FX Viewpoint

Back to School: In the Middle of the USD Smile

22 August 2024

G10 FX Strategy
Global

G10 FX Strategy
MLI (UK)
+1 646 855 9342

Athanasios Vamvakidis
FX Strategist
MLI (UK)
athanasios.vamvakidis@bofa.com

Paul Ciana, CMT
Technical Strategist
BofAS
paul.ciana@bofa.com

Alex Cohen, CFA
FX Strategist
BofAS
alex.cohen2@bofa.com

Howard Du, CFA
G10 FX Strategist
BofAS
yuhao.du@bofa.com

Vadim Iaralov
FX Strategist
BofAS
vadim.iaralov@bofa.com

Michalis Rousakis
FX Strategist
MLI (UK)
michalis.rousakis@bofa.com

Kamal Sharma
FX Strategist
MLI (UK)
ksharma32@bofa.com

John Shin
FX Strategist
BofAS
joong.s.shin@bofa.com

Adarsh Sinha
FX Strategist
Merrill Lynch (Hong Kong)
adarsh.sinha@bofa.com

Shusuke Yamada, CFA
FX/Rates Strategist
BofAS Japan
shusuke.yamada@bofa.com

In the middle of the USD smile

USD strengthened in H1 on strong US economy, but is now weakening on soft landing. Market eager to price too many Fed cuts: Fed repricing was USD positive in H1 because of strong growth and sticky inflation, but consistent with weaker USD now because of soft landing/no hard landing. Macro remains key FX driver. Latest indicators positive for NOK, EUR, GBP, negative for NZD, USD, CAD. For the rest of the year, our forecasts are bullish NOK, GBP, AUD, and bearish JPY, CHF, USD.

US Election & the USD: it's complicated

US election less than 3 months away and polls tightening, poised to gain increasing attention in the market. We see policy changes in a Republican administration as having mixed implications for the USD, with trade/tariff policy potential for some initial (temporary) USD upside amidst elevated stagflationary risks. Another Democratic administration likely preserves the status quo from a market's perspective, which to us is a gradual continuation of USD depreciation.

Positioning: more balanced, but still vulnerable

G10 FX positioning is more balanced than at end-Q2, but some vulnerabilities remain around Hedge Funds' USD longs. USDJPY demand stood out in H1 and its partial reversal has stood out in Q3. Price action hedge fund-driven. Real money focus on carry. Futures positioning more balanced, but FX options continues to flag some risks.

Quant: bearish USD & CHF

Following the market shock at start of the month, Europe-based investors' cumulative year-to-date net USD return flipped from positive to negative. We see more USD downtrend continuation as both US and Europe-based investors chase the selloff. Elsewhere in G10, all of our short-term valuation metrics flag CHF as overvalued.

Vol: calendar spread hedge on steep risk reversal term

1m1y risk reversal term spreads steep for many USD pairs. Amid newly formed bearish USD market consensus, appropriate to fund any front-end OTM USD call hedges with 1y short OTM USD call positions at similar strikes. Median forward vol premium across major USD-pairs covering US election rich at 91st percentile, although EURUSD forward vol could have more room to rise as spot exited from a low-vol range.

Technicals: DXY downside, fade seasonal rallies

DXY +/- 20-month range (triangle) pattern near end. Pattern and wave count favor downside and fading seasonal rallies while below 105. US election seasonals support DXY the closer we get to election day. If seasonal bounce, sell it. Bearish DXY triangle confirms with weekly closes below 102. It targets 98.90 / possibly 96.50 which is EUR to 1.1270 / possibly 1.1495. EUR broke higher from triangle and bullish golden cross signal.

Refer to important disclosures on page 35 to 36. Analyst Certification on page 34. 12731902

Timestamp: 22 August 2024 01:00AM EDT

In the middle of the USD smile

The USD story of two halves this year

After being the strongest performer in G10 during the first half of the year, the USD has been the weakest so far in the third quarter (Exhibit 1). This has been consistent with our out-of-consensus forecasts, having EURUSD at 1.07 for H1, 1.10 for Q3 and 1.12 by the end of the year—the consensus was bearish on the USD in H1 and bullish in H2. To a large extent, this USD roller-coaster has to do with the performance of the US economy, including inflation, and Fed market pricing.

The year started with the USD weak, following the (unjustifiably) very dovish December Fed meeting and with the market pricing seven Fed rate cuts for this year. Back then, we argued that inflation would be sticky on the way down, Fed policy rates would have to stay high for longer and the easing cycle would be later and shallower than market pricing. As a result, we were bullish on the USD in H1, which turned out to be right. In addition, the USD did well because the US economy performed better than both we and the consensus had expected.

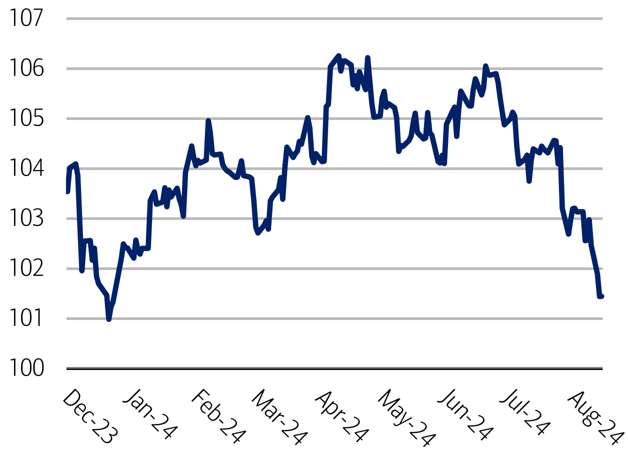
However, the USD has been weakening in Q3, as the US economy has started slowing and the Fed is about to start cutting rates. Indeed, we have been bearish on the USD in H2, expecting that US soft landing and Fed rates cuts will weaken the USD from an overvalued level. We have also been arguing that the USD will weaken despite other central banks having already started to cut rates, as the Fed cuts matter more, because of their global implications, and the US economy slows, despite still doing better than the rest of G10.

We are bearish on the USD despite still expecting a shallow easing cycle. Our house call is for two 25bp Fed rate cuts, September and December, compared with the market pricing four cuts for the rest of this year. This is different from H1, when the market was pricing too many rate cuts because of optimism that inflation would continue to fall as fast as last year during the so-called last mile. In contrast, the market has been pricing too many cuts in H2 because of recession fears. Stronger growth and higher inflation than market expectations in H1 was positive for the USD, but soft landing instead of recession/hard landing and inflation moving in the right direction in H2 is risk-on and positive for the USD.

We have moved from the right side of the so-called USD smile in H1, to the middle, while the consensus was concerned we could move to the left side. Indeed, the USD has weakened so far in August, despite the market now pricing four Fed cuts from five cuts after the weak NFP, as the US data since then seems consistent with a soft landing rather than a hard landing. Recession fears have subsided and equity prices have recovered. Good news is good news for risk sentiment and negative for the USD. We would have been even more bearish on the USD if growth in the rest of the world was stronger, which has not been the case so far.

Exhibit 1: DXY index

USD appreciated in H1 as market proved too optimistic on Fed rate cuts, but is weakening in H2 as Fed about to cut

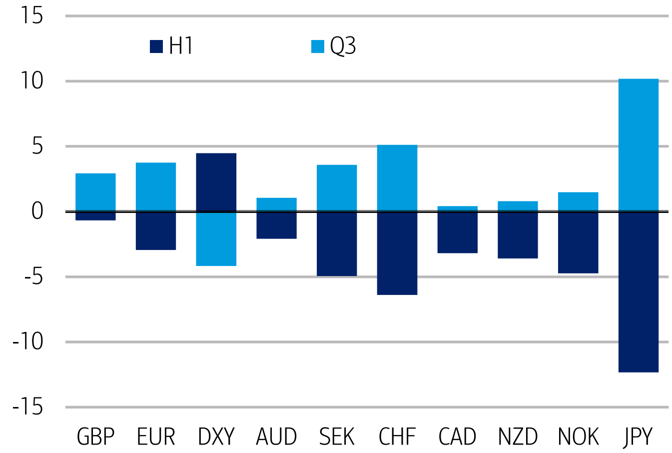


Source: Bloomberg

BofA GLOBAL RESEARCH

Exhibit 2: G10 FX performance this year so far

GBP strong; NOK, NZD, CAD weak; story of two halves for the rest



Source: Bloomberg

BofA GLOBAL RESEARCH

The mixed performance in the rest of G10

GBP is the strongest performer in G10 so far this year, followed by the EUR and the USD; JPY is the weakest, followed by NOK and NZD (Exhibit 2). NOK, NZD and CAD weakened particularly in H1. EUR, AUD, SEK and CHF are stories of two halves, weakening as the USD strengthened in H1, strengthening as the USD has weakened so far in H2; this is also the case for JPY, although it remains the weakest for the year.

For the rest of the year, our forecasts are bullish for NOK, GBP and AUD. They are bearish for JPY, CHF and USD (Exhibit 3; please see macro analysis and currency outlook below for details).

We stick with our EURSUD forecast of 1.12 by year-end, strengthening further to 1.15 by mid-2025. With EURUSD already above 1.11, we see upside risks to our forecasts for this year. However, we are concerned about the market frontloading the Fed rate cuts and about risks related to the US elections (see details below).

Consistent with our forecasts, we are long EURUSD, GBPCHF, EURCHF, NOKSEK, and short EURNOK (see Exhibit 72 for open trades and Exhibit 73 for recently closed trades).

Exhibit 3: G10 FX Forecasts

Our end-2024 EUR-USD forecast remains 1.12

	Spot	Sep-24	Dec-24	Mar-25	Jun-25	Sep-25	Dec-25	Mar-26	Jun-26	Sep-26	Dec-26
G3											
EUR-USD	1.11	1.10	1.12	1.12	1.15	1.15	1.17	1.17	1.18	1.20	1.20
USD-JPY	146	150	155	152	151	149	147	147	147	147	147
EUR-JPY	162	165	174	170	174	171	172	172	173	176	176
Dollar Bloc											
USD-CAD	1.36	1.36	1.35	1.34	1.32	1.32	1.32	1.32	1.32	1.32	1.32
AUD-USD	0.67	0.67	0.69	0.70	0.70	0.71	0.72	0.72	0.72	0.72	0.72
NZD-USD	0.61	0.61	0.61	0.62	0.62	0.63	0.64	0.63	0.63	0.63	0.63
Europe											
EUR-GBP	0.85	0.84	0.83	0.83	0.83	0.83	0.83	0.83	0.82	0.81	0.80
GBP-USD	1.30	1.31	1.35	1.35	1.39	1.39	1.41	1.41	1.44	1.48	1.50
EUR-CHF	0.95	1.00	1.00	1.02	1.04	1.06	1.10	1.10	1.10	1.12	1.12
USD-CHF	0.86	0.91	0.89	0.91	0.90	0.92	0.94	0.94	0.93	0.93	0.93
EUR-SEK	11.38	11.50	11.30	11.10	11.00	10.90	10.80	10.80	10.80	10.70	10.50
USD-SEK	10.26	10.45	10.09	9.91	9.57	9.48	9.23	9.23	9.15	8.92	8.75
EUR-NOK	11.67	11.60	11.20	10.90	10.80	10.70	10.60	10.60	10.60	10.50	10.40
USD-NOK	10.53	10.55	10.00	9.73	9.39	9.30	9.06	9.06	8.98	8.75	8.67

Forecast as of Aug-20-2024. Spot exchange rate as of Aug-20-2024. The left of the currency pair is the denominator of the exchange rate. **Source:** BofA Global Research

BofA GLOBAL RESEARCH

Macro still the main driver

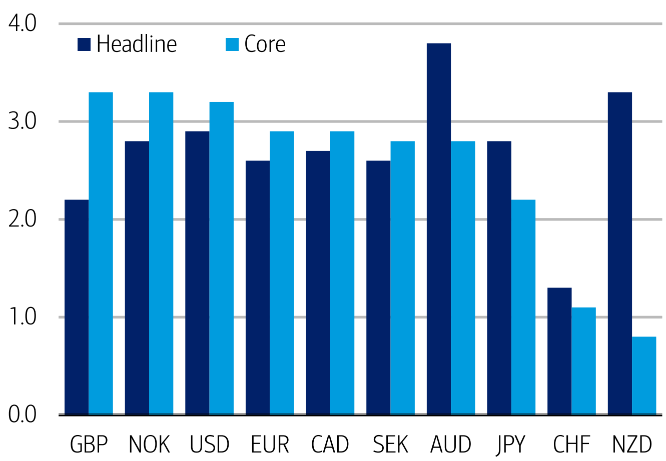
Macro and, as a result, central bank policies continue being the main FX drivers. This should be expected during a cycle when inflation increased to a 40-year high and central banks had to tighten policies the most since the early 1980s (Volcker would have been proud, although he would have never allowed inflation to increase by so much in the first place). The correlation of inflation with FX has been positive, as central banks tightened to fight high inflation—otherwise, the correlation would have been negative.

Sticky inflation keeps macro very much relevant for FX looking ahead. After substantial disinflation last year, core inflation in most of G10 economies now seems to have stuck at around 3% (Exhibit 4 and Exhibit 5). Labor markets remain stretched, with unemployment still at historic lows, despite the Sahm rule having been triggered in some economies (Exhibit 6 and Exhibit 7). Wage growth remains high and unit labour costs have been increasing at well-above pre-Covid rates in most G10 economies (Exhibit 8 and Exhibit 9).

At the same time, real policy rates are not particularly high, which pushes against market optimism for aggressive policy easing (Exhibit 10). We also note that although the market is pricing terminal rates for the Fed and the ECB (as well as the BoJ) very close to the pre-global financial crisis averages, it is pricing much lower terminal rates for the rest of G10 (Exhibit 11). To the extent that the former is driven by the end of the low inflation era that followed the balance sheet recession from the global financial crisis—consistent with our view—the latter may be mispriced. For example, excluding New Zealand and Switzerland, where inflation is very low, terminal rates in Australia and in Norway may end up higher than what markets are pricing today.

Looking at valuation, USD, CHF and to a less extent NZD are strong in real effective terms, particularly against JPY and the Scandies, with NOK the most undervalued (Exhibit 12). The USD remains close to its historic peak, on an upward trend since mid-2011, and particularly since mid-2014, but fluctuating around current levels for the last two years, in real effective terms (Exhibit 13).

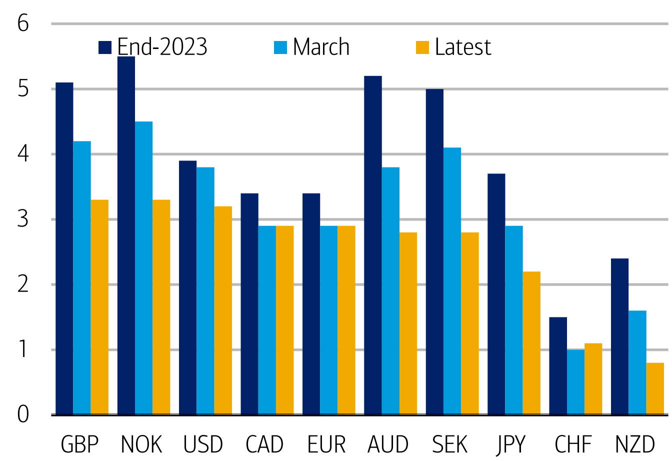
Exhibit 4: G10 headline and core inflation rate
Inflation remains above the target in most of G10



Source: Bloomberg

BofA GLOBAL RESEARCH

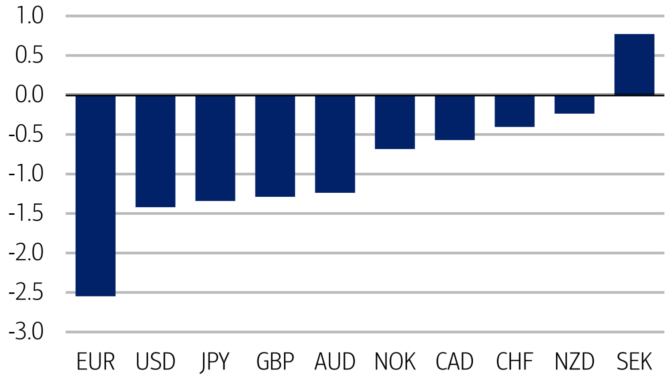
Exhibit 5: G10 core inflation rate over time
Core inflation stuck close to 3% in most of G10



Source: Bloomberg

BofA GLOBAL RESEARCH

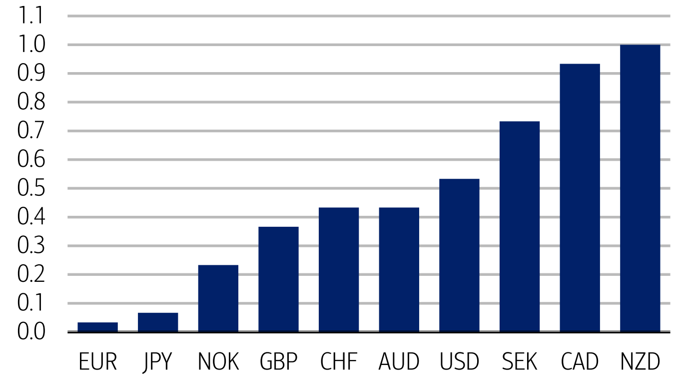
Exhibit 6: Latest unemployment rate vs. average since 2000
Unemployment remains well below the historic average in most of G10



Source: Bloomberg, BofA Global Research.

BofA GLOBAL RESEARCH

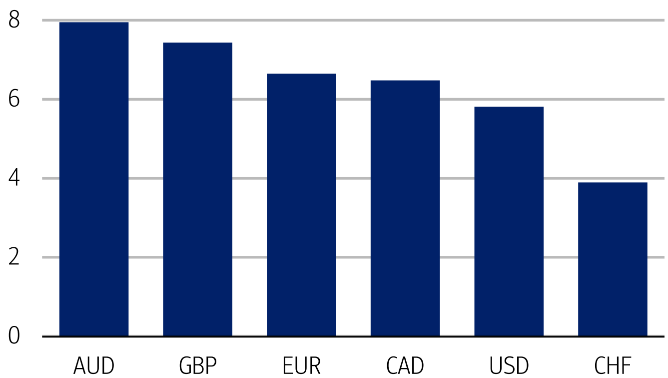
Exhibit 7: G10 Sahm rule
Sahm rule triggered in some G10 economies



Source: Bloomberg, BofA Global Research. Note: trigger for Sahm rule when the latest 3-month unemployment average has increased by at least 0.5 percentage points from the minimum 3-month average unemployment rate in the previous 12 months.

BofA GLOBAL RESEARCH

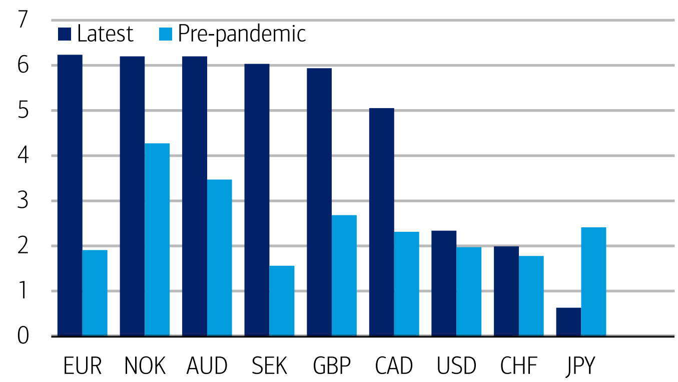
Exhibit 8: Wage growth
Wage growth has been high in major economies



Source: Haver Analytics. Data up to Q1 2024.

BofA GLOBAL RESEARCH

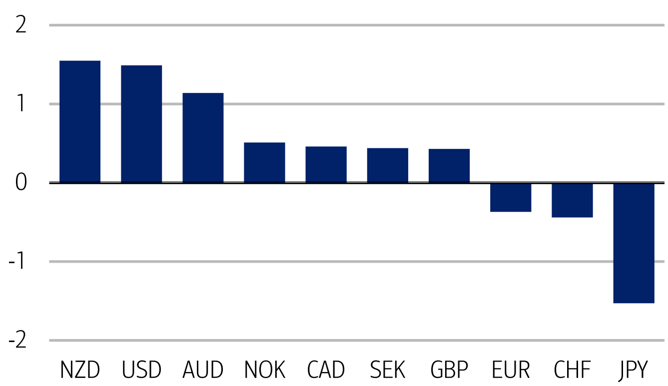
Exhibit 9: Unit labour cost
Unit labour cost well above pre-pandemic levels in most economies



Source: Haver Analytics. Up to Q2 2024, expect of EUR and NOK, where it is up to Q1.

BofA GLOBAL RESEARCH

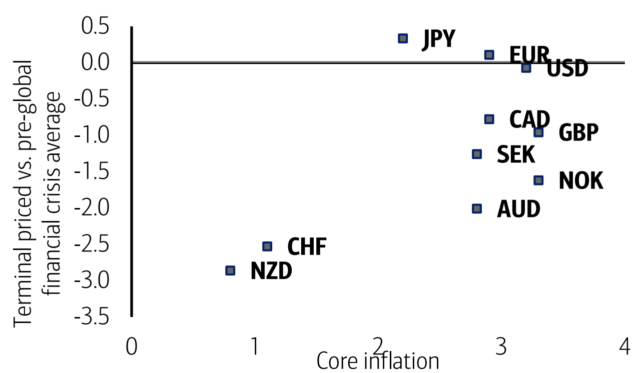
Exhibit 10: Real policy rate (latest policy rate deflated by core inflation)
Real policy rate relatively high in New Zealand and the US; too low in Japan



Source: Bloomberg, BofA Global Research.

BofA GLOBAL RESEARCH

Exhibit 11: Terminal policy rates priced vs. pre-global financial crisis
The market may be pricing too low terminal rates for AUD and NOK

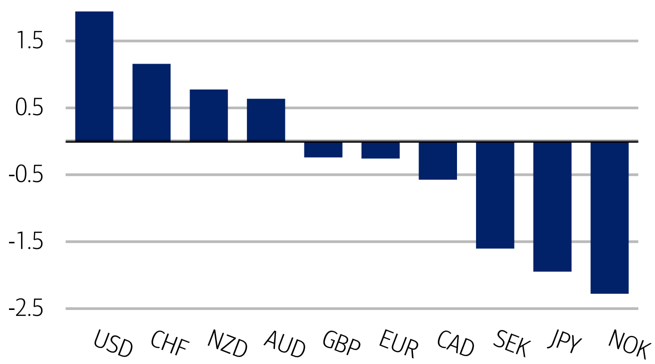


Source: Bloomberg, BofA Global Research.

BofA GLOBAL RESEARCH

Exhibit 12: G10 real effective exchange rate, z-score deviation from average since 1995

USD and CHF historically strong in real effective terms; JPY and Scandies historically weak

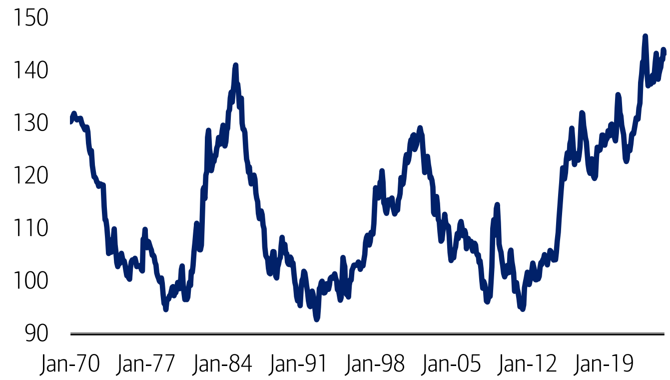


Source: BIS, BofA Global Research.

BofA GLOBAL RESEARCH

Exhibit 13: USD Real Effective Exchange Rate

USD historically strong in real effective terms



Source: BIS, Bruegel, BofA Global Research.

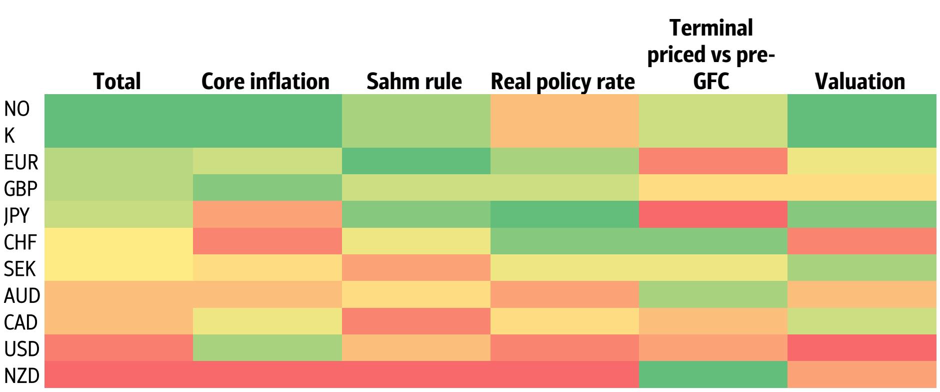
BofA GLOBAL RESEARCH

We put all these macro drivers together including valuation in a heatmap, using a simple ranking (Exhibit 14). This is by no means complete, but in our view includes some of the key macro drivers for FX right now. We assume that high core inflation, a small increase in unemployment (relatively to the Sahm rule), a low real policy rate (which will probably lead to a shallow easing cycle), a low terminal rate priced vs pre-global financial crisis, and low valuation in terms of a historically weak real effective exchange rate, are positive for a currency.

The results are positive for NOK, EUR and GBP, and negative for NZD, USD and CAD. These results are indicative and of course specific to this analysis. Still, they are broadly consistent with our forecasts for the rest of the year. Notable differences include our relatively more bearish CHF and JPY and more bullish AUD views (see below for details).

Exhibit 14: G10 FX macro drivers

Macro drivers positive for NOK, EUR, GBP, negative for NZD, USD, CAD



Source: BofA Global Research. Simple ranking of G10 FX. High core inflation, small increase in unemployment (relatively to Sahm rule), low real policy rate, low terminal rate priced vs pre-global financial crisis, and low valuation in terms of a historically weak real effective exchange rate, are positive for a currency. In the case of real policy rates, we assume that countries with high levels will have to ease more, in relative terms.

BofA GLOBAL RESEARCH

US Election & the USD: It's Complicated

With the US election now less than 3 months away, it is set to be an increasing focal point to financial markets as investors come "back to the school" in earnest, post-Labor Day weekend. While US political developments over the past few months have been nothing short of unprecedented, markets are left to digest what appears to be a very tight race that which should come down to the outcomes of a handful of tight and difficult to predict "swing-states". As we will discuss, the ultimate impact on the USD is far from straightforward.

We most recently covered the market implications of key policy issues at stake in the comprehensive cross-function report Global Economic Viewpoint: US Elections: The Great Debates 31 July 2024, which dove deep into the more market-relevant policies of: trade, immigration, regulation and fiscal policies. Also relevant to the FX market are the impact that the next administration could have on for Fed policy, FX policy, and ever-present geopolitical risks.

As it relates to the USD, the risk of an abrupt change to key US policies on back of the US election should have mixed implications, and how it ultimately plays out highly depend on policy specifics that are difficult to assess ex-ante, the timing of their economic impact, and congressional makeup which is most relevant for fiscal policies. Further complicating matters for FX are assessing the second-round effects that US policies might have globally and how those could impact global growth and broader risk appetite.

Monetary reaction function still key for FX

For the most part, the market has mainly focused on policies with the potential for policy induced higher inflationary and lower growth impulses, which in turn will present difficult policy tradeoffs to the Fed. How they respond will be critical for the USD. It is also important to note that for FX markets, inflation has tended to be currency supportive (perhaps counterintuitively) as the market assigned a high probability that central banks would credibly continue vigilance towards inflation, rather than sacrificing inflation mandates for growth.

With the Fed and other global central banks still scarred from the persistent rise inflation from 2021-2023, they will likely be reluctant to dismiss any inflation reacceleration simply as transitory, even if the impulses should be temporary. As such, we continue to believe that the first order impact of inflation will be for the market to price a more hawkish (or less dovish) Fed than the base-case, and thus a stronger impulse on the USD, all else equal.

Republican administration: Stated policies initially USD positive (in a vacuum)

We view the totality of expected policy changes under a possible Republican administration scenario as likely having a greater impact on financial markets. On net, these appear more likely to be initially USD positive, but the overall implications are mixed and over time the outlook is more muddled. A generalized summary can be seen in the table below (Exhibit 15):

Exhibit 15: Potential USD impacts of potential economic policies in a Republican administration
USD impacts of possible policy changes in a new administration are mixed, though likely positive initially on expected tariffs

Policies	USD Positive aspects*	USD negative aspects	Net Effect
Trade/Tariffs	Higher goods prices and interest rates, less demand for foreign goods, potential US and global growth risks	Potential for counter-tariffs, though impact should be limited due to US trade deficit dynamics	USD positive initially on higher inflation and rate outlook, though impact to wane over time
Restrictive Immigration Policies	Eventual upward wage pressure on restricted labor supply	Downward growth impact on reduced aggregate demand and spending	USD negative on net, as growth impacts likely felt sooner than inflation
Fiscal	Deficit funded tax cuts should put upward pressure on inflation and rates	More longer-term impacts of increased risk premia due to fiscal trajectory/sustainability	USD positive on net on back of inflationary stimulus and resulting higher terminal rate than otherwise. Impact more likely from 2026, and highly dependent on make-up of Congress
De-regulation	potential foreign capital inflows to US equities	Reduced regulation could support risk appetite more broadly, weighing on USD vs higher beta currencies	Likely USD negative on net, based on near-term risk appetite
Geopolitics	Less engaged US foreign policy could result in supply-driven upside energy price risk	Potential faster resolution to the Russia/Ukraine conflict could support broader risk appetite and the EUR/USD pair specifically	Inconclusive

Source: BofA Global Research; *considers broad directional USD impact vs G10 "all else equal"

BofA GLOBAL RESEARCH

Under this scenario, the trade channel has the potential to have the biggest impact, given the stated goal of 10% tariffs across the board, and 60% for China. Indeed, in our latest investor survey, our clients listed this as the biggest election related policy risk for the USD. (see report) (FX and Rates Sentiment Survey: If in doubt, buy US duration 09 August 2024; Exhibit 16)

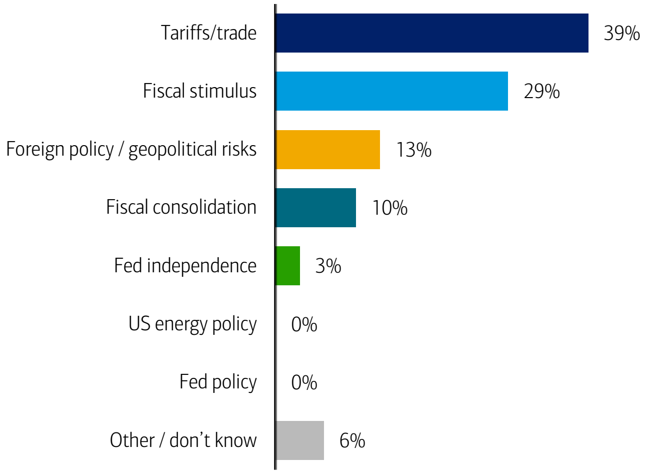
As we argued in Liquid Insight: Tariffs and FX: reality more complicated than theory 08 August 2024, aggressive tariffs point to both upside inflation risks in the US, but also downside growth risks in the US and globally, especially when factoring in the risk of counter-tariffs. Evidence suggests that US tariffs can support the USD initially, but this is unlikely to be sustained over time, and could ultimately be a negative factor.

On the immigration front, the impact is similarly clouded. While abrupt changes to net-migration could result in supply-induced wage inflation, this could take time to develop, and as stated above, the Fed's reaction function to upside inflation risks would be critical to the USD's impact. On the other hand, the downside US growth impact of expected population slowing would have the opposite effect, and likely would be felt more immediately.

On the fiscal side, the ultimate impact should be highly dependent on the congressional makeup, and possibly even the size of the relative majorities in the House/Senate. Regardless of those details, we see the prospect for material fiscal consolidation to be limited, and thus presents as an upside USD (and US rates) factor, all else equal. Finally, an incremental shift towards broader market de-regulation would likely weigh on the USD overall on back of elevated market risk sentiment.

Critical to all of this is the interplay with monetary policy. The market is currently pricing about 185bp of cuts by the Fed over the next year, more than all other G10 central banks except the RBNZ. (Exhibit 17) Given this backdrop, US policy induced inflation shocks coupled with downside growth risks likely won't be accompanied by new hikes, but we would expect to see elevated trough/terminal rate expectations in the US, which would likely result in less narrowing in policy differentials than currently priced; a USD positive factor.

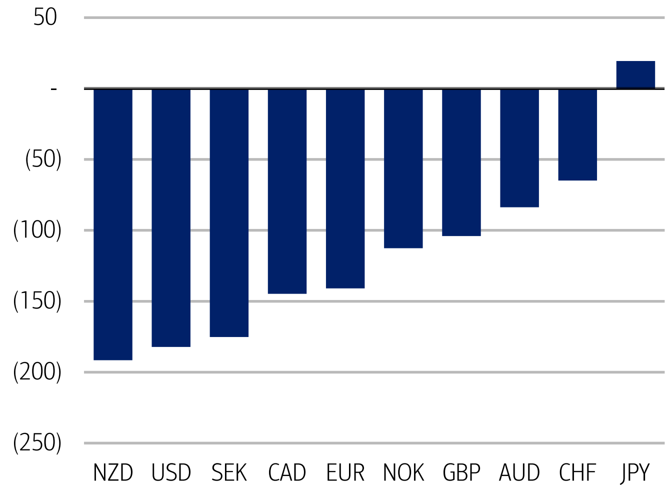
Exhibit 16: FXRS survey question: what do you think is the biggest policy risk to USD post-election?
Trade policy seen as biggest policy risk to USD



Source: BofA Global Research FX and Rates Sentiment Survey

BofA GLOBAL RESEARCH

Exhibit 17: Central bank cuts priced over next 12 Months (OIS)
Fed priced for more forthcoming cuts among all G10 except RBNZ



Source: Bloomberg; BofA Global Research

BofA GLOBAL RESEARCH

Other policies cloud the picture even further

Beyond the above policies, there are several other considerations for the FX market which are much less certain and thus difficult to handicap. A Republican administration would likely point to a more isolationist US approach to foreign policy. Markets could start to price a greater likelihood of rising geopolitical risk if the US appears to have less political will to be involved. This points to USD-positive tail risks via the sentiment and possibly oil market channels, though at the same time, policies aimed at increasing energy production and/or a quicker resolution to the Russia/Ukraine war could also come to fruition.

Elsewhere, some of the more significant USD downside risks in these scenarios relate to how both monetary and FX policy biases could change, independent of the interplay with the trade, immigration and fiscal policies discussed above. Based on past public comments, a Republican administration would likely be biased towards a more dovish Fed (all else equal), with the Fed Chair role slated to likely change in 2026. From an FX policy perspective, a more aggressive approach to trade could also include new-found jawboning the market towards a weaker dollar for competitive purposes. In an even more extreme scenario, a more activist approach to FX intervention could be considered, though we question the feasibility and effectiveness of such direct action.

This jawboning already appears to be underway to an extent, but how it is articulated over time in the context of reducing inflation will be key to the market's reaction to it. As we recently noted in our FX intervention primer (FX Primer: FX intervention primer: G10 08 July 2024) US FX policy orthodoxy is currently oriented towards the G20's commitments to refrain from using FX policy for competitive purposes. This could change in a new administration more hawkish towards trade, and could complicate the expected impact of tariff induced inflation/USD appreciation.

Democrat administration: Mostly status quo = USD depreciation

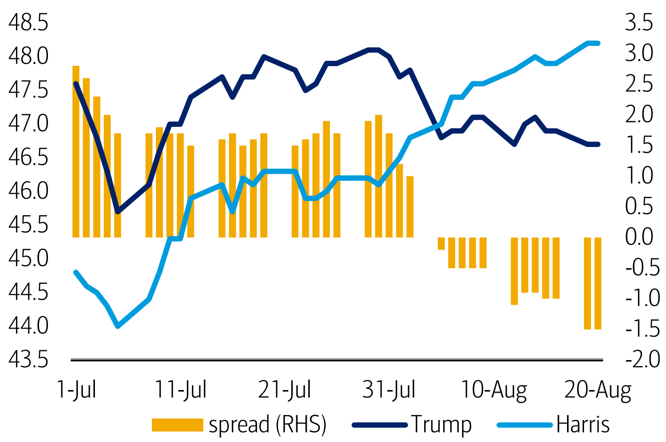
A Democrat presidential victory would present a much more status quo scenario for executive/fiscal policies and thus status quo for the USD, which to us means gradually lower. This is based on our long-held views for the year (as discussed in the sections above) that the USD is poised to depreciate based on the US economy recoupling lower to the rest of the world, ushering in Fed rate cuts and allowing for the USD's overvaluation to normalize. (FX Viewpoint: USD: Cool data, hot politics 22 July 2024)

We see the trade and immigration channels as not so markedly altered from the current state as to supersede the more FX-relevant longer-term global economic and monetary policy trends. And the same can likely be said for Fed independence, FX policy, broader market regulation and geopolitics.

The overall fiscal makeup (balance of taxation and expenditures) will likely vary in this scenario depending on the congressional makeup, but safe to say any change is unlikely to be net-contractionary. Recently floated or anticipated fiscal policies including child tax credits, new home buyer assistance, and various forms of debt cancelation, among others will be weighed against the impact of expected corporate and/or high-income tax hikes. That said, the final outcomes are likely uncertain enough and still far enough into the future to prevent a clear trend forming in the USD during this cycle.

Interestingly, the recent shift in polling data towards favoring the Democratic party has coincided with the USD's latest leg lower. (Exhibit 18; Exhibit 19). While we are skeptical that this has been the predominant driver during this volatile time for markets, at the same time it cannot be fully dismissed either. That said, the move also coincides with the notably downside US employment report that sparked a significant re-pricing of the Fed and woke the market up to positioning risks that have favored the USD of late (see report) (Liquid Cross Border Flows: The USD under pressure 19 August 2024)

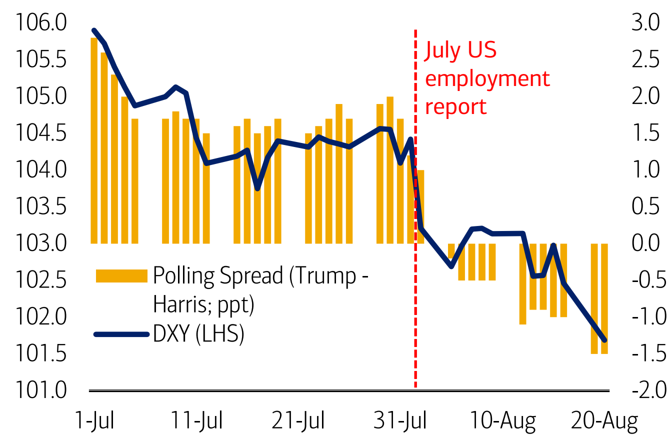
Exhibit 18: US general election average polling & spread
Presidential polling has flipped in August and remains very tight overall



Source: Bloomberg; Real Clear Politics; BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 19: US general election average polling spread & DXY
DXY depreciation has corresponded with recent shift in polling



Source: Bloomberg; Real Clear Politics; BofA Global Research

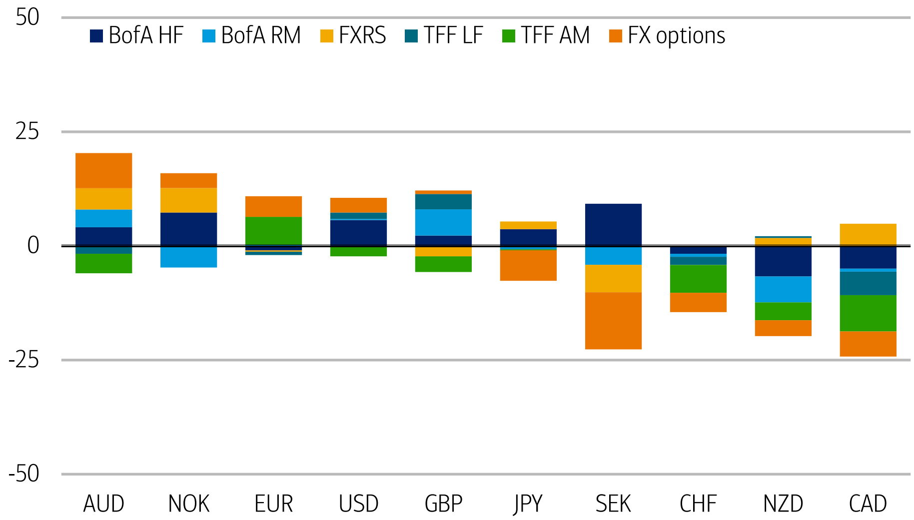
BofA GLOBAL RESEARCH

Altogether, another Democrat administration, would not alter our broader outlook for ongoing dollar depreciation. But that said, at the same time we would not expect it in and of itself to be a fresh source of accelerated depreciation, beyond possible knee-jerk volatility and positioning adjustments on such an outcome.

Positioning: more balanced, but still vulnerable

The current G10 FX positioning is more balanced relative to the end of Q2. We find the market long AUD, somewhat long NOK, and short CAD, NZD, and CHF (see Exhibit 20). USD-JPY demand had stood out in 1H, and it is its partial reversal that has stood out the most so far in Q3. The G10 FX price action remains driven by Hedge Funds – vulnerabilities around their USD longs remain. Real Money remains flat EUR-USD and focused on EM FX & carry. The futures market seems more balanced than before, but the FX options market suggests risks around AUD longs, and around JPY and SEK shorts.

Exhibit 20: Latest G10 FX positioning by component
Market long AUD, somewhat long NOK, and short CAD, NZD, and CHF, according to our signals



Source: BofA Global Research

BofA GLOBAL RESEARCH

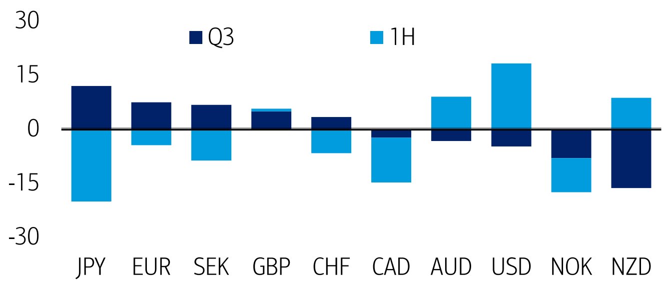
G10 FX positioning more balanced than at end-Q2

The latest G10 FX positioning is more balanced vs. end-Q2, according to our estimates (Exhibit 21), with the recent positioning changes in line with the price action (Exhibit 22):

- USD-JPY buying had stood out in 1H, and it is its partial reversal that has stood out the most so far in Q3.
- Demand for EUR, SEK, GBP, and, to a lesser extent, CHF has also stood out so far in Q3 – all except GBP had seen some pressure earlier in the year.
- NZD, NOK, and AUD supply have also stood out so far in Q3. While AUD and NZD were in demand in 1H (from a neutral position for AUD and short for NZD at the start of the year), NOK – and, to a lesser extent, CAD – has been under constant pressure this year but from a very long position at its start.

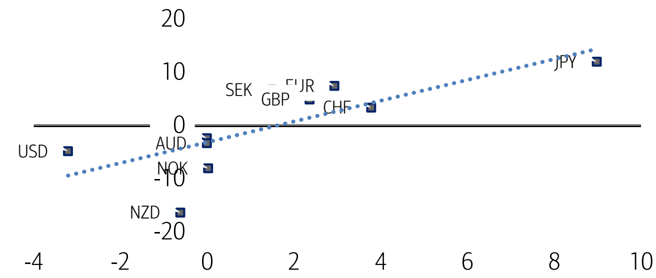
We now find the market long AUD, somewhat long NOK, and short CAD, NZD, and CHF (see Exhibit 20).

Exhibit 21: Changes in aggregate G10 FX positioning by quarter
USD-JPY demand had stood out in 1H, and it is its partial reversal that has stood out the most so far in Q3



Source: BofA Scurities, Bloomberg. Currencies ranked by their Q3 change in positioning
BofA GLOBAL RESEARCH

Exhibit 22: Q3 aggregate change (y-axis) in positioning vs price action (x-axis, %)
The recent positioning changes have been well in line with the price action



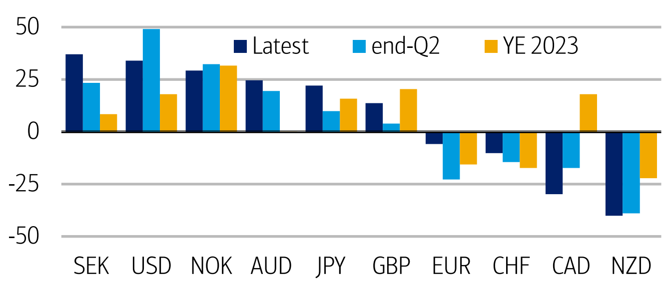
Source: BofA Scurities, Bloomberg. We show % FX returns vs USD. We use DXY for USD.
BofA GLOBAL RESEARCH

Hedge Funds have reduced their USD longs but risks remain

This year's G10 FX price action seems driven by Hedge Funds (Exhibit 23):

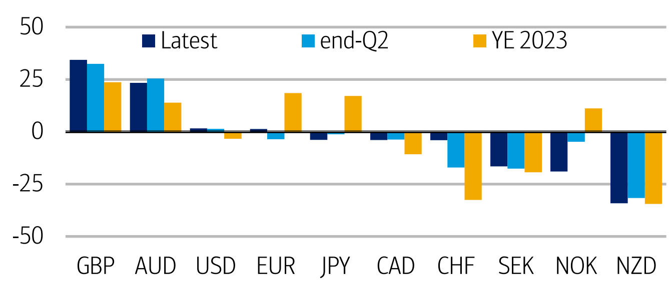
- So far in Q3, Hedge Funds have reduced their USD longs but maintain a very long position, around which we continue to see risks (LCBF 19 Aug '24).
- They had sold EUR around the French elections but pared back their shorts since.
- They are long Scandies, AUD, and even JPY, and very short NZD and CAD. Year-to-date (and USD-aside), their SEK demand, and CAD and NZD supply have stood out.

Exhibit 23: BofA Hedge Funds positioning by quarter
Hedge Funds have reduced their USD longs in Q3, but risks remain



Source: BofA Scurities. Currencies ranked by latest Hedge Funds positioning. +50 (-50) represents max long (short) positioning relative to history.
BofA GLOBAL RESEARCH

Exhibit 24: BofA Real Money positioning by quarter
Real Money investors flat EUR-USD, long GBP and AUD/NZD, neutral JPY



Source: BofA Scurities. Currencies ranked by latest Real Money positioning. +50 (-50) represents max long (short) positioning relative to history.
BofA GLOBAL RESEARCH

Real Money's search for carry

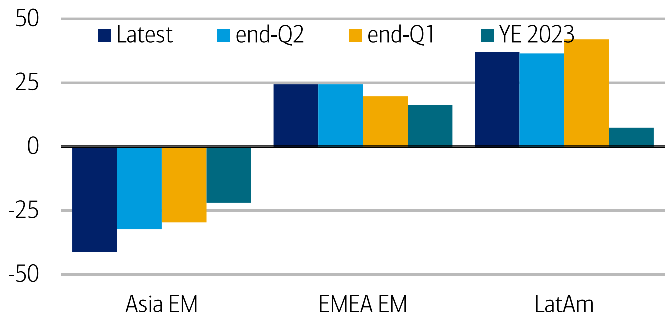
Real Money G10 FX flows have been relatively muted (Exhibit 24):

- Real Money investors remain flat EUR-USD, long GBP and AUD-NZD, neutral JPY (from long at YE 23), and have turned neutral CHF and short NOK.
- Within G10 FX, their JPY and NOK supply, and CHF demand have stood out this year.

But, likely searching for carry, Real Money have been way more active in EM FX…

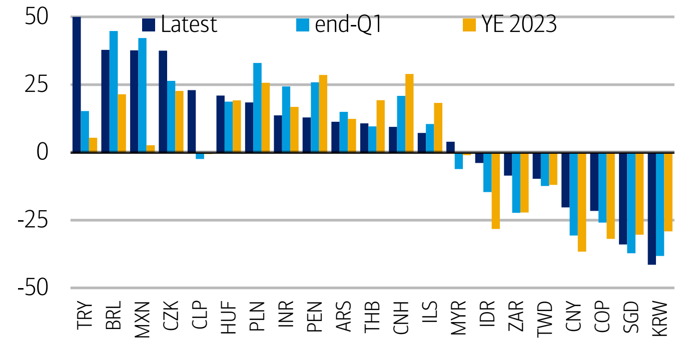
- …strongly favouring LatAm and, to some extent, EMEA EM, over Asia EM (Exhibit 25).
- TRY, BRL, MXN, CZK, CLP have seen strong Real Money demand, while KRW, CNH, THB, INR, PEN, and PLN have seen meaningful supply (Exhibit 26).

Exhibit 25: BofA Real Money EM FX positioning by region and quarter
Real Money way more active in EM FX, strongly favouring LatAm and, to some extent, EMEA EM, over Asia EM



Source: BofA Scurities. +50 (-50) represents max long (short) positioning relative to history.
BofA GLOBAL RESEARCH

Exhibit 26: BofA Real Money EM FX positioning by currency and quarter
TRY, BRL, MXN, CZK, CLP have seen strong Real Money demand this year



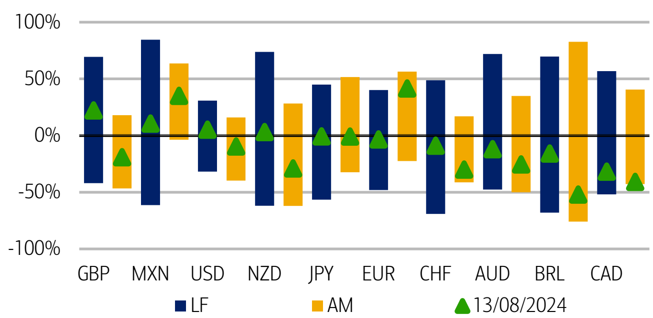
Source: BofA Scurities. +50 (-50) represents max long (short) positioning relative to history.
BofA GLOBAL RESEARCH

CFTC positioning more balanced than before. Options positioning remains mixed

The CFTC (Commodity Futures Trading Commission) futures data are more balanced than earlier this year (Exhibit 27):

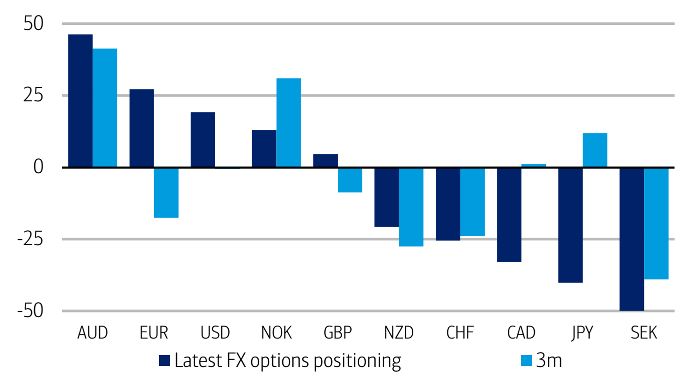
- Most notably, JPY shorts no longer stand out, nor do Asset Managers' GBP shorts.
- But the CAD shorts still stand out vs history, and so do Asset Managers' EUR and MXN longs, and BRL and CHF shorts.

Exhibit 27: Leveraged Funds and Asset Managers net speculative position as % of open interest
In the futures market, CAD shorts stand out vs history and so do Asset Managers' EUR and MXN longs, and BRL and CHF shorts



Source: BofA Global Research, Bloomberg. Note: Leveraged Funds (LF) and Asset Managers (AM) data since Aug-2006. Currencies ranked by latest LF positioning.
BofA GLOBAL RESEARCH

Exhibit 28: G10 FX options positioning
G10 FX options market long AUD, EUR, USD, and short SEK, JPY, CAD



Source: BofA Global Research, Bloomberg. 3m: FX options positioning 3 months (13 weeks) ago. +50 (-50) represents max long (short) positioning
BofA GLOBAL RESEARCH

But the FX options positioning is less balanced Exhibit 28):

- We see vulnerabilities around AUD longs, and around JPY, SEK and, to some extent, CAD and CHF shorts.
- Relative to three months ago, the options flow has favoured EUR and USD against JPY and CAD and, to some extent, the Scandies.

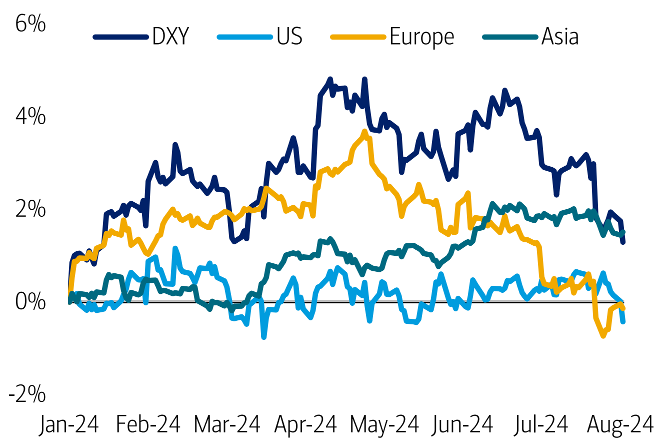
Quant: bearish USD & CHF

Bearish USD trend continuation as US and Europe investors chase USD lower

Demand for USD in Europe and Asia hours fueled the USD rally earlier in 2024. However, following the global market shock this month, Europe-based investors are now cumulatively net short USD for the year (Exhibit 29). With both US and Europe-based investors now short USD, the bearish USD market consensus has formed. We discussed our soft-landing conviction and highlighted bullish EURUSD quant signal at the start of August ahead of the spot breakout (FX Quant Insight: 05 August 2024). While EURUSD has risen to above 1.10, our positioning analysis continues to flag a EURUSD uptrend continuation signal (FX Quant Insight: 19 August 2024), potentially toward our forecast of 1.12 for the year.

Exhibit 29: Europe-based investors fully unwound year-to-date cumulative long USD returns

DXY year-to-date normalized price action broken down by time zone



Source: BofA Global Research. We define US time zone as 1pm-12am UTC (9am-8pm EDT), Europe time zone as between 8am-1pm UTC (4am-9am EDT), ad Asia time zone as between 12am to 8am UTC (8pm-4am EDT).

BofA GLOBAL RESEARCH

Exhibit 30: CHF is overvalued; JPY and NOK are undervalued

FX richness/cheapness z-scores across different valuation measures

	Richness/Cheapness			
	vs IR differentials	vs DFM fair value	vs 10-week SMA	vs REER
EUR	-0.1	0.9	1.1	-0.4
JPY	-1.7	0.3	2.7	-1.8
GBP	0.2	1.3	0.8	-0.1
AUD	-0.8	-0.3	0.7	0.5
CHF	1.5	0.7	1.1	1.2
CAD	0.2	-1.2	0.4	-0.5
NZD	-0.7	-1.0	0.5	0.7
SEK	0.3	0.2	1.1	-1.4
NOK	-1.4	0.0	0.7	-2.4

Source: BofA Global Research, Bloomberg. A more positive number corresponds to greater overvaluation for a currency against the USD; a more negative number corresponds to great undervaluation for a currency against the USD. See details of valuation metrics in Global Rates & FX Watch: FX factors update – August 2024, 08 August 2024.

BofA GLOBAL RESEARCH

CHF is overvalued, NOK and JPY are cheap in G10

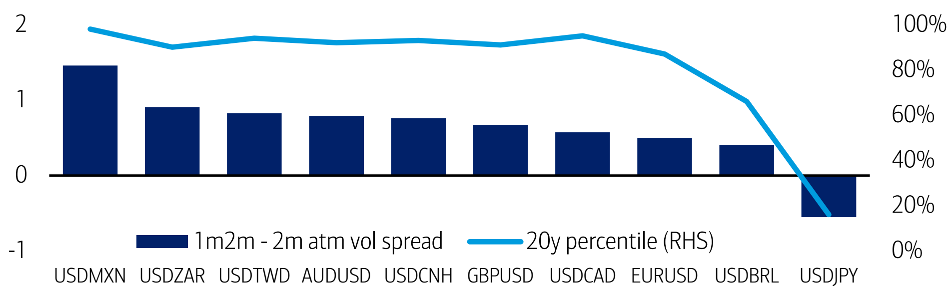
Elsewhere in G10, Value metrics from our monthly FX Factor Update show CHF is overvalued while JPY and NOK are cheap (Exhibit 30). CHF is rich across all short-term valuation methods, ranging from +0.7 z-score overvalued vs dynamic factor model fair value to +1.5 z-score overvalued vs 2y OIS rate differential. As for JPY and NOK, while spot prices have likely overshot vs the respective 10-week SMAs amid the broad-based USD selloff this month, JPY and NOK spots are still undervalued vs fair values estimated using rate differentials and long-term REERs.

Vol: use calendar spread to hedge near-term shocks

EURUSD 1m2m forward vol to richen after exiting the range

FX volatility term structure is steep with 3m atm implied vol generally above 1m vol with the notable exception of USDJPY. As a result, the forward volatility that covers US election is above current implied vol levels – the markets are anticipating volatility to increase into the fall. The median 20y percentile of the FX forward vol premium is at 91%. The currencies with the richest forward vol premium are in the EM (MXN, ZAR, TWD) around 1 vol and significant premium is also present in AUD and CNH (~0.75 vol). Relatively speaking, there is now less premium priced-in to EURUSD (0.5 vol), USDBRL (0.4 vol) and USDJPY (negative). In our view, USD volatility is expected to pick up in US hours (European investors are short USD now, 19 Aug '24). As recent as end of July, the EURUSD forward vol covering US election had reached +1.0 vol vs front-end spot implied vol (Election event risk – Rates & FX vol, 29 July 2024). As EURUSD is breaking out of the range with rising vol this month, we expect EURUSD forward vol to richen further. The risk to this view is a return of the EUR range trade amid falling vols.

Exhibit 31: Markets are pricing notable premia in major FX pairs over the US election
Forward vol premium in FX that covers US election



Source: BofA Global Research, Bloomberg. A larger positive number for the 1m2m-2m atm spread means forward vol covering election is elevated.

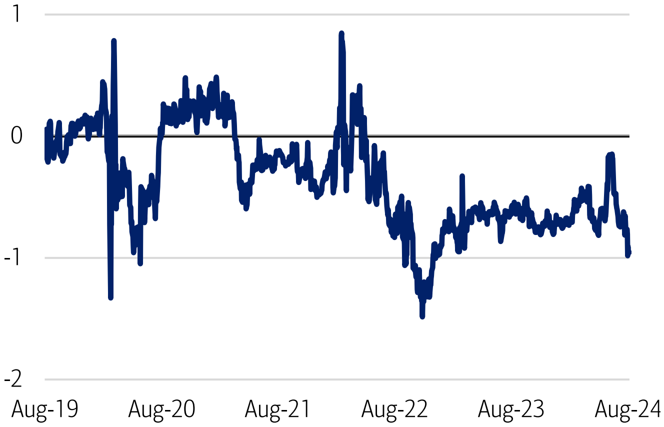
BofA GLOBAL RESEARCH

Risk reversal term premiums are steep for many USD-pairs

Driven by investors' interest to chase near-term USD spot weakness, the front-end 1m EURUSD risk reversal has sharply moved for USD puts and now sits at close to +0.1 vol in favor of EURUSD call. To the contrary, the back-end 1y EURUSD risk reversal has stayed at around -0.85. As a result, the 1m1y (1y tenor minus 1m tenor) EURUSD risk reversal term spread is now at 95th percentile relative to the past 5 years (Exhibit 32). Similar risk reversal term steepness can also be seen in USDJPY and USDCHF (Exhibit 33).

The vol shock at the start of August shows heading into the Fed cutting cycle and US election, the market could exhibit more risk-off episodes. The USD typically serves as the appropriate risk-off hedge, but we believe owning near-term USD calls outright is not ideal amid the newly formed bearish USD market consensus. Median FX forward vol premium across major pairs covering the imminent US election at above 90th percentile is also rich. Instead, to hedge any near-term market shocks, investors may consider owning cheap front-end OTM USD calls funded by back-end USD calls with similar strikes to take advantage of the risk reversal term-structure steepness. The front-end OTM USD call would benefit from retracement of the existing selloff and rising vol amid a risk-off shock, while the back-end short USD call position allows one to maintain positioning in the bearish USD medium-term view.

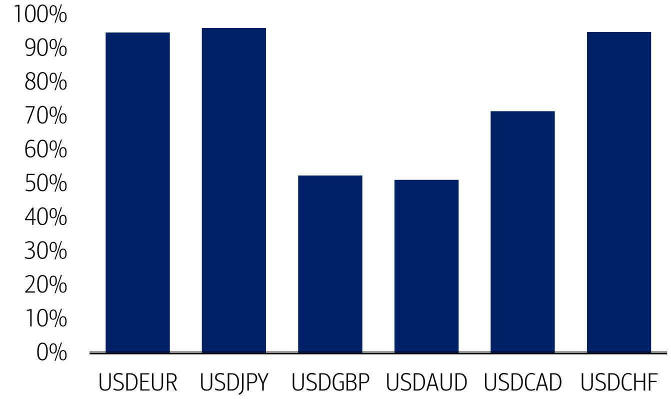
Exhibit 32: EURUSD 1m1y risk reversal term spread is at 95th percentile
1m1y 25-delta EURUSD risk reversal term spread



Source: BofA Global Research, Bloomberg. A more negative number corresponds to greater premium for 1y OTM USD calls vs 1m OTM USD calls.

BofA GLOBAL RESEARCH

Exhibit 33: Risk reversal term premiums are steep for EURUSD, USDJPY and USDCHF
5y %iles of 1m1y 25-delta risk reversal term spread for major USD-pairs



Source: BofA Global Research, Bloomberg. Closer to 100th percentile corresponds to greater premium for 1y OTM USD calls vs 1m OTM USD calls.

BofA GLOBAL RESEARCH

Technicals: DXY downside, fade seasonal rallies

DXY outlook

- The DXY's +/- 20-month range (triangle pattern) is near an end. This pattern and wave count is in favor of downside and fading 2H24 seasonal or oversold rallies.
- US election year seasonals support the DXY the closer we get to election day. If this positive pattern occurs again, then sell the wave "e?" bounce while below 105.
- A bearish DXY triangle confirms with weekly closes below 102. It targets 98.90 and possibly 96.50 which looks like euro to 1.1270 and possibly 1.1495. We show euro breaking out of its triangle and a golden cross signal, which tends to be bullish.

Exhibit 34: DXY – Weekly chart

The DXY's +/- 20-month long range (triangle pattern) is nearing an end. It favors positioning for YE24-1H25 downside and selling 2H seasonal rallies. Our triangle wave count combined with supportive DXY seasonals suggests there is some risk of a final bounce up in the DXY near point "e?" or near 105 to sell into. Weekly closes below 102 start to imply wave 3 of C down is underway and the decline occurs faster. Overall, both say wave "C?" down happens and targets 98.90 and possibly 96.50.

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

DXY Seasonality

- Since 1970, August was strong, September to mid-October was weak, then strong into late November and down into yearend. The DXY highs for the year tended to be in by August (Exhibit 35).
- However, since 1999 when the euro began trading, the DXY was higher from the start of August through late November and then down through yearend (Exhibit 36).
- Of the last 13 US election years, the DXY tended to rise into the US election and was more supported as markets approached election day (Exhibit 37). (Technical Advantage: Trends into US election day 29 July 2024.)

Exhibit 35: DXY average trend since 1970

The DXY tends to decline in July, rally back in August and decline through September. Then it finds a low in mid-October, rallies through November and declines through yearend.

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 36: DXY average trend since 1999

The DXY tends to decline in July, find a low in early August, rally through November and decline into yearend.

Source: BofA Global Research, Bloomberg

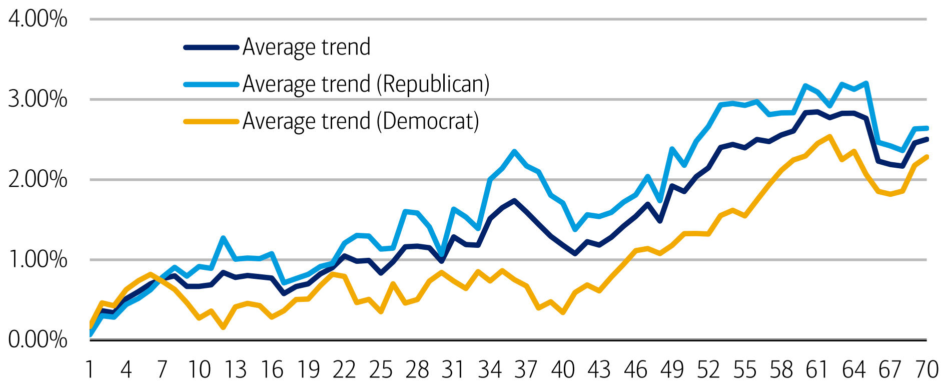
BofA GLOBAL RESEARCH

DXY tended to trend higher from August to US election day in November

Of the last 13 US election years, from 70 trading days prior (100 calendar days) through US election day, the average trend in the DXY was up (Exhibit 37). The DXY was higher as much as 77% of the time or 10 of 13 times in 35-40 trading days from the start of August (Exhibit 38).

Exhibit 37: DXY average trend in US election years from 70 trading days prior (early August) through US election day (early Nov).

The average trend was higher however when the sitting President was democrat it was slightly less bullish



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 38: DXY average trend in US election years from 70 trading days prior (100 calendar days or start of August) through US election day

The DXY was higher 77% of the time 35-40 trading days later or 10 of 13 times and remained higher to election day 9 of 13 times.

Ticker: DXY		Start Year: 1971										
return (%) on day	10	15	20	25	30	35	40	45	50	55	60	65	Election Day
% Up Ratio	62%	62%	62%	54%	69%	77%	77%	69%	69%	69%	69%	69%	69%
Up	8	8	8	7	9	10	10	9	9	9	9	9	9
Down	5	5	5	6	4	3	3	4	4	4	4	4	4
Average	0.69%	0.77%	0.90%	0.97%	1.29%	1.74%	1.08%	1.54%	2.04%	2.50%	2.84%	2.23%	2.50%
Median	0.04%	0.16%	0.55%	0.22%	1.08%	1.13%	1.09%	1.14%	1.43%	2.02%	3.09%	1.44%	2.44%
Min	-1.06%	-1.91%	-4.15%	-4.83%	-3.54%	-4.40%	-3.35%	-3.25%	-3.31%	-4.44%	-4.02%	-4.89%	-4.86%
Max	3.90%	4.88%	6.16%	8.55%	8.59%	6.39%	4.78%	8.19%	10.02%	11.45%	15.44%	15.13%	14.82%

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Euro breakout and golden cross are "buy the dip" bullish

In our July 18th report we discussed a tactically bearish and medium term bullish signal on the euro. To be more specific, a TD Sequential sell signal on July 15 and buy signal the week of June 14 that together implied dip and rip. This has occurred and led to a bullish breakout and a bullish "golden cross" signal.

Since 1975, the golden cross signal, or when the 50-day simple moving average crossed above a rising 200-day simple moving average, occurred 40 times. The 41st signal occurred on August 20th at about 1.1110. In the past, the euro was higher 30-55 trading days later 64% of the time (Exhibit 40). However five of the signals occurred within 40 days of each other. When removing the five signals that occurred shortly after the first to keep with the first signal, euro was still higher 30-55 trading days later but the average up ratio was less strong at 59% (Exhibit 41).

Exhibit 39: EURUSD – Daily chart

After TD Sequential signaled a July dip (red 13) and then a reversal at moving average supports (green 9), a bullish triangle breakout and golden cross signal occurred in favor of an uptrend in the weekly chart. Short term momentum is too stretched to chase, but signals favor buying the dip.

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 40: Price trend after the 50d SMA crossed above the 200d SMA and the 200d SMA was rising

When the 50d SMA crossed above the 200d SMA and price was above the 200d SMA, in the past EURUSD was up 68% of the time 50 days later by 1.3% on average

Ticker: EURUSD Curncy			Start Year: 1975			# Signals: 40		# < 40 days: 5					
days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	55 days	60 days	65 days
% Up Ratio	50%	53%	58%	55%	58%	65%	60%	64%	65%	68%	63%	60%	60%
Up	20	21	23	22	23	26	24	25	26	27	25	24	24
Down	20	19	17	18	17	14	16	14	14	13	15	16	16
Average	0.04%	0.19%	0.39%	0.81%	1.02%	1.46%	1.50%	1.38%	1.36%	1.29%	1.37%	1.73%	1.27%
Median	-0.01%	0.15%	0.12%	0.18%	0.42%	1.45%	1.26%	1.16%	1.15%	1.06%	1.16%	1.31%	1.09%
Min	-3.74%	-4.26%	-5.19%	-5.48%	-6.81%	-5.17%	-5.53%	-6.39%	-5.48%	-7.14%	-7.19%	-7.39%	-8.00%
Max	3.10%	5.18%	4.96%	6.59%	7.43%	8.95%	9.47%	9.89%	7.84%	10.18%	10.38%	12.20%	12.60%

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 41: Price trend after the 50d SMA crossed above the 200d SMA and price was above the 200d SMA was rising

When removing the five signals that occurred within 40 days of the first signal, the tendency for euro to be higher in 30-55 trading days remained but to a lesser degree.

Ticker: EURUSD Curncy			Start Year: 1975		# Signals: 35			# < 40 days: 0					
days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	55 days	60 days	65 days
% Up Ratio	49%	51%	54%	49%	51%	60%	54%	57%	60%	63%	57%	54%	54%
Up	17	18	19	17	18	21	19	20	21	22	20	19	19
Down	18	17	16	18	17	14	16	14	14	13	15	16	16
Average	0.00%	-0.01%	0.03%	0.44%	0.64%	1.04%	1.08%	1.05%	1.03%	0.92%	0.98%	1.31%	1.06%
Median	-0.06%	0.14%	0.03%	-0.01%	0.15%	1.02%	0.38%	0.35%	0.70%	0.55%	0.87%	0.99%	0.23%
Min	-3.74%	-4.26%	-5.19%	-5.48%	-6.81%	-5.17%	-5.53%	-6.39%	-5.48%	-7.14%	-7.19%	-7.39%	-8.00%
Max	3.10%	5.18%	3.98%	6.59%	7.43%	8.95%	9.47%	9.89%	7.84%	10.18%	10.38%	12.20%	12.60%

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 42: EURUSD – Weekly chart

A TD Sequential buy signal ending the week of June 14th implied upside while above 1.0666. This signal has been accurate. A bullish triangle breakout has followed suggesting the end of wave (B) and start of wave (C) up to 1.1274 and possibly 1.1495.

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

G10 currency outlook

USD: The August storm

Settling from turmoil

Initial turmoil around the downside surprises in the July employment report refocused the market on the risks of a harder economic landing amid concerns over still restrictive monetary policy. Curiously, the USD has recently exhibited some erratic correlations to broader risk sentiment, as August's broad depreciation has occurred amid lower equity prices. Meanwhile, further disinflationary trends, strengthened in a friendly US CPI report, has helped USD move broadly lower.

These past few weeks have further underscored the impact that lower US rates can have on the USD, as a distinct rate advantage has been one of the key pillars of USD support over recent years. Front and center, of course, has been the USDJPY pair, which has experienced a sharp unwind of carry trades, forcing broader positioning adjustment. Ultimately, however, disinflationary forces should help guide further moderate USD downside over the medium-term.

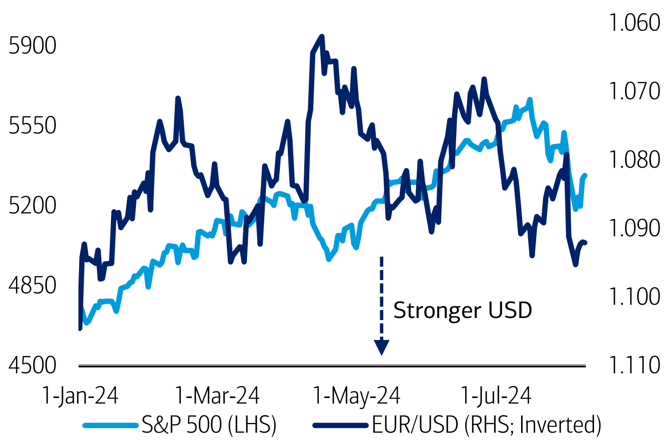
Adjusting USD/JPY

Consequently, we continue to hold a broadly bearish USD view vs the G10, based on expected US economic deceleration and Fed easing, amid ongoing overvaluation. The one exception is USDJPY, where we continue to hold a more constructive view. That said, on back of the yen's sharp positioning adjustment in recent weeks, we have previously adjusted our forecasts, where we now call for 150 in Q3 (from 163) and 155 by year end (from 158).

Mounting uncertainty

In addition to growing debate over a possible harder landing recession, risks of continued sticky inflation cannot be dismissed just yet, posing potential difficult policy decisions both for the Fed and other central banks. This could lead to elevated economic uncertainty and volatility across asset classes. Elsewhere, US election and the ongoing conflict in the Middle East remain known unknows, though their impact on the market has been less evident recently amidst greater economic uncertainty.

Exhibit 43: EURUSD & S&P 500
USD has recently trended both with and against equities



Source:, Bloomberg and BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 44: USD forecasts
EUR forecast is 1.12 for the end of 2024

	Q3 24	Q4 24	Q1 25	Q2 25
EUR-USD	1.10	1.12	1.12	1.15
USD-JPY	150	155	152	151

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 45: Major macro forecasts
Looking for US to avoid recession

	2023	2024F	2025F
Real GDP (% yoy)	2.5	2.7	2.2
CPI (% yoy)	4.1	3.1	2.3
Policy Rate (end of period)	5.375	4.875	3.875
GenGov Bal (%/GDP)	-6.2	-6.6	-6.5
CurAct Bal (%/GDP)	-3.3	-3.5	-3.3

Source: Bloomberg and BofA Global Research estimates

BofA GLOBAL RESEARCH

EUR: makes sense

EUR performance in line with recent history. Mixed performance ahead

This year's modestly strong EUR-G10 FX performance is broadly consistent with recent history. We continue to expect a mixed EUR performance in the rest of '24, in line with a "middle of pack" ECB stance (given market pricing) and constructive risk sentiment.

We showed (see Is EUR-G10 FX fair? 13 Aug '24) that, four FX drivers (rates, VIX, HY spreads, commodities) suggest: (1) EUR is overvalued vs JPY and NOK and, to a lesser extent, "high beta" G10 FX; (2) slightly undervalued vs USD and a bit more vs GBP. We are not surprised and, except for EUR-JPY & EUR-GBP, we sympathize. The likely higher FX impact of rates this year and the reduced (or, perhaps, altered) role of risk sentiment could summarise EUR's year. Regarding the former, the ECB has been repriced higher vs most of its G10 peers after Feb, also amid sticky core CPI and a very cautious stance.

Going forward, we continue to expect a mixed EUR performance, reflecting a rather "middle of pack" ECB stance and constructive risk sentiment. To us, EUR-USD remains more of a US/Fed story. We forecast EUR-USD at 1.12 by year-end – we are cautious given the number of Fed cuts priced, but expect constructive risk sentiment on a soft US landing & Fed rate cuts to push USD lower from an overvalued level. We expect the ECB impact on EUR to remain more visible in the crosses (our economists look for two more ECB cuts in '24). We stay constructive EUR vs. CHF and JPY, but would fade EUR rallies vs. GBP, AUD, and Scandies, also counting on supportive risk sentiment. Positioning still poses risks in some cases, with EUR-GBP and EUR-AUD shorts somewhat standing out.

We remain above consensus for EUR-USD

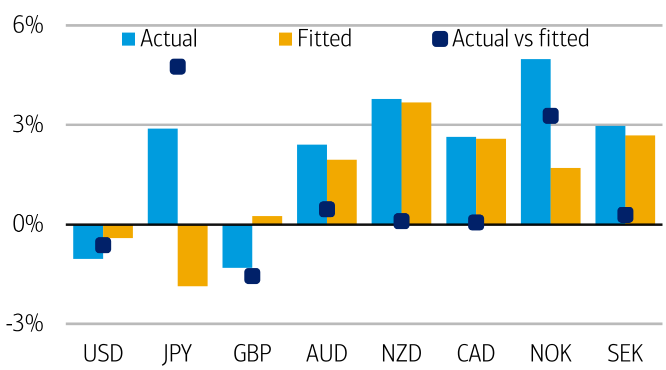
We continue to forecast EUR-USD at 1.12 this year and 1.17 next, which remain well above consensus' 1.09 for '24 and 1.12 for '25.

Risks: US elections, Fed, France, sluggish EA recovery, EU reforms

US elections pose two-sided risks to EUR (see US Elections report 31 Jul '24). We expect two Fed cuts this year, which would pose negative near-term risks vs USD but positive vs high-beta FX. Some fiscal risks around France remain. Sluggish EA demand is another downside risk (see Europe Econ Weekly 2 Aug '24). EU reforms remain an upside risk.

Exhibit 46: EUR-G10 FX, actual vs fitted (+ve values show stronger EUR)

EUR overvalued vs. JPY, NOK and, to a lesser extent, high betas, and slightly undervalued vs. GBP & USD



Source: BofA Global Research, Bloomberg. Weekly data from 8-Jan-2021 until 9-Aug-2024. Regressions are for Jan-21 – Dec-23. Positive values show stronger EUR-G10 FX. We rely on betas with p-values 0.15 or lower in the period Jan-21 – Aug-24. See also Is EUR-G10 FX fair? 13 Aug '24

BofA GLOBAL RESEARCH

Exhibit 47: EUR forecasts

Our forecast is 1.12 for EUR-USD at end of 2024

	Q3 24	Q4 24	Q1 25	Q2 25
EUR-USD	1.10	1.12	1.12	1.15
EUR-JPY	165	174	170	174

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 48: Major macro forecasts

Growth soft in our 2024 outlook

	2023	2024F	2025F
Real GDP (% yoy)	0.6	0.6	1.1
CPI (% yoy)	5.5	2.3	1.5
Policy Rate* (end period)	4.50	3.75	2.50
Gen Gov Bal (%/GDP)	-3.6	-3.2	-3.1
CurAct Bal (%/GDP)	1.7	2.7	2.8

*Note: Policy Rate is Refinancing Rate.

Source: Bloomberg and BofA Global Research estimates

BofA GLOBAL RESEARCH

JPY: small adjustment

Near-term vs long-term view

In our view, hedgers' USD/JPY supply, bullish JPY sentiment, and increased equity market volatility could keep USD/JPY top-heavy with occasional sell-off into the Sep FOMC and possibly into the US election.

However, barring (increasing expectation for) a US recession or a clear shift in US currency policy to a weak dollar policy (see: Global Economic Viewpoint: US Elections: The Great Debates 31 July 2024), we believe JPY will move back into a downtrend by year-end. Structural outflows from Japan would remain intact. Market pricing for Fed rate cuts seems aggressive.

By year-end, we expect demand/supply and Fed pricing to favor USD/JPY again and that USD/JPY could move back above 150. We would therefore consider USD/JPY's dip, ideally below 143, as a buying opportunity.

For more, see: Liquid Insight: Structural outflows ≠ "yen carry trade" 07 August 2024.

Small adjustment

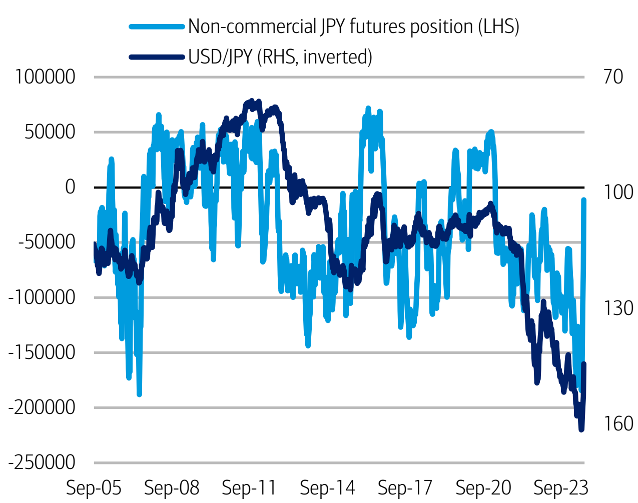
We revise down our year-end USD/JPY forecast from 158 to 155, reflecting changes to our Fed outlook (see: Liquid Insight: Structural outflows ≠ "yen carry trade" 07 August 2024). However, we remain bearish on JPY vs consensus and forward.

Risks: US recession, unwinding of retail investors' global equity holdings

The biggest risk against our view is a US recession / hard landing scenario, which may drive US yields and stock prices lower. This can support the yen as increased concern over this risk has driven JPY higher in the past week. There is a risk this could put retail investors' US equity holdings at risk of unwinding.

Exhibit 49: Spec yen short has been cut back

USD/JPY long at CFTC fell to almost flat by Aug 6



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 50: JPY forecasts

We look for 2024 year-end USD-JPY of 155

	Q3 24	Q4 24	Q1 25	Q2 25
USD-JPY	150	155	152	151
EUR-JPY	165	174	170	174

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 51: Major macro forecasts (CY)

Our economics team looks for softer growth in 2024

	2023	2024F	2025F
Real GDP (% yoy)	1.9	-0.1	1.1
CPI (% yoy)	3.3	2.5	2.8
Policy Rate (end of period)	-0.10	0.25	0.75

Source: Bloomberg and BofA Global Research estimates

BofA GLOBAL RESEARCH

GBP: a wobble, but we remain bullish

GBP in vortex of carry unwind

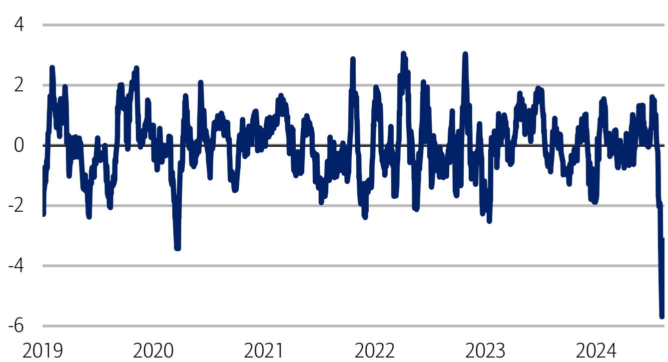
Life comes at you fast in the world of FX. Within the space of 6 trading days, though the GBP trade-weighted index (TWI) fell nearly 2.5%, this masks considerable disparity in GBP performance across G10. GBP losses were concentrated mainly versus CHF & (more significantly) JPY. To put this move into some context, using 1yr look back z-scores, the slide in GBP/JPY was a near 6 sigma event – the largest %m/m fall (5th August) using data going back to 2000. This has been replicated across the other JPY/G10 crosses. Given the concentration of short positioning in both CHF & JPY, the recent tumult can be attributed to a Yen-inspired squeeze in the markets favourite carry positions: GBP/JPY; AUD/JPY & NZD/JPY. In effect, the league table on carry has been turned on its head with the leading funding currencies (CHF, JPY, EUR, SEK) the main outperformers.

Despite the recent sell-off, GBP remains the best performing currency in G10 year-to-date. The fundamental/secular positives remain the same and we are reassured that recent weakness has not been a reflection on the UK macro-outlook. Indeed, when charting the performance of UK yields versus G10 counterparts (weighted basis), this spread has remained steady through the market tumult reinforcing the point that this has been a liquidation story rather than a fundamental one. According to our suite of positioning indicators published in (see report) Liquid Cross-Border Flows, GBP longs have been reduced and overall positioning is lighter. Our momentum metrics are at extreme levels for some of the more popular GBP/XXX carry crosses. IMM data has scaled back from large GBP longs and we suspect that there has been further attrition through the current week. All else being equal, the case for higher GBP vs EUR, JPY & CHF remain compelling, but this leaves GBP vulnerable to a near-term vol shock which has inverted the front-end of many curves.

Geo-politics

Middle East tensions continue to bubble under the surface. Another vol moment will inevitably pressure GBP and other high beta currencies.

Exhibit 52: Z-score of GBP/JPY %1mth change using 1yr lookback
6 sigma decline in GBP/JPY – largest using data 2000-



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 53: GBP forecasts
Our year-end 2024 EUR-GBP forecast is 0.83

	Q3 24	Q4 24	Q1 25	Q2 25
EUR-GBP	0.84	0.83	0.83	0.83
GBP-USD	1.31	1.35	1.35	1.39

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 54: Major macro forecasts
GDP growth weak in our forecast horizon

	2023	2024F	2025F
Real GDP (% yoy)	0.1	1.1	1.1
CPI (% yoy)	7.3	2.6	2.4
Policy Rate (end of period)	5.25	4.75	3.75
Gen Gov Bal (%/GDP)	-4.5	-3.1	-2.7
CurAct Bal (%/GDP)	-3.6	-4.6	-5.1

Source: Bloomberg and BofA Global Research estimates

BofA GLOBAL RESEARCH

CAD: soft-landing still intact

CAD showed vulnerability to risk-off in August, but soft-landing intact

USDCAD briefly surged to above 1.38 at the end of July to start of August, overshooting vs our estimated fair value (Exhibit 55). Broad equity market declined on the back of a conventional risk-off shock, and CAD weakened due to its sensitivity to equities. With US hard landing fear looming in the market, CAD further weakened on the back of concerns that the potential US hard landing would permeate to Canada.

However as we noted at the start of the month, our conviction in soft landing remains intact (see report) (Soft-landing conviction still intact, 05 August 2024) despite the temporary rise in hard landing zeitgeist. USDCAD's quick retracement from 1.38 back to 1.37 confirms this notion. USDCAD has been supported for most of this year by US-CA rate differential. With the Fed likely to cut rate at the September FOMC meeting, bullish USDCAD forces from rates factor should start to wane.

While CAD shows it can be vulnerable in risk-off shocks like at the start of August, our overall benign outlook for risky asset (see report) (Strategy Snippet: 29 July 2024) should allow USDCAD to gradually fall to 1.35 this year. On the balance, rotation out of US tech stocks on the margin is also more bullish for CAD than USD, in our view (see report) (FX Viewpoint: 07 August 2024).

No change to existing forecast path

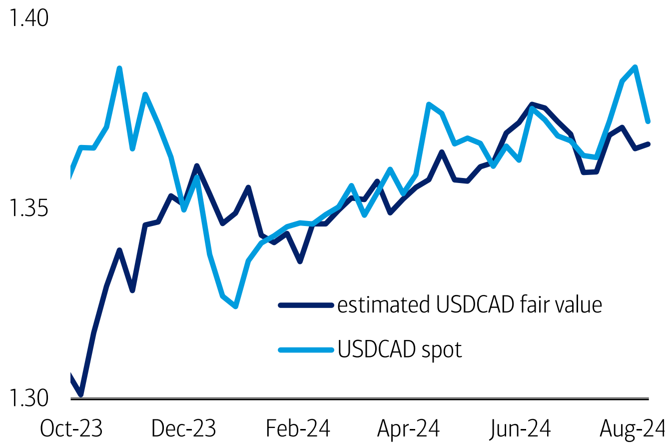
We continue to forecast modest CAD upside vs the USD later this year (Exhibit 2).

Risks: September risk-off seasonality

September tends to be a seasonally weak month for risky assets and bullish month for the USD. Repeat of seasonal patterns poses headwind for our bearish USDCAD view.

Exhibit 55: USDCAD overshot fair value at start of the month

USDCAD spot vs fair value estimated with cross-asset factors



Source: BofA Global Research, Bloomberg. We estimate fair value by running 2y rolling regression between logged USDCAD spot vs weekly S&P return, 2y rate differential, and WTI crude oil price.

BofA GLOBAL RESEARCH

Exhibit 56: CAD forecasts

We expect a broadly weaker USD to drive USDCAD lower later this year

	Q3 24	Q4 24	Q1 25	Q2 25
USD-CAD	1.36	1.35	1.34	1.32

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 57: Major macro forecasts

We expect Bank of Canada to continue cutting rates in 2024

	2023	2024F	2025F
Real GDP (% yoy)	1.1	1.3	2.4
CPI (% yoy)	3.9	2.6	2.2
Policy Rate (end of period)	5.00	3.75	3.00

Source: Bloomberg and BofA Global Research estimates

BofA GLOBAL RESEARCH

AUD: no cuts in sight

No hike but RBA easing to lag other central banks

The Reserve Bank of Australia remains the least likely G10 central bank (ex Japan) to cut rates in 2024, stating inflation is "still too high" at its last policy meeting. While we do not expect the RBA to hike as domestic growth remains below trend, the relative strength in Australia's labour market(see report) (Australia Viewpoint 16 August 2024) and fiscal position suggest a later and shallower easing cycle. Our economists continue to expect gradual rate cuts from February 2025 taking the cash rate to 3.6% by end-2025.

In terms of external factors, China growth remains weak but with sentiment already bearish, downside risks are likely priced in. CNY depreciation that we expect could be AUD-negative although the pace of RMB depreciation matters - a controlled depreciation may have less spill over to AUD than a sharp devaluation.

A recovery in China new home sales and steel production are necessary conditions for property-driven commodity import growth from Australia. This is not yet evident and while recent property easing measures could lift sentiment, our economists do not expect an immediate impact on construction activity and investment.

China growth matters more for AUDUSD than other AUD crosses. While China poses some downside risk to our year-end AUD/USD forecast of 0.69, we are bullish AUD crosses, including AUDNZD which we expect to reach 1.13 by year-end.

AUDUSD 0.69 by end-2024, 0.72 by end-2025

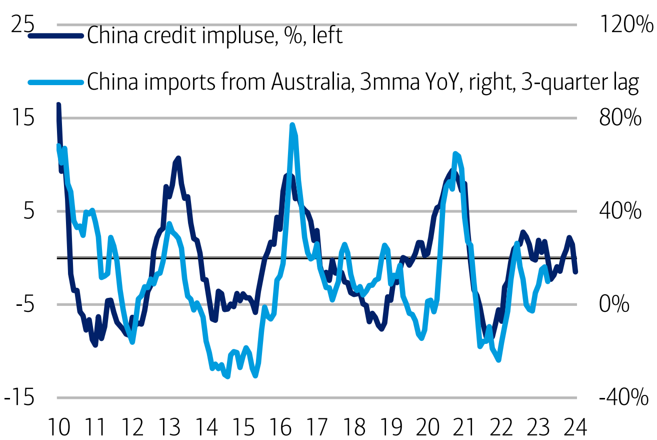
We maintain our end-2024 AUDUSD forecast at 0.69, as well as our end-2025 forecast at 0.72. We continue to forecast a stronger AUD against non-USD crosses, including CAD & NZD.

Risks: China growth disappoints, RBA cuts in 2024

There are downside risks to our forecasts if China growth disappoints again or the RBA begins policy easing in 2024.

Exhibit 58: China credit impulse vs. imports from Australia

China's credit impulse leads import impulse by three-quarters



Source: Bloomberg

BofA GLOBAL RESEARCH

Exhibit 59: AUD forecasts

Our end-year 2024 AUD-USD forecast is 0.69

	Q3 24	Q4 24	Q1 25	Q2 25
AUD-USD	0.67	0.69	0.70	0.70
AUD-CAD	0.91	0.93	0.94	0.92

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 60: Major macro forecasts

Softening domestic backdrop in 2024

Australia	2023	2024F	2025F
GDP (% yoy)	2.1	1.4	2.0
CPI (% yoy)	5.6	3.5	2.7
Policy Rate (end of period)	4.35	4.35	3.60

Source: Bloomberg and BofA Global Research estimates

NZD: cuts begin

RBNZ cuts and more to come

The RBNZ cut rates by 25bp in line with our economists' forecast but surprising consensus expectations for a hold. The meeting marked a meaningful dovish turn, as the central bank highlighted weaker growth momentum and quicker than expected disinflation progress. Accordingly, they also sharply revised down their OCR projection and even considered a 50bp cut at the meeting (see report) (RBNZ review: cut ORR even bigger cut? 14 August 2024). We expect the RBNZ to deliver another two 25bp cuts this year at theOctober and November policy meetings, respectively, consistent with the official projection (OCR to average at 4.92% in 4Q24).

The contrast with the RBA, expected to remain on hold through 2024, is likely to sharpen and we continue to expect AUDNZD to reach 1.13. We also note that NZ migration data, while revised higher, continues to show a trend drop in long-term inward migration in May – this adds to the bullish case for AUDNZD based on their historical correlation.

Medium-term, the current account deficit remains elevated at 6.8% of GDP despite some recent improvement, with the income deficit in particular likely to continue widening against a backdrop of higher rates. Any global risk-off is likely to weigh on NZD, which has less terms of trade buffer compared to other commodity currencies.

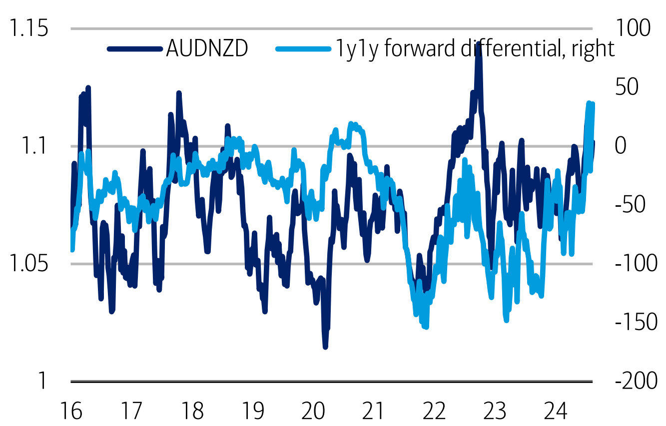
NZDUSD 0.61 by end-2024, AUDNZD at 1.13

We continue to expect NZD underperformance against the crosses (AUDNZD to 1.13) in light of domestic growth risks. Our end-2024 forecast against USD remains at 0.61, while end-2025 at 0.64 factoring in our broader outlook for USD depreciation. NZD remains vulnerable to any global risk-off episodes and even if China surprises positively, AUD is better positioned to benefit than NZD.

Risks: migration inflows

A renewed surge in inward migration presents some upside risk to our forecast, as it is typically correlated with NZD trade weighted appreciation.

Exhibit 61: AUDNZD vs. 1y1y rate differential
AUDNZD 1y1y rate differential turns positive for the first time since 2020



Source: Bloomberg

BofA GLOBAL RESEARCH

Exhibit 62: NZD forecasts
Looking for 2024 end-year NZD-USD at 0.61

	Q3 24	Q4 24	Q1 25	Q2 25
NZD-USD	0.61	0.61	0.62	0.62
AUD-NZD	1.10	1.13	1.13	1.13

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 63: Major macro forecast
Growth slowing in 2024

New Zealand	2023	2024F	2025F
Real GDP (% yoy)	0.6	0.2	1.5
CPI (% yoy)	5.7	3.3	2.9
Policy Rate (end of period)	5.50	5.00	3.75

Source: Bloomberg and BofA Global Research estimates

BofA GLOBAL RESEARCH

CHF: keep selling and carry on

The carry rout

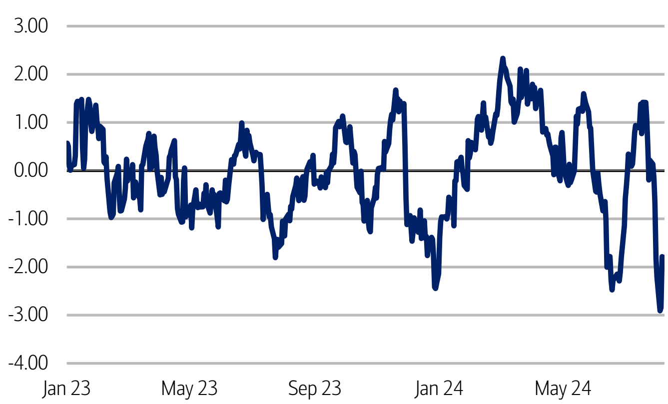
To describe the recent price action in FX markets as carnage perhaps underestimates the degree of dislocation that we have witnessed through the back end of July. The culprit – a significant reappraisal of the USD exceptionalism narrative – has had a domino effect through the rest of the G10 FX complex and winners/losers have dictated by the squeeze in relative vol adjusted positioning. That CHF has been one of the main outperformers is no surprise – this has been a textbook example of how quickly things can change when the markets consensus trades are challenged. The scale of the recent move in EUR/CHF, the largest %m/m fall this year has prompted the SNB to intervene to weaken CHF with weekly sight deposit data showing the second largest build this year. We continue to see FX interventions as a complimentary tool to rate setting. The SNB easing cycle may be shallower than others, but it will leverage CHF sales to reach what it sees as the appropriate monetary conditions. It is worth emphasising that the recent move in CHF has very little to do with a fundamental reassessment of the Swiss economy. Inflation remains well below target and the real effective exchange rate has recouped a large bulk of its depreciation since the start of the year. This is not the news that the SNB had hoped for having already cut rates by a cumulative 50bps this year. It all but solidifies the need for more and we expect another 25bps cut in September. At the time of writing, CHF is once again under pressure as H2 trends reassert and our bias remains renewed weakness versus many of the high beta currencies. SNB aversion to CHF strength combined with manufacturing concerns about the impact on the bottom line should limit further gains from here, particularly given the sizeable liquidation in positioning that has taken place. Our favoured expressions remain short CHF versus GBP, EUR and USD.

Risks: Geo-politics

Middle East tensions continue to simmer in the background and have sporadically impacted markets. Escalation risks could reverse any near-term CHF losses.

Exhibit 1: %1mth change in EUR/CHF

Largest %1mth decline in 2024



Source: BofA Global Research, Bloomberg.

BofA GLOBAL RESEARCH

Exhibit 64: CHF forecasts

Our 2024 year-end EUR-CHF forecast is 1.00

	Q3 24	Q4 24	Q1 25	Q2 25
EUR-CHF	1.00	1.00	1.02	1.04
USD-CHF	0.91	0.89	0.91	0.90

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 65: Major macro forecasts

Inflation back below 2% in 2024

	2023F	2024F	2025F
Real GDP (% yoy)	0.8	1.2	1.3
CPI (% yoy)	2.1	1.4	1.1
Policy Rate (end of period)	1.75	0.75	0.50

Source: Bloomberg and BofA Global Research estimates

BofA GLOBAL RESEARCH

NOK: stay constructive

NOK remains misaligned from fundamentals

NOK weakness over July & August does not stand out vs. risk-sensitive G10, but remains excessive in year-to-date terms. We remain constructive, with Norges a key reason.

NOK weakness stood out in July but less so after the first two weeks of August. It was likely triggered by the softer-than-expected June CPI, extended by risk-off – given the long NOK positioning – and lower oil prices, and likely exacerbated in thin liquidity. Still, year-to-date, NOK weakness does stand out: we find EUR-NOK to be c. 3% overvalued (see report) (Is EUR-G10 FX fair? 13 Aug '24) and import-weighted NOK c. 5% undervalued.

We like fading NOK weakness. First, we expect a soft US landing and count on supportive risk sentiment, which would push the USD lower from an overvalued level (we forecast EUR-USD at 1.12 by year-end). Second, NOK remains top of mind for Norges, not least because of its critical role in Norway's wage formation process. We remain comfortable with our base case of a first Norges cut in December – vs Norges' June guidance of no cuts this year – but we expect a more gradual rate cutting cycle than that priced – we forecast quarterly Norges Bank cuts (see Norges review: 15 Aug '24). Third, our commodity strategists expect slightly higher oil prices through early '25. Meanwhile, NOK positioning is lighter since end-Q2 and much ligher since Jan (see LCBF 12 Aug '24)

We have revised front-end forecast; still expect EUR-NOK 11.20 by year-end

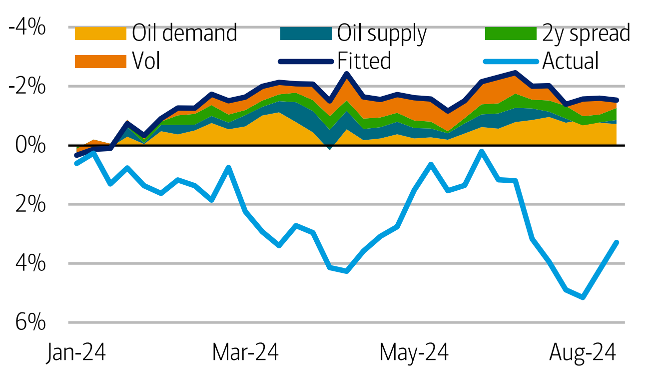
We revise our end-Q3 EUR-NOK forecast to 11.60 from 11.40, so USD-NOK and NOK-SEK move to 10.55 and 0.99. But we continue to forecast EUR-NOK at 11.20, USD-NOK 10.00, NOK-SEK 1.01 by year-end – we are slightly more bullish NOK than consensus.

Risks: US data/Fed, US elections, geopolitics, Euro area growth

Our call for two Fed cuts this year suggests near-term NOK downside risks. US elections pose 2-sided risks (see US Elections report 31 Jul '24). Higher geopolitical risks would likely weigh on NOK vs G4 & CHF but help it elsewhere *if* alongside higher oil prices. Upside EA surprises vs our bearish baseline could support NOK although not vs SEK.

Exhibit 66: Fitted vs. actual NOK I-44 this year (inverted values)

NOK around 5% weaker this year than recent history would suggest



Source: BofA Global Research, Bloomberg. Weekly data through Aug 16. Lower values of import-weighted krone (NOK I-44) show stronger NOK. Regression estimates are for Jan 18- Dec 23. We regress changes in (log) NOK I-44 on: proxies for (1) demand- and (2) supply-driven changes in Brent crude spot; (3) changes in Norway's 2-year trade-weighted swap spread; and (4) changes in our preferred NOK implied-vol spread measure. We use the first principal component of changes in MSCI Global, Brent crude spot, and VIX as proxy for demand-driven oil-price changes, and the second principal component as proxy for supply-driven oil-price changes

BofA GLOBAL RESEARCH

Exhibit 67: NOK forecasts

Year-end EUR-NOK forecast of 11.20 in 2024

	Q3 24	Q4 24	Q1 25	Q2 25
EUR-NOK	11.60	11.20	10.90	10.80
USD-NOK	10.55	10.00	9.73	9.39

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 68: Major macro forecasts

Norway recovery slow into 2024

	2023	2024F	2025F
Real GDP (% yoy)	0.5	0.7	1.2
CPI (% yoy)	5.5	3.6	2.6
Policy Rate (end of period)	4.50	4.25	3.25

Source: Bloomberg and BofA Global Research estimates.

BofA GLOBAL RESEARCH

SEK: positioned for a good Q3

SEK price action this year remains fair. We remain constructive

SEK has had a rather good Q3 so far, with the short positioning likely insulating it during the recent market turmoil. We find it fairly-priced so far this year and stay constructive.

Among the risk sensitive G10 FX, SEK has had the best Q3 so far: the short positioning likely insulated it from the risk reduction during the recent market turmoil. The Riksbank was repriced lower, but largely in sync with most G10 central banks. Taking a step back, EUR-SEK seems fair to us year-to-date (see [Is EUR-G10 FX fair? 13 Aug '24]), and so does trade-weighted SEK over a longer time-frame (vs. c. 9% undervaluation a year ago).

We stay constructive on SEK going forward. First, we expect a soft US landing and count on supportive risk sentiment, which would push USD lower from an overvalued level (we forecast EUR-USD at 1.12 by year-end). Second, we see a low bar for SEK in relation to the Riksbank, even if relative pricing *broadly* makes sense. In absolute terms, the risk of three Riksbank cuts in 2H ‘24 has indeed grown, but we do not think the Riksbank will endorse the market pricing of 4+ rate cuts (anyway not our base case). This is not least because CPIF ex energy has been in line, because of Sweden’s high rate sensitivity, and also given the cautious ECB stance. SEK positioning remains short vs. USD & EUR, but less so than before – in fact, Hedge Funds are short EUR-SEK ([LCBF 12 Aug '24]).

We remain constructive SEK, although not vs NOK

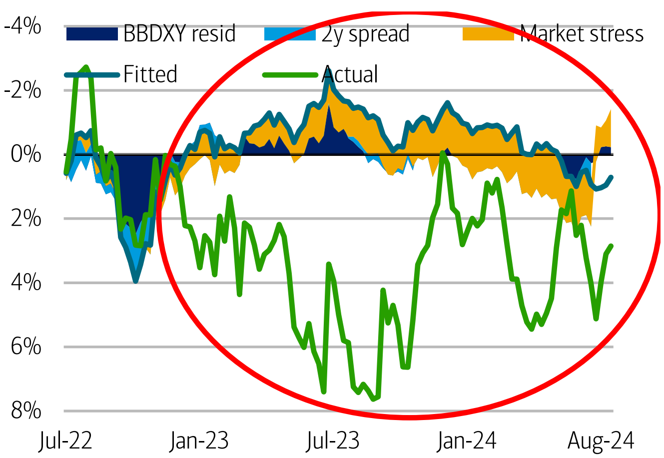
We continue to expect EURSEK at 11.30. USD-SEK 10.09, NOKSEK 1.01 by year-end.

Risks: Fed, US elections, euro area (EA) recovery

Our call for two Fed cuts this year suggests near-term SEK downside risks. US elections pose 2-sided risks (see [US Elections report 31 Jul '24]). Upside EA growth surprises vs our bearish baseline could support SEK incl. vs NOK.

Exhibit 69: Fitted vs. actual Swedish krona index

SEK seems fairly-priced vs a 5.5% under-performance in mid-May



Source: BofA Global Research, Bloomberg, Lower values of the trade-weighted krona index (KIX) show a stronger SEK. Weekly data through August 16. Fitted values are based on regression estimates for Jan 2018- June 2022. We regress changes in log KIX (trade-weighted krona index) on 1) residual changes in the (log) Bloomberg Dollar Index (see below for details); 2) changes in the trade-weighted 2-year SEK swap spreads; 3) changes in the first principal component of VIX, the MOVE Index and the US Corporate BAA 10-year spread, which we interpret as a proxy for market stress. The residual changes of the Bloomberg Dollar Index are changes in the Bloomberg Dollar Index unaccounted for by changes in market stress conditions.

BofA GLOBAL RESEARCH

Exhibit 70: SEK forecasts

Our EUR-SEK forecast at end-2024 is 11.30

	Q3 24	Q4 24	Q1 25	Q2 25
EUR-SEK	11.50	11.30	11.10	11.00
USD-SEK	10.45	10.09	9.91	9.57

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 71: Major macro forecasts

The Riksbank is very serious about inflation

	2023	2024F	2025F
Real GDP (% yoy)	-0.2	0.7	1.5
CPI (% yoy)	5.9	2.2	1.7
Policy Rate (end of period)	4.00	3.25	2.00

Source: Bloomberg and BofA Global Research estimates

BofA GLOBAL RESEARCH

G10 FX open and recent closed trades

Exhibit 72: Open trades G10

Current G10 FX trade recommendations. Prices as of 20-Aug-2024.

Trade Description	Open Date	Entry Price	Expiry Date	Current Price	Rationale	Risks
Buy 2m 1.10/1.13 GBP/CHF risk reversal	19-Aug-24	Rec 0.074% GBP (spot ref 1.1213, vol refs 7.464 and 7.342)	17-Oct-24	-0.2378% GBP	Expected rate differential to support GBPCHF amid cleaner carry positioning.	Renewed global vol and geopolitical shock.
Buy 3m 11.65/11.40 EUR/NOK put spread	9-Aug-2024	0.70% EUR (spot ref 11.8054, vol refs 9.01% and 8.33%)	11-Nov-2024	0.8528% EUR	NOK undervalued vs fundamentals in Q3 '24. Expect NOK weakness to also keep Norge Bank cautious on rate cuts.	Risk-off shock, or strong US data leading to broad-based USD rally.
Buy 6m ATMF EURUSD straddle	8-Apr-2024	3.3558% EUR (spot ref 1.0804, strike ref 1.0880, vol ref 6.019)	7-Oct-24	2.4992% EUR	Current level of 6m implied vol underprices spot trends and risk catalysts in the coming months.	Continuation of the broadly low vol regime for rest of '24 as investors' reluctance to make directional FX trades persists.
Buy 6m 0.96538 EUR/CHF call	3-Apr-24	1.4382% EUR (spot ref 0.97737, vol ref 5.186%)	2-Oct-24	0.2804% EUR	We see more trend-followers chasing a weaker CHF after SNB rate cut. The call structure also benefits from favorable carry and vol backdrop.	ECB cutting by more than current rates market pricing for the year.
Buy NOKSEK	1-Feb-24	0.9949 (target: 1.0240, revised stop/loss: 0.9480)	Spot	0.9757	Relative Norges/Riksbank stance, central bank flows, lighter positioning, hedge higher geopolitical risks	Lower oil prices, weaker than expected Norway data, too high EURSEK for Riksbank's comfort
Buy EUR/USD	16-Nov-23	1.0859 (target 1.15, stop/loss: 1.04)	Spot	1.1079	The trade expresses our baseline cyclical bearish USD view for 2024 on the start of Fed rate cutting cycle and normalization of the overvalued USD	A later than expected start to the Fed rate cutting cycle

BofA GLOBAL RESEARCH

Source: BofA Global Research

Exhibit 73: G10 FX Closed trades
Recently closed trades in G10 FX.

Trade Description	Entry date	Entry Level	Target	Stop	Close date	Level closed
Short USD/CAD via 2m seagull structure	1-Aug-2024	Buy 1.36-strike put funded by short 1.38-1.40 strike call spread. Initially receive 0.26% USD (spot ref 1.3846, vol refs 4.797, 4.674 and 5.156).			19-Aug-2024	0.3158% USD (spot ref 1.3666)
Buy 3m 11.80-11.40 EUR/NOK put spread	23-Jul-2024	0.67% EUR (spot ref 11.9831, vol ref 7.44%/6.7%)			1-Aug-2024	1.32% EUR (spot ref 11.7483, vol refs 8.30%/7.61%)
Buy 3m AUD/CHF risk reversal	6-May-24	Zero-cost (strikes: 0.5795/0.6096, spot reference: 0.5988)			16-Jul-2024	0.13% AUD, spot reference: 0.6019
Buy 3m EUR/SEK call spread	7-Jun-24	0.62% EUR (spot ref 11.3891, strikes 11.40 and 11.60, vol refs 5.7)			12-Jul-24	0.87% EUR, spot ref 11.5009
Buy NZD/CAD	6-Jun-2024	0.8465	0.8750	0.83	4-Jul-2024	0.83
Buy 3m GBP/USD 1.3074 call	8-Mar-2024	0.51% GBP (spot ref: 1.28, vol ref: 5.89%)			10-Jun-24	Option expired OTM, spot ref 1.2731
Buy 3m EUR/JPY 158/155 put spread	26-Jan-24	0.6663% EUR (spot ref: 160.41, vol refs: 8.709 & 8.965)			25-Apr-24	Option expired OTM, spot ref 166.85
Buy 4m EUR/GBP vol swap	16-Nov-23	5.1	6.0	4.5	20-Mar-24	4.3
Buy AUD/NZD 1.0675 call	23-Feb-24	0.51% AUD (spot ref: 1.0592, vol ref: 4.675%)			14-Mar-24	1.15% (spot reference 1.0744)
Buy USDSEK	2-Feb-24	10.49		10.30	26-Feb-24	10.30
Buy 3m 1x1.5 0.8320/0.95 EUR/CHF call spread	2-Jan-24	0.53% EUR (spot ref: 0.9320, vol refs: 5.8% and 5.25%)			20-Feb-24	1.1% EUR (spot ref 0.95127)
Buy 3m GBP/CHF 1.0950/1.1100 call spread	5-Feb-24	0.47% GBP (spot ref: 1.0947, vol refs: 6.2% & 5.6%)			14-Feb-24	0.82% GBP (spot ref 1.1119)
Buy 3m 1x1.5 GBP/SEK call spread	12-Jan-24	0.66% GBP (spot ref: 13.1008, vol refs: 7.95% and 7.47%)			29-Jan-24	0.91% GBP (spot ref: 13.3066, vol refs: 7.38% and 6.89%).
Buy 3m 1.90/1.86 GBP/AUD put spread	16-Nov-23	0.6806% GBP (spot ref: 1.9192, vol refs: 7.207 and 7.007)			3-Jan-24	1.2315% GBP (spot ref 1.8762, vol refs 7.354 and 6.921)
Sell EUR/NOK via 6m risk reversal (buy 6-month 11.35 put and sell 12.20 call)	16-Nov-23	Receive 0.7307% EUR (spot ref: 11.8623, vol refs: 8.929 and 9.108)			3-Jan-24	Trade costs 1.91% EUR (spot ref: 11.3215, vol refs: 9.67%/10.13%)
Sell 1m 143.50/137.00 USD/JPY put spread	8-Dec-23	Receive 1.0024% USD (spot ref: 144.33, vol refs: 10.738 and 13.634)			19-Dec-23	Receive 0.72% USD (spot ref: 144.50, vol refs: 9.431 &11.919)
Buy 1y 25-delta AUD/USD risk reversal (call strike 0.7391, put strike 0.6049)	17-Nov-22	Zero cost (spot ref: 0.6693, vol refs: 12.253 and14.892)			17-Nov-23	0.65 (options expired worthless)
Buy CAD/MXN	23-Oct-23	13.3338	14.00	13.00	01-Nov-23	13.00
Buy EUR/SEK via 3-month collar (buy 3m 11.8380 call, sell 3m 11.3143 put)	13-Oct-23	Zero cost (spot ref 11.5456, 3m 11.8380 call cost at 0.5676% EUR with vol ref 7.394%, 3m 11.3143 put cost same with vol ref 6.701%)			30-Oct-23	1.1199% EUR (spot ref: 11.8250, 11.8380 call costs c. 1.21% EUR with vol ref 6.98%, 11.3143 put costs 0.09% EUR with vol ref 6.51%)
Buy 6m GBP/AUD put seagull (long 6m put spread with strikes at 1.94 and 1.90, short 2.05 call)	08-Sep-23	0.3827% GBP (spot ref 1.9516, put spread vol refs: 8.346/8.099; short call ref: 8.450)			22-Sep-23	1.2341% GBP (spot ref 1.9006, vol refs 7.981 for 1.94 put, 7.477 for the 1.90 put, and 8.043 for the 2.05 call)
Sell 2m 0.89 USD/CHF put	23-Jun-23	Receiving 1.0126% USD (spot ref: 0.8967, vol ref: 6.44)			24-Aug-23	0.8845
Sell 2m 25-delta OTM EUR/GBP put	23-Jun-23	Receiving 0.31% EUR (strike ref 0.8472, vol ref 5.584, spot ref 0.8592, expiry August 24)			03-Aug-23	Spot ref 0.86470, vol ref :4.214)
Buy USD/SEK via 3m collar (buy 3m 10.73 call and sell 3m 9.8960 put)	19-Jul-23	Zero cost (spot ref: 10.2724, vol refs: 12.296% and 10.202%, expiry Oct 19)			01-Sep-23	1.3316% USD (spot ref: 10.6109, vol refs: 11.777% and 10.377%)
Buy 3m USD/CHF vol swap	14-Apr-23	8.15%	9.5%,	7.5%	14-Jul-23	Accumulated 7.6319%
Sell 1y 1.04 EUR/USD put	11-Apr-23	1.1445% EUR (spot ref: 1.0857, vol ref: 8.517)			23-Jun-23	0.5238% EUR (spot ref: 1.0960, vol ref: 7.42)
Buy NOK/SEK	28-Apr-23	0.9638	1.06	0.9280	21-Jun-23	1.0045
Enter 2m/6m USD/CAD put spread (sell 2m 1.40 put, buy 6m 1.40 put)	13-Mar-23	0.96% USD (spot ref: 1.3782, vol refs: 8.123/7.877)			07-Jun-23	1.66% USD (spot ref: 1.3381)
Buy AUD/CAD	14-Mar-23	0.9028		0.89	25-May-23	0.89

BofA GLOBAL RESEARCH

Source: BofA Global Research

Analyst Certification

I, Athanasios Vamvakidis, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Special Disclosures

Options Risk Statement

Options and other related derivatives instruments are considered unsuitable for many investors. Options strategy is by definition governed by a finite duration. The most severe risks associated with general options trading are total loss of capital invested and delivery/assignment risk, all which can occur in a short period.

Disclosures

Important Disclosures

Due to the nature of the market for derivative securities, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.
Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.
Due to the nature of quantitative analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.
Due to the nature of technical analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.
BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.
BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.
The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.
Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.
Refer to BofA Global Research policies relating to conflicts of interest.
"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.
Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.
This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic Communications Disclaimers for further information.
This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information 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. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients

of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

Futures and options are not appropriate for all investors. Such financial instruments may expire worthless. Before investing in futures or options, clients must receive the appropriate risk disclosure documents. Investment strategies explained in this report may not be appropriate at all times. Costs of such strategies do not include commission or margin expenses.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to sustainability in this material is limited as discussed herein and is not intended to provide a comprehensive view on any sustainability claim with respect to any issuer or security.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.