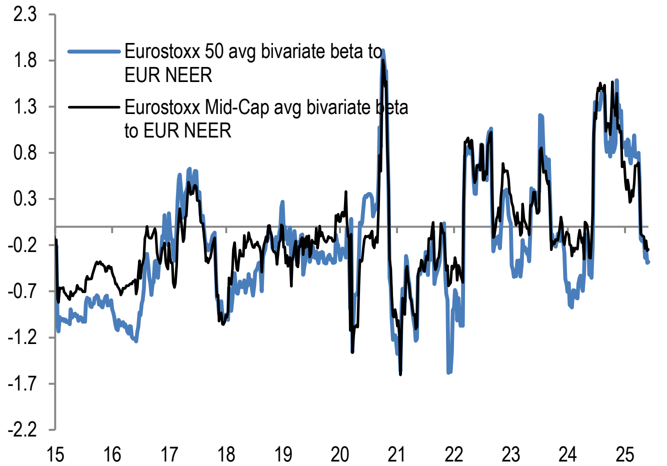
Corporate FX hedging proxies

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

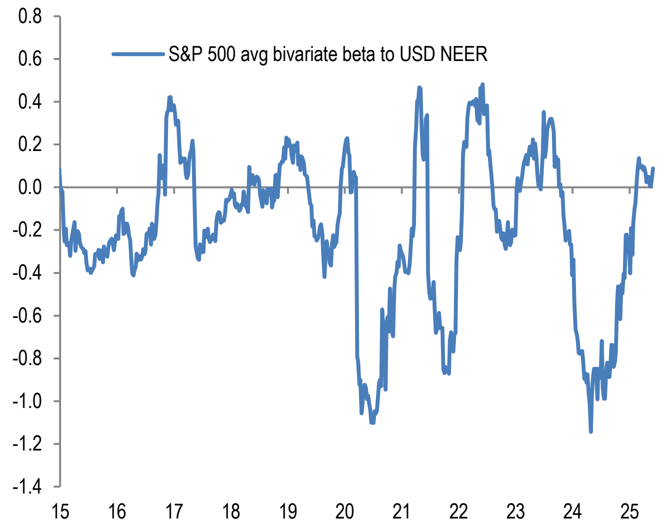
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of individual stocks in the Eurostoxx 50 index to the weekly returns of the MSCI AC World and JPM EUR Nominal broad effective exchange rate (NEER).



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

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

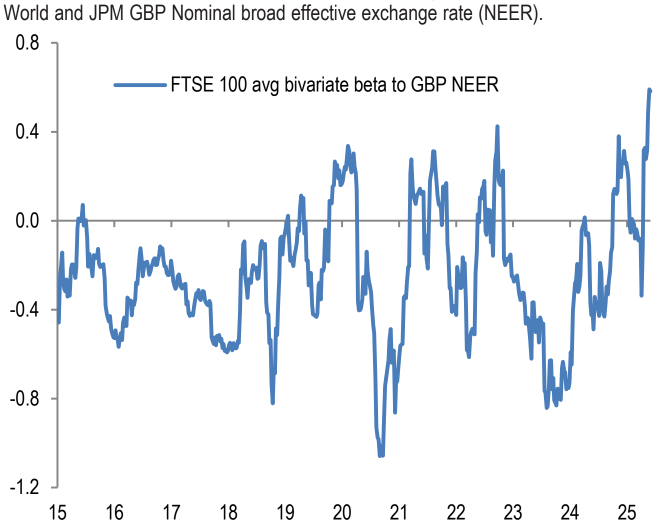
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of stocks in the S&P500 index to the weekly returns of the MSCI AC World and JPM USD Nominal broad effective exchange rate(NEER).



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

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

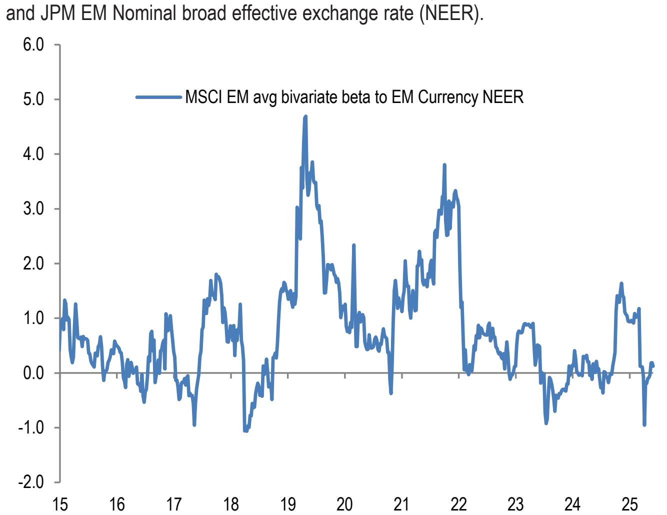
Rolling 26 weeks average betas based on a bivariate regression of the weekly returns of individual stocks in the FTSE 100 index to the weekly returns of the MSCI AC World and JPM GBP Nominal broad effective exchange rate (NEER).



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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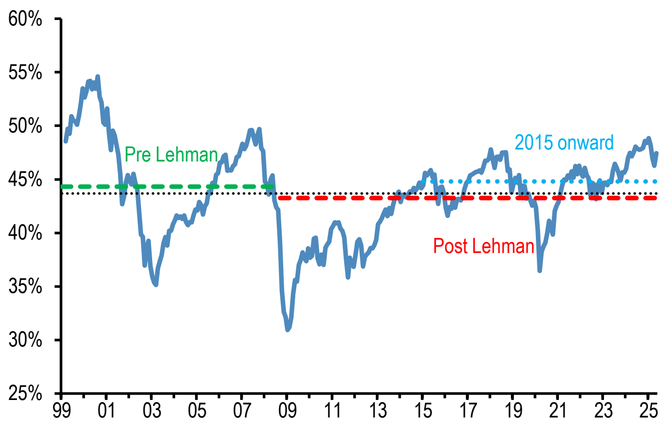
Non-Bank investors' implied allocations

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

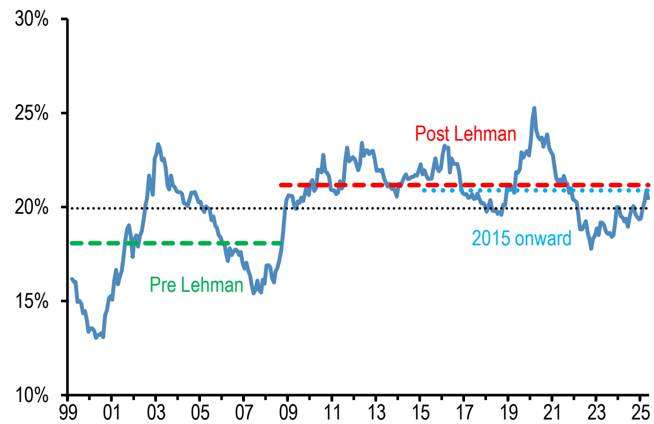
Global equities as % total holdings of equities/bonds/M2 by non-bank investors. Dotted lines are averages.



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

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

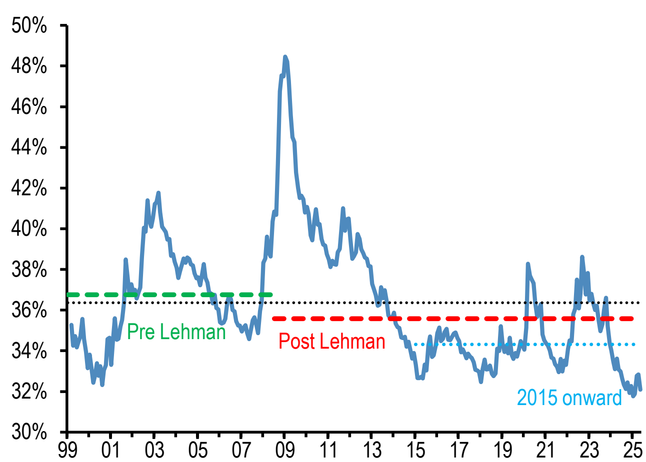
Global bonds as % total holdings of equities/bonds/M2 by non-bank investors. Dotted lines are averages.



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

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

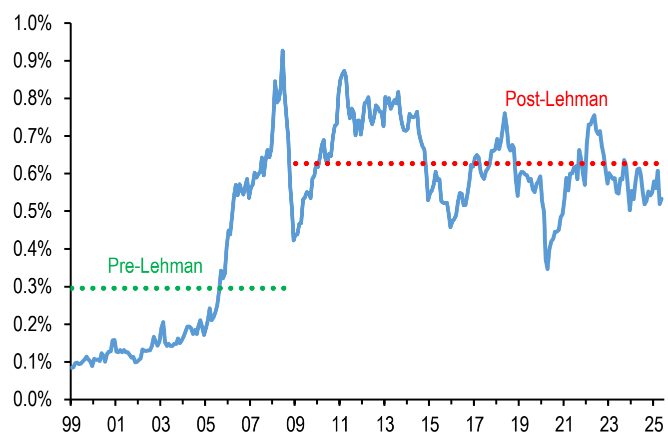
Global cash held by non-bank investors as % total holdings of equities/bonds/M2 by non-bank investors. Dotted lines are averages.



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.



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