MARKET VOICE

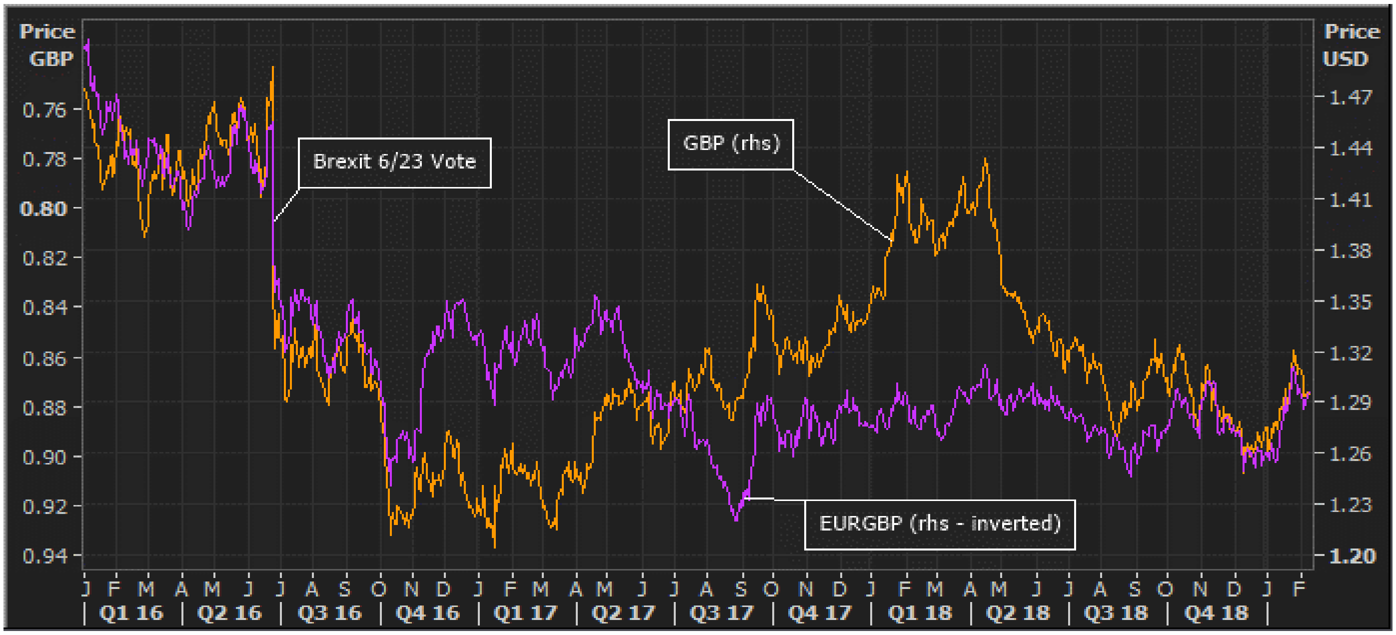
February 2019

Protecting against uncertain Brexit outcomes

The clock is ticking on the UK departure from the European Union – a.k.a. Brexit – currently scheduled for the 29th of March. The UK continues to seek a trade agreement with the EU as a replacement for the current trade rules that will expire with Brexit. There is a broad consensus that a no-deal Brexit could be an economic disaster as it would create massive delays on traded goods. Visions are emerging of disrupted supply chains hitting manufacturers and severe shortages of food, drugs and other essentials. But there are alternative branches to the road ahead that could avoid this dire outcome. While time is running short, there is still an opportunity for the UK Parliament to pass a trade package that is agreeable to the EC members.

There is also the possibility of a postponement of the departure date. Under the EC Regulation 50 which outlines the rules for departure, the two-year window from the formal request to realization of departure can be indefinitely delayed at the agreement of both parties (which for the EU requires unanimous agreement by all member countries). It is possible that paying up for protection for the March 29th deadline might prove pointless if either an agreement is reached or there is a postponement. The challenge is to find ways to buy protection without feeling too much of a sting if it proves to be unnecessary.

Figure 1: GBPUSD and EURGBP daily spot rates since Brexit vote



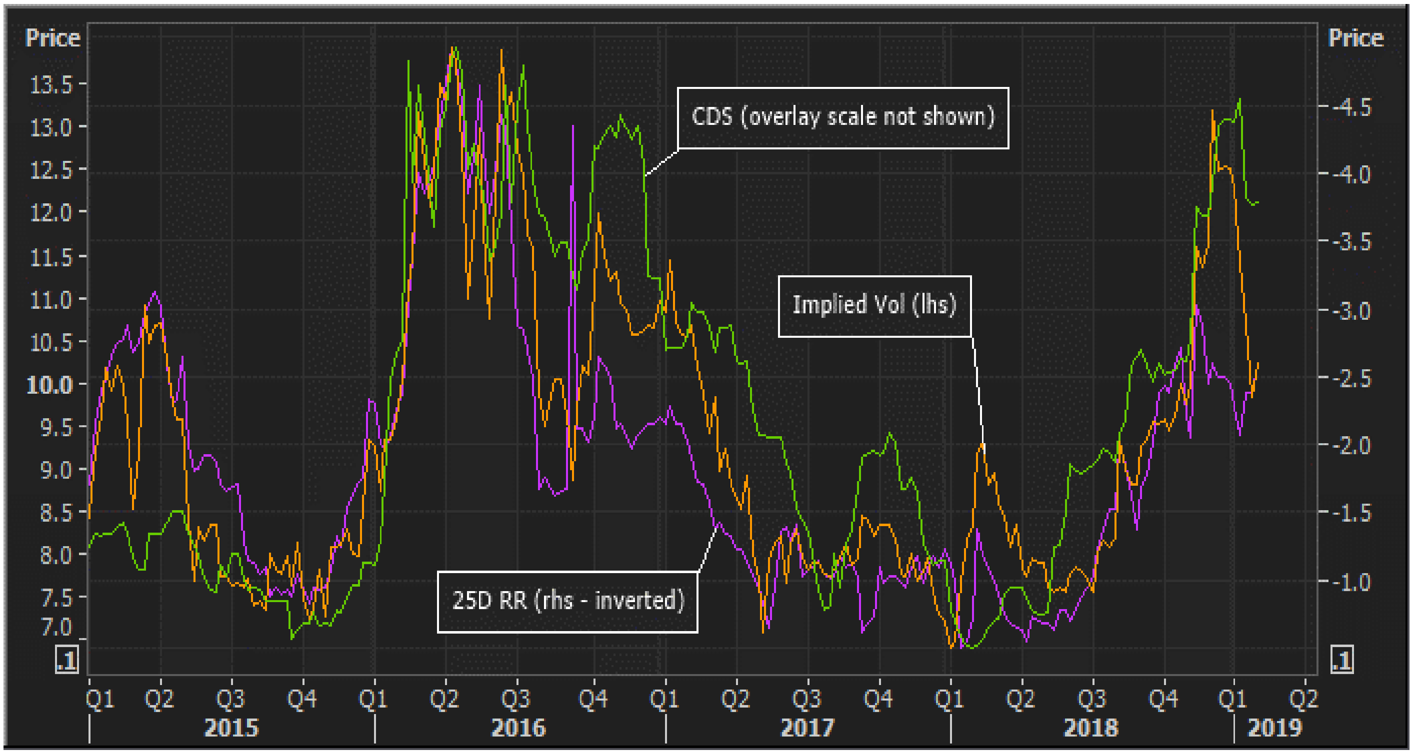
Source: Eikon – Click on chart to request a free trial

The Financial and Risk business of Thomson Reuters is now Refinitiv.

REFINITIV™

As shown in Figure 1, the GBP plunged against the dollar following the passage of the Brexit referendum reaching levels not seen since 1985. The GBP also lost ground to the Euro though "only" to decade lows. The GBP has broadly recovered from the post-referendum lows though remains well below pre-Brexit levels. The chart illustrates the complex risk of GBP exposure. There is easily potential for a 10% GBP rally in the event of a satisfactory agreement and friendly exit at the March 29th deadline. A no-deal Brexit, however, could invite a revisit to the recent lows and perhaps more. A postponement would keep everything in limbo probably resulting in a continued sideways drift.

Figure 2: 6 month GBP implied volatility and risk reversal skew and 5 year UK sovereign CDS



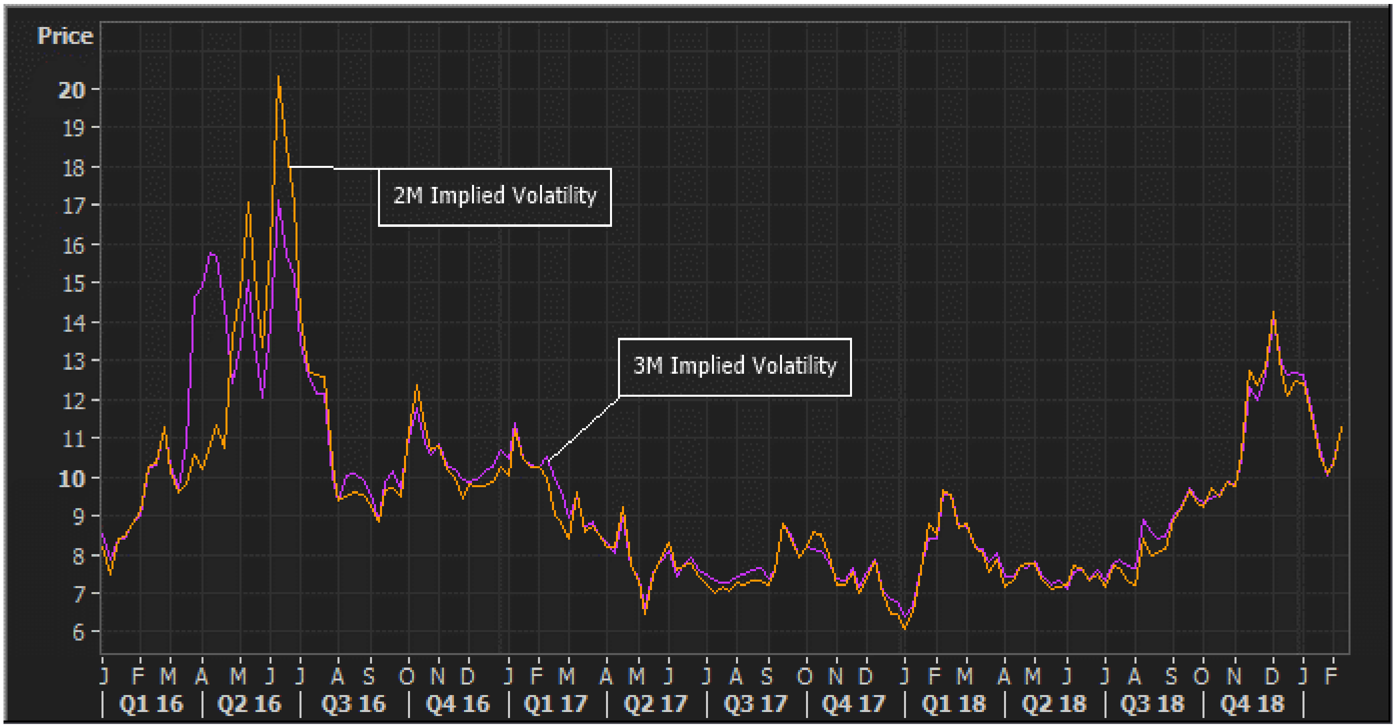
Source: Eikon – Click on chart to request a free trial

Figure 2 shows two risk indicators for the GBP: 6 month implied volatility and risk-reversal skew, and a key indicator for UK sovereign risk, the 5 year credit default swap. It is hard to rationalize that despite the continued uncertainty of a potential no-deal Brexit, the risk indicators shown have moderated since the start of the year. Implied volatility, in particular, has dropped sharply from 13.5% - near the post-Brexit vote highs – to close to 10% putting it in rough alignment with the more modest drop in risk skew for GBP out-of-the-money puts. The decline in the 5 year CDS has badly lagged making this a very expensive way to hedge risk but neither implied volatility nor skew are historically cheap.

The old Brexit vote trade no longer works

The market faced the same dilemma with GBP exposure in the months running up to the Brexit referendum in June 2016. In the April 2016 Market Voice, a recommendation was made to buy forward GBP volatility for the month of July. The rationale was that the volatility curve implied an almost immediate reversion to normal volatility levels following the vote. It seemed more likely that GBP volatility would persist for some months in the wake of a yes vote, so being long July volatility provided reasonable protection of a yes vote with little downside on a no Brexit vote as the volatility being purchased was close to historic norms. Unfortunately, the market seems more appropriately priced this time. As shown in figure 3, there was an inversion of 2 month and 3 month implied volatility in the early months of 2016 which is what created the sharp priced in decline in post-vote volatility. As is also apparent below, no such inversion is occurring this time around so a more persistent high volatility environment is being priced to extend into April eliminating this as a source of inexpensive protection.

Figure 3: GBP 2 month and 3 month implied volatility



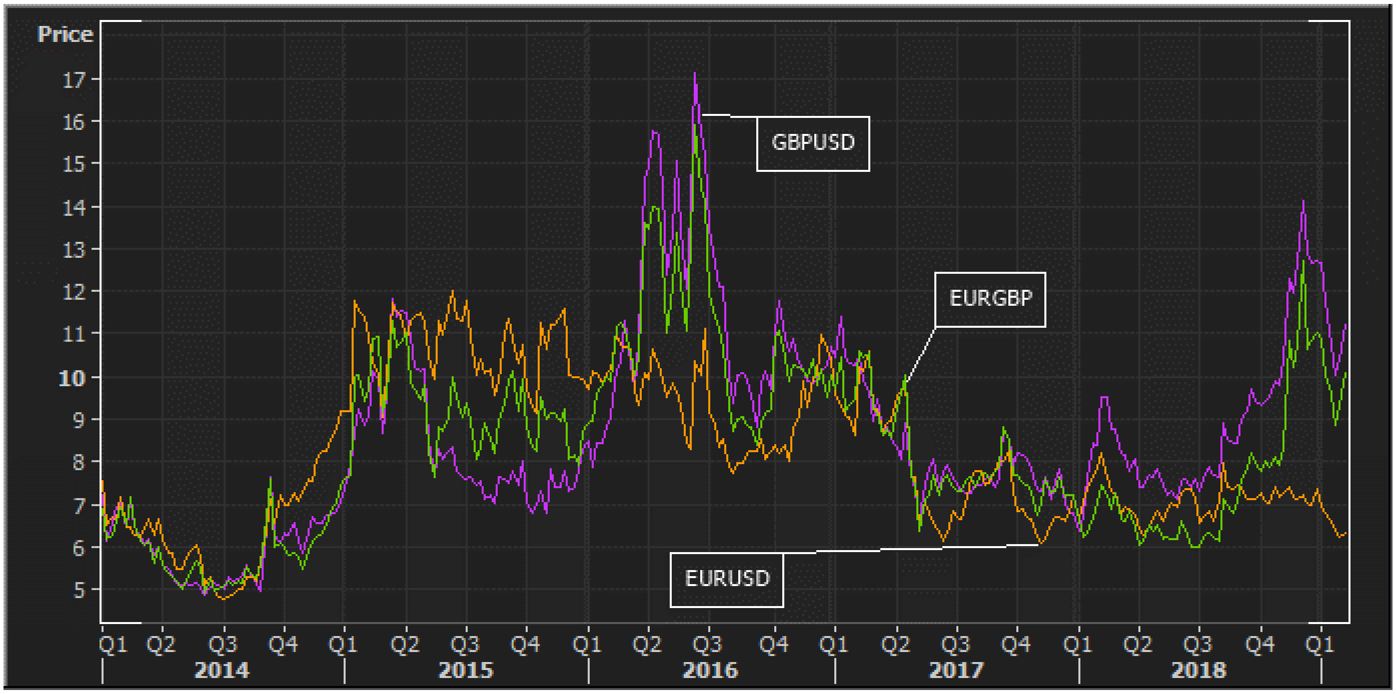
Source: Eikon – Click on chart to request a free trial

REFINITIV

Same idea but a different angle

The article has focused so far on GBP, but arguably a disruptive no-deal Brexit would also have negative implications for the EUR as well. The same issues with frozen trade flows disrupting supply chains and creating spot shortages also applies for the European Union. While cross-border trade is considerably smaller for the European Union's economy than it is for the UK, it is far from trivial. And the European economy is arguably more vulnerable with slow growth keeping the ECB in quantitative easing mode and Italy now officially entering a recession and facing significant concern over their ability to continue servicing sovereign debt. This would imply that the EUR should react sharply to a no-deal Brexit but this is not what the market is pricing. As shown in figure 4, while GBPUSD and EURGBP 3 month implied volatility is well above year-ago levels, EURUSD volatility is testing 5-year plus lows. With implied volatility trading at such depressed levels, there seems modest downside in the event of a benign – or extended – Brexit but plenty of upside in the event that the exit does not proceed smoothly

Figure 4: EURUSD, GBPUSD and EURGBP 3 month implied volatility



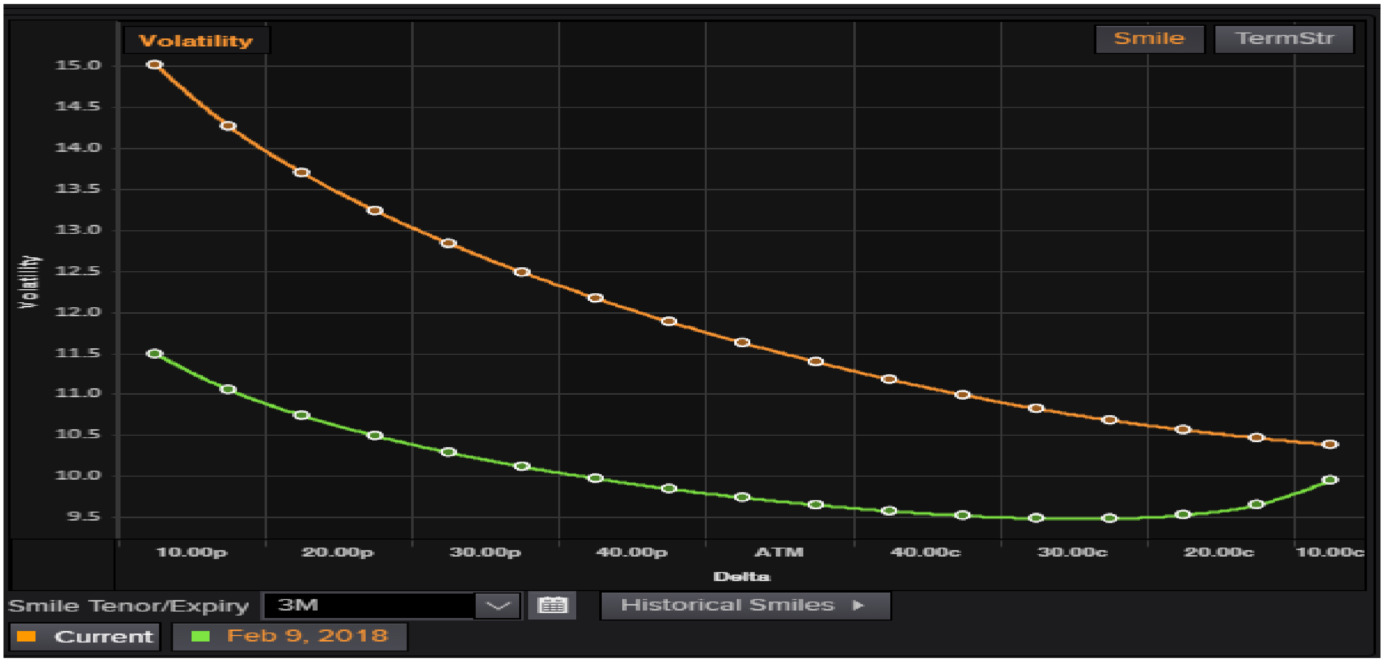
Source: Eikon – Click on chart to request a free trial

REFINITIV™

Using skew to offset expensive volatility

While we believe buying EURUSD 3 month implied volatility is a cost-effective way to have protection for a volatile Brexit, it does not directly create specific protection for GBPUSD exposure. The GBPUSD forwards are not showing a deep discount so there is little direct expense of shorting GBP forward, but this creates significant exposure to good news on Brexit triggering a rebound of the currency. Buying a GBP put controls the positive news risk but, as discussed above volatility is expensive and could sink sharply if there is good GBP news and perhaps more so if a delay pushes the decision down the road. Figure 5 below, extracted from the **Eikon FX Volatility Explorer** which can be accessed by typing **FXVE** into Eikon search, shows the "smile" for GBPUSD implied volatility – in other words, how implied volatility changes for strikes that are out of the money. The chart compares the current smile vs. where it stood a year ago. The broadly higher implied volatility is apparent as is the relative high cost of out-of-the money puts. But low-delta call volatility is also above non-Brexit risk levels suggesting that selling out-of-the money calls is a reasonable way to reduce the cost of protection. The idea of selling GBP topside is also supported by the likelihood that even with a friendly resolution of Brexit the full impact on UK trade and economic performance will not be known for months or even years which should limit GBP upside.

Figure 5: GBPUSD 3 month implied volatility "Smile": Current and one year ago



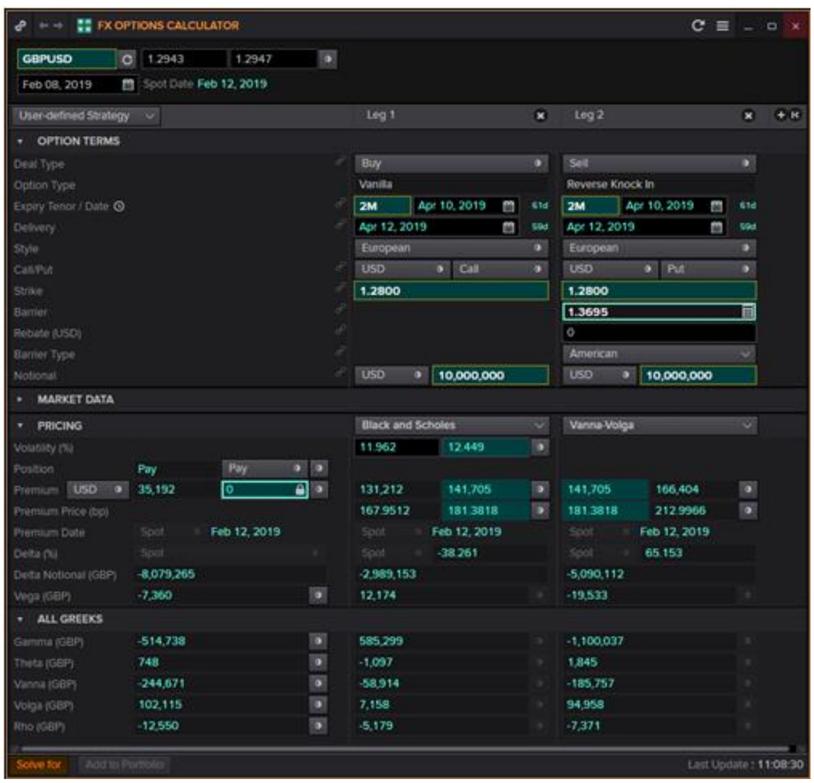
Source: Eikon – Click on chart to request a free trial

An example of a volatility-neutral structure that protects for GBP downside would be a Forward Extra. This structure could be employed by a UK-based corporate with a need to pay a U.S.-based supplier on 12th April 2019, just after the scheduled Brexit date.

A zero cost Forward Extra consists of buying a Vanilla Call option on, in this case, USD as well as selling a Reverse Knock-In Put option with an American style barrier – both with the same expiry date and Strike. We can then solve for the barrier level which results in a zero premium.

Let's say the UK company can break even by selling sterling at a worst case of 1.2800. With GBPUSD spot of 1.2940 and a forward rate of 1.2995, we can enter 1.2800 as the Strike rate for both the Vanilla Call and the Reverse Knock-In Put. Solving for a zero cost barrier level of 1.3695 means that the UK company can benefit from any sterling upside all the way to 1.3694 whilst also being protected in the case of, say, a disorderly Brexit scenario, since they would be buying USD at a worst case rate of 1.2800 – the strike of the Vanilla Call. This structure can be priced using the **FX Options Calculator** in **Eikon** which is available by typing **FXOC** into Eikon search.

Figure 6: Example of a forward extra using the FX Options Calculator in Eikon



Source: Eikon – Click on chart to request a free trial

REFINITIV

Creating a structure that comes out to zero net cost also eliminates exposure to high volatility costs making the structure neutral to an extended sideways GBP drift.

The bottom line

There are three possibilities by the March 29th deadline for the UK to exit the European Union: an agreement is in place allowing a smooth transition to a post-Brexit world, no deal is in place unleashing fears of a potential post-Brexit apocalypse of frozen trades on both sides of the English Channel, or a delay of the exit to allow a longer window for negotiation. These multiple paths could remain in play into the final hours ahead of the deadline. While the GBP is vulnerable to a no-deal Brexit, going short GBP as a hedge could prove to be painful with a more benign outcome. Expensive volatility and the high price skew for puts makes options problematic, as protection and the absence of an inverted volatility curve also eliminates buying forward volatility as a solution. While the GBP volatility curve is pricing in a highly risky environment – including vs. EUR - EURUSD implied volatility is at multi-year lows. As Europe will also be negatively affected by a no-deal Brexit, we believe being long EUR volatility offers some protection against a negative Brexit response with little downside given the historically cheap level. For more direct protection for GBP weakness, we recommend using structures selling low-delta GBP call volume to reduce the net exposure to historically high volatility.

About the Author

Andrew Hollins is the Director of FX and Corporate Treasury at Refinitiv and has previously worked in the Financial & Risk business of Thomson Reuters since 2002 in various roles in product development, product management and proposition management.

Prior to this, Andrew was the manager of the Emerging Markets Rates Derivatives desk at Prebon Yamane, London and worked on the Equity Derivatives team at Merrill Lynch in Sydney.

Andrew studied at the University of Leicester and postgraduate at the London School of Economics in the UK.

Send comments or questions on this publication to trading@thomsonreuters.com