

FX Macro Quant

Where are we now?

- Our growth signals are extremely skewed to the downside with **46% of currencies showing significantly negative growth momentum**. This translates into a long USD position in our FRI strategy at +80%, but there are two issues: (i) North America, i.e. USD and CAD, screens the worst and (ii) this does not account for the current reassessment of US assets.
- Analyzing the most recent moves, we think that:
 - (i) **JPY remains the more reasonable defensive choice** as CHF longs overshoot other defensive pairs even after volatility and beta adjustment;
 - (ii) **almost all European currencies screen fair to rich on long-term REER metrics** (except NOK), while the Asia bloc is cheap (except SGD);
 - (iii) if we cumulate last year sell-off with the recent risk-off event, **global carry baskets are now down double digits over one year**. Historically, this corresponds to attractive levels for a recovery, but given carry baskets undershoot equities on the partial rebound and the risk of further easing in LatAm to compensate a growth shock, we think it's too early to position.
- Over one month, carry baskets are down 3% to 7% depending on the portfolio/variation. Only our JPMaQS hedged carry (carry adjusted for beta) delivered positive returns. Value strategies (traditionally hedges) are only slightly up as the status of cheap safe heaven vs rich high beta has been less clear during this cycle.
- In terms of defensive baskets, long current account surplus vs deficits in G10 has been the best expression this year as its negatively correlated with carry (+8% ytd). Largest surpluses are Nordics and CHF against NZD, USD and GBP.
- **Our team portfolio has experienced a drawdown of 2% in the last two weeks**, but the year to date P&L remains in slightly positive territory at +0.6%.
- Notably, our TEAM macro score has no variable indicating G10 European currencies outperformance. EUR and SEK still rank poorly on carry, growth and relative equity MoM. This contributed to the recent DD as Euro rallied on a reversing US exceptionalism narrative more than fundamental variables.
- Otherwise, USD is no longer shorted in Fast TEAM (midpack neutral stance). Indeed, signals showing US equities underperformance in a very dispersed cross-market equity world have faded.
- In a nutshell, the strategy favors NZD, JPY, INR, ZAR and CE3 against EUR, Nordics, LatAm and Asia low yielders.

Global FX Strategy

Antonin T Delair ^{AC}

(44-20) 7134-4643
antonin.t.delair@jpmorgan.com
J.P. Morgan Securities plc

Meera Chandan

(44-20) 7134-2924
meera.chandan@jpmorgan.com
J.P. Morgan Securities plc

Kunj J Padh

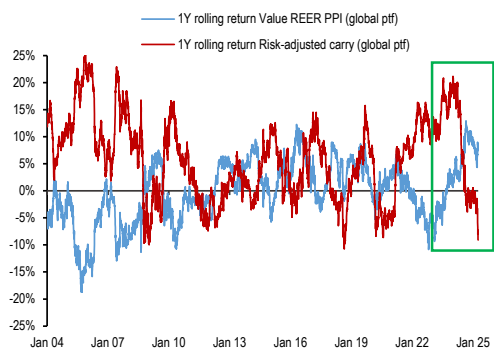
(1-212) 834-5108
kunj.padh@jpmchase.com
J.P. Morgan Securities LLC

Joyce Lai

(44-20) 3493-5891
joyce.lai@jpmorgan.com
J.P. Morgan Securities plc

Figure 1: If we cumulate last year's unwind with the recent risk off episode, the global FX carry sell-off is now severe (-10%); similar to Covid, but still below GFC

1Y rolling returns of global risk-adjusted carry and global value (REER PPI) baskets.



Source: J.P. Morgan

Where are we now?

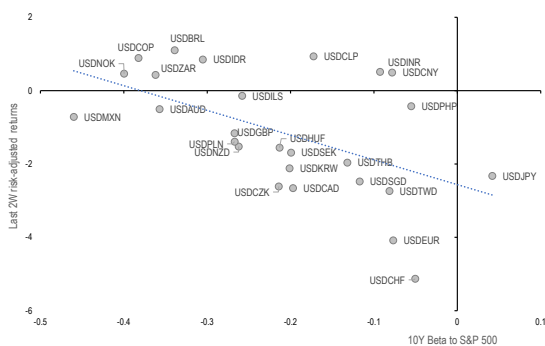
Two weeks after the initial announcement of “reciprocal tariffs” by President Trump and the subsequent period of market volatility, we analyze the magnitude of FX moves, the current long-term FX valuations and the current stage of the carry vs value rotation.

- It has been widely flagged that the recent risk-off episode has been peculiar as the dollar weakened on the latest tariffs developments. However, USD weakening has not been uniform. Since April 2, DXY is down 4.6% while J.P. Morgan trade weighted dollar index (NEER) is down 2.0% (as of April 16 close).
- On Figure 2, we scatter dollar pairs risk-adjusted returns in the last two weeks against their beta to US equities. The dollar undershoot is marked against (i) CHF, (ii) EUR and (iii) MXN & CAD. Conversely, Asian currencies appear on the weak side, especially INR. Once adjusted for volatility, many USD/high beta EM do not screen extreme relative to other currencies.

Figure 2: The dollar undershoot the most against CHF, EUR, CAD and MXN...

Scatter plot; X: USD/CCY 10 years beta to S&P 500 (two weeks returns)

VS. Y: 1 Apr 2025 - 16 Apr 2025 returns / 10 years standard deviation of two weeks returns.



Source: J.P. Morgan

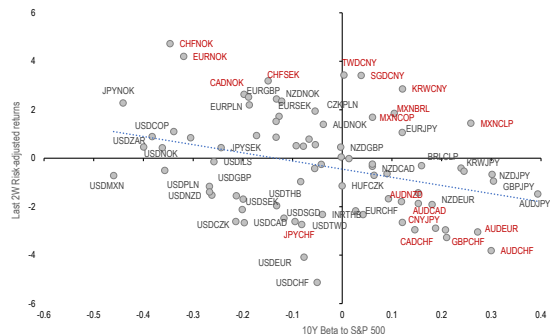
- For crosses, EUR, CHF and CAD appear on the strong side as well, especially vs. AUD and NOK. CHF also outperformed JPY as a safe-haven. In EM, the performance of low-yield asia against CNY is significant and MXN was more resilient than other LatAm currencies.

Figure 3: ... and logically, these currencies were also the strongest on crosses

Scatter plot; X: Pair 10 years beta to S&P 500 (two weeks returns)

VS. Y: 1 Apr 2025 - 16 Apr 2025 returns / 10 years standard deviation of two weeks returns.

Certain labels have been removed for readability.



Source: J.P. Morgan

- Looking at longer-term metrics (our REER 15Y deviations; avg of PPI & CPI), we see that the appreciation of European currencies and low yielders has been substantial since the beginning of Trump mandate. This move has been fueled by lower US yields until the end of March and then by a US-centered risk off event.
- EUR now screens rich from a long-term perspective (at par with the dollar). Beyond EUR, the entire European bloc deviations are significant in the cross-section of our REER metric with CE3 currencies among the richest, GBP and CHF moderately rich and a fair SEK after its strong year to date rally. Only NOK is lagging as the currency is affected by its terms of trade (see Figure 6). On the other hand, except SGD, most Asian currencies screen on the cheap side, despite offering a decent carry/vol for some.

Figure 4: On long term REER metrics, EUR screen as rich as the dollar now

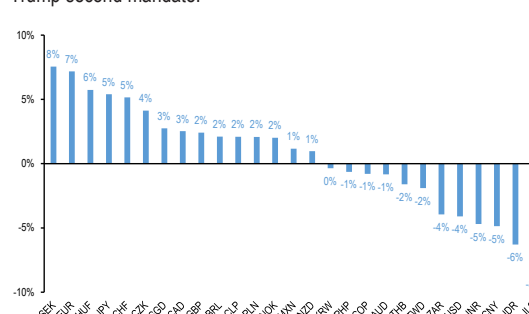
Current deviation of average REER PPI/CPI vs. 15yr moving average, %. Positive/negative value indicates currency is rich/cheap.



Source: J.P. Morgan

Figure 5: REER deviations evolution since Jan 20 (President Trump second mandate)

Change in our average REER PPI/CPI 15 years deviation since the beginning of Trump second mandate.

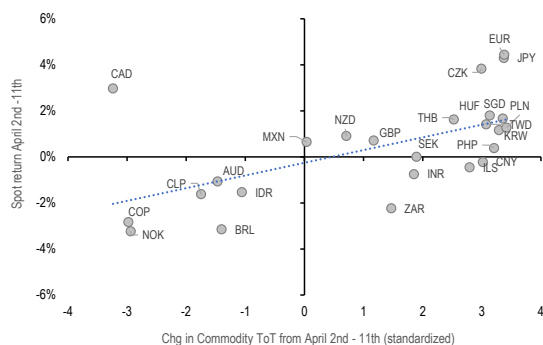


Source: J.P. Morgan

- Switching the analysis to a more fundamental valuation is challenging despite the normalization of the market in the last two days. Indeed, (i) growth datasets are not yet properly reflecting the tariffs impact across countries and (ii) fundamental analysis against yields differential has also been instable in the past two weeks. Currencies have been following real yields more than nominal, but the number of currencies with a liquid inflation swaps market remains low.
- However, we can see on Figure 6 that most currencies have been trading in line with their commodity terms of trade. In our view, this explains the underperformance of NOK relative to other European currencies. On this metric, CAD screens again as a significant outlier.

Figure 6: In the past two weeks, most currencies have been trading in line with their commodity terms of trade

Scatter plot of X: Chg in daily commodity ToT from April 2nd to April 11th (standardized) vs. Y: CCY/USD returns between April 2nd and April 11th

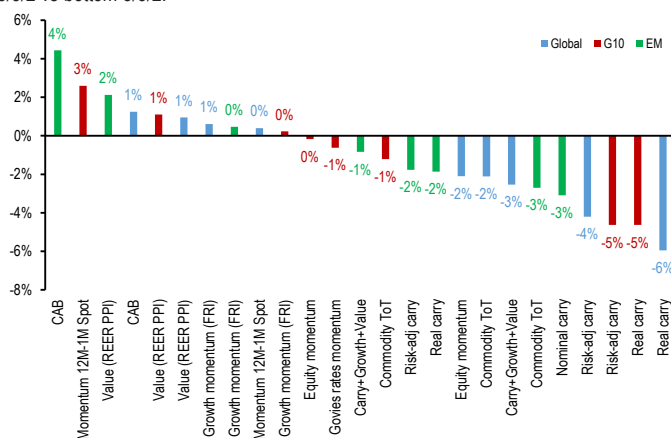


Source: J.P. Morgan; JPMaQS

- In terms of signals, we logically find that the defensive baskets outperformed since April 2nd, while carry sold-off (see Single Factor Performance section for details).

Figure 7: Since April 2nd, defensive baskets (current account balances, momentum, value) outperformed cyclical ones, especially carry

Apr 2nd -Apr 14th performance of our single FX single-signal cross-sectional strategies with trading costs on global, EM and G10 FX portfolios. Global/EM/G10 strategies are top 5/3/2 vs bottom 5/3/2.

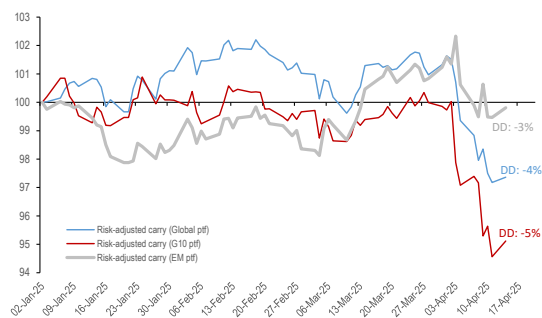


Source: J.P. Morgan

- FX carry logically sold off as a cyclical strategy. As expected, the move has been larger in G10 than EM. Indeed, the lowest yielders/largest long term value trades are concentrated in the G10 basket with shorts in JPY and CHF. In addition, the carry to value rotation largely played out in EM last year.
- Despite their defensive nature, value baskets (REER PPI) only moderately rallied between +1% to +2%. Historically, FX value baskets have been defensive hedges but these strategies usually enter risk off events with long reserves / short high beta allocations (which was different this time; for instance EUR and CHF have not been cheap on these metrics).

Figure 8: The carry sell-off has been larger in G10 than EM

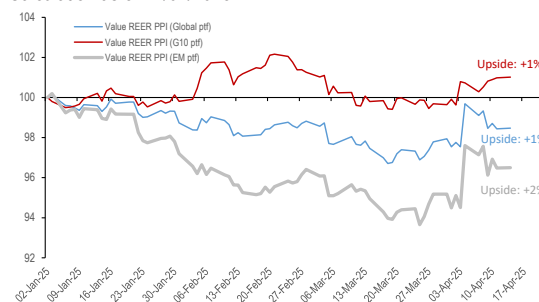
Total return index of risk-adjusted Global/EM/G10 carry baskets (top-bottom 5/3/2 equal USD notional). Monthly rebalancing. Calculation as of 14/04/2025.



Source: J.P. Morgan

Figure 9: The defensive nature of value strategies only partially played out

Total return index of Global/EM/G10 value baskets (based on REER PPI deviation; top-bottom 5/3/2 equal USD notional). Monthly rebalancing. Calculation as of 14/04/2025.

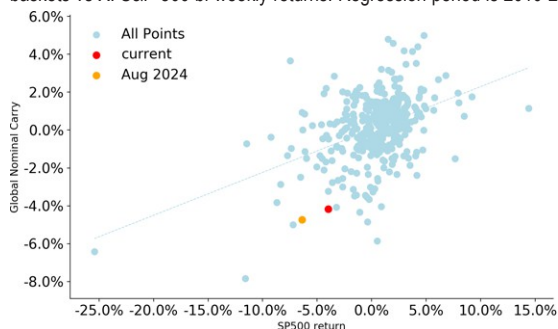


Source: J.P. Morgan

- Similar to Q2 last year, FX carry underperformed its historical beta to equities (S&P 500). To be more precise, carry weakened in line with equities during the bulk of the downward move from April 2nd to April 9th, but lagged on the following partial rebound (hence the overall undershoot).

Figure 10: Global carry undershoot the move in equities again...

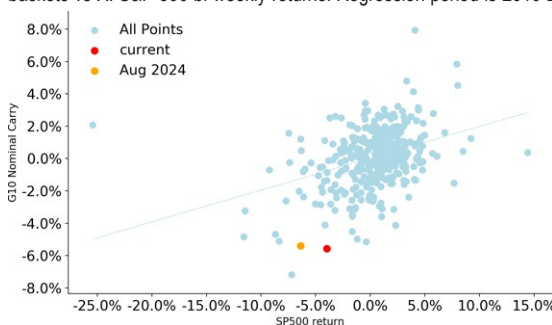
Scatter plot with Y: bi-weekly returns of global top 5/bottom 5 nominal carry baskets vs X: S&P 500 bi-weekly returns. Regression period is 2010-2025



Source: J.P. Morgan

Figure 11: ... and G10 carry as well

Scatter plot with Y: bi-weekly returns of G10 top 2/bottom 2 nominal carry baskets vs X: S&P 500 bi-weekly returns. Regression period is 2010-2025

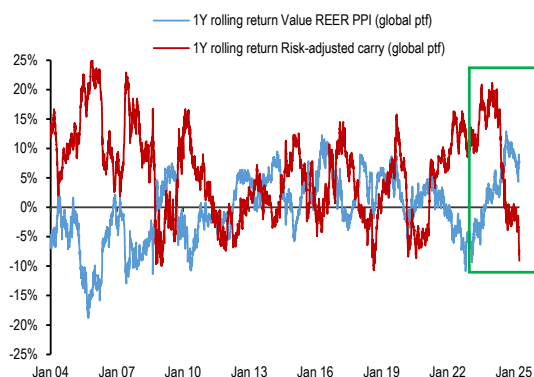


Source: J.P. Morgan

- If we cumulate last year's sell-off with the recent drawdown, risk-adjusted carry baskets have experienced a severe correction. Despite being over a longer period, the drawdown of ~10% is at par with the Covid shock (but still below the -15% of the GFC).

Figure 12: If we cumulate last year sell-off with the recent drawdown, risk adjusted carry baskets have experienced a severe correction

1Y rolling returns of global risk-adjusted carry and global value (REER PPI) baskets. Baskets are top 5/bottom 5 with monthly rebalancing.



Source: J.P. Morgan

- For now, markets seem to have partially normalized, but going forward the level of uncertainty remains elevated with the possibility of further volatility shocks. **That said, our key takeaways from the recent moves are the following:**
 - **JPY still screens as the more reasonable defensive choice** considering CHF longs significantly outperformed other defensive FX pairs (even after volatility and beta adjustments).
 - Although this could be explain by an early delivery on the tariff side, **CAD is one of the most dislocated currencies over the last two weeks** (both in relative terms and against commodities). The currency is a short candidate against other high betas in case of risk markets rebound.
 - If one wants to play a reversion scenario of normalization/or even de-escalation on the tariff side, the preferred candidates are in G10 with (i) CHF shorts against any other currency from Antipodeans for the most pro-cyclical to JPY for the less exposed; (ii) AUD, NZD or NOK vs CAD; (iii) or simply short EUR/USD.
 - On long-term metrics, European currencies screen rich, especially vs the Asia bloc.
 - The cumulated sell-off of global carry baskets over one year is in double-digit territory. Historically, this corresponds to attractive levels for a rebound. However, we see the underperformance of carry on the partial US equities recovery as a negative signal. In addition, the risk of further easing in LatAm to compensate for the growth shock is significant. **We**

Antonin T Delair ^{AC} (44-20) 7134-4643
antonin.t.delair@jpmorgan.com
J.P. Morgan Securities plc
Meera Chandan (44-20) 7134-2924
meera.chandan@jpmorgan.com

Kunj J Padh (1-212) 834-5108
kunj.padh@jpmchase.com
Joyce Lai (44-20) 3493-5891
joyce.lai@jpmorgan.com

Global FX Strategy

17 April 2025

J.P.Morgan

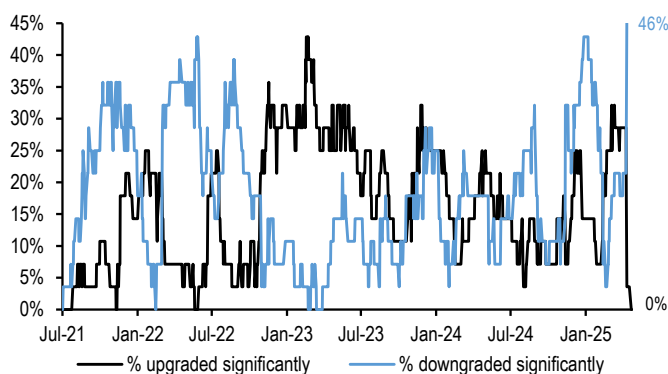
think it's too early for carry baskets.

USD weight in economic momentum framework

- **Our USD growth strategy currently has a +80% weight allocated to the dollar, a significant shift after staying at -20% for the previous weeks.**
- The distribution of growth momentum is now extremely skewed to the downside as the consequence of the 10% tariff on all countries + 145% on China.
- **46% of currencies are exhibiting significantly negative growth momentum.** The 13 currencies with momentum below -1 sigma are CAD, USD, COP, NOK, BRL, MXN, CLP, SGD, AUD, PHP, THB, IDR and MYR.
- No currency shows a signal above +1 sigma.
- **We currently recommend to be cautious with our USD growth model recommendation.** Indeed, the implications of a global growth deterioration benefiting the dollar are less clear in this episode, given the moderating US exceptionalism and reconsiderations of US assets' safe-heaven properties. **More specifically, despite a large number of countries with deteriorating growth momentum, the US is currently at the bottom of the pack, both on our FRI growth momentum signal and our FRI+EASI composite.**

Figure 13: 46% of currencies show downward growth momentum

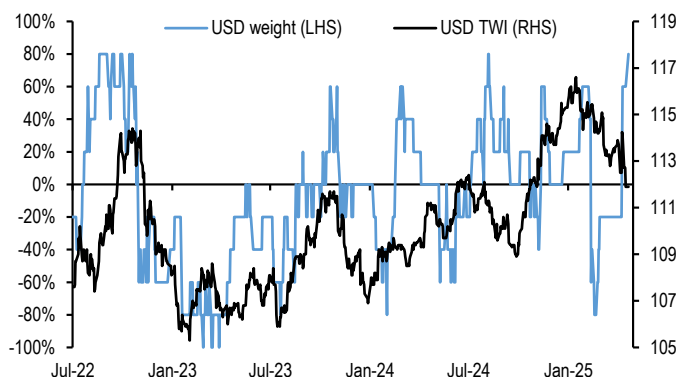
Percentage of countries (among 28 tradeable currencies) with significant upward/downward growth momentum (1yr z-score of 3mo change in JPM FRI exceeds +/- 1 sigma)



Source: J.P. Morgan

Figure 14: The USD weight in our economic momentum framework is now at +80%

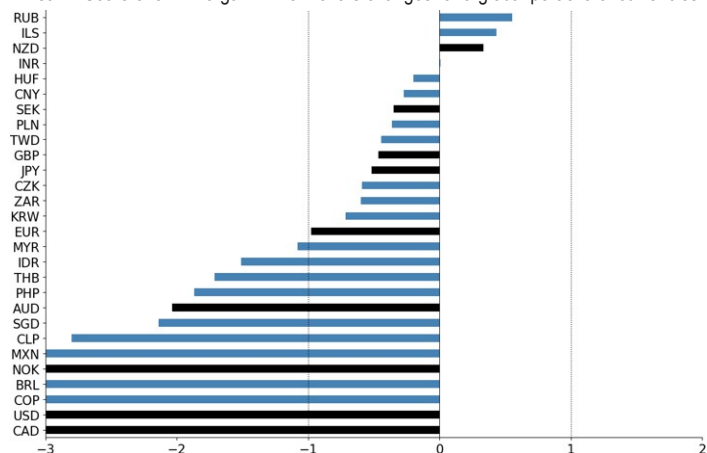
Net longs on USD vs. high beta FX (% total exposure) allocated to USD positions, plotted against USD TWI



Source: J.P. Morgan

Figure 15: Almost half of the countries are showing negative growth momentum below -1 sigma, with the largest downgrades in Americas, following by the APAC region

1 Year Z-Score of J.P. Morgan FRI 3 months changes for a global portfolio of currencies. We cap the Z-Score between +/-3.



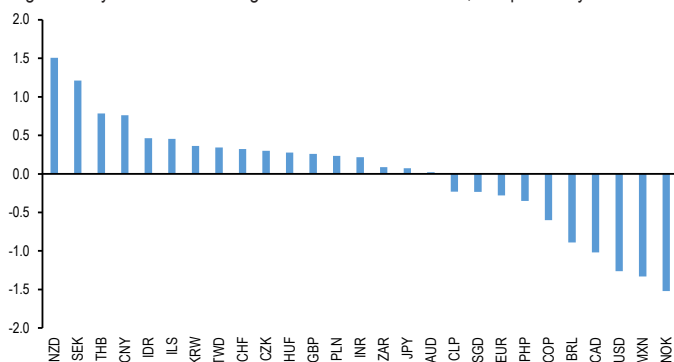
Source: J.P. Morgan

Growth RV

- In this subsection, we detail the cross-section of a growth RV signal (using a composite of EASIs and FRIs). According to this growth composite, NZD, SEK and THB are the currencies with the strongest growth momentum vs. NOK, MXN and USD for the weakest momentum (keep in mind that Nordics signals tend to take extreme values, due to scarcity of data points for EASIs).

Figure 16: Composite growth RV

Signal of a composite growth RV strategy (sigma). The strategy builds a composite X-sectional growth momentum signal using both EASIs and FRIs. The outcome is RV only (the best growth ccy will be above 1 sigma and the worst below -1, independently of the actual growth sign; values are capped at +/-2). Updated on 15/04/2025.



Source: J.P. Morgan

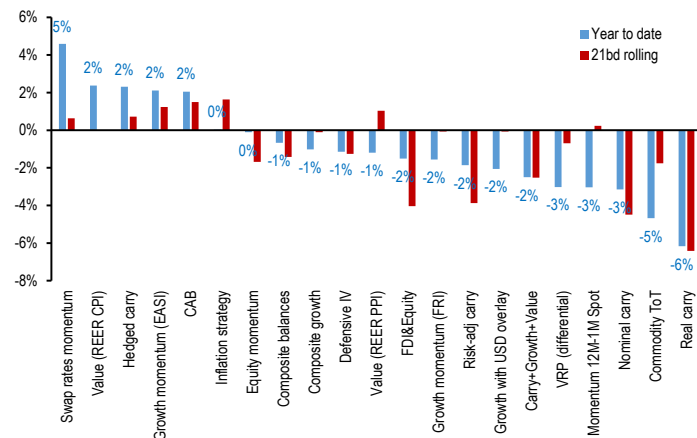
***Signal for Nordic currencies is less reliable** (can take extreme values on EASIs as few economic data points have economist consensus)

Single factor performance

- **Nominal, real and risk-adjusted carry baskets sold off between 3% and 7% last month for the different portfolios, as usual in a risk-off environment.** Only our hedged carry delivered positive returns and is now the strongest performing basket year to date in EM. This carry variation adjusts the yield for the beta to risk assets, which makes the carry portfolio significantly more defensive (on this metric, CE3 currencies screen as stronger carry candidates than LatAm and Antipodeans screen as the weakest).
- Long-term value strategies (REER, PPI) are historically defensive, but the strategies were only moderately up for the three portfolios (see details in the outlook section above).
- Other baskets that are historically negatively correlated with carry broadly rallied. For instance, systematic baskets buying current account surplus vs deficits outperformed over the past rolling month, particularly for G10 with the strategy delivering +8% ytd.
- G10 equity momentum strategy still delivers positive returns despite the recent equities sell-off. However, we also observed that the correlation between relative equities performance and FX returns has been less clear over the past two week. CHF is an outlier here as the currency has benefitted given its safe haven status but local equities underperformed. SEK also held decently despite the relative weakness of Swedish equity market.
- Finally, Swap rates momentum strategy has remained resilient. The portfolio has allocated longs to some G10 currencies, notably EUR & JPY which benefitted last week from the USD/US fixed income sell off.
- *Descriptions and returns of our single signal strategies are available in our [FX Macro Quant Library](#).*

Figure 17: Real and nominal carry are now among the worst performing baskets year to date for global portfolios

Ytd and 1m rolling returns of FX single-signal cross-sectional strategies with trading costs on global FX portfolio (top 5/bottom 5). Calculation as of 14/04/2025 close

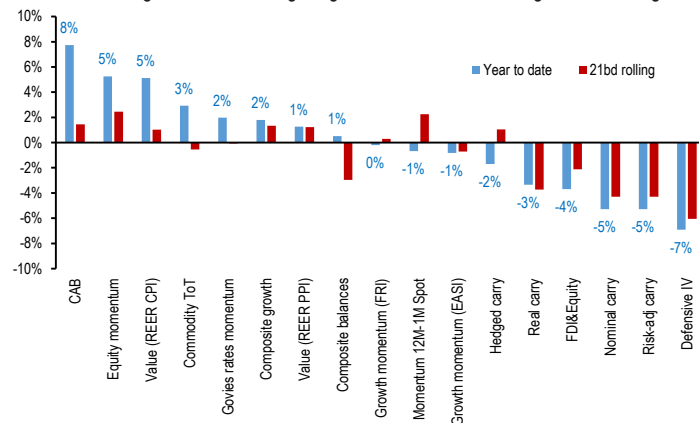


Source: J.P. Morgan

*strategies restricted to 20 most liquid currencies

Figure 18: In G10, buying current account surplus vs. deficits (CAB) has been the best defensive expression

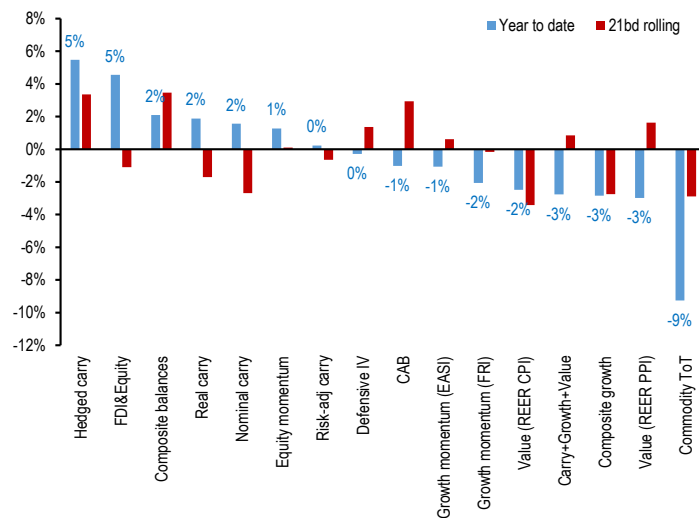
Ytd and 1m rolling returns of FX single-signal cross-sectional strategies with trading costs on G10 portfolio (top 2/bottom 2). Calculation as of 14/04/2025 close



Source: J.P. Morgan

Figure 19: In EM, carry remains flat/in positive territory year to date

Ytd and 1m rolling returns of FX single-signal cross-sectional strategies with trading costs on EM portfolio (top 3/bottom 3). Calculation as of 14/04/2025 close



Source: J.P. Morgan

Figure 20: Last rolling month signal performance

Last rolling month returns of FX single-signal cross-sectional strategies with trading costs on both G10, EM and Global portfolios. Calculation as of 14/4/2025 close

	Global	G10	EM
Inflation strategy	1.6%	-	-
CAB	1.5%	1.4%	2.9%
Growth momentum (EASI)	1.2%	-0.7%	0.6%
Value (REER PPI)	1.0%	1.2%	1.6%
Hedged carry	0.7%	1.0%	3.4%
Swap rates momentum	0.6%	-	-
Momentum 12M-1M Spot	0.2%	2.2%	-
Value (REER CPI)	0.0%	1.0%	-3.4%
Growth momentum (FRI)	-0.1%	0.3%	-0.2%
Growth with USD overlay	-0.1%	-	-
Composite growth	-0.1%	1.3%	-2.7%
VRP (differential)	-0.7%	-	-
Defensive IV	-1.3%	-6.1%	1.4%
Composite balances	-1.4%	-3.0%	3.5%
Equity momentum	-1.7%	2.4%	0.1%
Commodity ToT	-1.8%	-0.5%	-2.9%
Carry+Growth+Value	-2.5%	-	0.8%
Risk-adj carry	-3.9%	-4.3%	-0.7%
FDI&Equity	-4.0%	-2.1%	-1.1%
Nominal carry	-4.5%	-4.3%	-2.7%
Real carry	-6.4%	-3.7%	-1.7%
Govies rates momentum	-	-0.1%	-

Source: J.P. Morgan

Figure 21: Current top 5/bottom 5 allocation of our single-signal cross-sectional strategies

	Carry + Growth + Value	Risk-adj carry	Nominal carry	Hedged carry	Real carry	Value (REER PPI)	Value (REER CPI)	CAB	FDI & Equity flows	Composite balance	Growth EASI	Growth FRI	Composite growth	Growth FRI USD overlay	Swap rates momentum**	G10 rates momentum*	Inflation**	Momentum Spot**	Equity momentum	Commodity ToT	Defensive IV	VRP (differential)
top 1	INR	INR	BRL	USD	BRL	PHP	JPY	SGD	HUF	SGD	SEK	CNY	NZD	USD	BRL	JPY	CHF	THB	ZAR	CLP	JPY	MXN
top 2	PHP	BRL	MXN	INR	MXN	JPY	BRL	NOK	SGD	HUF	NZD	ILS	SEK	USD	JPY	NOK	NOK	ZAR	CZK	NZD	CHF	PHP
top 3	NZD	MXN	COP	HUF	COP	CNY	NOK	TWD	COP	EUR	THB	NZD	THB	USD	SEK	-	NZD	JPY	INR	ZAR	USD	JPY
top 4	ZAR	COP	INR	CZK	ZAR	KRW	KRW	SEK	BRL	ILS	IDR	INR	CNY	USD	GBP	-	MXN	-	NZD	PHP	CAD	CNY
top 5	IDR	IDR	ZAR	PLN	IDR	INR	CAD	KRW	PHP	PLN	COP	CHF	IDR	USD	EUR	-	AUD	-	MXN	SEK	INR	USD
bottom 5	TWD	SGD	SEK	KRW	EUR	SGD	PHP	GBP	KRW	GBP	USD	NOK	BRL	BRL	KRW	-	KRW	-	JPY	HUF	ZAR	CLP
bottom 4	CLP	JPY	CNY	AUD	CAD	BRL	SGD	BRL	SEK	AUD	BRL	BRL	CAD	NOK	CAD	-	BRL	-	TWD	AUD	TWD	COP
bottom 3	USD	CNY	TWD	ILS	SEK	USD	USD	USD	TWD	SEK	EUR	COP	USD	COP	SGD	-	USD	KRW	CHF	CNY	NZD	SEK
bottom 2	SGD	CHF	JPY	JPY	CHF	CLP	CZK	PHP	NOK	NZD	MXN	USD	MXN	USD	THB	AUD	INR	BRL	CNY	MXN	AUD	NOK
bottom 1	EUR	TWD	CHF	NZD	JPY	EUR	PLN	NZD	CHF	CHF	NOK	CAD	NOK	CAD	MXN	CAD	SEK	MXN	SEK	CHF	NOK	CHF

*G10 basket only; **Basket of 20 most liquid currencies only

Source: J.P. Morgan

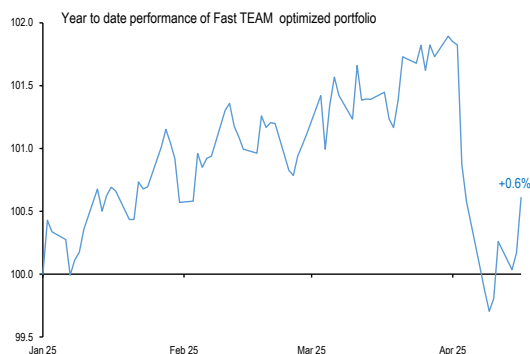
Fast T.E.A.M. allocation

In 2022, we introduced our Fast T.E.A.M strategy (see [A faster TEAM*](#)). Since then, several modifications of the strategy have been implemented: (i) the current account balance metric has been replaced by our commodity terms of trade signal; (ii) we added a portfolio optimisation on top of the signal, and (iii) we re-introduced a long-term value metric. The key take-aways from the current T.E.A.M allocation are the following:

- **Our optimized team portfolio has experienced a drawdown in the last two weeks** (see Figure 22). However, as of Apr 15, the year to date P&L remains in positive territory at +0.6%.
- Notably, our TEAM score has no variable pointing towards the outperformance of G10 European currencies, especially EUR and SEK. Those currencies are still at the bottom of our rankings as carry, growth and relative equity momentum remain weak for the two. This contributed to the general underperformance post Liberation Day as Euro for instance significantly rallied on a reversing US exceptionalism narrative more than fundamental variables.
- Otherwise, USD is no longer shorted in Fast TEAM (midpack neutral stance). Indeed, signals showing US equities underperformance in a very dispersed cross-market equity world have faded.
- In a nutshell, the strategy favors NZD, JPY, INR, ZAR and CE3 against EUR, Nordics, LatAm and Asia low yielders.

Figure 22: Fast TEAM suffered a drawdown during the last two weeks; but performance remains positive ytd

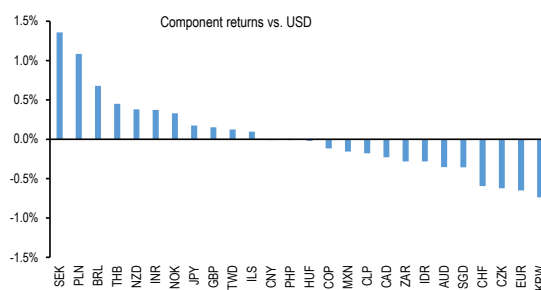
Year to date total return index of our Fast TEAM optimized portfolio. Rebalancing is weekly on Wednesday.



Source: J.P. Morgan

Figure 23: Optimized fast TEAM component returns

Fast TEAM optimized portfolio year to date component returns vs. USD.



Source: J.P. Morgan

Figure 24: The macro variables used in our Fast TEAM portfolio are currently not pointing towards strength in European currencies

Latest currency weights and input variables from our FX multi-factor T.E.A.M. model. Rebalancing occurs on Tuesdays. Rebalanced 15/04/2025.
Note that CNY FRI growth MoM appears significantly stronger as the portfolio rebalancing occurred before our economists most recent downgrade.

Dispersion Weight:	12%	9%	17%	13%	11%	18%	8%	11%	Composite multi-signal score	Top 5 / Bottom 5 weights	Variance - TEAM Score Pft Optim
Exposure Signal:	Carry	Carry	Equity 1M	Growth	Defensive	ToT	Value				
	Real Carry	RA Carry	Equity 1M	FRI MoM	EASI	3MIV Chg	Com. ToT	REER	TEAM Score	2w chg	Weights
INR	0.84	1.68	1.39	1.04	0.17	0.30	0.36	0.48	0.78	0.17	20%
ZAR	1.19	0.54	1.52	0.52	-0.41	-0.64	1.21	1.09	0.57	0.05	20%
IDR	1.29	2.00	0.72	-0.28	1.70	-0.60	-0.72	0.61	0.51	-0.04	20%
NZD	-0.42	-0.33	1.65	1.24	1.89	-0.97	0.97	0.18	0.50	0.10	20%
PHP	0.87	0.52	0.29	-0.47	0.17	0.28	0.86	0.80	0.37	0.11	20%
THB	-0.02	-1.08	1.00	-0.46	2.00	0.12	0.07	-0.29	0.23	-0.23	0%
JPY	-1.15	-1.02	-1.23	0.57	-0.63	2.00	0.60	2.00	0.21	0.39	11%
ILS	-0.91	-0.43	0.21	1.32	-0.20	0.01	1.27	0.25	0.17	0.32	5%
BRL	2.00	1.25	0.24	-1.38	-0.85	-0.14	-1.06	0.56	0.06	-0.10	-1%
KRW	-0.47	-0.10	-0.49	0.44	0.28	-0.38	0.73	1.02	0.05	-0.18	0%
COP	1.37	0.89	-0.27	-1.38	1.13	-0.17	-1.58	0.58	0.05	-0.56	1%
CZK	-0.44	-0.32	1.73	0.54	0.14	-0.26	0.14	-1.97	0.04	0.13	3%
PLN	0.51	0.23	-0.51	0.68	-0.29	0.05	0.55	-0.92	0.00	-0.11	3%
CNY	-0.12	-2.00	-1.62	2.00	-0.03	-0.15	0.97	1.35	-0.01	-0.04	0%
HUF	-0.47	0.35	-0.04	0.85	-0.31	-0.02	0.17	-0.61	-0.01	0.09	3%
GBP	-0.14	-0.08	-0.42	0.60	-0.10	-0.39	0.39	-0.48	-0.12	0.06	0%
USD	0.13	-0.10	-0.08	-1.38	-0.70	2.00	-0.30	-1.82	-0.13	0.72	0%
CHF	-0.97	-1.23	-1.59	0.98	-0.40	2.00	-0.59	-0.53	-0.15	0.45	0%
MXN	2.00	1.05	1.04	-1.38	-2.00	-0.26	-2.00	-0.64	-0.18	0.03	-7%
AUD	-0.13	-0.14	0.77	-0.61	0.54	-1.27	-1.52	0.18	-0.25	-0.46	0%
CLP	-0.44	-0.09	0.43	-1.25	0.52	-0.50	-0.36	-0.49	-0.27	-0.38	-7%
CAD	-0.74	-0.88	0.18	-1.38	-0.03	0.62	-1.85	0.60	-0.29	0.19	0%
SGD	0.24	-0.10	-0.83	-0.69	-0.19	0.29	0.76	-1.58	-0.30	-0.09	-20%
TWD	-2.00	-0.10	-1.08	0.66	0.20	-0.80	0.53	0.01	-0.42	-0.39	-20%
SEK	-0.95	-0.63	-1.76	0.37	-0.24	-0.44	1.06	0.15	-0.42	-0.12	-20%
EUR	-0.63	-0.73	-0.97	0.21	-1.32	-0.56	0.74	-1.68	-0.66	-0.05	-20%
NOK	-0.13	-0.10	-0.27	-1.38	-1.36	-1.60	-0.98	1.04	-0.66	-0.29	-20%
TRY	Currently excluded: systematically not tradable										
MYR	Currently excluded: systematically not tradable										
RUB	Currently excluded: systematically not tradable										

Source: J.P. Morgan

Real Carry: Currency 1M forward-implied yield – core CPI

RA Carry: Currency 1M carry vs USD / dollar pair 1M ATM implied volatility (Risk-adjusted carry)

Equity 1M: 1M return of MSCI local Currency equity index

FRI MoM: 3M change in J.P. Morgan Growth Forecast Revision Indices

EASI: 6W moving average of J.P. Morgan Economic Surprise Indices

Defensive IV: 1M change in dollar pair 3M ATM-implied volatility (traded mean-reversion); opposite of VXY chg is implemented for USD, JPY and CHF

Com. ToT: 3Y Z-Score of 1W4W and 1M12M commodity terms of trade deviations (average)

Value REER: Average of REER CPI and REER PPI 15 years deviation

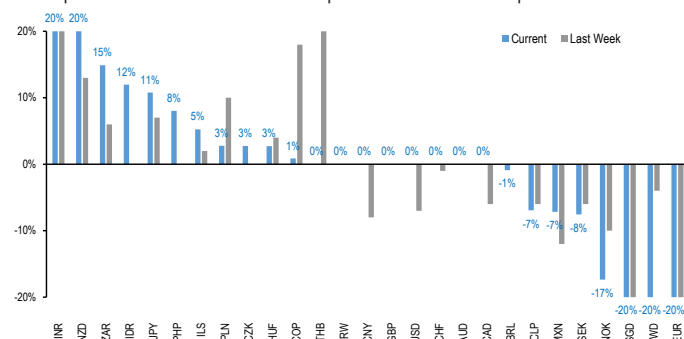
All signals are Z-scored in the cross section (and trimmed to -2/+2)

Optimisation details:

- Maximises portfolio composite multi-signal score under minimum variance constraint.
- Correlation matrix uses currency TWIs to better assess USD in the cross section. Window is long term (5Y) to keep historical correlations of currencies during volatility events.
- Currency weight cannot exceed +/-20%. Maximum regional exposure constraints are also implemented.

Figure 25: INR and NZD continue to be the largest longs; EUR is still significantly shorted

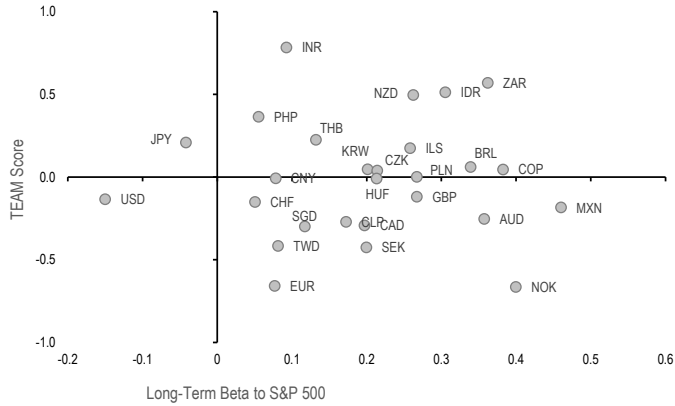
TEAM portfolio allocation with trade-off optimisation between the portfolio TEAM score and portfolio variance. Rebalancing occurs on Tuesdays.



Source: J.P. Morgan

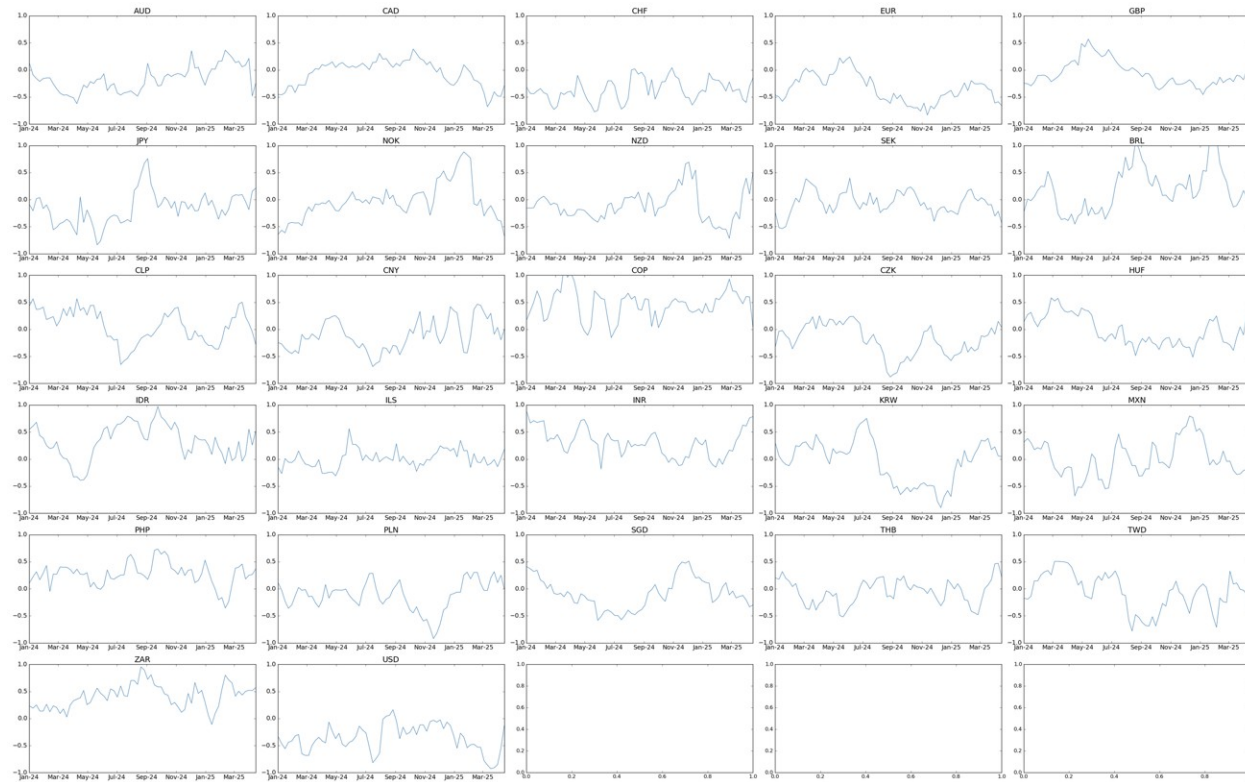
Figure 26: INR, NZD and JPY show a strong macro score for their cyclical exposure

TEAM score (dispersion weighted) vs. currency TWI long-term beta to S&P 500



Source: J.P. Morgan

Figure 27: Fast TEAM individual macro scores



Source: J.P. Morgan

Carry screener

The table in this section is the result of research into the highest carry differentials in FX across all possible crosses. We then apply multiple filters to find the most attractive carry opportunities with a limited beta to equity markets. To implement a trade, we recommend checking the table recommendations against our analysts' views and entering both legs of a potential trade vs. USD or EUR for unconventional crosses.

The research process is the following:

- Compute nominal yield differentials for crosses (1m forward on 27 currencies) and filter for pairs with carry above 4-5%.
- Second, filter for real yield core differential to remove significantly negative real carry positions.
- Discretionary filtering is then applied to beta to equity and other columns to identify most relevant trade opportunities.
- The 3M spot entry point column checks the entry level of the long high yield vs short low yield currency pairs. For instance, if the column indicates 1 for BRL/JPY, it means that BRL/JPY spot is at its highest level in three months. If the column indicates 0, it means BRL/JPY is at its lowest level in three months.
- Seasonality since 2010: hit ratio and P&L for the four weeks ahead.

Figure 28: Carry screening table

Filter highest carry differential for currency pairs under beta to equity, volatility, real yield and trade diversification criteria (computed on 15/04/2025)

Long	Short	last 3m returns	macro view long*	macro view short*	long ccy (forecasted CB rate chg)	Nominal carry	Real carry	3M realized vol (ann.)	3M beta to equity (weekly returns)	3Y beta to equity (monthly returns)	3M spot entry point: 0/1 = min/max level	carry/realized vol	CAB (%GDP differential)	Seasonality: hit ratio	Seasonality: PnL
BRL	JPY	-4%	Neutral	Bullish	+50bp May 25	10%	7%	17%	0.41	0.05	0.02	0.63	-8%	0.43	-2.6%
MXN	JPY	-5%	Neutral	Bullish	-50bp May 25	9%	7%	16%	0.22	-0.05	0.08	0.59	-5%	0.50	-1.4%
BRL	EUR	-4%	Neutral	Bullish	+50bp May 25	8%	6%	13%	0.32	0.09	0.01	0.66	-6%	0.50	-1.7%
BRL	CAD	2%	Neutral	Bearish	+50bp May 25	8%	6%	14%	0.28	0.08	0.03	0.59	-2%	0.43	-1.9%
MXN	EUR	-6%	Neutral	Bullish	-50bp May 25	7%	6%	12%	0.13	-0.01	0.07	0.60	-3%	0.36	-0.5%
ZAR	JPY	-7%	Neutral	Bullish	-25bp Jul 25	7%	5%	16%	0.55	0.18	0.28	0.43	-5%	0.43	-2.4%
MXN	CAD	0%	Neutral	Bearish	-50bp May 25	7%	6%	13%	0.09	-0.03	0.13	0.56	0%	0.43	-0.7%
INR	JPY	-7%	Neutral	Bullish	-25bp Jun 25	7%	4%	12%	0.11	-0.19	0.00	0.55	-6%	0.43	-1.2%
COP	EUR	-8%	Bearish	Bullish	-25bp Apr 25	7%	4%	14%	0.35	0.19	0.00	0.48	-5%	0.50	-0.7%
BRL	AUD	3%	Neutral	Bullish	+50bp May 25	6%	5%	15%	-0.08	-0.16	0.28	0.43	-1%	0.50	-0.1%
COP	CAD	-2%	Bearish	Bearish	-25bp Apr 25	6%	4%	15%	0.31	0.18	0.06	0.43	-1%	0.36	-0.9%
BRL	USD	5%	Neutral	Bearish	+50bp May 25	6%	4%	14%	0.35	0.34	0.45	0.44	1%	0.36	-2.7%
HUF	CHF	0%	Neutral	Bullish	-25bp Sep 25	6%	1%	11%	0.17	0.18	0.04	0.59	-3%	0.29	-0.7%
BRL	CLP	1%	Neutral	Bearish	+50bp May 25	6%	5%	11%	-0.06	-0.20	0.56	0.59	-1%	0.36	-1.2%
BRL	GBP	-3%	Neutral	Bearish	+50bp May 25	6%	5%	13%	0.19	-0.06	0.00	0.49	0%	0.43	-1.8%
IDR	JPY	-11%	Neutral	Bullish	-25bp Jun 25	6%	5%	14%	0.10	-0.09	0.01	0.44	-5%	0.50	-0.8%
INR	CNY	2%	Neutral	Neutral	-25bp Jun 25	6%	2%	5%	-0.04	-0.10	0.81	1.09	-3%	0.43	-0.5%
PLN	CHF	0%	Neutral	Bullish	-50bp May 25	6%	3%	11%	0.25	0.15	0.14	0.52	-5%	0.57	-0.9%
INR	THB	-1%	Neutral	Bearish	-25bp Jun 25	6%	2%	9%	-0.15	-0.25	0.35	0.65	-3%	0.36	-0.1%
PHP	JPY	-6%	Neutral	Bullish	-25bp Jun 25	5%	5%	11%	0.07	-0.10	0.00	0.49	-9%	0.57	-0.3%
MXN	AUD	1%	Neutral	Bullish	-50bp May 25	5%	5%	16%	-0.27	-0.27	0.35	0.34	2%	0.64	1.0%
IDR	CNY	-2%	Neutral	Neutral	-25bp Jun 25	5%	3%	7%	-0.05	0.01	0.16	0.78	-3%	0.50	-0.2%
MXN	USD	3%	Neutral	Bearish	-50bp May 25	5%	4%	13%	0.16	0.23	0.76	0.38	4%	0.36	-1.5%
ZAR	EUR	-8%	Neutral	Bullish	-25bp Jul 25	5%	4%	13%	0.46	0.22	0.17	0.38	-3%	0.43	-1.5%
MXN	CLP	0%	Neutral	Bearish	-50bp May 25	5%	6%	12%	-0.25	-0.31	0.83	0.42	1%	0.50	0.0%
IDR	THB	-5%	Neutral	Bearish	-25bp Jun 25	5%	3%	7%	-0.16	-0.14	0.05	0.68	-3%	0.50	0.2%
INR	KRW	-1%	Neutral	Bearish	-25bp Jun 25	5%	3%	10%	-0.05	-0.29	0.18	0.48	-6%	0.50	0.6%
INR	EUR	-8%	Neutral	Bullish	-25bp Jun 25	5%	3%	10%	0.02	-0.15	0.00	0.48	-4%	0.64	-0.2%
INR	SGD	-2%	Neutral	Bearish	-25bp Jun 25	5%	1%	7%	-0.08	-0.11	0.07	0.72	-18%	0.50	-0.4%
GBP	CHF	-2%	Bearish	Bullish	-25bp May 25	4%	2%	9%	0.19	0.16	0.17	0.49	-8%	0.57	0.2%
NOK	CHF	-3%	Bullish	Bullish	-25bp Dec 25	4%	2%	15%	0.36	0.31	0.17	0.29	12%	0.43	-0.9%
USD	CHF	-10%	Bearish	Bullish	-25bp Sep 25	4%	2%	10%	0.03	-0.23	0.02	0.42	-9%	0.64	1.0%
NOK	JPY	-1%	Bullish	Bullish	-25bp Dec 25	4%	2%	17%	0.39	0.25	0.35	0.25	12%	0.43	-1.8%
HUF	SEK	-3%	Neutral	Bullish	-25bp Sep 25	4%	1%	9%	0.01	0.02	0.03	0.45	-5%	0.50	0.2%

Source: J.P. Morgan

Disclosures

Analyst Certification: The Research Analyst(s) denoted by an “AC” on the cover of this report certifies (or, where multiple Research Analysts are primarily responsible for this report, the Research Analyst denoted by an “AC” on the cover or within the document individually certifies, with respect to each security or issuer that the Research Analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect the Research Analyst’s personal views about any and all of the subject securities or issuers; and (2) no part of any of the Research Analyst’s compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the Research Analyst(s) in this report. For all Korea-based Research Analysts listed on the front cover, if applicable, they also certify, as per KOFIA requirements, that the Research Analyst’s analysis was made in good faith and that the views reflect the Research Analyst’s own opinion, without undue influence or intervention.

All authors named within this report are Research Analysts who produce independent research unless otherwise specified. In Europe, Sector Specialists (Sales and Trading) may be shown on this report as contacts but are not authors of the report or part of the Research Department.

Company-Specific Disclosures: Important disclosures, including price charts and credit opinion history tables, are available for compendium reports and all J.P. Morgan–covered companies, and certain non-covered companies, by visiting <https://www.jpmm.com/research/disclosures>, calling 1-800-477-0406, or e-mailing research.disclosure.inquiries@jpmorgan.com with your request.

A history of J.P. Morgan investment recommendations disseminated during the preceding 12 months can be accessed on the Research & Commentary page of <http://www.jpmorganmarkets.com> where you can also search by analyst name, sector or financial instrument.

Analysts' Compensation: The research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues.

Other Disclosures

J.P. Morgan is a marketing name for investment banking businesses of JPMorgan Chase & Co. and its subsidiaries and affiliates worldwide.

UK MIFID FICC research unbundling exemption: UK clients should refer to [UK MIFID Research Unbundling exemption](#) for details of J.P. Morgan’s implementation of the FICC research exemption and guidance on relevant FICC research categorisation.

Any long form nomenclature for references to China; Hong Kong; Taiwan; and Macau within this research material are Mainland China; Hong Kong SAR (China); Taiwan (China); and Macau SAR (China).

J.P. Morgan Research may, from time to time, write on issuers or securities targeted by economic or financial sanctions imposed or administered by the governmental authorities of the U.S., EU, UK or other relevant jurisdictions (Sanctioned Securities). Nothing in this report is intended to be read or construed as encouraging, facilitating, promoting or otherwise approving investment or dealing in such Sanctioned Securities. Clients should be aware of their own legal and compliance obligations when making investment decisions.

Any digital or crypto assets discussed in this research report are subject to a rapidly changing regulatory landscape. For relevant regulatory advisories on crypto assets, including bitcoin and ether, please see <https://www.jpmorgan.com/disclosures/cryptoasset-disclosure>.

The author(s) of this research report may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so.

Exchange-Traded Funds (ETFs): J.P. Morgan Securities LLC (“JPMS”) acts as authorized participant for substantially all U.S.-listed ETFs. To the extent that any ETFs are mentioned in this report, JPMS may earn commissions and transaction-based compensation in connection with the distribution of those ETF shares and may earn fees for performing other trade-related services, such as securities lending to short sellers of the ETF shares. JPMS may also perform services for the ETFs themselves, including acting as a broker or dealer to the ETFs. In addition, affiliates of JPMS may perform services for the ETFs, including trust, custodial, administration, lending, index calculation and/or maintenance and other services.

Options and Futures related research: If the information contained herein regards options- or futures-related research, such information is available only to persons who have received the proper options or futures risk disclosure documents. Please contact your J.P. Morgan Representative or visit <https://www.theocc.com/components/docs/riskstoc.pdf> for a copy of the Option Clearing Corporation’s Characteristics and Risks of Standardized Options or http://www.finra.org/sites/default/files/Security_Futures_Risk_Disclosure_Statement_2018.pdf for a copy of the Security Futures Risk Disclosure Statement.

Changes to Interbank Offered Rates (IBORs) and other benchmark rates: Certain interest rate benchmarks are, or may in the future become, subject to ongoing international, national and other regulatory guidance, reform and proposals for reform. For more information, please consult: https://www.jpmorgan.com/global/disclosures/interbank_offered_rates

Private Bank Clients: Where you are receiving research as a client of the private banking businesses offered by JPMorgan Chase & Co. and its subsidiaries (“J.P. Morgan Private Bank”), research is provided to you by J.P. Morgan Private Bank and not by any other division of J.P. Morgan,

including, but not limited to, the J.P. Morgan Corporate and Investment Bank and its Global Research division.

Legal entity responsible for the production and distribution of research: The legal entity identified below the name of the Reg AC Research Analyst who authored this material is the legal entity responsible for the production of this research. Where multiple Reg AC Research Analysts authored this material with different legal entities identified below their names, these legal entities are jointly responsible for the production of this research. Research Analysts from various J.P. Morgan affiliates may have contributed to the production of this material but may not be licensed to carry out regulated activities in your jurisdiction (and do not hold themselves out as being able to do so). Unless otherwise stated below, this material has been distributed by the legal entity responsible for production. If you have any queries, please contact the relevant Research Analyst in your jurisdiction or the entity in your jurisdiction that has distributed this research material.

Legal Entities Disclosures and Country-/Region-Specific Disclosures:

Argentina: JPMorgan Chase Bank N.A Sucursal Buenos Aires is regulated by Banco Central de la República Argentina ("BCRA"- Central Bank of Argentina) and Comisión Nacional de Valores ("CNV"- Argentinian Securities Commission - ALYC y AN Integral N°51).

Australia: J.P. Morgan Securities Australia Limited ("JPMSAL") (ABN 61 003 245 234/AFS Licence No: 238066) is regulated by the Australian Securities and Investments Commission and is a Market Participant of ASX Limited, a Clearing and Settlement Participant of ASX Clear Pty Limited and a Clearing Participant of ASX Clear (Futures) Pty Limited. This material is issued and distributed in Australia by or on behalf of JPMSAL only to "wholesale clients" (as defined in section 761G of the Corporations Act 2001). A list of all financial products covered can be found by visiting <https://www.jpmm.com/research/disclosures>. J.P. Morgan seeks to cover companies of relevance to the domestic and international investor base across all Global Industry Classification Standard (GICS) sectors, as well as across a range of market capitalisation sizes. If applicable, in the course of conducting public side due diligence on the subject company(ies), the Research Analyst team may at times perform such diligence through corporate engagements such as site visits, discussions with company representatives, management presentations, etc. Research issued by JPMSAL has been prepared in accordance with J.P. Morgan Australia's Research Independence Policy which can be found at the following link: [J.P. Morgan Australia - Research Independence Policy](#).

Brazil: Banco J.P. Morgan S.A. is regulated by the Comissão de Valores Mobiliários (CVM) and by the Central Bank of Brazil. Ombudsman J.P. Morgan: 0800-7700847 / 0800-7700810 (For Hearing Impaired) / ouvidoria.jp.morgan@jpmorgan.com.

Canada: J.P. Morgan Securities Canada Inc. is a registered investment dealer, regulated by the Canadian Investment Regulatory Organization and the Ontario Securities Commission and is the participating member on Canadian exchanges. This material is distributed in Canada by or on behalf of J.P.Morgan Securities Canada Inc.

Chile: Inversiones J.P. Morgan Limitada is an unregulated entity incorporated in Chile.

China: J.P. Morgan Securities (China) Company Limited has been approved by CSRC to conduct the securities investment consultancy business.

Dubai International Financial Centre (DIFC): JPMorgan Chase Bank, N.A., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - The Gate, West Wing, Level 3 and 9 PO Box 506551, Dubai, UAE. This material has been distributed by JP Morgan Chase Bank, N.A., Dubai Branch to persons regarded as professional clients or market counterparties as defined under the DFSA rules.

European Economic Area (EEA): Unless specified to the contrary, research is distributed in the EEA by J.P. Morgan SE ("JPM SE"), which is authorised as a credit institution by the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB). JPM SE is a company headquartered in Frankfurt with registered address at TaunusTurm, Taunustor 1, Frankfurt am Main, 60310, Germany. The material has been distributed in the EEA to persons regarded as professional investors (or equivalent) pursuant to Art. 4 para. 1 no. 10 and Annex II of MiFID II and its respective implementation in their home jurisdictions ("EEA professional investors"). This material must not be acted on or relied on by persons who are not EEA professional investors. Any investment or investment activity to which this material relates is only available to EEA relevant persons and will be engaged in only with EEA relevant persons.

Hong Kong: J.P. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong, and J.P. Morgan Broking (Hong Kong) Limited (CE number AAB027) is regulated by the Securities and Futures Commission in Hong Kong. JP Morgan Chase Bank, N.A., Hong Kong Branch (CE Number AAL996) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission, is organized under the laws of the United States with limited liability. Where the distribution of this material is a regulated activity in Hong Kong, the material is distributed in Hong Kong by or through J.P. Morgan Securities (Asia Pacific) Limited and/or J.P. Morgan Broking (Hong Kong) Limited.

India: J.P. Morgan India Private Limited (Corporate Identity Number - U67120MH1992FTC068724), having its registered office at J.P. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz - East, Mumbai - 400098, is registered with the Securities and Exchange Board of India (SEBI) as a 'Research Analyst' having registration number INH000001873. J.P. Morgan India Private Limited is also registered with SEBI as a member of the National Stock Exchange of India Limited and the Bombay Stock Exchange Limited (SEBI Registration Number - INZ000239730) and as a Merchant Banker (SEBI Registration Number - MB/INM000002970). Telephone: 91-22-6157 3000, Facsimile: 91-22-6157 3990 and Website: <http://www.jpmpi.com>. JPMorgan Chase Bank, N.A. - Mumbai Branch is licensed by the Reserve Bank of India (RBI) (Licence No. 53/ Licence No. BY.4/94; SEBI - IN/CUS/014/ CDSL : IN-DP-CDSL-444-2008/ IN-DP-NSDL-285-2008/ INBI00000984/ INE231311239) as a Scheduled Commercial Bank in India, which is its primary license allowing it to carry on Banking business in India and other activities, which a

Bank branch in India are permitted to undertake. For non-local research material, this material is not distributed in India by J.P. Morgan India Private Limited. Compliance Officer: Spurthi Gadamsetty; spurthi.gadamsetty@jpmchase.com; +912261573225. Grievance Officer: Ramprasadh K, jpmipl.research.feedback@jpmorgan.com; +912261573000. Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors.

Indonesia: PT J.P. Morgan Sekuritas Indonesia is a member of the Indonesia Stock Exchange and is registered and supervised by the Otoritas Jasa Keuangan (OJK).

Korea: J.P. Morgan Securities (Far East) Limited, Seoul Branch, is a member of the Korea Exchange (KRX). JPMorgan Chase Bank, N.A., Seoul Branch, is licensed as a branch office of foreign bank (JPMorgan Chase Bank, N.A.) in Korea. Both entities are regulated by the Financial Services Commission (FSC) and the Financial Supervisory Service (FSS). For non-macro research material, the material is distributed in Korea by or through J.P. Morgan Securities (Far East) Limited, Seoul Branch.

Japan: JPMorgan Securities Japan Co., Ltd. and JPMorgan Chase Bank, N.A., Tokyo Branch are regulated by the Financial Services Agency in Japan.

Malaysia: This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X), which is a Participating Organization of Bursa Malaysia Berhad and holds a Capital Markets Services License issued by the Securities Commission in Malaysia.

Mexico: J.P. Morgan Casa de Bolsa, S.A. de C.V. and J.P. Morgan Grupo Financiero are members of the Mexican Stock Exchange and are authorized to act as a broker dealer by the National Banking and Securities Exchange Commission.

New Zealand: This material is issued and distributed by JPMSAL in New Zealand only to "wholesale clients" (as defined in the Financial Markets Conduct Act 2013). JPMSAL is registered as a Financial Service Provider under the Financial Service providers (Registration and Dispute Resolution) Act of 2008.

Philippines: J.P. Morgan Securities Philippines Inc. is a Trading Participant of the Philippine Stock Exchange and a member of the Securities Clearing Corporation of the Philippines and the Securities Investor Protection Fund. It is regulated by the Securities and Exchange Commission.

Singapore: This material is issued and distributed in Singapore by or through J.P. Morgan Securities Singapore Private Limited (JPMS) [MDDI (P) 068/08/2024 and Co. Reg. No.: 199405335R], which is a member of the Singapore Exchange Securities Trading Limited, and/or JPMorgan Chase Bank, N.A., Singapore branch (JPMCB Singapore), both of which are regulated by the Monetary Authority of Singapore. This material is issued and distributed in Singapore only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289 (SFA). This material is not intended to be issued or distributed to any retail investors or any other investors that do not fall into the classes of "accredited investors," "expert investors" or "institutional investors," as defined under Section 4A of the SFA. Recipients of this material in Singapore are to contact JPMS or JPMCB Singapore in respect of any matters arising from, or in connection with, the material.

South Africa: J.P. Morgan Equities South Africa Proprietary Limited and JPMorgan Chase Bank, N.A., Johannesburg Branch are members of the Johannesburg Securities Exchange and are regulated by the Financial Services Conduct Authority (FSCA).

Taiwan: J.P. Morgan Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. Material relating to equity securities is issued and distributed in Taiwan by J.P. Morgan Securities (Taiwan) Limited, subject to the license scope and the applicable laws and the regulations in Taiwan. **To the extent that J.P. Morgan Securities (Taiwan) Limited produces research materials on securities not listed on the Taiwan Stock Exchange or Taipei Exchange ("Non-Taiwan Listed Securities"), these materials shall not constitute securities recommendations for the purpose of applicable Taiwan regulations, and, for the avoidance of doubt, J.P. Morgan Securities (Taiwan) Limited does not act as broker for Non-Taiwan Listed Securities.** According to Paragraph 2, Article 7-1 of Operational Regulations Governing Securities Firms Recommending Trades in Securities to Customers (as amended or supplemented) and/or other applicable laws or regulations, please note that the recipient of this material is not permitted to engage in any activities in connection with the material that may give rise to conflicts of interests, unless otherwise disclosed in the "Important Disclosures" in this material.

Thailand: This material is issued and distributed in Thailand by JPMorgan Securities (Thailand) Ltd., which is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission, and its registered address is 3rd Floor, 20 North Sathorn Road, Silom, Bangrak, Bangkok 10500.

UK: Unless specified to the contrary, research is distributed in the UK by J.P. Morgan Securities plc ("JPMS plc") which is a member of the London Stock Exchange and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. JPMS plc is registered in England & Wales No. 2711006, Registered Office 25 Bank Street, London, E14 5JP. This material is directed in the UK only to: (a) persons having professional experience in matters relating to investments falling within article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) (Order) 2005 ("the FPO"); (b) persons outlined in article 49 of the FPO (high net worth companies, unincorporated associations or partnerships, the trustees of high value trusts, etc.); or (c) any persons to whom this communication may otherwise lawfully be made; all such persons being referred to as "UK relevant persons". This material must not be acted on or relied on by persons who are not UK relevant persons. Any investment or investment activity to which this material relates is only available to UK relevant persons and will be engaged in only with UK relevant persons. Research issued by JPMS plc has been prepared in accordance with JPMS plc's policy for prevention and avoidance of conflicts of interest related to the production of Research which can be found at the following link: [J.P. Morgan EMEA - Research Independence Policy](#).

U.S.: J.P. Morgan Securities LLC ("JPMS") is a member of the NYSE, FINRA, SIPC, and the NFA. JPMorgan Chase Bank, N.A. is a member of the FDIC. Material published by non-U.S. affiliates is distributed in the U.S. by JPMS who accepts responsibility for its content.

General: Additional information is available upon request. The information in this material has been obtained from sources believed to be reliable. While all reasonable care has been taken to ensure that the facts stated in this material are accurate and that the forecasts, opinions and expectations contained herein are fair and reasonable, JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) make no representations or warranties whatsoever to the completeness or accuracy of the material provided, except with respect to any disclosures relative to J.P. Morgan and the Research Analyst's involvement with the issuer that is the subject of the material. Accordingly, no reliance should be placed on the accuracy, fairness or completeness of the information contained in this material. There may be certain discrepancies with data and/or limited content in this material as a result of calculations, adjustments, translations to different languages, and/or local regulatory restrictions, as applicable. These discrepancies should not impact the overall investment analysis, views and/or recommendations of the subject company(ies) that may be discussed in the material. Artificial intelligence tools may have been used in the preparation of this material, including assisting in data analysis, pattern recognition, and content drafting for research material. J.P. Morgan accepts no liability whatsoever for any loss arising from any use of this material or its contents, and neither J.P. Morgan nor any of its respective directors, officers or employees, shall be in any way responsible for the contents hereof, apart from the liabilities and responsibilities that may be imposed on them by the relevant regulatory authority in the jurisdiction in question, or the regulatory regime thereunder. Opinions, forecasts or projections contained in this material represent J.P. Morgan's current opinions or judgment as of the date of the material only and are therefore subject to change without notice. Periodic updates may be provided on companies/industries based on company-specific developments or announcements, market conditions or any other publicly available information. There can be no assurance that future results or events will be consistent with any such opinions, forecasts or projections, which represent only one possible outcome. Furthermore, such opinions, forecasts or projections are subject to certain risks, uncertainties and assumptions that have not been verified, and future actual results or events could differ materially. The value of, or income from, any investments referred to in this material may fluctuate and/or be affected by changes in exchange rates. All pricing is indicative as of the close of market for the securities discussed, unless otherwise stated. Past performance is not indicative of future results. Accordingly, investors may receive back less than originally invested. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. This material may include views on structured securities, options, futures and other derivatives. These are complex instruments, may involve a high degree of risk and may be appropriate investments only for sophisticated investors who are capable of understanding and assuming the risks involved. The recipients of this material must make their own independent decisions regarding any securities or financial instruments mentioned herein and should seek advice from such independent financial, legal, tax or other adviser as they deem necessary. J.P. Morgan may trade as a principal on the basis of the Research Analysts' views and research, and it may also engage in transactions for its own account or for its clients' accounts in a manner inconsistent with the views taken in this material, and J.P. Morgan is under no obligation to ensure that such other communication is brought to the attention of any recipient of this material. Others within J.P. Morgan, including Strategists, Sales staff and other Research Analysts, may take views that are inconsistent with those taken in this material. Employees of J.P. Morgan not involved in the preparation of this material may have investments in the securities (or derivatives of such securities) mentioned in this material and may trade them in ways different from those discussed in this material. This material is not an advertisement for or marketing of any issuer, its products or services, or its securities in any jurisdiction.

Confidentiality and Security Notice: This transmission may contain information that is privileged, confidential, legally privileged, and/or exempt from disclosure under applicable law. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or use of the information contained herein (including any reliance thereon) is STRICTLY PROHIBITED. Although this transmission and any attachments are believed to be free of any virus or other defect that might affect any computer system into which it is received and opened, it is the responsibility of the recipient to ensure that it is virus free and no responsibility is accepted by JPMorgan Chase & Co., its subsidiaries and affiliates, as applicable, for any loss or damage arising in any way from its use. If you received this transmission in error, please immediately contact the sender and destroy the material in its entirety, whether in electronic or hard copy format. This message is subject to electronic monitoring: <https://www.jpmorgan.com/disclosures/email>

MSCI: Certain information herein ("Information") is reproduced by permission of MSCI Inc., its affiliates and information providers ("MSCI") ©2025. No reproduction or dissemination of the Information is permitted without an appropriate license. MSCI MAKES NO EXPRESS OR IMPLIED WARRANTIES (INCLUDING MERCHANTABILITY OR FITNESS) AS TO THE INFORMATION AND DISCLAIMS ALL LIABILITY TO THE EXTENT PERMITTED BY LAW. No Information constitutes investment advice, except for any applicable Information from MSCI ESG Research. Subject also to [msci.com/disclaimer](https://www.msci.com/disclaimer)

Sustainalytics: Certain information, data, analyses and opinions contained herein are reproduced by permission of Sustainalytics and: (1) includes the proprietary information of Sustainalytics; (2) may not be copied or redistributed except as specifically authorized; (3) do not constitute investment advice nor an endorsement of any product or project; (4) are provided solely for informational purposes; and (5) are not warranted to be complete, accurate or timely. Sustainalytics is not responsible for any trading decisions, damages or other losses related to it or its use. The use of the data is subject to conditions available at <https://www.sustainalytics.com/legal-disclaimers>. ©2025 Sustainalytics. All Rights Reserved.

"Other Disclosures" last revised April 05, 2025.

Copyright 2025 JPMorgan Chase & Co. All rights reserved. This material or any portion hereof may not be reprinted, sold or redistributed without the written consent of J.P. Morgan. It is strictly prohibited to use or share without prior written consent from J.P.

Antonin T Delair ^{AC} (44-20) 7134-4643
antonin.t.delair@jpmorgan.com
J.P. Morgan Securities plc
Meera Chandan (44-20) 7134-2924
meera.chandan@jpmorgan.com

Kunj J Padh (1-212) 834-5108
kunj.padh@jpmchase.com
Joyce Lai (44-20) 3493-5891
joyce.lai@jpmorgan.com

Global FX Strategy

17 April 2025

J.P.Morgan

Morgan any research material received from J.P. Morgan or an authorized third-party (“J.P. Morgan Data”) in any third-party artificial intelligence (“AI”) systems or models when such J.P. Morgan Data is accessible by a third-party. It is permissible to use J.P. Morgan Data for internal business purposes only in an AI system or model that protects the confidentiality of J.P. Morgan Data so as to prevent any and all access to or use of such J.P. Morgan Data by any third-party.

Completed 17 Apr 2025 12:28 PM BST

Disseminated 17 Apr 2025 12:28 PM BST