FROM THE CALM OF 2017 TO THE VOLATILITY STORM OF 2018.

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IT'S VOL-MAGEDDON !!!

PART III: CURRENCIES MARKETS

After a comprehensive study of the equities (Part I) and commodities (Part II) markets volatilities in 2018, we are now going to focus on the volatility of the main currencies. The USD being the reserve currency, and therefore the most traded worldwide, we shall examine the behavior of the volatility of several other currencies priced against the USD. Typically the volatility of the EUR vs the USD (EUR/USD) or the volatility of the so called cable (GBP/USD). As it would be neither convenient nor interesting to study a large number of currencies pairs, we shall reduce the sample of currencies to five different ones: the two most liquid, EUR and JPY, the GBP (ahead of Brexit), the Chinese yuan CNY (in these times of trade war) and the Brazilian Real (BRL) for the emerging markets currencies. We will refrain from talking about the frightening collapse of the Venezuelan Bolivar or the permanent devaluation of the Pakistani rupee as they are small markets in which available volatility data are few and far between. And for each of the five currencies of the chosen sample, we'll study the evolution of their volatility against the USD, usually the implied volatility as the currencies options markets are very liquid, trying to explain why it moved, or not… And we'll exhibit some facts that might surprise a few readers.
So let's start with the EUR/USD pair. A story which could be titled: *Please leave the genie in its bottle.*

I/ EUR/USD VOLATILITY

1/ HOW DID THE YEAR START

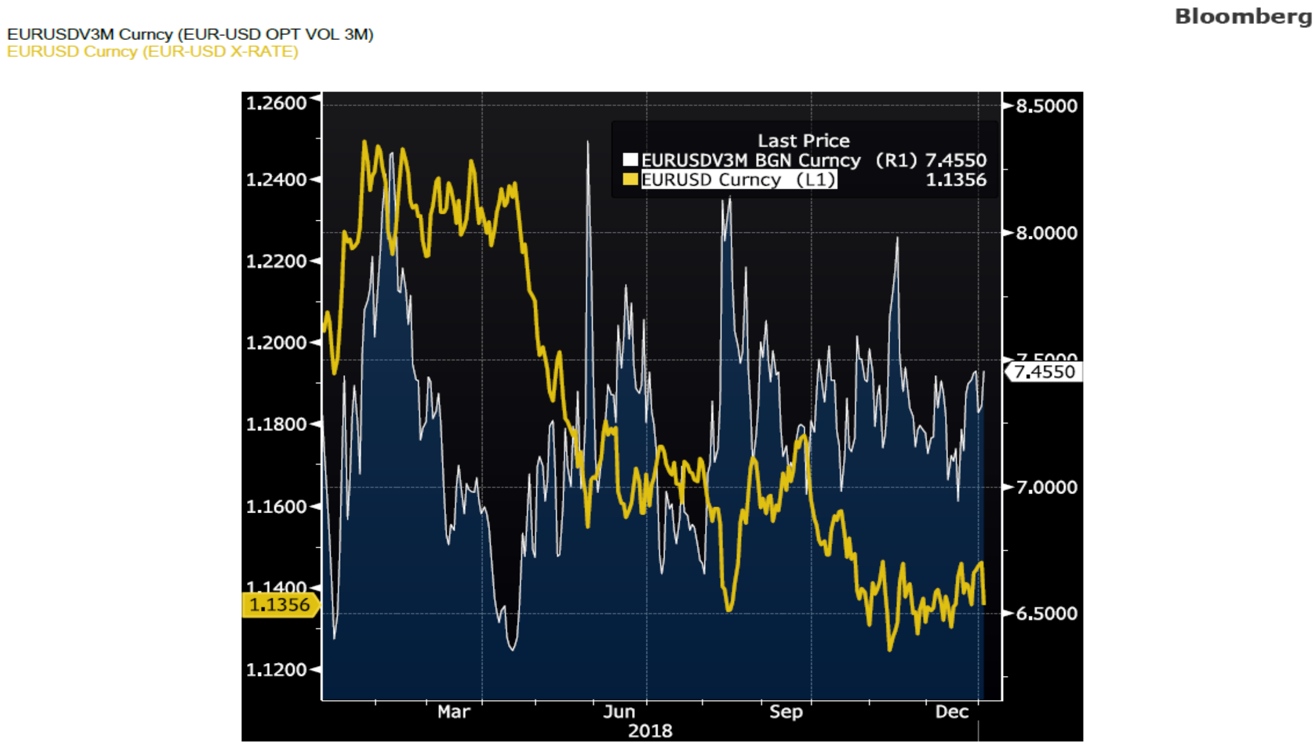
We have talked extensively already about 2017 being one of the least volatile year for many assets. Main Currencies markets were no exception.

At the opposite of the beginning of 2017 when THE most crowded trade was short EUR vs USD the market was fairly balanced at the beginning of 2018, with spot trading around 1.1990, and the 3 months implied volatility (that we shall refer to as 3M Vol.) a fraction above 7.25%, quite low by historical standards. The trends established in 2017 still prevailed in January 2018 for both the spot rate and the implied Vol. as the EUR kept climbing to its year high reached on the 25th of January (1.2492) while in the meantime 3M Vol. kept drifting lower towards 6.4%. And we all know how the saying goes: "The trend is your friend" so more and more market players were getting long the EUR/USD and/or short the volatility of the pair, buying the idea of a continuing EU growth acceleration….

2/ AN ABRUPT END TO THE TRENDS BUT NO REAL VOL. EXPLOSION

But, exactly as the equity markets did, the FX markets royally ignored the Bonds Markets slaughter of the month of January. Which is very surprising when you think that one of the main reason for the huge sell off was the anticipation of US rates hikes by the Federal Reserve. And with the ECB still in easing mode (the QE program would end at the end of the year) this widespread anticipation should have been supportive of the USD, NOT of the EUR! So Clearly something had to give.

The first thing which gave was the volatility, following the panic in the equities Vol markets (See part I) numerous Vol. players, short Vol in a few other markets, had to reduce their exposures which they did, not only in equities but in every market in which they were holding short positions as well, including the currencies Vol. markets. This short covering episode took 3M Vol. to 8.25% reached on the 8th of February. A peak which took place just after the volatility explosion in the equities markets. Nevertheless, the EUR/USD spot rate barely moved, as you can see in the chart below (yellow curve LHS), the implied Vol. started to get sold aggressively (see the white curve RHS: 3M Vol.) down to a low point of 6.35% reached in April, when the FX markets finally realized that the FED would probably hike Fed Funds Rates 4 times in the year vs an ongoing ECB Quantitative Easing program. And what was due to happen finally happened, the EUR/USD collapsed from 1.239 on the 18th of April to 1.1546 on the 25th of May eventually providing a decent support for the pair volatility which in the meantime took off to its year high of 8.35% reached at the end of May ahead of the Italian general elections. From then on things normalized on both fronts and the 3M Vol. established itself in a relatively tight trading range: 6.75% to 8%.



Source: Bloomberg

So in 2018, it is clear that nothing, no one, managed to get the genie out of the bottle! And to get a real global view of where the EUR/USD Vol. could have gone, just look at the following chart (EUR/USD yellow curve LHS over 5 years) for a second.

Where you can see that the 3M Vol. (white curve RHS) more than doubled in 6 months during the collapse of the EUR/USD back in 2014; and then stayed above 8% almost permanently for roughly two and a half years.

And to go back a bit further, to the times of the GFC (2008) and of the multiple Euro crisis (2010/2011/2012), the second chart below will show you the evolution of the EUR/USD 3M Vol. over the last 15 years. This should convince you that a high of 8.35% is nowhere near the previous volatility peaks observed in this market: 23.37% at the end of October 2008 or 16.25% at the end of September 2011.

Bloomberg

EURUSDV3M Curncy (EUR-USD OPT VOL 3M)
EURUSD Curncy (EUR-USD X-RATE)

Bloomberg

EURUSDV3M Curncy (EUR-USD OPT VOL 3M)

Source: Bloomberg

3/ CONCLUSION

So we can certainly conclude that 2018 was a year during which the EUR/USD volatility remained subdued. It was stuck in quite a tight trading range, therefore extending its volatility compression phase which started during the 2017 spring. Until when is a question no one has got an answer to yet.

II/ USD/JPY VOLATILITY

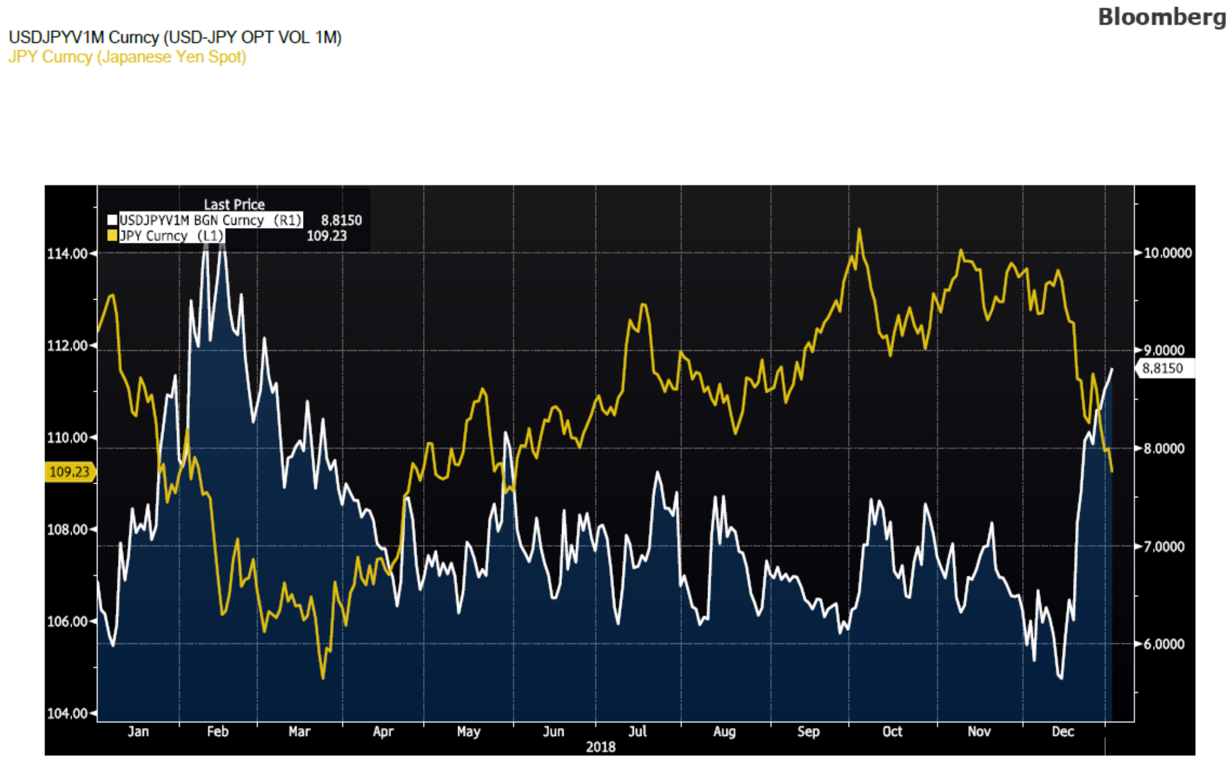
And now to one of the markets in which the moves are very difficult to forecast as the JPY has been the main currency used to set up carry trades for decades now.

1/ HOW DID THE YEAR START

In a way totally similar to the EUR/USD as described in I/, is the answer! Although the Japanese Central bank (The BoJ) was, and still is, in full speed Quantitative Easing (even buying equities ETFs…) and the FED about to accelerate the rhythm of the US rates increases, the markets were very happy to ignore that and bid the JPY, or more precisely, sell the USD. This move was relentless for the first three months of the year, even exacerbated in February by the sharp correction in the equities markets, which is always the case, as when fear starts to grip the markets, market players start to unwind all their risky positions, including the carry trades. As a result, pretty much like the EUR, the JPY strengthened by almost 9 figures (from 113.09 to 104.74) in two and a half months. The implied volatilities were generally trading at depressed levels, starting 2018 at 6.25% and 7% for the 1M Vol. and 3M Vol. respectively.

2/ VOLATILITY: A SPIKE THEN NOTHING…

As opposed to what happened for the EUR/USD, the volatility of the USD/JPY pair started to climb almost instantly. With the JPY strengthening, the implied volatilities took off as early as the 8th of January, with the 1M Vol. for instance jumping up from a low of 5.98% on the 8th of Jan to a year high of 10.235% on the 15th of February. A remarkable 71.15% increase in a matter of 5 weeks!
You can see the relative violence of the volatility move compared to the USD/JPY move on the following graph, showing both the 1M Vol. (white curve RHS) and the USD/JPY spot (yellow curve LHS). There was indeed a nice piece of action during the first few months of the year.



Source: Bloomberg

But with the first FED rates hike of the year, in March, the FX markets had to take notice, and they reversed the early month moves all the way towards the JPY low of the year, 114.53, reached on the 3rd of Oct., the very day the Dow Jones set a new historic high….. As you can see on the graph, this period was not favorable to the long Vol. positions. The 1M Vol. quietly remained in a tight trading range: 6% to 8% for a bit more than 8 months. Until the month of December, when the second sharp correction of the year in the US equities markets triggered another episode of JPY short covering and therefore another spike in volatility: from a low of 5.645% on the 14th of Dec towards 8.595% on the last day of the year, i.e. a significant 52.25% increase in two weeks. These Vol. moves were more important than the ones on the EUR/USD but we have to bear in mind that in the grand scheme of things, they were not that impressive as the 11 years chart of the 1M Vol. will prove.
It seems obvious that for the last 10 years the 1M Vol. was stuck between 5% and 15% for 95% of the time (we can count exactly 5 spikes above 15% and limited to 17.5% at most) and the average 1M Vol. over this period was 10.61%, which means that the highest point reached by this 1M Vol. in 2018 is still BELOW the average level over the last 11 years.

Note: In order to take into account the GFC of 2008, we have to consider 11 years charts now, as the 10 years would start at the beginning of 2019. Time flies, as opposed to a very sleepy volatility….

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Source: Bloomberg

3/ CONCLUSION

So, like for the EUR/USD pair, we can conclude that the implied volatilities on the supposedly more volatile USD/JPY pair were really depressed, spending three quarters of the year in the lower part of their usual trading range. The range was even tighter than the 2017 one, which is amazing as 2018 saw not one but two Equities Markets corrections (falls of more than 10%) in the year compared to none in 2017. And brutal equities sell-offs are usually linked to episodes of carry trades unwinds, and JPY strength thus leading to JPY volatility spikes.

After these two sleeping beauties we shall now examine a very interesting case: the cable: GBP/USD where we shall see that exogenous events can have a huge impact on a market and its volatility.

III/ GBP/USD VOLATILITY

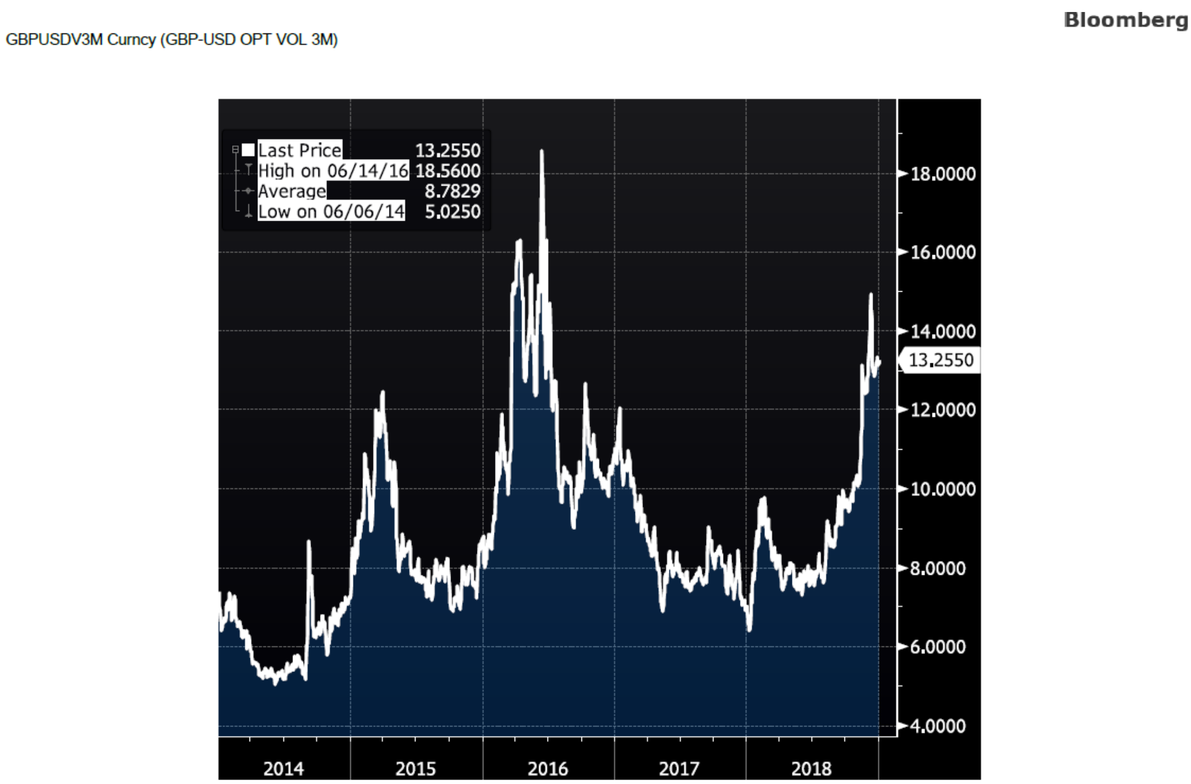
When uncertainties of all sorts got the genie out of the bottle….

1/ HOW DID THE YEAR START

As for the EUR and the JPY the Cable started the year on a strong foot, benefitting from the weakness of the USD, and climbing from 1.35 to 1.425 on the 25th of Jan.

It drifted lower during the equities markets correction of Feb, reached an intermediate bottom at 1.3735 early March before bouncing back towards its highest point of the year at 1.4325 on the 16th of Apr. A level which was coincidentally its highest POST Brexit referendum (23rd of June 2016 where it was trading at 1.5). Meanwhile, the implied volatility of the pair started the year at very depressed levels: 6.45% on the 1M Vol. and 6.85% on the 3M Vol. levels which were **the lowest** since 2014, way before the Brexit referendum of June 2016. And remember, at that time they were nowhere near any deal with the EU….

To convince yourself, please take a look at the following chart: the cable 3M Vol. over the last 5 years.



Source: Bloomberg

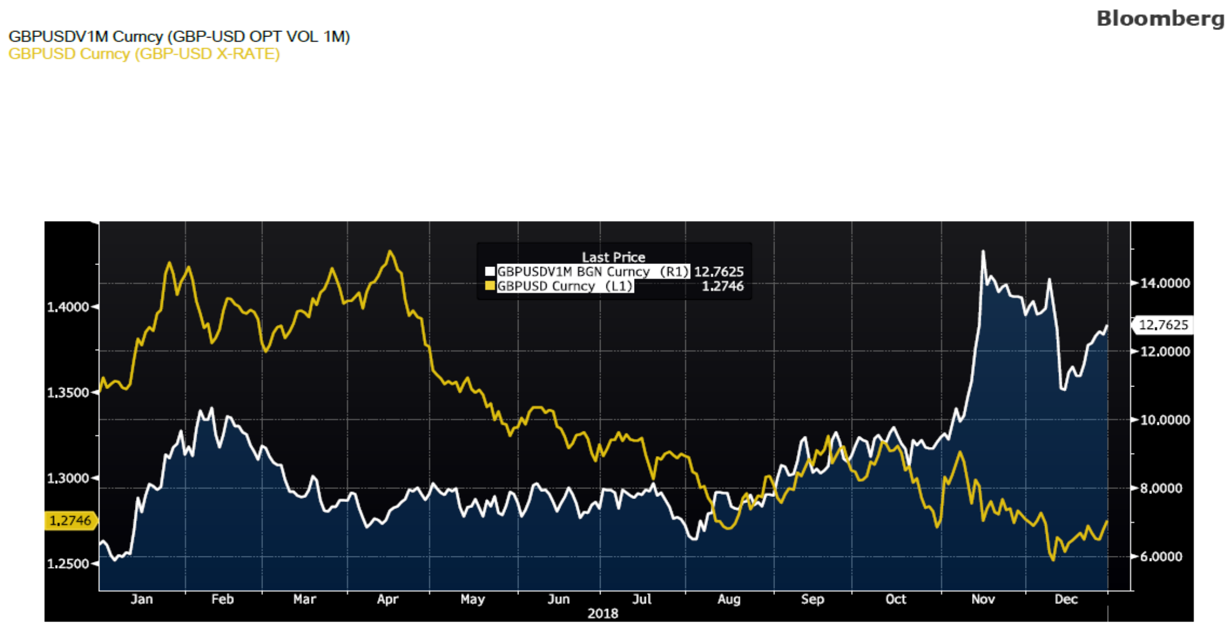
The huge spike being around the 23rd of June 2016, day of the Brexit referendum.

2/ VOLATILITY: A SPIKE THEN BOREDOM THEN THE REAL DEAL!

So, a bit like the USD/JPY Vol., the Cable Vol. started to climb very early on in Jan to reach an intermediate high of 10.34% on the 9th of Feb on the 1M Vol. In other words, a 60% increase in one month. A spike of respectable size, enough to suffer if you were short Vol. for sure.

From then on, the spot going nowhere until mid April volatility came off, and with the spot starting to collapse during the spring to reach 1.27 on the 15th of August, volatility accelerated its collapse and reached 6.505% on the 1M Vol. at the beginning of August. But still, with the so-called Checkers proposal fiasco, no deal with the EU was anywhere near completion….

As the saying goes: " you have to be a believer to make money". It seems a lot of Vol. players were actually firm believers that a deal would be signed in time….
But with the various political rows at Westminster, everyone finally realized during the summer that the odds of a so-called NO DEAL Brexit were quite large, and then volatilities of all maturities exploded higher! The 1M Vol. more than doubled and went all the way up to 14.935% on the 15th of November. And the 3M Vol. reached 14.925%, although from just below 8% as a starting point!
The official announcement that a deal was finally on the table brought some relief towards the end of Nov, and volatilities consolidated lower (towards 10.87% on the 1M Vol.) before a late political U turn by the UK Government ensured that 2018 would end WITHOUT any deal agreed on as the parliament vote was postponed to January, leading the cable 1M Vol. to bounce to 12.765% at year end (13.255% on the 3M Vol.). Take a look at the 1M Vol. (white curve RHS) chart below :



Source:Bloomberg

So volatility on this asset had doubled in the calendar year, when the underlying, the Cable (yellow curve RHS) had barely moved 10%....

3/ CONCLUSION

Compared to the 2 sleeping beauties studied before, the **ONLY** difference is that the GBP/USD was completely plagued by enormous political uncertainties. Eventually, when the initial optimism that a Brexit deal would be reached started to fade away, then the realization that the probability of a real disaster, i.e. a no-deal Brexit, was actually quite substantial, triggered wave after wave of Vol. panic buying, either to cut short positions or to hedge financial risks. And this was enough to end the "volatility suppression" policies of the BOE.

This particular episode can be seen as a perfect example of what a tail risk is. That kind of risks usually do not materialize, but when they do, their consequences can be fierce, brutal and devastating. In general, options are a fairly efficient way to protect oneself against these risks, as long as you make sure that your options position does not end up short Vol.....

IV/ CNY/USD VOLATILITY

What happens when you become a weapon in a fierce political row…

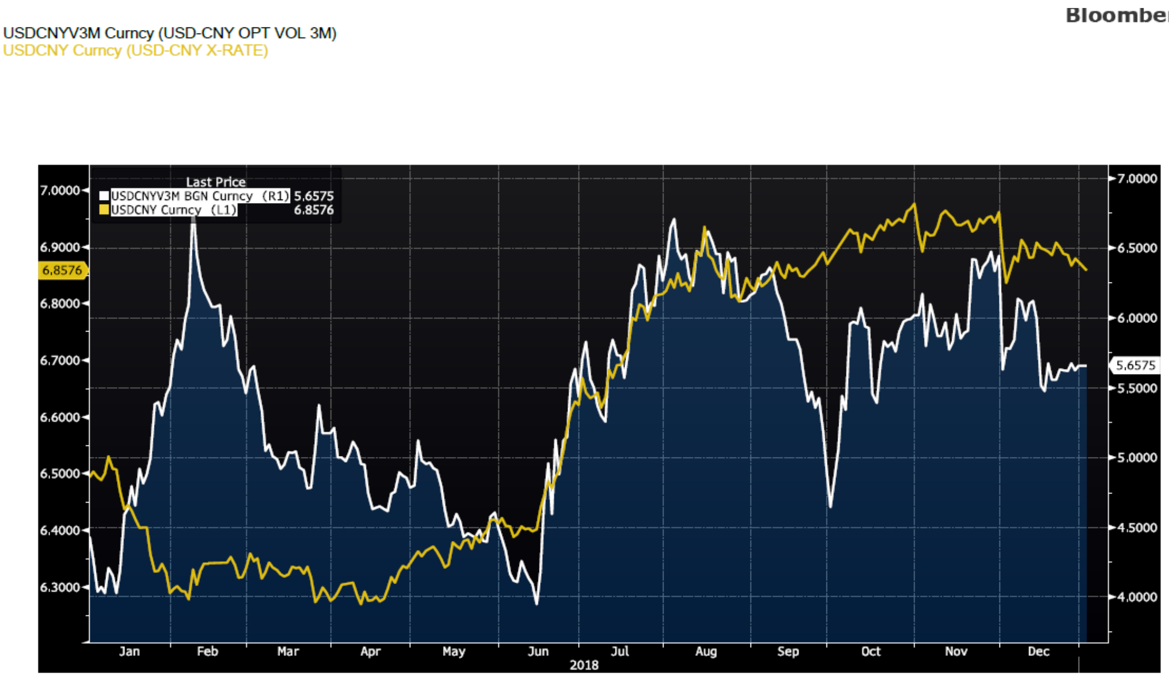
1/ HOW DID THE YEAR START

Ironically the Chinese Yuan started the year being already the object of manipulations, as a "tool" to show the US government that China was NOT a currency manipulator. So from a CNY/USD rate of 6.5 at the beginning of the year, the Chinese currency kept climbing towards 6.30 and reached the 6.27 mark in Feb, then in March and eventually the year high of 6.269 on the 11th of April. In the meantime, the CNY volatilities behaved exactly the same way as the EUR, JPY or GBP volatilities. They started low, reached a peak during the equities Vol-Mageddon on the 8th of Feb. and came off sharply afterwards.
See for example the 1M Vol. graph below.

Source: Bloomberg

2/ VOLATILITY: WAS VOLATILE ALL YEAR

The middle of April was precisely when the US official rethoric about a very unfair existing trade deal between China and the US started to aggravate. From this point, the Renminbi went all the way down to 6.975 on the last day of Oct. (2 days after the SP500 established a local bottom). Obviously, this relentless sell-off, fueled by the escalation of the tit-for-tat strategies used by the two countries, caught the attention of the Vol. markets, and from a low point of 3.95% on the 3M Vol. for instance (reached mid-June), the breakout of the 6.40 level triggered a huge spike to 6.70% at the beginning of August. So we're talking about a 70% increase in a month and a half. Not quite a doubling of Vol. but a quite significant increase nonetheless! Take a look at the graph below which shows the 3M Vol. curve (in white LHS) and the CNY/USD curve (in yellow).



Source: Bloomberg

But, perhaps surprisingly, an out-of-the-blue optimism about a trade deal (mis)led the market to dump volatility again in August and September, leading to an intermediate bottom of 4.64% on the 1st of Oct, just two days before the DJ Industrials struck a new all-time High. Like everywhere else in the world, October was not very kind with the Vol. sellers, and coupled with the official announcement that a new wave of 25% tariffs would be imposed on plenty of other Chinese products from 2019, the Renminbi declined again to a low of 6.975 while its Vol. went all the way back up (to 6.5% on the 3M Vol.) before ending a quite eventful year at 5.68% (still the 3M Vol.).

3/ CONCLUSION

So rather than exploding higher to stratospheric levels, the Chinese yuan volatility was very volatile itself, moving quickly from the lower bound of a trading range to the upper bound and reversing as quickly. Undoubtedly, the actions of the Chinese Central Bank (PBoC) controlling the decrease of the currency, and starting to reinject liquidity towards the year end helped a lot to cap the volatility spikes to levels still below the 2015 or 2016 highs, as you can see in the 3M Vol. 5 years chart below (white curve RHS). Whatever way you look at this chart, it's clear that since the Renminbi devaluation of August 2015, the volatility regime has changed and that, as opposed to the EUR/USD and USD/JPY, the average volatility of the CNY/USD is now much higher than it used to.

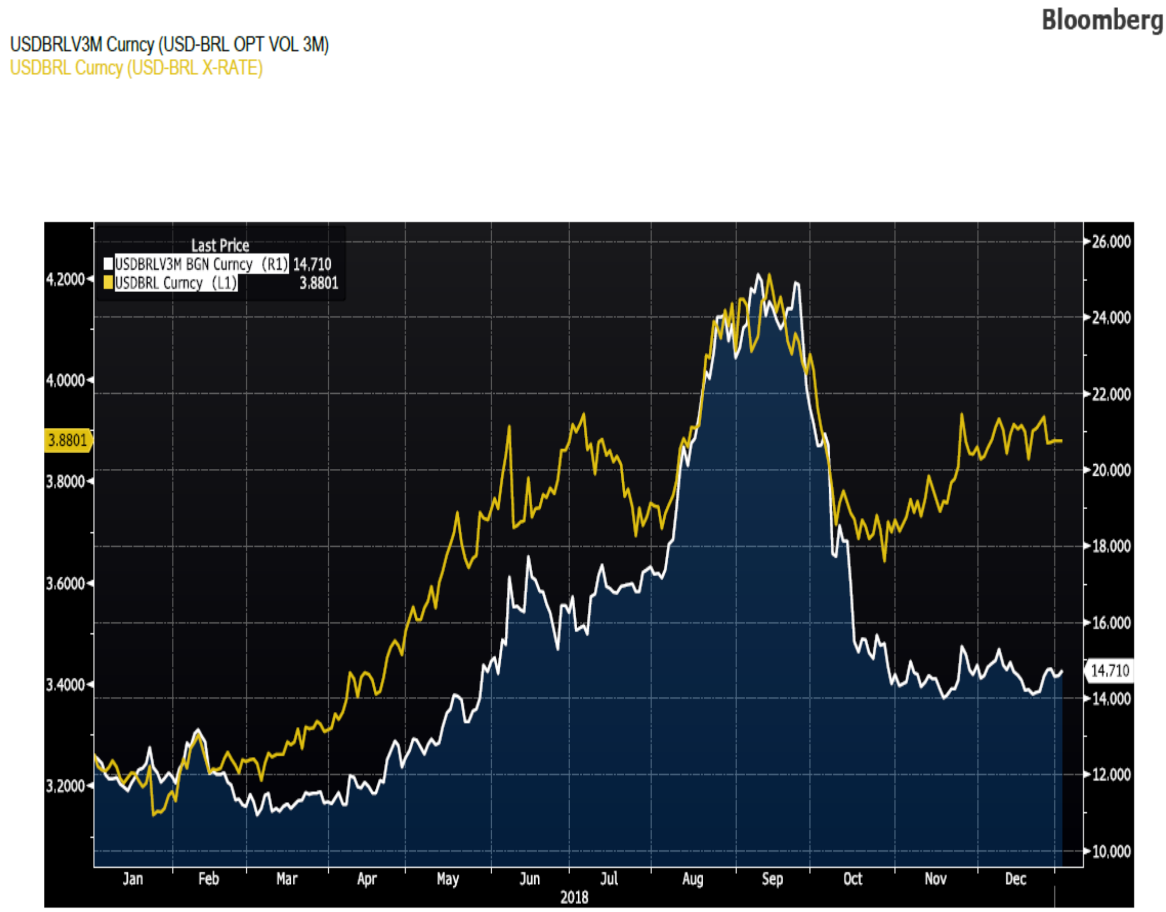
Source: Bloomberg

V/ USD/BRL VOLATILITY

The TURBO-charged volatilities of the Emerging Markets currencies are definitely not for the faint hearted…..

1/ HOW DID THE YEAR START

At the opposite of the G5 currencies we studied above which all slide against the USD, the Brazilian Real started the year on a firm foot, climbing from 3.25 to 3.2368 on the 24th of Jan. and then stayed in the 3.20 area for about 2 months before starting to come off in April when it became clear that the Brazilian economy was not recovering as fast as previously thought. The volatility of the USD/BRL cross remained fairly subdued during this quiet period, evolving in a tight range: 10.93% to 13.17%. See how uneventful this first quarter of 2018 was on the chart below which shows the 3M Vol. (white curve RHS) and the USD/BRL spot rate (yellow curve LHS).



Source: Bloomberg

2/ VOLATILITY: CONTINUOUS RISE AND THEN PARABOLIC EXPLOSION

So when the Brazilian Real broke decisively through 3.5 at the beginning of May, volatility players started to take notice. And as the sell-off of the currency showed no signs of abating they started to bid up volatility up to a temporary top of (just below) 18% mid-June. And as the currency consolidated its downward move during July, volatility calmed down a bit before starting to rise again at the beginning of August. At this moment in time, a few Emerging Markets currencies were already spiraling downward: the Turkish Lira, the Argentinian Peso, the Pakistani Rupee, let alone the Venezuelan Bolivar. For various reasons, especially one which was more and more talked about: the USD availability. In other words, the USD liquidity was contracting consistently. And one after the other, the EM currencies started to feel the pain, including the darlings like the Chilean Peso. Obviously the Real could not escape unharmed on his own….. So crashing down it went, not helped by the consistent polls giving the socialist party candidate leading the October presidential race…. And so from a level of 3.69 at the end of July the Real crashed to 4.2071 on the 20th of Sept. i.e. a 14% collapse in less than 2 months for the currency of one of the biggest countries in the world. In such a case volatility markets ought to follow. And so they did!

Volatility exploded higher on every single maturity (see chart above)! The shorter term 1 month volatility more than doubled in 5 weeks, sky-rocketing from 14% to 31.81% on the 11th of Sept. Have a look at the chart below which shows the 1M Vol. curve in 2018….

Bloomberg

USDBRLV1M Curncy (USD-BRL OPT VOL 1M)

Source: Bloomberg

The “double top” in the spike, above 31% was partly due to the “certainty” that the socialist candidate would eventually be elected president. So obviously when the results of the first round on the 7th of October showed the right wing candidate, M. Bolsonaro, way ahead of his challenger with a massive 46% of votes and the prospect of an easy win, volatility collapsed! And went all the way back down to where it started: around 14%.... A move which was much sharper than the correction of the Real itself.

3/ CONCLUSION

For those who are not yet convinced that Emerging Markets currencies are usually the most volatile, the Brazilian Real example should provide some kind of evidence. Compared to the currencies of the US, Japan, Eurozone or China, the Emerging Markets currencies can’t be managed as efficiently by their Central Banks which lack the firepower and even sometimes the tools (currency swaps agreement with the FED for example) to do so.

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As Emerging Markets economies are overly reliant on the USD funding and thus on the USD liquidity to thrive, any prolonged USD rise leads to a cascade of devaluation of their currencies, bankruptcies of some of their companies whose debt is in USD, and usually another severe economic crisis, as we have seen once again in 2018 following the last episode in 2015/2016. These specific markets conditions are ideal for volatility rises or spikes. On the following chart of the 3M Vol. (white curve RHS) and the USD/BRL cross (yellow curve LHS) over a five year period, you can clearly see that the 3M Vol. climbed back to its previous peak reached during the summer of 2015 during the last severe Emerging Markets crisis triggered by the CNY devaluation. If you add on any political uncertainty, then these conditions become the perfect recipe for a nice volatility firework! You can see on the chart below that the amplitude of the 2018 spike was far bigger than the one of 2015. This is due, partly, to the added political uncertainty brought on by the presidential election. Overall you can see that playing on the volatility of Emerging Markets currencies is another (good) proxy for a play on the USD.

Source: Bloomberg