FX Viewpoint

SDR: What do FX options flows tell us?

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G10 FX Strategy
Global

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Key takeaways

- Cumulative 2020 put/call ratio saw option sentiment most stretched for EUR.
- But open interest for H1 2021 shows option investors are still bullish EUR and AUD.
- We observe spot following average strike prices; signals suggest near-term rally for EUR and KRW.

How sentiment evolved in 2020 and since

In this report we look at how option sentiment evolved in 2020 from the SDR flows. According to the *cumulative* put/call ratio as proxy for sentiment, option investors were very bullish EUR and JPY against USD in 2020 (Chart 1). EURUSD *cumulative* put/call ratio tilted for calls as early as April last year. For AUD, CAD, and NZD, among the so-called "high-betas" in G10, the option investors had only turned broadly bullish after August (Chart 2). The *cumulative* put/call ratios for these currencies have been trending for calls but remain above 100%, suggesting sentiment for these currencies is not as stretched as for EUR.

Option investors were broadly bullish EM currencies against USD in 2020. ZAR is the only major EM currency where the cumulative put/call ratio is still for ZAR puts (Chart 3). Investors currently hold the most bullish sentiment for RUB, MXN and INR in EM (Chart 12).

Option positioning in 2021

We further examine open interest for unexpired trades at H1 2021 tenors. Option investors continue to position for upsides in EUR, JPY, and AUD against USD (Chart 4, Chart 5). On the other hand, sentiment are neutral for CAD and NZD, and bearish for GBP against USD in Q2 2021 (Chart 4, Chart 5). Option investors are broadly bullish EM for Q1 2021, with heavy put volumes particularly positioned in MXN, CNY, and BRL (Chart 6).

Spot follows weighted option strikes

Trends in notional-weighted average strike prices for trades in each month indicate direction for spot next month. For 2020, we find the average strike prices have a hit ratio of 64% for average spot prices in the next month, and a hit ratio of 59% for month-end spot prices in the next month. The latest average strike price signals show near-term upside risks EUR and KRW against USD into February (Chart 9, Chart 10).

Use SDR data to gauge investor sentiment

Swap data repositories ("SDR") were created by the Dodd-Frank Reform and provide a central facility for swap data recordkeeping by US-based financial institutions. The relative volume and direction of reported option flows could assist in gauging positioning. In this viewpoint we aggregate all available vanilla and NDO (non-deliverable option) trades available from SDR from beginning of 2020 to now. We examine how FX sentiment evolved last year, and how investors are positioned for the rest of 2021.

A recap of 2020 options sentiment

Use cumulative put/call ratio to proxy sentiment

To have a sense of how the market sentiment evolved last year and the latest flows, we denote the *cumulative* aggregated notional amount for all put trades divided by the cumulative aggregated notional amount for all call trades as put/call ratio, spanning several months up to a given month in 2020 (year-to-date). The put/call ratio above 100% would be bearish as investors bought more puts than calls, and the put/call ratio below 100% would be bullish.

For example, if the aggregated notional amount of all put trades for EURUSD in January 2020 was $80 billion and the aggregated notional for all call trades was $100 billion, the *cumulative* put/call ratio for January 2020 would be 80%. We also want to consider how the sentiment evolves over time and calculate year-to-date sum. If, for example, suppose in February, the aggregated put notional was $110 billion and the aggregated call notional was still $100 billion. Combining the two months, the cumulative put/call ratio in February would be (110+80)/(100+100) = 95%, a more bearish signal than for the January's example of 80%, capturing a pickup in put flows on the currency.

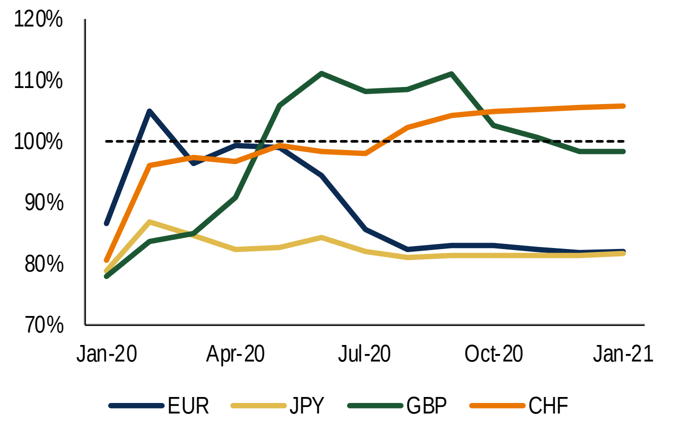
G4 2020: bullish EUR, JPY; bearish CHF

From January 2020 until the present, option investors held bullish sentiments for EUR and JPY, moderately bullish GBP, and bearish CHF among G4 currencies (Chart 1). Last year, option investors held a neutral EUR view until June, then turned sharply bullish EUR throughout the summer, in-line with the spot price action we observed. Though the pace has slowed down, EURUSD put/call ratio trend are still point to the downside. Investors turned bullish GBP in October, and now hold net bullish GBP sentiment.

G10 "high-betas" in 2020: bullish trends for AUD, NZD, CAD

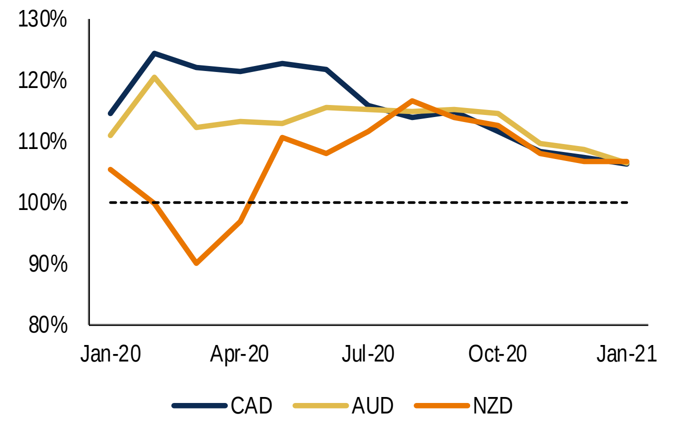
Among the so-called "high-betas" currencies in G10 (excluding the Scandies due to low option volume), investors were bearish NZD until August last year on the back of negative policy rate concern, but have since then turned bullish on all three currencies (Chart 2). Against the EUR, the *cumulative* put/call ratio for these three currencies (AUD, NZD, CAD) are still above 100% with cumulative put/call ratios trending to the downside, showing there may be higher upside for these three pairs versus EUR in 2021.

Chart 1: G4/USD cumulative Put/Call ratio



The ratios are computed using a cumulative sum since Jan 2020. Source: BofA Global Research, DTCC

Chart 2: G10 "High-beta" cumulative Put/Call ratio

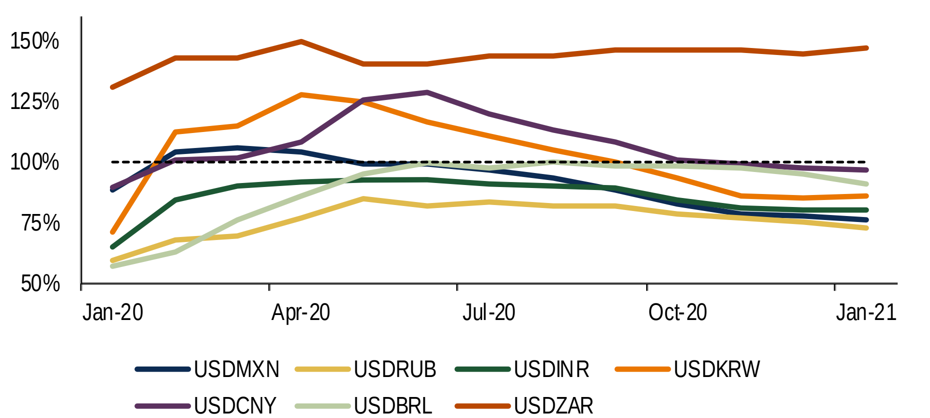


The ratios are computed using a cumulative sum since Jan 2020. Excluding the Scandies due to lack of volume. Source: BofA Global Research, DTCC

EM in 2020: Bullish trends for all EMs except ZAR

Option investors were very bullish EM currencies in the second half of 2020. By October last year, the cumulative put/call ratios have dropped below 100% for all the EM currencies with the exception of ZAR (Chart 3). The trends in EM are in-line with our views, as we also remain constructive on EM FX, but see idiosyncratic risk for ZAR. Investors currently hold the most bullish sentiment for RUB, MXN and INR in EM (Chart 12).

Chart 3: EM/USD cumulative Put/Call ratio



The ratios are computed using a cumulative sum since Jan 2020. Source: BofA Global Research, DTCC

How are option investors positioned for H1 2021

We now turn our attention to open interest of unexpired option trades from January 2020 until the present for future expiries. Chart 4 to Chart 6 show the aggregated unexpired net notional (call notional – put notional) for each currency. Having net notional above zero at a given tenor means investors currently have more call notional than put notional at this tenor, translating to bullish sentiment; vice versa for net notional below zero.

One limitation of open interest is the lack of open interest for back-end tenors into the future, given options are mostly traded at short horizons. As a result we only analyze open interest in the first half of 2021.

G4 2021: bullish EUR, JPY; bearish GBP

Going into 2021, investors continue to have bought net EURUSD calls and USDJPY puts (Chart 4). According to the open interest, the bullish trend for EUR and JPY should at least continue into April 2021. On the other hand, GBP may see some downside risk in

Q2 2021, as investors are currently positioned for GBPUSD puts in May and June. We hold the same view and expect medium-term weakness in GBP.

G10 “high-betas” in 2021: bullish AUD; neutral CAD and NZD

For the so-called “high-betas” in G10, AUD open interest is still heavily skewed for calls (Chart 5). On the other hand, option investors appear to be taking a more neutral stance on CAD and NZD, as net notional amounts show a lack of direction.

Chart 4: Open interest for G4

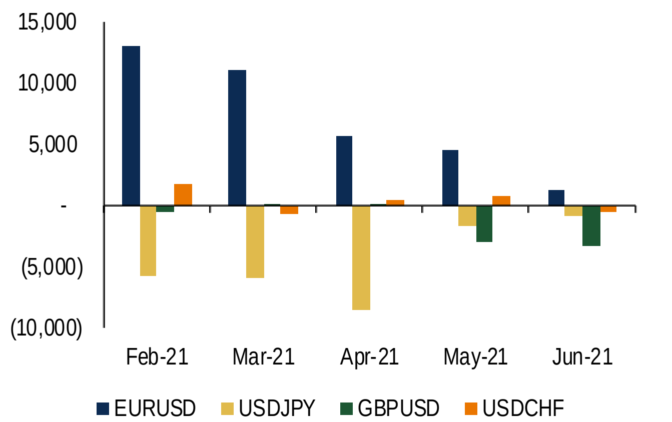


Chart shows the aggregated expired notional amount for all trades made from Jan 2020 to now.
Source: BofA Global Research, DTCC

Chart 5: Open interest for G10 “high-betas”

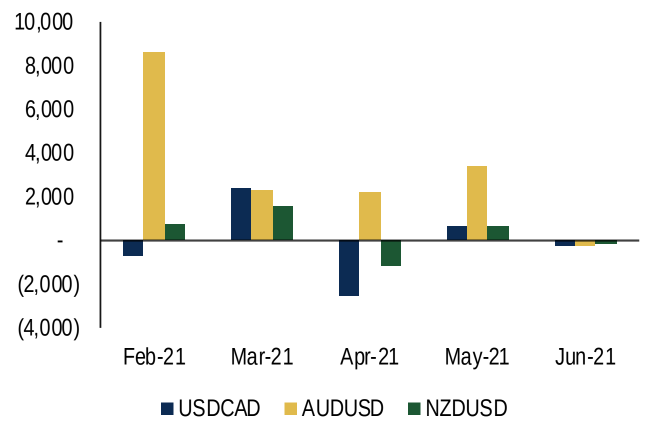


Chart shows the aggregated expired notional amount for all trades made from Jan 2020 to now. Excluding the Scandies due to lack of volume. Source: BofA Global Research, DTCC

EM in 2021: remain bullish in Q1

Option investors are still bullish EM currencies against USD, at least into Q1 2021. Heavily volume in MXN, CNY and BRL are skewed for USD puts in February and March 2021 (Chart 6). At longer-term tenors, the picture is less clear due to lack of open interest. Current levels for Q2 may just be a result of some EM exporters hedging for foreign-profit repatriation and the more speculative trades have yet to be made in EM.

Chart 6: Open interest for EM

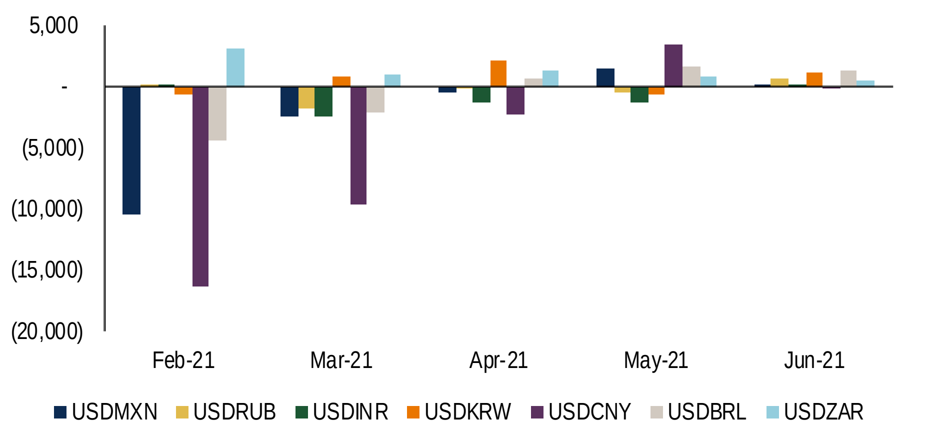


Chart shows the aggregated expired notional amount for all trades made from Jan 2020 to now. Source: BofA Global Research, DTCC

Extracting information from strikes

Average strike price provides valuable information

SDR also reports strike information for all of the vanilla option trades and these strike prices also indicate that may have been overlooked by investors. Using historical data from beginning of 2020, we calculate the notional-weighted average strike price for trades expiring in the next month for each currency pair, and found the direction of the average strike prices has a hit ratio of 64% in matching the direction of next month’s average spot price and a hit ratio of 59% in matching the direction next month’s month-end price.

We conducted the same exercise using a change in cumulative put/call ratio and open interest for the past year. Result shows these two metrics are only able to respectively achieve hit ratios of 58% and 53% in matching direction of next month's average spot price (Table 1). The result suggest strike price provides incremental explanatory power that should not be overlooked.

Table 1: Spot tends to follow in the direction indicated by strikes weighted by notional amount

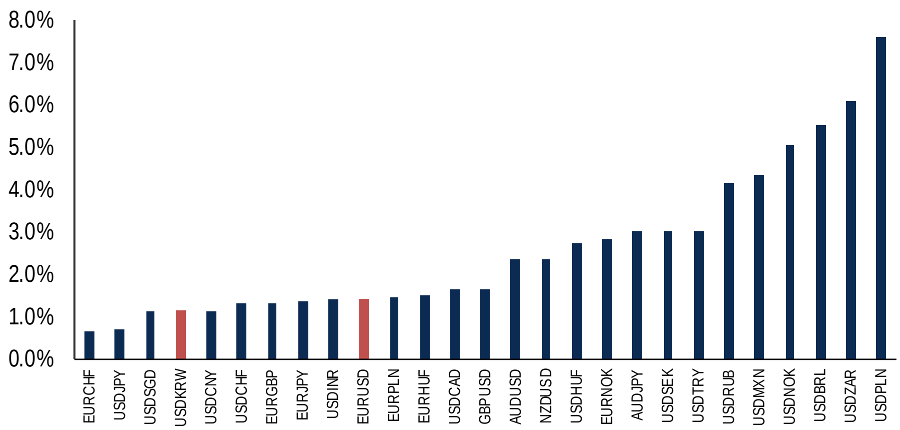
	Hit Ratio vs next month's average spot price
Weighted av erage of current month's strike price	64%
Change in cumulative put/call ratio	58%
Open interest for nex t month	53%

Source: BofA Global Research, DTCC

Average strike is most relevant for European G10 and Asia EM FX

We quantify the deviation of spot from previous average strikes as the "Mean-Absolute-Error" (MAE) between monthly average strike and average spot prices divided by the spot price for each currency (Chart 7). In 2020, option data had the lowest noise for European G10 and Asia EM FX pairs.

Chart 7: The deviation of spot from previous avg strikes was lowest for Asia EM and European G10



The "Mean-Absolute-Error" (MAE) as percentage of current spot price for each currency pairs. Source: BofA Global Research, DTCC

Average strike suggests higher EURUSD and lower USDKRW

Chart 8 plots the spread between latest average strike data for February 2021 and the current spot price, normalized by current spot price, along with the deviation of spot from previous month's strikes. EURUSD and USDKRW are two pairs that have less noise and sizable gaps between current spot prices and next month's average strike prices (Chart 7, Chart 8). Aggregated average strike for options traded this month with expiry in February 2021is currently at 1.2220 for EURUSD and 1090.25 for USDKRW (Chart 9, Chart 10). The likelihood of spot prices converging to average strike in February suggests further short-term upside in EUR and KRW against USD.

Chart 8: EURUSD and USDKRW have wide strike-spot gaps with less noise

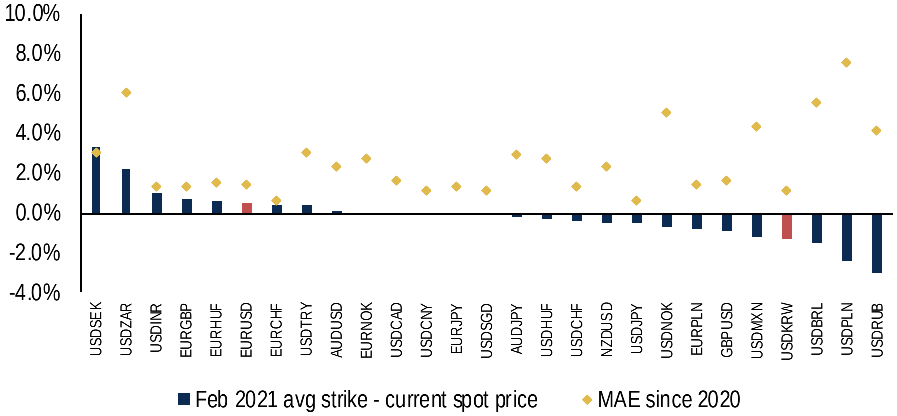
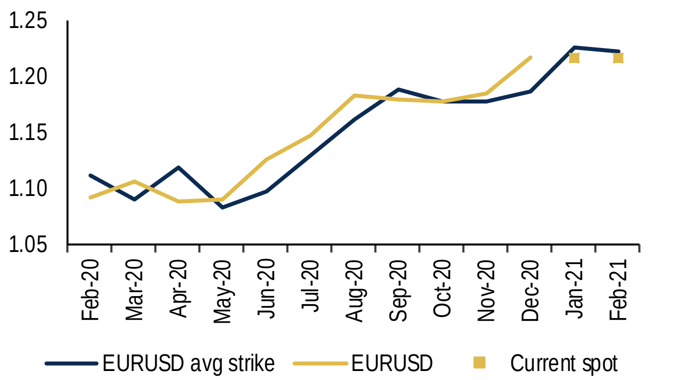


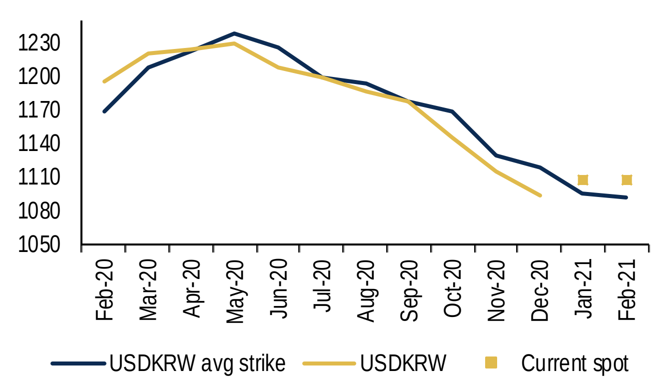
Chart shows the spread between latest average strike price for Feb 2021 and current spot price, normalized by spot price. Source: BofA Global Research, Bloomberg, DTCC

Chart 9: Average strike sees EURUSD spot rising to 1.22



Source: BofA Global Research, DTCC

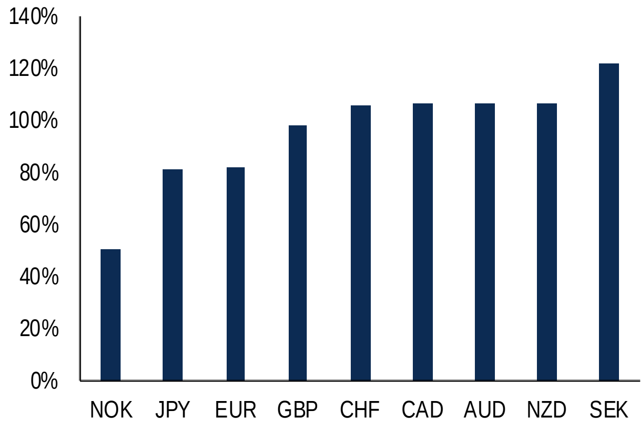
Chart 10: Downside risk for USDKRW as spot converges to avg strike



Source: BofA Global Research, DTCC

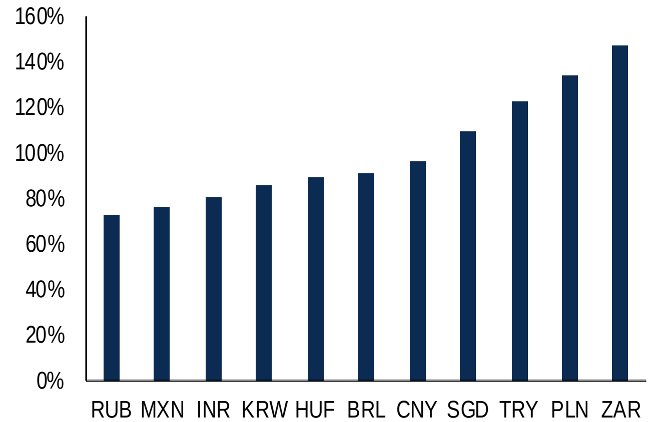
Appendix

Chart 11: G10 cumulative SDR sentiment since Jan 2020



Source: BofA Global Research, DTCC

Chart 12: EM cumulative SDR sentiment since Jan 2020



Source: BofA Global Research, DTCC

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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