

FX Quant Insight

Look past the first week of the year

Key takeaways

- Last week's FX move was driven more by post-YE profit-taking than reversal of USD downtrend.
- US-based investors have not bought back the USD. Positioning analysis sees bearish USD continuation vs EUR and EM FX.
- We are bullish AUD/JPY this week on positioning and CARS signals.

FX Signal of the Week: Bullish AUD/JPY at: 96.883

Exhibit 1: Technical Matrix and CARS are bullish AUD/JPY for this week

Top signals from quant models

Section	Insight	Rationale
Option Flow	USD calls	Option flow followed spot move and was for USD calls last week.
Technical Matrix	Remains bearish	Despite last week's spot pullback, model remains bearish USD vs the EUR
	USD	and EM FX; also sees uptrend continuation for AUD/JPY.
CARS	Rates regime	Bullish AUD and SEK vs JPY and NOK on rates factor.
Time Zone	European hour USD demand	USD pullback last week largely occurred in European trading hours

Source: BofA Global Research

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Lack of meaningfully bullish USD signals to start the year

The USD rallied back last week after a sharp December selloff. However, we see the price action as short-USD profit-taking rather than a meaningful reversal for the USD downtrend. Notably, currencies that weakened the most last week (JPY, NOK, and AUD) have been the ones that also saw some of the larger gains in December. GBP, which gained the least vs the USD in December, also sold off the least last week. Positioning analysis still shows bearish continuation signals for the USD (Exhibit 5) against the EUR and a wide range of EM FX currencies (BRL, ZAR and CNH). Last week's USD rally also largely occurred during European trading hours (Exhibit 8). Core short USD positions from US-based investors remain in place.

Bullish AUD/JPY on positioning analysis and CARS

Our signals broadly remain more risk-on than risk-off, with the exception of Option Flow, which moved for USD calls in response to the move in spot prices. Positioning analysis and cross-asset factors are bullish AUD/JPY this week. Positioning sees AUD/JPY uptrend continuation with support for residual skew and up/down vol. 2y yield moves last week also supports higher AUDJPY. The risks to this view are higher than expected Tokyo CPI and higher than expected US CPI this week. The latter would be against this trade indirectly via the risk sentiment channel.

08 January 2024

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For more details on the construction of the quant signals, please refer to the [Global Rates and FX Primer: FX Quant Insight: decipher weekly FX signals 07 September 2022](#).

ADX: Average Directional Movement Index

CARS (model): Cross-Asset Regime Switching

DMI: Directional Movement Index

MAA: Moving Average Aggregator

RS: Residual Skew

SDR: Swap Data Repository

UD: Up/Down volatility

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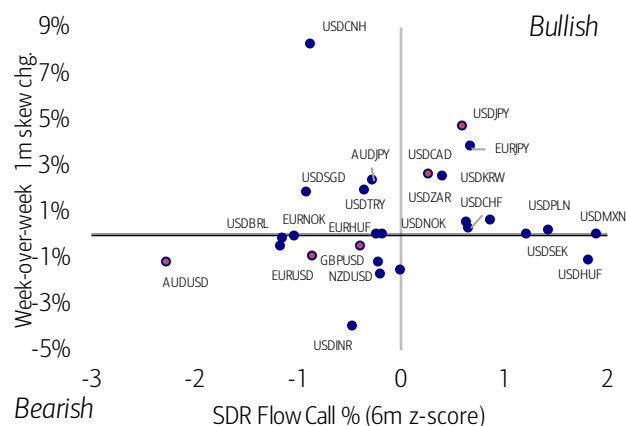
Option Flow Signals

Our options flow signals combine Event analysis framework ([FX Viewpoint: Vol-guided decisions 18 March 2021](#)) with SDR flows data ([FX Viewpoint: SDR: What do FX options flows tell us? 01 February 2021](#)) to gauge bullish and bearish sentiments.

To learn more about FX volatility and options please refer to our [FX Volatility Dashboard](#) as well as the FX Vol Dashboard Primer ([Global Rates and FX Primer: 09 March 2022](#)).

Exhibit 2: Option flow moved for USD calls in first week of 2024

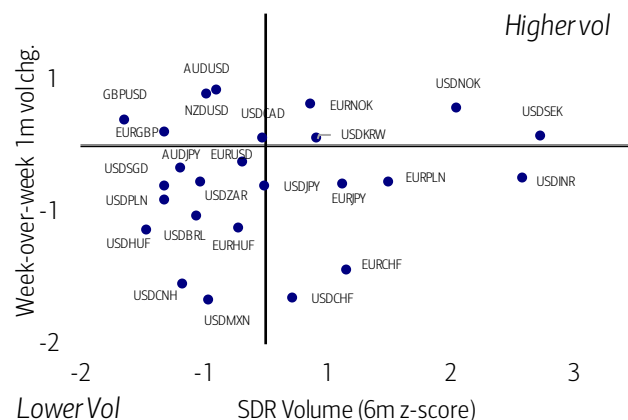
1m skew change vs call percentage z-score



Source: BofA Global Research, DTCC. Note: CNH flows are proxied by "CNY" flows in SDR.
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Exhibit 3: JPY led FX vols higher last week

1m implied vol change vs volume z-score



Source: BofA Global Research, DTCC. Note: CNH flows are proxied by "CNY" flows in SDR.
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Exhibit 4: Rising put skews are moderately bearish for JPY, CAD, KRW, and MXN vs the USD

Event analysis signals after last week's spot and vol moves

Pair	Old spot	New spot	1m vol	1m vol chg	1y vol	1y vol chg	1y - 1m chg	Currency	Return vs USD	1m skew % chg vs		Signals
										USD	USD	
EURUSD	1.1045	1.0954	6.93	-0.13	6.72	0.02	0.15	EUR	-0.83%	-0.98		EUR No Signal
USDJPY	140.89	144.36	10.76	-0.31	9.69	0.03	0.34	JPY	-2.43%	-4.26		JPY No Signal
GBPUSD	1.2727	1.2719	7.53	0.19	8.09	0.09	-0.10	GBP	-0.06%	-0.43		GBP No Signal
USDCHF	0.8407	0.8494	7.51	-1.16	7.25	-0.41	0.75	CHF	-1.03%	0.28		CHF No Signal
AUDUSD	0.6813	0.6688	10.13	0.39	9.98	0.11	-0.27	AUD	-1.85%	-1.07		AUD No Signal
USDCAD	1.3239	1.3389	5.91	0.04	6.09	0.06	0.01	CAD	-1.13%	-2.57		CAD No Signal
USDSEK	10.0760	10.2313	11.92	0.06	11.09	0.04	-0.02	SEK	-1.53%	0.04		SEK No Signal
USDNOK	10.1724	10.3680	13.11	0.28	12.34	0.16	-0.12	NOK	-1.90%	0.01		NOK No Signal
NZDUSD	0.6325	0.6224	10.31	0.41	10.08	0.06	-0.35	NZD	-1.61%	-1.07		NZD No Signal
USDSGD	1.3203	1.3305	4.85	-0.31	4.68	-0.05	0.26	SGD	-0.77%	-1.76		SGD No Signal
USDKRW	1288.1	1315.9	9.70	0.06	9.62	0.17	0.12	KRW	-2.13%	-2.53		KRW No Signal
USDMXN	16.9720	16.8888	10.31	-1.18	12.60	-0.38	0.79	MXN	0.49%	-2.69		MXN No Signal
USDTRY	29.5280	29.8937	8.73	-0.01	23.39	-0.44	-0.43	TRY	-1.23%	-1.95		TRY No Signal
USDZAR	18.3621	18.6870	14.70	-0.28	15.37	-0.03	0.25	ZAR	-1.75%	-0.73		ZAR No Signal
USDHUF	347.2	344.6	11.00	-0.64	12.17	-0.47	0.17	HUF	0.77%	0.22		HUF No Signal
USDPLN	3.9360	3.9681	10.62	-0.41	10.76	-0.08	0.33	PLN	-0.81%	-0.68		PLN No Signal

Source: BofA Global Research, Bloomberg.

The table shows the 1-year percentile and 1-week change in 1m and 1y implied vol, the 1y-1m spread, and the 1m 25 delta risk reversal as a percentage of the ATM. For a currency with a put skew, the rules for generating the signal column are the following:

[1] Bearish Continuation: Spot change < -1%, 1m vol change > 0.5%, 1y vol change > 0%, 1m skew chg. < -2; [2] Bearish Contrarian: Spot change > 1%, 1m skew change < -2; [3] Bullish Continuation: Spot change > 2%, 1y-1m change < -0.1%, 1m skew change > 2; [4] Bullish Contrarian Spot change < -1%, 1m vol change < -0.2%, 1m skew chg. > 1.

Parameters that triggered a bearish condition are colored in red; parameters that triggered a bullish condition are colored in green.

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Technical Matrix

The Technical Matrix is a table of technical indicators ([Get to know even more technical strategy. 24 January 2022](#)) and BoFA positioning analysis ([Global Rates and FX Primer: 01 October 2018](#)) that look at trend following and reversal signals. To learn more about a variety of technical strategies, please see [Technicals Explained primer](#), as well as our Quantifying Technicals publications for [the ADX](#) and [Bollinger indicators](#).

Exhibit 5: Despite last week's pullback, positioning analysis remains bearish USD vs EUR, BRL, ZAR, and CNH

Technical matrix with positioning analysis and key levels to watch

	Spot	Positioning Trend	Bullish / Bearish	ADX Trend	Bollinger Bands	Next Support	Next Resistance
USD	EURUSD	1.0957	↑	Bullish	Uptrend	None	1.0872
	USDJPY	144.35	↓	No Signal	Uptrend	None	143.36
	GBPUSD	1.2724	↑	No Signal	Uptrend	None	1.2631
	AUDUSD	0.669	↑	No Signal	Downtrend	None	0.6610
	USDCHE	0.8493	↓	Slightly Bullish	Downtrend	None	0.8333
	USDCAD	1.3394	↓	No Signal	Downtrend	None	1.3093
	NZDUSD	0.6224	↑	No Signal	Uptrend	None	0.6156
	USDSEK	10.24	↓	Slightly Bullish	Uptrend	None	9.9066
EUR	USDNOK	10.3701	↓	No Signal	Downtrend	None	10.3566
	EURGBP	0.8611	↓	No Signal	Range	None	0.8493
	EURJPY	158.16	↔	No Signal	Transition	None	155.40
	EURAUD	1.6378	↓	No Signal	Range	None	1.6374
	EURCHF	0.93053	↓	No Signal	Downtrend	None	0.9255
	EURCAD	1.4675	↔	No Signal	Range	None	1.4635
	EURNZD	1.7603	↓	No Signal	Downtrend	None	1.7565
	EURSEK	11.2197	↓	No Signal	Uptrend	None	10.9882
G10 Cross	EURNOK	11.3627	↓	No Signal	Downtrend	None	11.3257
	AUDJPY	96.569	↑	Bullish	Range	None	95.78
	AUDNZD	1.0748	↓	Slightly Bullish	Range	None	1.0560
	AUDCAD	0.896	↑	Bullish	Transition	None	0.8948
	NOKSEK	0.9874	↔	No Signal	Uptrend	None	0.9784
	CADJPY	107.774	↔	No Signal	Range	None	106.29
	GBPJPY	183.67	↔	No Signal	Range	None	183.49
	NZDJPY	89.85	↑	Bullish	Range	None	89.53
EM	GBPCHF	1.0806	↓	No Signal	Downtrend	None	1.0637
	USDMXN	16.8616	↓	Slightly Bullish	Downtrend	None	16.6262
	USDBRL	4.8783	↓	Bearish	Range	None	4.6964
	USDZAR	18.6651	↓	Bearish	Range	None	18.5931
	EURPLN	4.3412	↓	No Signal	Uptrend	None	4.2935
	EURHUF	377.55	↓	No Signal	Range	None	367.59
	USDKRW	1315.85	↓	No Signal	Range	None	1314.83
	USDINR	83.135	↔	No Signal	Range	None	82.71
	USDCNH	7.1693	↓	Bearish	Downtrend	None	7.1120

Data as of 01/08/24. **Source:** BoFA Global Research, Bloomberg.

Positioning: uptrend has MAA > 60, downtrend MAA < 40. Positioning: uptrend reversal likely if MAA/UD/RS > 80, continuation likely if UD, RS < 50. Positioning: downtrend reversal likely if MAA/UD/RS < 20, and continuation likely if UD, RS > 50. UD and RS are 1y percentile and MAA is in %.

Positioning: is bullish (green) if matrix shows downtrend reversal or uptrend continuation; Positioning: is bearish (red) if matrix shows uptrend reversal or downtrend continuation.

Positioning: is slightly bullish or slightly bearish (yellow) if only one of UD or RS supports the signal.

ADX: downtrend if ADX > 25 and DMI+ is below DMI-. ADX: uptrend if ADX > 25 and DMI+ is above DMI-. ADX shows Transition if ADX is between 20 and 25, and Range if ADX < 20. Cells in the ADX Trend column are colored with more intensity if the ADX trend signal matches the positioning signal. 14-day lookback is used for the ADX indicators.

The Bollinger Bands column shows 'Upper' if spot is above the +2 std bollinger band, and 'Lower' if spot is below the -2 std band. 20-day SMA is used for Bollinger indicators.

Cells in Next Support and Next Resistance columns are colored if spot is within 0.5% of the support or resistance level.

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CARS Signals

CARS (“cross-asset regime-switching”) is a systematic model that makes weekly buy/sell decisions for G10 currencies based on cross-asset factors (equity, rates, and commodities). FX’s relationship with other asset classes is not constant over time, and investors could flock to own haven currencies during shock periods. The CARS model chooses the most performing factor for the appropriate macro regime of the week ([FX Viewpoint: CARS model: weekly FX cross-asset drivers 22 June 2022](#)).

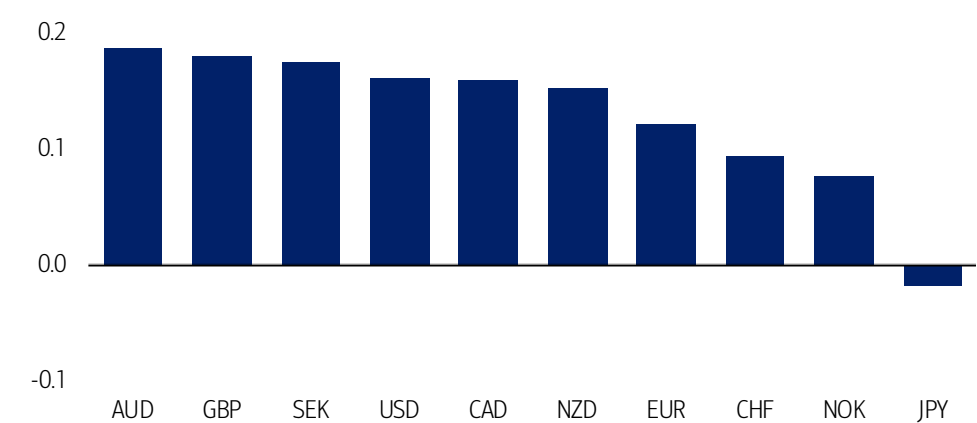
Exhibit 6: Rates factor is bullish AUD and SEK vs JPY and NOK
CARS signals for a trending week (no macro shock)

Currency	Bullish/Bearish	Equity	Rates	Commodity	Global regime	Values
EUR		8	5	4	Commodity z-score	-0.6
JPY	Bearish	5	10	9	Performing factor	Rates
GBP		7	7	5		
AUD	Bullish	10	1	3		
CAD		2	3	2	USD Equity	4
CHF		1	8	6	USD Rates	6
NZD		6	4	8		
SEK	Bullish	9	2	7		
NOK	Bearish	3	9	1		

The Equity ranking is ordered by 5y z-score of 1-week equity return. The Rates ranking is ordered by 5y z-score of 1-week rate change and level of 2y swap rate. The Commodity ranking is ordered by 52-week FX correlation with BCOM. The Commodity z-score is the 1y z-score of 1-week BCOM Index return.

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Exhibit 7: Yields broadly increased in G10 last week except for JP
2y global yield change



Source: BofA Global Research, Bloomberg

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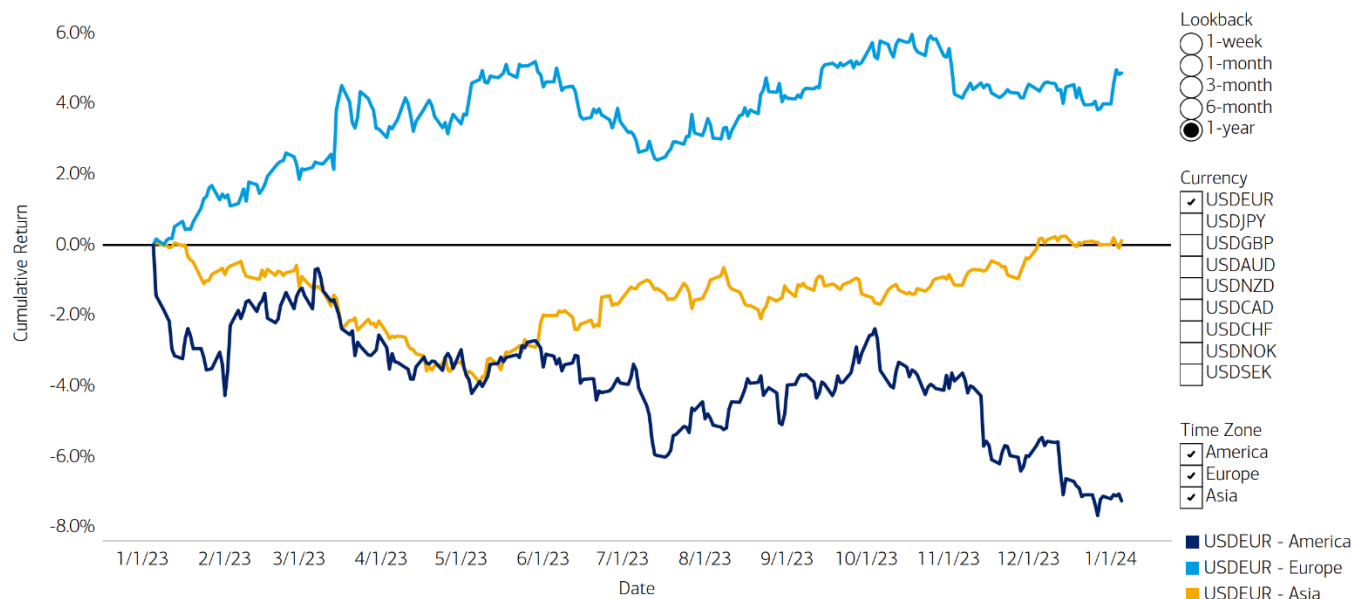


Interactive Time Zone

Expanding exhibits in the HTML view shows cumulative FX returns at different lookback periods, currency groupings, and time zones ([FX Watch: Interacting with time zones 06 July 2022](#)). Hours are shown in Coordinated Universal Time (UTC). We define America time zone as 1pm-12am UTC (8am-7pm EST), Europe time zone as between 8am-1pm UTC (3am-8am EST), and Asia time zone as between 12am to 8am UTC (7pm-3am EST).

Exhibit 8: USD selloff in 2023 mainly driven by US-hour activity; last week's pullback was driven by USD demand in European trading hours

Interactive time zone plot. For readers of the web-formatted version of this report, access interactive features of the visualization by clicking on the image. Use Google Chrome or Microsoft Edge browsers for the best experience



Source: BofA Global Research, Bloomberg

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Exhibit 9: USD rallied mainly in European trading hours last week (8am-2pm UTC)

Interactive time zone plot. For readers of the web-formatted version of this report, access interactive features of the visualization by clicking on the image. Use Google Chrome or Microsoft Edge browsers for the best experience

	8am-11am	11am-2pm	2pm-5pm	5pm-8pm	8pm-11pm	11pm-2am	2am-5am	5am-8am	Lookback
USDEUR	0.3%	0.6%	-0.3%	0.1%	0.1%	0.7%	0.1%	0.1%	● 1-week
USDJPY	0.9%	1.0%	-0.4%	-0.1%	0.0%	2.3%	0.2%	0.4%	○ 1-month
USDGBP	0.5%	0.8%	-0.8%	0.1%	-0.1%	0.3%	0.0%	-0.3%	○ 3-month
USDAUD	0.8%	1.2%	-0.4%	0.1%	0.1%	1.6%	-0.2%	-0.1%	○ 6-month
USDNZD	0.5%	1.4%	-0.3%	0.1%	-0.3%	1.3%	-0.4%	0.1%	○ 1-year
USDCAD	0.2%	0.7%	-0.1%	0.3%	-0.1%	0.8%	0.2%	-0.2%	
USDCHF	0.9%	0.4%	-0.8%	0.1%	-0.3%	0.6%	0.3%	0.2%	
USDNOK	0.0%	1.6%	-0.9%	0.6%	-0.3%	1.0%	0.0%	0.4%	
USDSEK	0.1%	1.4%	-0.3%	0.2%	0.1%	1.4%	0.3%	0.2%	

Hours are as of UTC. Currency pairs with greater loss over the lookback period are colored in darker red. Currency pairs with greater gain over the lookback period are colored in darker green. We denote America time zone as between 1pm to 12am UTC, Europe time zone as between 8am to 1pm UTC, and Asia time zone as between 12am to 8am UTC.

Source: BofA Global Research, Bloomberg

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