29 September 2022

JPM FX - Derivatives Chartpack Notes

GBP tail hedge | leveraged USD topside

- GBP remains in a tough spot keeping tail risk in play. We analyze pricing of GBP vol surface variables with respect to their long term levels and find multi sigma divergence from the 1st principal component (long term levels) across the surface with wings having diverged the most.

- Within such an extreme backdrop we see fwd vol and risk reversals as relatively better priced and the type of structures that should fare better than the front end vols in case sentiment starts to put downside pressure on the vols.

- Keeping it simple, we find low delta put spreads effective in the previous episodes and priced attractively due to steepness of the smile, resulting in 6X max payout / cost and close to 50% discount to outright puts.

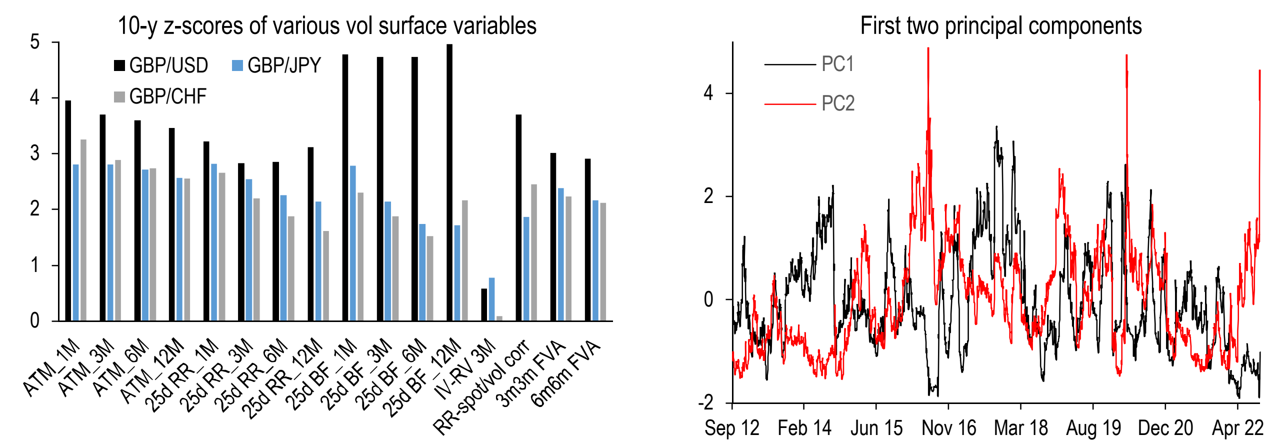
- Amid the resilience of the EMFX market, entry point for going long EMFX vols remains pretty decent and helps with constructing hedges for further higher USD via EM options. Amid the JPY- ZAR via USD realized corr 50pts above the corresponding implied corr, leveraged 3M triplet [USD/JPY up & USD/ZAR up & USD/MXN up] offers ~65% vs. the cheapest digi.

GBP in a tough spot – tail risk remains

The recent violent price action in UK markets has captivated investors as the reverberations amplified the reaction of already bruised markets following last week's high frequency volatility on the back of recent central bank meetings. The adverse market price action forced BoE's intervention in bond markets on Wednesday to finally bringing some relief, though as our *analysts' write* that still bodes poorly for GBP. While retracing all the way to 1.10, as of writing, in a >3% move since touching 1.05 it's not clear to us that the backdrop improved as underlying issues remain.

Exhibit 1. Multi sigma divergence from long term levels across GBP/USD vol surface. Wings the most.

10-y zscore of vol surface features spread to long term levels (assessed via 1st principal component).



Source: J.P. Morgan

Vol backdrop: With the front end implied a touch above the 1-mo trailing realized, front end inversion with 1M-1Y spread ~5vol pts (down from close to 7pts on Monday) suggests still uber-high levels of uncertainty that has only ever been exceeded on a few rare occasions such as during the GFC, Brexit referendum and COVID. **Exhibit 1** compares various vol surface features between GBP/USD, GBP/JPY and GBP/CHF. The values represent 10-y zscore of the deviation of the current vol surface features from the 1st PCA component. The 1st

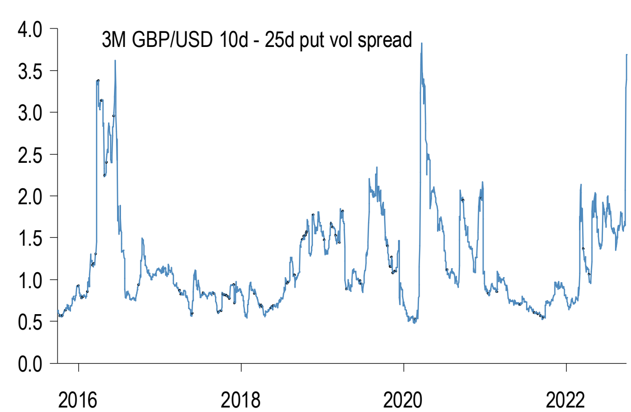
PC captures the most nominal dynamics while the 2nd the turbulent episodes. We are interested in estimating how far the features are currently from the nominal state, i.e. the 1st component.

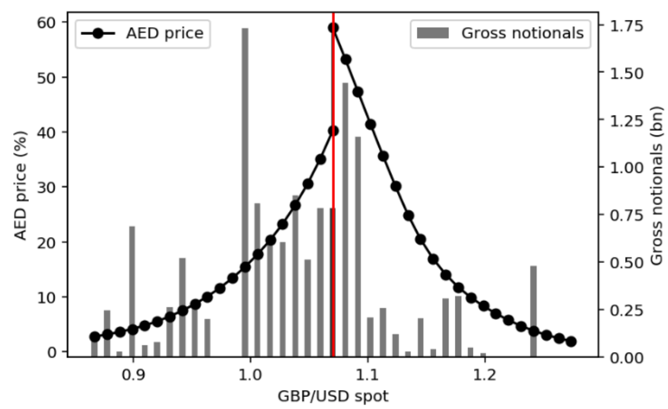
Unsurprisingly, GBP/USD wings got bid the most during the recent turbulence, narrowing the room for a further performance, if any. That is followed by the pricing of the front end of the vol curve and marginally better fwd vols and risk reversals. With respect to the currency choice, GBP/CHF and GBP/JPY vol surfaces are broadly lagging, with GBP/CHF and GBP/JPY wings looking particularly appealing, if not for liquidity which may be an obstacle here, effectively leaving GBP/USD still as the default despite the less attractive pricing. Based on the recent pricing and the spot dynamics *long 3M GBP/CHF vs. short GBP/USD vol spread* is ~3vols too cheap though one can imagine that selling cable vols in face of a lingering tail risk would be a major risk management challenge. Nevertheless, it shows a material entry level advantage of GBP/CHF vols. Within the cable vol space, *fwd vol and risk reversals are relatively better priced and should fare better than front end vols in case a more favorable sentiment starts to put downside pressure on the vols* by virtue of FVAs not having exposure to gamma and risk reversals lagging a move lower in implieds. While we'd prefer better entry levels, both implied and realized vol have been holding.

Keep it simple, keep it delta: While going outright long gamma leaves one too exposed to potential potholes in realized vol / temporary improvement in sentiment, the skew steepness makes for attractive GBP put spreads as vehicles for hedging tail risk in delta space. Specifically, the low delta section 10d – 25d vol spread on the GBP put side is >3.5vol wide (**Exhibit 2**). That's corroborated by the pricing of at-expiry digitals, which show a fat left tail, and also the concentration of recently added notionals, densely packed into the strikes leading to parity, then again around 0.95 and 0.90. Structures with up to 3M expiry are only accounted for in the gross notionals.

Exhibit 2. Fat left tail.

Gross notionals represent Sep 28th EOD snapshot of newly initiated positions as reported by DTCC. The 1.07 GBP/USD spot red line is just to put the strikes into perspective. AED pricings are given for 2M digitals (spot ref 1.07).





Source: J.P. Morgan

A subset of put spread structures in **Exhibit 3** shows >45% discount to outright puts, better than 5X max gearing, and 2.5-3X reduction in net vega exposure which offer a good risk / reward while also mitigating an impact from possible normalization in realized vol. Alternatively at-expiry digital GBP puts could be used instead. Within the universe of more liquid x-GBP 3M expiry AED structures the **Exhibit 4** screen finds EUR/GBP to be pricey, and GBPUSD, GBP/CHF and GBPJPY put digitals a better value.

Exhibit 3. 2M GBP put spreads achieve >45% discount to outright puts, >5X max gearing, at 2.5-3X reduction in net vega exposure.

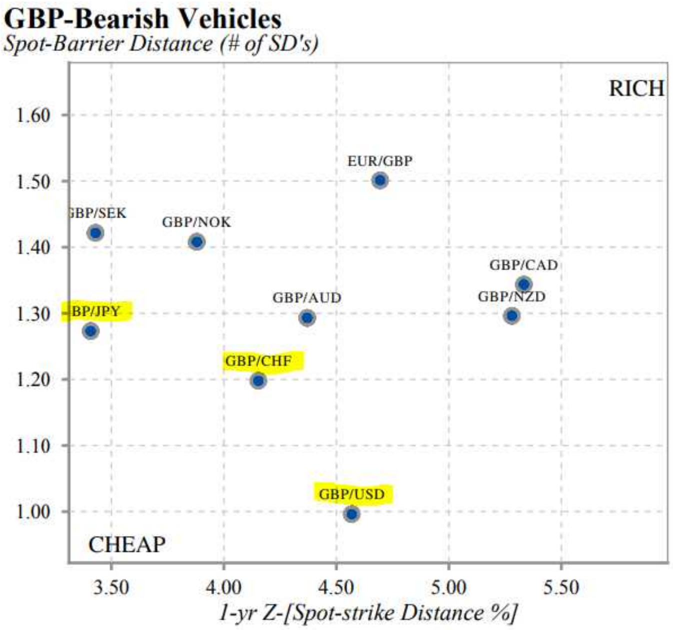
2M GBP/USD put spreads, spot ref 1.1051

K Near	K Far	P Near (bp)	P Far (bp)	Spread Price (bp)	Max Payout (bp)	Max Payout Cost Ratio	Discount To Outright Vanilla	(Delta1,Delta2)	Net Vega (bp)
1.06	1.00	189	84	104	600	5.74	45%	[-23.2, -10.5]	5.3
1.06	1.01	189	96	92	495	5.36	51%	[-23.2, -12.0]	4.5
1.06	1.02	189	110	79	392	4.98	58%	[-23.2, -13.8]	3.6
1.05	1.00	166	84	82	500	6.10	51%	[-20.4, -10.5]	4.4
1.05	1.01	166	96	70	396	5.66	58%	[-20.4, -12.0]	3.5
1.05	1.02	166	110	56	294	5.22	66%	[-20.4, -13.8]	2.7
1.04	1.00	147	84	62	400	6.45	58%	[-18.0, -10.5]	3.4

Source: J.P. Morgan

Exhibit 4. EUR/GBP pricey, GBPUSD, GBPJPY and GBP/CHF at-expiry put digitals better value.

At-expiry digital options (AEDs) are 3M in tenor, and constrained to have a TV of 20% i.e. 5:1 gearing. The X-axis plots the historical rich/cheap of AED prices in the form of a rolling 1-yr z-score of their spot-strike distance. The Y-axis plots the distance of spot-to-strike in number of standard deviations (SDs), where 1 SD move over a 3-month period is computed as 3M Realized Vol * sqrt(3/12). This is a performance metric, and combined with the historical measure, provides a more complete picture of value within the AED universe



Source: J.P. Morgan

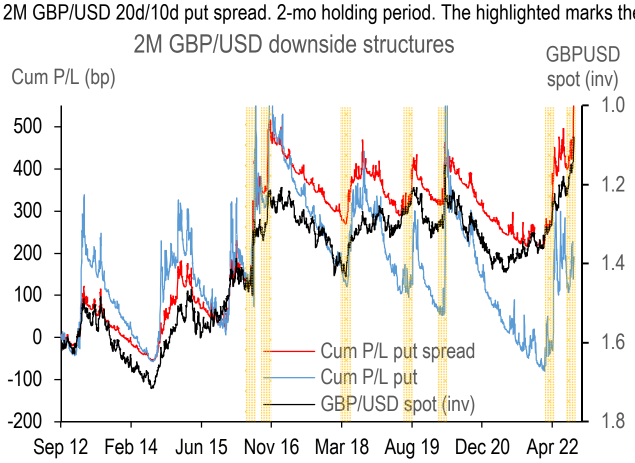
A historical backtest (**Exhibit 5**) confirms value of using GBP put spreads as a hedge. As expected the put spread structure performed during all of the major GBP sell-offs during the most recent 10-y period covering developments such as Scottish and Brexit referendum as well as post Brexit volatility and COVID-19 episode. Relative to outright puts, which indeed tend to briefly exceed put spread returns in immediate aftermaths of GBP sell-offs, put spread tends to retain P/L better, making the exit timing easier to cope with, but it also tends to cope better with decay during quiet periods with vanilla puts decaying at the rate of ~2.5X quicker than the corresponding put spreads. We recommend:

- 2M GBP/USD 1.05/1.0 (~25d/15d) put spread, costs 74bps (21.8 vs 23.7vols), 45% discount to outright 1.05 put, 6X gearing, spot ref 1.110

- alternatively, *consider 2M GBP/USD 1.0 put digital @11.5% TV*

Exhibit 5. EUR/GBP pricey, GBPUSD and GBPJPY at-expiry put digitals better value.

2M GBP/USD 20d/10d put spread. 2-mo holding period. The highlighted marks the episodes of rapid GBP sell-off. No TC.



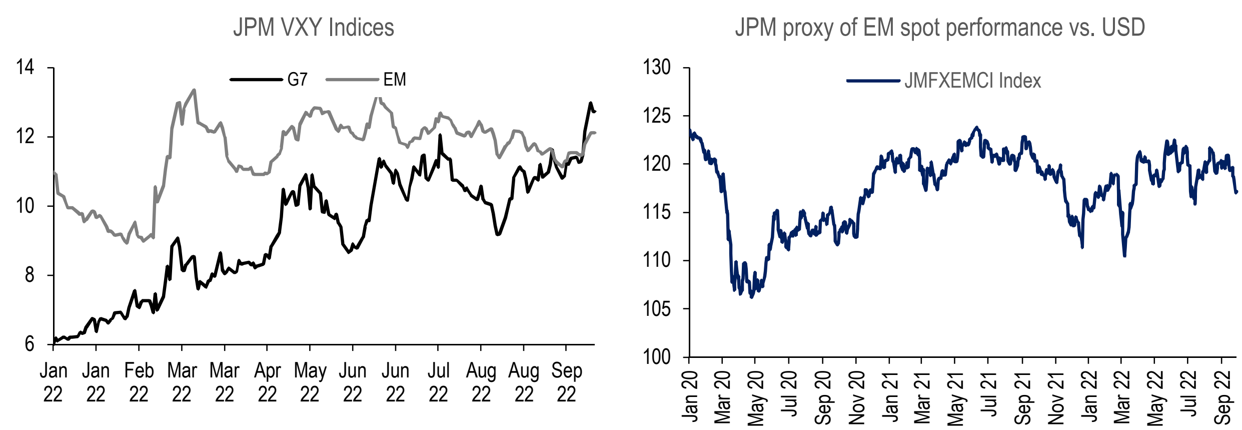
Source: J.P. Morgan

Still room to hedge higher USD via EM Options

Last week we had made the case that elevated rates correlations, on the back of synchronized rates hikes, should cap rates differentials and as a consequence FX volatilities. We had perhaps not fully anticipated the announcement of the mini-budget by the new UK government, which unleashed violent moves in rates and FX markets. Amongst the ideas we favored last week were: buying 9M vol swaps in USD/CHF and 6M6M FVAs in USD/JPY and USD/SGD.

EMFX participated less than the G10 counterpart in the violent spot moves and consequent vol re-pricing. As we write, a proxy of EMFX vols is trading below DMFX vols, as per corresponding VXYs (**Exhibit 6**, LHS). Generally, the elevated carry-to-vol ratios have somehow insulated the EM space from a proper capitulation under the rising USD strength, putting aside currencies like RUB and TRY where weight of idiosyncratic forces was significant. A proxy JPM Index mirroring the behavior of long EMFX investments vs. USD (total return, i.e. spot + carry) has fared relatively well during the 2022 market downturn so far (**Exhibit 6**, RHS).

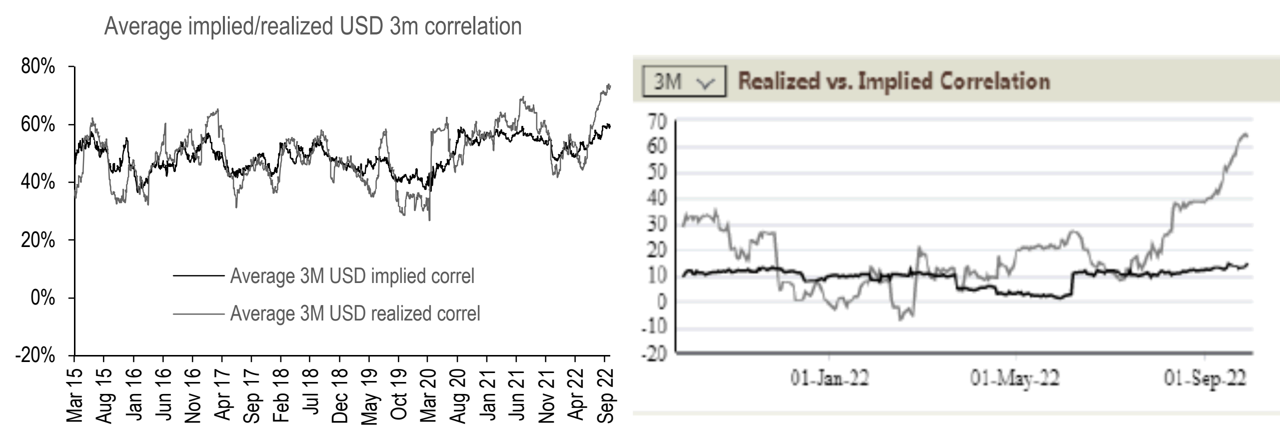
Exhibit 6. EMFX vols on average below DM ones. EMFX has so far fared well 2022 markets downturn.



Source: J.P. Morgan

In such a context, looking for optional hedges playing USD/EM higher should still leave room for spotting decent opportunities. Another construct we had looked at last week was in the correlation space, picking dual digis with USD/JPY and USD/NOK higher. The average USD-correlation (within G10 space) remains near all-time highs (**Exhibit 7**, LHS) on the back of even higher proxy of realized correlation.

Exhibit 7. USD implied and realized correlations in the G10 space remain near all-time high. USD/EM vs. USD/JPY correlations still offer room to go long corr.



Source: J.P. Morgan

The resilience of the EMFX market meant that entry point for going long EMFX vols remains pretty decent. Macro fundamentals, with sharply rising DM rates and yields, still warrant prudence towards EMFX, with EM strategy team placing EMFX as UW as a whole. Our RV screening analysis as applied to FX vols (see a recent note) as of its latest update finds vols such as ZAR, MXN and CNH as undervalued vs. the bulk of other EM vols.

Similar to USD/G10, EM correlations with USD as a pivot do discount a significant premium due to current market environment. As we investigated last week, USD/JPY vs. USD/EM correlations do offer a nicer entry point. Implied correlations are structurally lower, as markets remind the old adagio whereby, in risk-off conditions, USD/JPY tends to drop, as carry trades unwinds support currency repatriation towards Japan. Here, JPM core view (see the latest FX Markets weekly note) remains that of seeing USD/JPY on higher yields as long as the Fed keeps its hawkish stance, with a 147 target by year end. The case study of USD/JPY vs. USD/ZAR is quite telling in this respect (**Exhibit 7**, RHS), with realized corr above implied corr by a hefty 50 corr points. The whole idea indeed hinges on USD/JPY keeping its latest upward trajectory, putting aside occasional large drops. Consider:

- Buy a 3M triple-digi USD/JPY>1% OTMS, USD/ZAR>3% OTMS, USD/MXN>3% OTMS @ 13.5/15.5% USD (spot refs. 144.59, 17.93, 20.14) It offers a discount of around ~65% vs. the cheapest of the three digis.

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