

FX Derivatives

- **Short-Gamma/Long-Vega trades remain relevant in a subdued realized vols market. We show how our in-house tactical filter has increased the allocation to short-Gamma trades as of late.**
- **We tackle Vega ownership from the perspective of long-dated options where the interplay between carry, skew and vol grants benign time decay.**
- **Despite a less dovish than expected ECB yesterday, we consider low premium, L/S directional structures for playing EUR-weakness over the weeks ahead.**

Long Carry, Long Vega and short Gamma makes Jack a happy boy

The FX volatility market has so far in 2019 failed to display any material inversion of the bearish trend started in mid-2016. Most of the 0.7 vols rise in the J.P. Morgan VXY G7 Index since mid-July can be attributed to the Brexit risk premium impacting cable's vol, whereas the EM Index, at present just 0.7 vols above the DM one, has continued a steady drop. A few weeks ago we had pointed out to synchronous dovish-sounding Central Banks as a key factor in keeping vol levels suppressed ([Assessing the impact of rates correlations on FX vols](#), Ravagli, 26 June). A less dovish than expected ECB yesterday is not dramatically altering this picture so far, at least on FX.

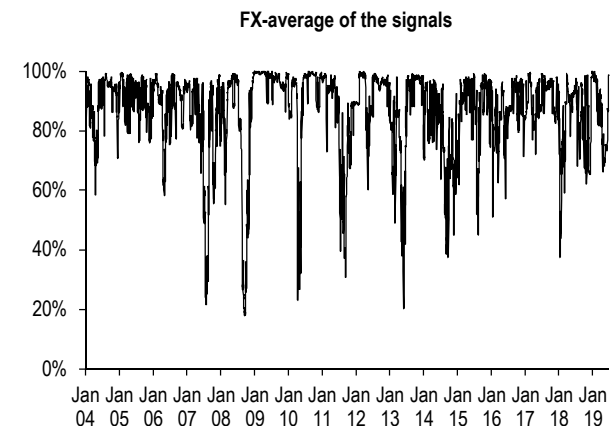
The short-Gamma/long-Vega trading theme, benefiting on the one hand from suppressed realized vols, and, from the other, from a possible rebound in vol levels, **remains relevant for the present market conditions**, at least over a multi-week horizon. The first topic will be analyzed by commenting on the performance of a filtering methodology applied to short 1M FX trades, which has kept on delivering a steady performance this year despite the suppressed vol levels. The long-Vega theme will be specifically investigated from the perspective of long-dated vol ownership which, supported by positive carry in the underlying asset, can permit obtaining under certain conditions a positive time decay for the options premia. We then present some ideas how to play a weaker EUR via L/S directional option structures.

FX short-Gamma trades still performing

FX short-Gamma strategies have delivered very solid performances over the past three years. While the strategic potential of selling assets trading near multi-year lows is questionable, from a purely tactical perspective, short-Gamma trades could nonetheless benefit from: a) suppressed realized vols, implying b) positive (if not wide)

vol premia; c) still bearish trend in FX vols. Trading short-dated options held until expiry allows to deleverage positions over a few weeks window were market conditions to worsen, therefore limiting directional risk.

Exhibit 1. Time series of the FX-average of the signals points to improving market conditions for selling vol.

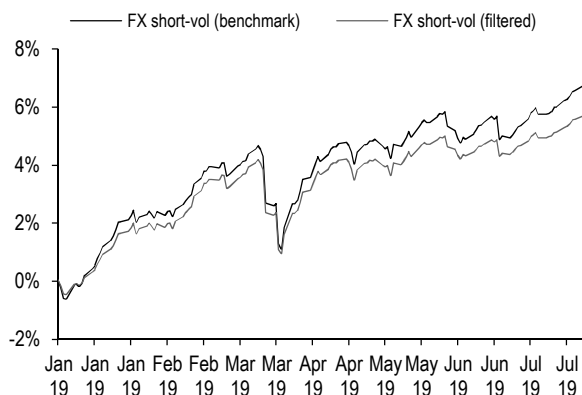


We introduced a tactical filter for timing FX short-Gamma trades (1M 25delta strangles) in a recent piece ([Timing FX short-vol strategies](#), Ravagli, Duran-Vara, 5 March). EUR/USD, USD/CHF, USD/MXN and USD/CNH are the sole four case where the latest trading signals by the model are below 100% (max short-vol capacity). **As we can see from Exhibit 1, the average signal for short-Gamma as recommended by the model has gradually increased from the late May lows**, when trade wars and monetary policy uncertainties were weighing on vol premia, suggesting a more cautious stance. The model relies on a mix of global and asset-specific variables when allocating risk to the trades. Gold-to-silver ratio is one of the “global” variables we monitor. Gold and other precious metals have been in the spotlight over the past couple of months as an antidote to dovish central bank measures to spur inflation, leading to a sharp rise in their prices. The gold to silver indicator has marked a risk-off signal between 10 May and 16 July, but the recent surge in Silver now places the indicator back into risk-on mode.

The PnL generated by a benchmark, diversified FX short-vol portfolio as described in the piece is at +6.9% for 2019 (Exhibit 2, trading costs are fully included). The filtered portfolio underperformed the benchmark by just 1% (5.8% vs 6.9%), by smoothing the returns during the latest drawback episodes (June, July), although it helped to cut just marginally (by 10%) the drawdown during the most severe episode in March this year. The cost of adding such a protective feature on a well-performing portfolio looks relatively contained, especially when considering the risk of possible repricing higher of FX vol levels. In the long run

(data since 2004), the performance of the filtering methodology is satisfactory, by cutting drawdown at the portfolio level by around 50%, and by increasing the Sharpe ratio by roughly the same measure.

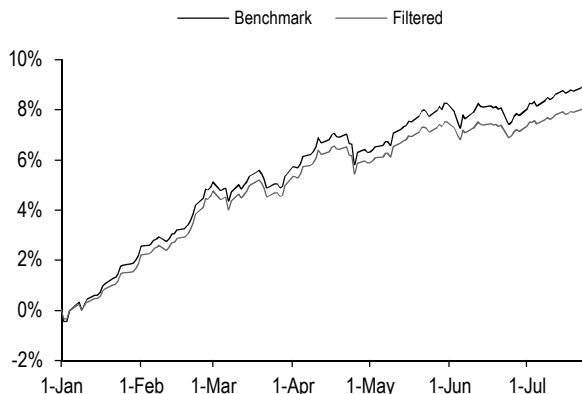
Exhibit 2. Short-Gamma has performed well in 2019 across FX pairs



Source: J.P.Morgan

A human screening exercise can allow providing with an additional insight on the rule-based approach as pursued by the model, especially for selecting good candidate trades. Generally speaking, selling EMFX vol at the moment, with such tight pricing, does not highlight a great value from a timing standpoint. In the G10 space, recent headlines of possible SNB intervention could possibly steer away attention from USD/CHF short-vol trades.

Exhibit 3. 2019 performance of EUR/USD short-Gamma strategy

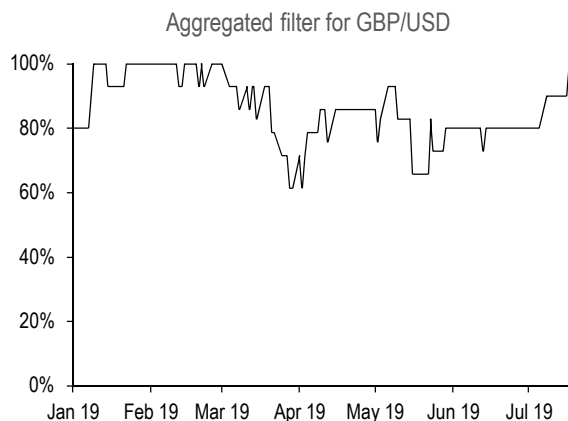


Source: J.P.Morgan

EUR/USD (Exhibit 3) is one of the DM pairs delivering the best short-Gamma performance in the long-run. In 2019, the performance of the strategy has almost been a straight line with low volatility, with modest added value introduced by the filter. This picture is consistent with that of USD/JPY. On GBP/USD, the performance of the benchmark short-vol strategy is in very positive territory for this year, at +12.2%. Most of the PnL came at the end of

March when the Brexit deadline was postponed to late October. The performance of the benchmark strategy has been supportive over the past couple of months, as the drop the pound experienced in the spot market since early May occurred in a steady, yet orderly way, keeping realized vol suppressed. By looking at the signal (Exhibit 4), the model had scaled down positions ahead of the late-March deadline, but resumed selling more aggressively since mid-May. The “asset-specific” indicators from GBP/USD vol smile focus on the 1M maturity, which currently does not price in the wider Brexit premium corresponding to maturities of 3M and longer.

Exhibit 4. 2019 time series of the filter for GBP/USD



Source: J.P.Morgan

For selecting a suitable short-vol trade, one could consider an asset where the vol premium is sufficiently wide, where the signal is currently supportive and where the macro story does not flag any imminent risk in the agenda. **USD/SEK might fit well for the purpose.** 1M vol premium stands is currently around 1vol wide ([FX Derivatives Analytics Chartpack](#), Sandilya). The latest signal from the timing model suggests trading short-Gamma at maximum leverage, whereas positions cumulated over the past month would indicate a 87% allocation vs the maximum target. We consider an implementation via vol swaps, not requiring daily delta-hedging.

We recommend:

Sell a 1M vol swap on USD/SEK @6.8/7.2 indic vols (spot ref. 9.43)

Long-dated vols with positive time decay

In a recent publication, we had favored positive carry option structures ([FX Derivatives: Powell makes room for carry but with vols back to YTD low uneasy feelings return](#), Jankovic, 12 July), especially in EMFX, as a possible expression of the declining rates and suppressed vols theme characterizing this market. Around the same lines, **we now**

look for long-dated vol instruments offering a gentle or even positive time decay. Under these circumstances, long optionality becomes almost a free lunch, allowing the owner to benefit from a rise in vols without excessively bleeding before (if) that happens.

In general (e.g., in the zero-rates Black-Scholes world) long optionality is associated with a negative time decay, i.e. if all market parameters stay unchanged, passing of time implies options lose money. Elevated vol levels, wide skews and steep vol curves are factors impacting time decay adversely. Conversely, wide forward points can be a force capable to counter the other effects and reduce the negative decay long option positions are exposed to. Also, playing longer-dated instrument reduces the fast-bleed short-dated, Gamma-options suffer from.

In the following, we will reprise previous research on the topic (see for instance, [FX Derivatives: EM vol has peaked for now](#), Sandilya, 21 September), and simply monitor the evolution of fixed-strike option premia (mid-price) for different maturities (from 3m to 5yr), across different currencies. The fixed strikes correspond to a delta of 15% (for both calls and puts), for the 1yr maturity.

Exhibit 5. Top long-dated USD vols from a decay perspective

Pair	Type	3m	6m	1y	2y	3y	5y	1y-5y % diff
USD-TRY	Put	0.6	0.9	1.3	1.4	1.5	1.4	11%
USD-INR	Put	0.1	0.3	0.5	0.6	0.6	0.6	38%
USD-JPY	Call	0.1	0.2	0.5	0.8	0.9	0.9	84%
USD-MXN	Put	0.2	0.4	0.8	1.1	1.4	1.6	105%
USD-ZAR	Put	0.1	0.4	1.0	1.8	2.1	2.2	121%
USD-BRL	Put	0.1	0.3	0.9	1.5	1.7	2.1	141%
USD-COP	Put	0.1	0.3	0.8	1.4	1.8	2.0	163%
USD-CHF	Call	0.1	0.3	0.5	0.8	1.1	1.4	192%
USD-RUB	Put	0.1	0.3	0.7	1.3	1.6	2.1	192%
EUR-USD	Put	0.1	0.2	0.5	1.0	1.3	1.9	271%
GBP-USD	Put	0.2	0.5	1.0	2.0	2.8	4.0	306%

Source: J.P.Morgan

We collect the best top-ten USD-crosses from this time decay perspective in Exhibit 5. Numbers in the cell represent premium (in %, for asset currency). Ranking is performed based on the % drop of premium from 1y to 5y, from lowest to highest. In most cases, the analysis favours buying USD puts against high-yielding EM currencies like TRY, INR, MXN and ZAR. If we focus on maturities above 1y, USD/TRY and USD/INR puts offer this benign premium roll-up feature: if nothing happens, the long vol position makes you money. USD/JPY and USD/CHF calls also screen very favourably from this respect: for USD/JPY, the decay is particularly mitigated in the 5y-2y segment. As a caveat, vol trading costs for such long-dated instruments

might well exceed the tight spreads nowadays enjoyed in the most liquid 1m-1y range.

Exhibit 6. Top long-dated EUR vols from a decay perspective

Pair	Type	3m	6m	1y	2y	3y	5y	1y-5y % diff
EUR-TRY	Put	1.1	1.2	1.3	1.3	1.1	1.0	-25%
EUR-INR	Put	0.4	0.5	0.6	0.6	0.6	0.6	2%
EUR-ZAR	Put	0.3	0.6	1.0	1.3	1.4	1.4	46%
EUR-MXN	Put	0.4	0.6	0.8	0.9	0.8	1.3	59%
EUR-RUB	Put	0.3	0.5	0.7	0.9	1.0	1.2	61%
EUR-COP	Put	0.1	0.4	0.8	1.2	1.4	1.3	77%
EUR-BRL	Put	0.2	0.5	0.8	1.1	1.2	1.8	119%
EUR-CNH	Put	0.1	0.2	0.4	0.7	0.8	1.1	136%
EUR-PLN	Put	0.1	0.2	0.3	0.5	0.6	0.8	155%
EUR-NOK	Put	0.1	0.2	0.5	0.8	1.0	1.5	217%
EUR-NZD	Put	0.1	0.2	0.5	1.0	1.3	1.7	218%

Source: J.P.Morgan

In Exhibit 6, we perform the very same analysis on EUR-crosses: positive-carry, long-vol opportunities with benign time decay are now found exclusively for EUR puts. Given the lower interest rates compared to the USD, with wider EM-EUR rates differentials, and the lower vols than for the same USD-crosses, the benign time roll-up is even magnified, leading to **attractive opportunities in the 2y-5y segment for EUR/TRY, EUR/INR and EUR/ZAR. The effect is particularly marked on the EUR/TRY where the roll-up effect extends up to short maturities.** The wider than expected cut in interest rates (425bps) as operated yesterday by Turkey's central bank was countered by a drop in vol, leaving the roll-up premium opportunity still available.

Option structures on INR had already been highlighted as attractive in the earlier July piece focused on EMFX Carry trades. Other than the positive roll-up effect, EUR puts / INR calls can offer a cheap entry point for playing EUR weakness over the next few months (although the ECB yesterday partly disappointed in terms of clarity on the delivery of easing packages). **We like playing the 2y maturity, allowing a very smooth premium decay over the next 18months and a possible repricing of the vol higher: EUR/INR 1y vol currently trades at the lowest levels since 2009.**

We recommend:

Buy a 76.63 strike 2y EUR put /INR call @50/65 indic EUR bps (spot ref. 76.94)

It would be interesting to try to come up with a semi-analytical rule of thumb for assessing the conditions under which time decay screens favourably. A previous study had been dedicated to the interplay between skew, forward

points and vols ([FX Derivatives: Investigating the interplay between forward points and FX skews](#), Ravagli, 22 February). At present (Exhibit 7), USD-skews for high-yielding currencies look in most cases fairly priced within the framework. From this perspective, expensive USD-skews might open the way for benign time decay corresponding to long calls on the high-yielding currency (given the corresponding lower vols). However, a more comprehensive assessment of this time decay features would need to take into account an input from the vol curve as well.

Exhibit 7. RV analysis modeling USD-skews as a function of forward points and vols

Model for long-USD skews				
	Vol	Carry USD	Skew market	Skew model
EUR	5.43	2.9%	-0.01	-0.11
GBP	9.90	1.7%	1.44	0.84
AUD	6.73	1.1%	0.49	0.43
NZD	7.06	0.7%	0.36	0.56
JPY	5.97	2.7%	-1.40	0.01
NOK	7.73	0.9%	0.48	0.63
SEK	7.37	2.6%	0.41	0.25
CAD	5.21	0.6%	0.31	0.27
CHF	5.77	3.3%	-0.94	-0.14
BRL	11.33	-3.1%	1.89	1.95
MXN	9.82	-6.1%	2.06	2.24
PLN	6.90	0.9%	0.80	0.49
HUF	7.21	2.3%	0.96	0.29
ZAR	13.37	-4.6%	2.50	2.54
TRY	16.30	-15.7%	4.98	5.05
KRW	6.00	1.2%	0.67	0.29
SGD	3.52	0.6%	0.24	0.01
CNH	3.87	-0.2%	0.56	0.21

Source: J.P.Morgan

EUR downside risk in focus

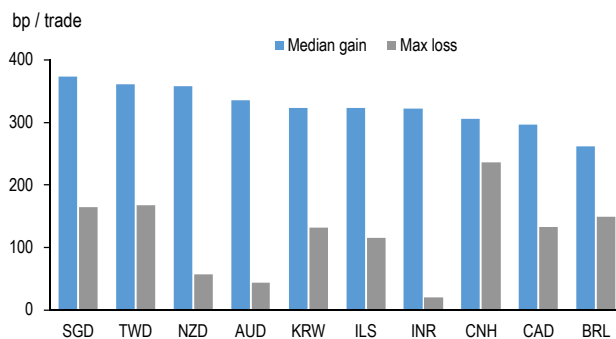
Although yesterday's ECB meeting disappointed those who hoped for a clearer stance in terms of easing policies, one should not call EUR weakness off the table just yet. Performance of the Euro area economy has been undershooting expectations for more than a year and it is continuing down that path. On one side EUR got supported by a structural undervaluation, termination of QE in 2018 and strong balance of payments, on the other 2.2pts cumulative drop in JPM Euro area Forecast revision index (FRI) since the start of 2018 weighed. The downside risks to EUR have increased amid the overall backdrop and the ECB re-calibration that could deliver easing as soon as September. Last week that prompted our analyst to revise their already conservative EUR forecast down to 1.15 (1Y EUR/USD target - more on that [here](#)).

We think that **zero-cost option spreads and/or high leverage dual digitals provide the right exposure to the possibility of a left tail risk to EUR with their low up-front premium commitment**. Specifically, we focus on

EUR/ccy puts vs USD/ccy puts that have shown a proven record of performing during the past episodes of the ECB easing and/or EUR selloffs. In order to gauge the historical betas of such structures we select periods of sharp EUR basket declines ($> 3.5\%$ -- about 2sigma m/m decline) but rather than tracking only returns from spot differentials we analyze historical returns from zero-cost long EUR/ccy puts vs short USD/ccy puts as a more accurate representation of the zero-cost options beta.

Exhibit 8. Zero-cost long EUR/NZD puts vs short NZD/USD calls and long EUR/AUD puts vs short AUD/USD calls seldom disappointed.

Cumulative returns (bp USD) from zero-cost long 3M EUR/ccy puts vs short 3M USD/ccy puts (not delta-hedged) during periods when broad EUR basket declined $> 3.5\%$ on m/m basis. 2-mo holding period. No transaction costs.



Source: J.P.Morgan

Exhibit 8 shows the 3M structures with the positions entered up to 1-mo ahead of the corresponding episodes of the EUR declines. Using EUR/ccy – USD/ccy put switch structures (i.e. **long EUR/ccy put vs short USD/ccy put**) has been historically effective way of expressing EUR weakness. That was particularly the case in Antipodeans whose zero-cost long EUR/ccy put vs short USD/ccy put structures seldom disappointed.

The risk from exposure to the open downside in zero-cost structures, one of the key concerns with this type of long/short structures, can be further mitigated by replacing puts with put spreads. As Exhibit 9 illustrates in case of AUD, employing put spreads only modestly caps the upside but more than halves volatility of the returns. On net put spreads boost Sharpe ratio from 0.30 to 0.46, making them worthwhile especially amid the looming Fed cut next week.

Exhibit 9. Zero-cost long EUR/Antipodeans vs short USD/Antipodeans put switches have positive long term performance.

Zero cost 3M long EUR/AUD downside vs short AUD/USD downside (not delta-hedged) 10-y history – cumulative returns. 2-mo holding period. No transaction costs.

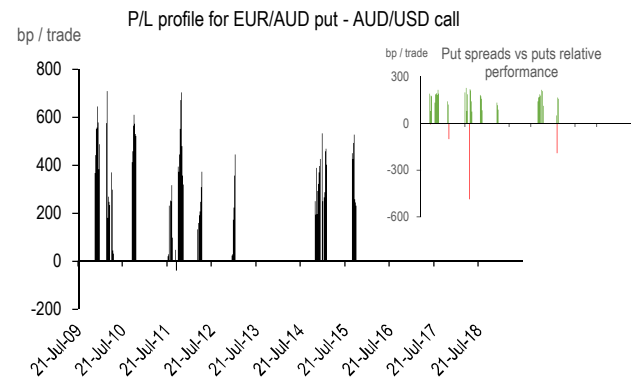


Source: J.P.Morgan

The notion of a limited downside to the zero-cost long EUR/Antipodeans – short USD/Antipodeans put switch structures is further reinforced in Exhibit 10 which gives a detail profile of historical returns for AUD (similar profiles are e.g. seen for NZD & INR). The only instance of underperformance during the past 3.5+% EUR downturns (3.5% is ~2sigma on m/m changes in the broad EUR basket) was in the 2H of 2011 and even that instance pales with the magnitude of the positive returns and the long term systematic outperformance from Exhibit 9. The comparison of a zero-cost EUR/AUD- AUD/USD spread with the corresponding outright EUR/AUD puts shines additional light. Financing EUR/ccy downside by selling rich USD/ccy downside in a zero-cost structure clearly benefits the returns as typically high correlation between the EUR leg and the USD leg breaks down during the broadbased EUR downturns. That benefit averaged to ~200bps of value in AUD/USD premium received during the episodes of EUR weakness.

Exhibit 10. Zero-cost long EUR/Antipodeans vs short USD/Antipodeans put switches have returned > 200bp / trade over past episodes when broad EUR declined more than 3.5% on m/m basis in subsequent 2months (3.5% is ~2sigma). The spread clearly outperformed outright EUR/AUD put (inset).

Zero-cost long 3M EUR/ccy puts vs short 3M USD/ccy puts (not delta-hedged) and the corresponding 3M EUR/AUD puts during periods when EUR/USD spot declined >5%.



Source: J.P.Morgan

Consider:

- Zero cost 3M EUR/AUD ATM/25D put spread, financed by selling AUD/USD 0.695/0.710 (~ATM/25D), spot refs 1.608 & 0.692 respectively

Alternatively one could express the above EUR downside zero-cost vanilla spreads via **low-cost, high gearing (~7-8X) dual-digital structures with [EUR/USD lower and AUD/USD lower] or [EUR/TWD lower, USD/TWD higher]**.

Model portfolio changes

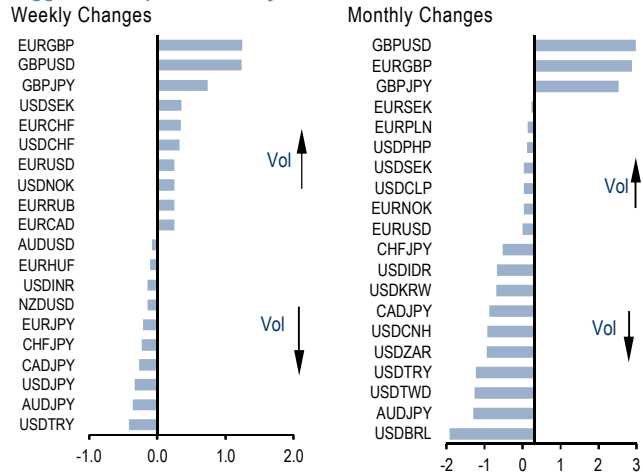
We add the EUR/INR introduced above as a positive carry, long-vol play, benefiting from EUR weakness:

Buy a 76.63 strike 2y EUR put /INR call @50/65 indic EUR bps (spot ref. 76.94)

Implied Volatilities

	Current Implied Vols			Avg. Implied Vols			Z-Score Implied Vols		
	1M	3M	1Y	1M	3M	1Y	1M	3M	1Y
AUDJPY	9.0	10.0	11.0	9.6	10.1	11.2	-0.5	-0.1	-0.2
AUDUSD	7.8	8.9	9.6	8.1	8.5	9.3	-0.3	0.6	0.5
CADJPY	8.2	9.1	10.1	9.3	9.7	10.4	-1.1	-0.7	-0.5
CHFJPY	5.6	6.7	7.8	7.3	7.7	8.5	-1.3	-0.9	-0.7
EURAUD	6.6	7.4	8.1	7.4	7.8	8.6	-0.8	-0.5	-0.6
EURCAD	7.0	7.3	7.5	7.6	7.8	8.2	-0.7	-0.6	-0.9
EURCHF	4.9	5.5	6.3	5.4	5.7	6.0	-0.5	-0.2	0.4
EURGBP	8.8	11.0	10.2	7.6	7.9	8.3	0.8	2.4	1.9
EURJPY	6.9	8.1	9.2	8.6	9.2	9.8	-0.9	-0.7	-0.6
EURNOK	5.6	6.3	6.8	6.6	6.8	7.1	-1.5	-1.1	-0.9
EURNZD	6.8	7.6	8.3	7.9	8.3	9.1	-1.0	-0.7	-0.8
EURSEK	6.1	6.5	6.8	6.2	6.3	6.5	-0.1	0.3	0.7
EURUSD	6.4	7.1	7.5	7.4	7.6	7.8	-0.8	-0.5	-0.4
GBPJPY	11.8	13.4	13.4	10.1	10.4	11.1	1.1	2.1	2.0
GBPUSD	11.0	13.0	11.7	8.4	8.6	9.0	1.7	3.1	2.7
NZDUSD	7.9	9.1	9.8	8.7	9.0	9.9	-0.9	0.0	-0.1
USDCAD	6.6	6.7	7.4	7.2	7.2	7.6	-1.0	-0.8	-0.5
USDCHF	5.8	6.6	7.3	6.9	7.2	7.8	-1.2	-0.8	-0.8
USDCNH	5.8	6.3	6.5	4.8	5.1	5.7	0.8	1.2	1.0
USDJPY	5.7	6.6	7.8	8.1	8.5	9.1	-1.5	-1.4	-1.4
USDNOK	7.9	8.6	9.2	8.8	9.0	9.5	-1.2	-0.8	-0.6
USDSEK	8.3	8.9	9.6	8.8	9.0	9.3	-0.5	0.0	0.4
USDBRL	14.7	15.0	15.0	14.1	14.3	14.8	0.2	0.2	0.1
USDCLP	11.7	12.0	11.9	9.6	9.5	9.6	1.3	1.8	2.3
USDMXN	14.6	14.9	14.9	12.7	13.0	13.9	0.9	1.1	1.2
EURCZK	3.7	4.1	4.7	4.0	4.3	4.3	-0.4	-0.3	0.6
EURHUF	4.4	4.9	6.0	4.6	4.9	5.7	-0.2	0.0	0.6
EURPLN	4.5	5.0	5.9	5.3	5.6	6.3	-0.9	-0.8	-0.8
EURRUB	11.7	12.8	13.9	12.3	12.8	13.6	-0.3	0.0	0.2
USDRUB	12.2	13.3	14.1	12.2	12.6	13.4	0.0	0.4	0.6
USDTRY	18.0	19.5	20.8	16.4	16.1	16.6	0.2	0.6	0.9
USDZAR	17.2	17.6	18.2	16.1	16.2	16.5	0.4	0.7	1.1
USDIDR	8.9	9.5	9.7	6.2	7.0	8.6	1.6	1.6	0.9
USDINR	7.7	8.0	8.3	5.6	6.0	7.0	1.8	2.3	2.4
USDKRW	8.0	8.5	8.8	8.6	8.9	9.7	-0.4	-0.4	-1.1
USDPHP	4.4	4.7	5.0	4.1	4.4	5.0	0.6	0.7	0.3
USDSGD	3.9	4.3	4.9	4.7	4.8	5.2	-1.0	-0.7	-0.5
USDTHD	5.0	5.5	5.8	5.1	5.4	5.9	-0.2	0.1	-0.2

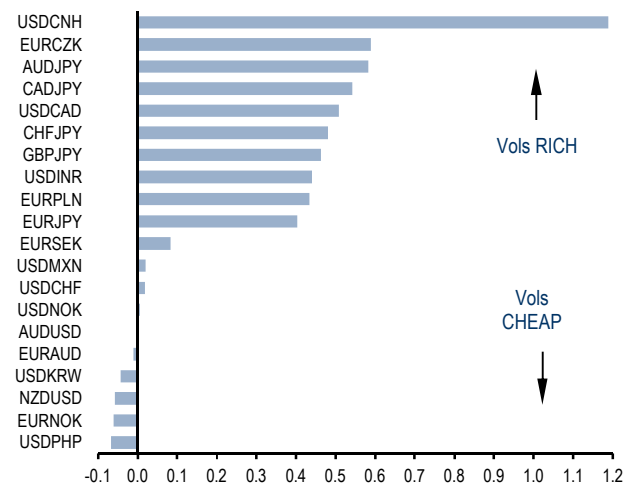
Biggest 3M Implied Volatility Movers



Source: J.P. Morgan

Front-End Vol Rankings

In order of Normalized Volatility Risk Premium*



*Normalized Volatility Risk Premium = 1M Implied Vol / 1M Realized Vol - 1

Source: J.P. Morgan

Current trade recommendations and P/L

	Description	Entry date	Entry	Current mid	P/L	P/L units	Remarks
NEW	Buy a 76.63 strike 2y EUR put /INR call (spot ref. 76.94)	26-Jul-19	65.0	57.5	-7.5	bp EUR	Positive carry, long-vol play, benefiting from EUR weakness:
	Buy 2M GBPAUD-EURGBP vol spread	12-Jul-19	1.5	1.2	-0.3	vol pts	Soft realized correlation amid ongoing political dynamics
	Short 3M 25D USD/BRL strangle vs long 12M straddle, delta-hedged, equal vega	12-Jul-19	1.0	1.2	0.2	vol pts	Tactically collect vol carry
	Short 2M2M XAU/USD FVA vs long 2M 1600 strike one-touch call, at notional sized as 100K vega FVA vs 1-mio of payout on OT	28-Jun-19	0.0	-0.4	-0.4	vol pts	Fade elevated front gold vols in hedged format
	Long 6M USD/JPY ATM/25 delta put spread vs short AUD/USD ATM/30 delta call spread	26-Jun-19	-2	-12	-10	bp USD	RV play justified by underlying rates volatilities
	Opened a short 2M EUR call/USD put - short 2M USD call/INR put - long EUR call/INR put correlation triangle	21-Jun-19	-93	-19	74	bp USD	Selective selling of EUR-cross correlation
	Buy 3m USD/CLP 682 strike - USD/TWD 31.40 strike put switch, not delta-hedged	14-Jun-19	-3	-102	-99	bp USD	A zero-cost tactical play if any potential dollar vulnerability

Trades marked to market at 2:00pm BST Friday. High-conviction trades are starred. All other recommendations are moderate-conviction.

For delta-hedged straddles and vol products, P/L is in vol points; for directional trades, bp of notional; negative entry price indicates a net credit at inception

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