

## FX Quant Insight

## EURJPY uptrend turning lower

## Key takeaways

- Our models are bearish EURJPY with uptrend running out of steam. Skew and SDR options flows are bearish.
- Local Asia-hour investors did not chase weaker JPY last week.
- USD lacks trends notable trends with more signals coming from the crosses.

## FX Signal of the Week: Bearish EUR/JPY at 163.30

**Exhibit 1: Option flow and the technical matrix are bearish EURJPY this week**

Top signals from quant models

Section	Insight	Rationale
Option Flow	Bearish EURJPY	Options investors bought EURJPY puts last week.
Technical Matrix	Bearish EURJPY	Positioning analysis is bearish EURJPY.
CARS	Bearish CAD	CARS is bullish EUR vs CAD and CHF on rates factor.
Time Zone	Asia hour NZD demand	Asia hour demand for NZD and AUD. Asia is also not bearish JPY.

Source: BofA Global Research

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## USD lacks directional trend

Investors continue to lack a USD conviction as catalysts remain elusive. Our trending model in the technical matrix lacks USD signals with most signals occurring on the crosses (Exhibit 5). In addition, our internal USD flows have also been non-directional ([Liquid Cross Border Flows, 26-Feb 2024](#)). Although USDJPY skew has tilted for puts last week, the SDR options flows have chased spot higher with a larger proportion of USDJPY calls. By contrast, Asia investors are not bearish JPY with USDJPY failing to rally in local hours (Exhibit 8).

## Options are bearish EUR/JPY

On the crosses, the clearest signal this week is bearish EUR/JPY. The EURJPY MAA uptrend is ripe for a reversal with a bearish signal in the technical matrix as the pair is seeing rising volatility against the trend on the way down and Residual Skew had moved for puts (Exhibit 5). The SDR flows also confirm the uptrend is growing increasingly stretched with a rising proportion of EURJPY puts (Exhibit 2), unlike USDJPY options flows favoring calls. The risk to this view would be a positive surprise in European data.

26 February 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](#).

CARS (model): Cross-Asset Regime Switching

SDR: Swap Data Repository

MAA: Moving Average Aggregator

UD: Up/Down volatility

RS: Residual Skew

ADX: Average Directional Movement Index

DMI: Directional Movement Index

NFP: Non-farm payrolls

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Timestamp: 26 February 2024 10:51PM EST

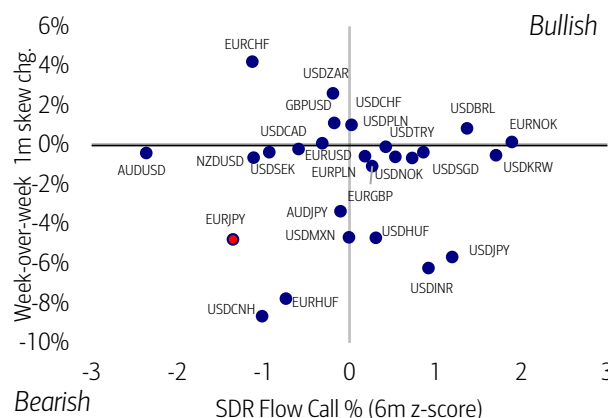
# Option Flow Signals

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: Investors bought EURJPY puts and CNH calls last week

1m skew change vs call percentage z-score

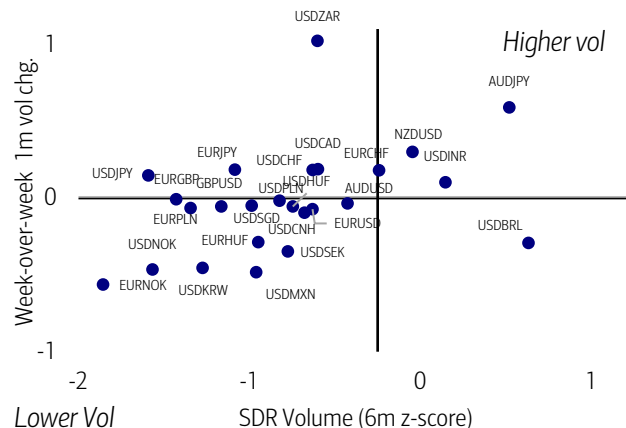


Source: BofA Global Research, DTCC. Note: CNH flows are proxied by "CNY" flows in SDR.

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## Exhibit 3: Short-dated implied vols broadly declined 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: USDJPY put skew has tilted for puts as March BOJ meeting has entered the 1m tenor

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	1.0779	1.0852	5.59	-0.05	6.37	-0.30	-0.24	EUR	0.67%	-0.28	-0.28	EUR No Signal
USDJPY	150.13	150.80	7.31	0.13	8.51	-0.78	-0.91	JPY	-0.45%	5.51	5.51	JPY No Signal
GBPUSD	1.2594	1.2681	5.80	-0.06	7.37	-0.29	-0.23	GBP	0.69%	1.04	1.04	GBP No Signal
USDCHF	0.8824	0.8804	6.61	0.20	6.99	-0.34	-0.54	CHF	0.23%	-1.07	-1.07	CHF No Signal
AUDUSD	0.6540	0.6536	8.06	-0.06	9.07	-0.51	-0.45	AUD	-0.06%	-0.49	-0.49	AUD No Signal
USDCAD	1.3491	1.3516	5.00	0.20	5.80	0.04	-0.16	CAD	-0.19%	0.29	0.29	CAD No Signal
USDSEK	10.4058	10.2852	8.99	-0.35	9.97	-0.44	-0.09	SEK	1.17%	0.18	0.18	SEK No Signal
USDNOK	10.4851	10.5124	9.26	-0.45	10.88	-0.50	-0.05	NOK	-0.26%	0.36	0.36	NOK No Signal
NZDUSD	0.6150	0.6171	8.60	0.27	9.23	-0.48	-0.74	NZD	0.34%	-0.63	-0.63	NZD No Signal
USDSGD	1.3460	1.3447	3.45	-0.01	4.37	-0.05	-0.04	SGD	0.10%	0.43	0.43	SGD No Signal
USDKRW	1335.1	1331.1	7.32	-0.44	8.53	-0.36	0.08	KRW	0.30%	0.53	0.53	KRW No Signal
USDMXN	17.0424	17.1155	7.98	-0.49	10.88	-0.51	-0.02	MXN	-0.43%	2.80	2.80	MXN No Signal
USDTRY	30.8525	31.1216	6.15	-0.11	18.53	-0.44	-0.33	TRY	-0.87%	0.28	0.28	TRY No Signal
USDZAR	18.9612	19.3254	12.70	1.01	14.86	0.05	-0.96	ZAR	-1.90%	-1.94	-1.94	ZAR No Signal
USDHUF	360.7	358.9	9.10	-0.03	11.01	-0.30	-0.27	HUF	0.50%	4.62	4.62	HUF No Signal
USDPLN	4.0149	3.9740	8.47	-0.04	9.79	-0.27	-0.23	PLN	1.02%	0.09	0.09	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: Positioning analysis is bearish EURJPY and AUDJPY

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	1.0848	↔	No Signal	Range	None	1.0828	1.0862
	USDJPY	150.78	↑	No Signal	Transition	None	147.63	151.91
	GBPUSD	1.2676	↑	No Signal	Range	None	1.2631	1.2677
	AUDUSD	0.6534	↓	No Signal	Transition	None	0.6511	0.6555
	USDCHE	0.8807	↔	No Signal	Transition	None	0.8766	0.8836
	USDCAD	1.352	↑	No Signal	Range	None	1.3496	1.3541
	NZDUSD	0.6172	↑	No Signal	Range	None	0.6168	0.6182
	USDSEK	10.2908	↓	Slightly Bullish	Range	None	9.9066	10.3269
USDNOK	10.5167	↓	No Signal	Range	None	10.4497	10.6118	
EUR	EURGBP	0.8558	↓	No Signal	Range	None	0.8493	0.8585
	EURJPY	163.57	↑	Bearish	Transition	None	159.66	164.30
	EURAUD	1.6602	↑	No Signal	Transition	None	1.6527	1.7065
	EURCHF	0.95534	↑	No Signal	Uptrend	None	0.9484	0.9555
	EURCAD	1.4666	↔	No Signal	Range	Upper	1.4641	1.4748
	EURNZD	1.7576	↓	Bearish	Range	None	1.7539	1.7610
	EURSEK	11.1634	↓	Bullish	Transition	None	10.9988	11.2426
	EURNOK	11.4086	↓	No Signal	Range	None	11.3788	11.5177
G10 Cross	AUDJPY	98.526	↑	Bearish	Transition	None	97.18	98.62
	AUDNZD	1.0587	↓	Slightly Bullish	Transition	None	1.0560	1.0726
	AUDCAD	0.8834	↓	No Signal	Transition	None	0.8821	0.8843
	NOKSEK	0.9785	↓	No Signal	Range	Lower	0.9497	0.9867
	CADJPY	111.53	↑	Bullish	Range	None	111.17	111.80
	GBPJPY	191.13	↑	Bearish	Uptrend	None	188.66	191.32
	NZDJPY	93.06	↑	Slightly Bearish	Uptrend	None	91.52	93.45
	GBPCHF	1.1163	↑	Bullish	Uptrend	None	1.1108	1.1174
EM	USDMXN	17.1011	↓	Bearish	Transition	None	17.0704	17.2753
	USDBRL	4.9863	↑	No Signal	Range	None	4.9491	5.0184
	USDZAR	19.3354	↑	No Signal	Transition	Upper	18.9650	19.9204
	EURPLN	4.3132	↓	No Signal	Range	None	4.2935	4.3444
	EURHUF	389.59	↑	Bearish	Uptrend	None	389.13	402.45
	USDKRW	1331.10	↑	No Signal	Range	None	1323.02	1363.67
	USDINR	82.8987	↓	No Signal	Transition	None	82.85	83.09
	USDCNH	7.2115	↔	No Signal	Range	None	7.1850	7.2145

Data as of 02/26/24. 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 lookahead 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: CARS is bullish EUR vs. CAD and CHF on rates factor

CARS signals for a trending week (no macro shock)

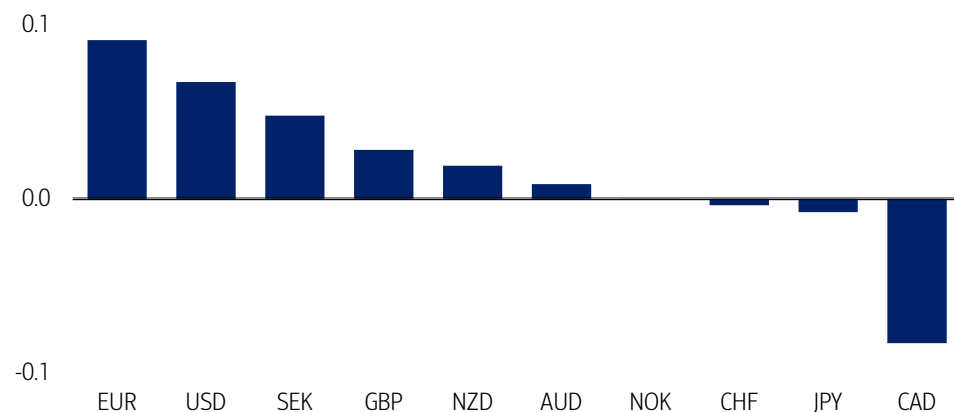
Currency	Bullish/Bearish	Equity	Rates	Commodity	Global regime	Values
EUR	Bullish	1	1	4	Commodity z-score	-0.2
JPY		2	3	9	Performing factor	Rates
GBP		10	6	8		
AUD		8	8	3		
CAD	Bearish	7	10	1	USD Equity	3
CHF	Bearish	5	9	5	USD Rates	2
NZD		6	7	7		
SEK		4	4	6		
NOK		9	5	2		

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: 2y swap rates broadly rose for EUR and USD, while falling for CAD last week

2y global yield change



Source: BofA Global Research, Bloomberg

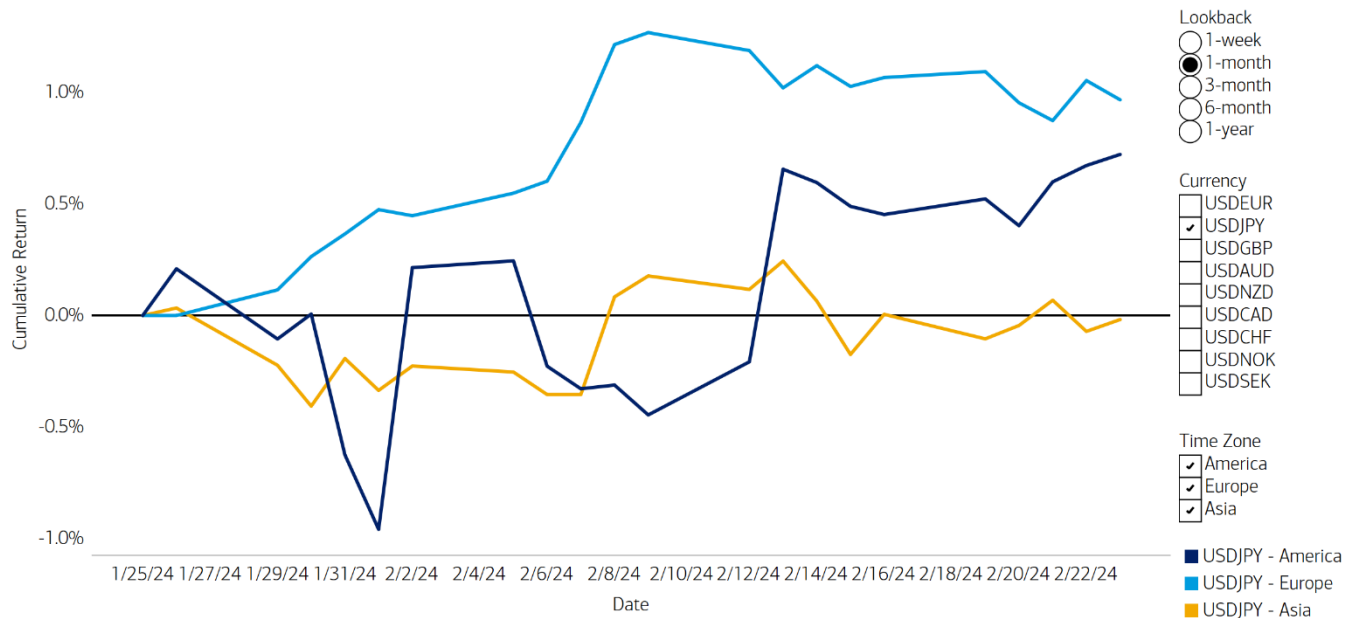
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## Interactive Time Zone

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: USDJPY has failed to rally in local Asia hours last week

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 gained in European trading hours and fell in US trading hours last month

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	0.5%	1.6%	-1.2%	0.0%	0.0%	0.7%	0.5%	0.2%	1-week
USDJPY	1.1%	2.2%	-0.2%	0.1%	-0.8%	4.3%	0.3%	1.3%	1-month
USDGBP	0.9%	1.8%	-2.0%	-0.2%	-0.4%	0.2%	0.4%	-0.3%	3-month
USDAUD	1.3%	2.8%	-1.1%	-0.3%	-0.2%	3.0%	1.4%	0.8%	6-month
USDNZD	0.9%	3.2%	-1.2%	0.1%	-0.7%	2.9%	1.1%	1.2%	1-year
USDCAD	0.4%	0.9%	-0.1%	0.3%	-0.4%	1.3%	0.4%	0.0%	
USDCHF	0.9%	1.3%	-1.6%	0.4%	-0.8%	0.9%	0.9%	0.4%	
USDNOK	-0.8%	3.0%	-1.4%	0.7%	-0.3%	3.5%	1.2%	1.1%	
USDSEK	0.5%	3.2%	-0.5%	0.8%	-0.4%	3.6%	1.3%	0.5%	

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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## 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.



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