



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



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IT'S VOL-MAGEDDON !!!

PART IV: EMERGING MARKETS

After a comprehensive study of the equities (Part I), commodities (Part II) and currencies markets (Part III) volatilities in 2018, we are now going to focus on the volatility of the main emerging markets. Being well aware that emerging markets constitutes a vast universe, we will focus on a small, but in our view representative sample containing several different countries.

And we shall study either the stock markets volatilities or the bonds markets volatilities, or both depending on the countries and the interest that they present.

But before diving into the various emerging market countries' specifics, let's focus on two generic emerging markets stocks and bonds indices:

The ISHARES MSCI EM ETF and the ISHARES JPM EMB Bonds Index.

Where implied volatility data were available, we used them, for others, where there were none, we used the historical volatilities.

So let's start with the ISHARES MSCI EM ETF.

Another sad and depressing story (if you were long that is...)

I/ ISHARES MSCI EM ETF VOLATILITY

1/ HOW DID THE YEAR START

We have talked extensively already about 2017 being one of the least volatile years for many assets. Most Emerging markets stocks indices were no exception.

As opposed to 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 USD clearly in an intermediate downtrend established in 2017. It is important to remember that these conditions, i.e. ample USD liquidity and slow and regular USD depreciation, are usually very favorable for Emerging markets, especially those whose a big part of debt is in USD. Therefore, the main Emerging markets Equities ETF, the iShares MSCI (EEM), benefitted a lot from these conditions, reinforcing an uptrend which started in February 2016 as the graph below will show.

EEM US Equity (iShares MSCI Emerging Markets ETF)

Bloomberg



Source: Bloomberg

So with the USD sinking to a new low of 1.2490 vs EUR on the 25th of January, everything looked rosy for the EM equity markets, and the EEM ETF reached a new historic high of 50.977 on the 26th of January. The market cap of this ETF reached almost 40Bn USD that day. And we all know how the saying goes: “The trend is your friend”, so more and more investors were allocating more and more money into the EM equities.

2/ REVERSING THE TREND AND ENTERING A NEW VOLATILITY REGIME

But exactly as the Developed equity markets and currency did, the EM royally ignored the relentless Bonds markets slaughter of the month of January. Which is frankly amazing 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 other major central banks still in easing mode, these widespread anticipations should have been supportive of the USD!! So clearly something had to give.

The first thing which gave was the equities markets volatility, and the first genie to get out of its bottle was the volatility evil genie (See part I). And with the USD bottoming as well, the parabolic rise of the EEM, which was way ABOVE its trend in January, came to an abrupt end as you will see in the graph below.

EEM US Equity (iShares MSCI Emerging Markets ETF)

Bloomberg



Source: Bloomberg

In a matter of two weeks, the MSCI EM and the EEM ETF lost 13.5%, triggering a substantial increase in both the ETF implied volatility, and its 10 days historical volatility. Have a look at the chart below where the ETF prices (yellow curve LHS) are shown with the Implied Vol. (blue curve RHS) and the 10 days historical Vol. (white curve RHS). You can clearly see the local bottom of the ETF price (44.08) reached on the same day (the 9th of Feb) as the implied Vol. peak (27.24%). But even more impressive was the 10 days historical Vol. move, which in the same fortnight skyrocketed from 7.958% to 45.195%...



Source: Bloomberg

From that point, things started to normalize a bit, with the ETF entering a clear downtrend, while the implied Vol consolidated its upward move for several months, bottoming at 14.66% at the beginning of June, though the downtrend in the EM was well established at that time due to the constantly strengthening USD. In fact, it's only from July that the implied Vol. started to be well supported and climb back again to reach a temporary high just below 30% the day the ETF established its low of the year at 37.09. However, the implied Vol. peak would not take place before the 26th of Dec (ironically the day the equity markets' bounce from the trough started) during the most illiquid period of the year when fear was at its peak!

3/ CONCLUSION

So, although the volatility moves can be seen as impressive with the implied Vol. ,for instance, at least DOUBLING quite quickly TWICE during the year, we can certainly conclude that 2018 was a year during which the EEM ETF volatility clearly ended its previous downtrend but did not really establish a new uptrend. Or at least it's too early to say. Instead implied Vol. entered a new regime, where it stayed range-bound between 17.5% and 30% for the last 6 months of 2018 and where it's still stuck as we write those lines.

II/ISHARES JP MORGAN USD EM BONDS ETF VOLATILITY

1/ HOW DID THE YEAR START

Like the most parts of EM assets, the EM Bonds were quite sought after in 2017. Actually, as the following graph will show you, they were one of the most sought-after asset class all year long. To the extent that the yearly low of the EMB ETF was registered on the first trading day of 2017 and its highest of the year was established on the very last trading day of the year. And apart from 3 relatively short periods of time, it barely stopped climbing. What about that for an uptrend?

EMB US Equity (iShares JP Morgan USD Emerging Markets Bond ETF)

Bloomberg



Source: Bloomberg

With such a clear and strong uptrend, the early days of 2018 didn't buck the trend. The market traded on a new historical high for 4 days in a row, until the 5th of Jan, and from that point in time, with the US treasuries being slaughtered on a daily basis, the EMB ETF started to reverse its upward move, at first gently but from the 25th of Jan more disorderly. To reach a local low of 105 on the 14th of Feb i.e. a fall of 4.70% in 6 weeks. What was really amazing was the implied Volatility's corresponding move.

It reached a low point of 4.317% just after the beginning of the year and then skyrocketed to 9.98%, reached on the day the above-mentioned intermediate bottom was established. The implied Volatility had therefore more than DOUBLED (a 131% increase) in less than 6 weeks for a move of less than 5% of the underlying!

See chart below with the implied Vol. (blue line RHS) the 10 days Historical Vol. (white line RHS) and the EMB ETF price curve (yellow curve LHS).



Source: Bloomberg

2/ YIELDS KEEP CLIMBING BUT VOLS ARE WELL CONTAINED

Following such a sharp move, who would have thought that with a continuation of the downward move in prices, volatility would actually stay range-bound?

But as you can see on the chart above, although the EMB kept making new lows, the implied Vol was never able to reach the 9% mark again! Worse, when following a last acceleration in the decline, the EMB price traded on its yearly low, the implied Vol remained capped at 8%...

Which was even more surprising given the huge spike in the 10 days historical Vol. This particular occurrence shows you that although the EMB was tanking, the fear was not that great. If it had been, people would have bought Put options "en masse" to hedge their exposure. Therefore pulling implied Vol towards higher levels.

But this clearly didn't happen! Knowing why exactly things turned out that way is not an obvious proposition. It can be that following the second spike in implied Vol which occurred in May, market players had already loaded the ship with options maturing towards the end of the year and were already hedged or positioned to benefit from an increase in Vol.

Or it can be that a lot of players were aware that the Implied Vol on the Developed Sovereign Bonds markets (US Treasuries, Bunds, JGB) were subdued and therefore didn't feel the need to get any long exposure to Bonds Volatility. Or maybe it is that investors had clearly realized the regime change which happened in January and were "reasonably comfortable" in anticipating the forward moves of the EMB ETF, given its new trend; see chart below:

EMB US Equity (iShares JP Morgan USD Emerging Markets Bond ETF)

Bloomberg



Source: Bloomberg

Or it can be a combination of any of the above-mentioned reasons. The bottom line is that during the Q4 2018, when the developed markets started to roll over fiercely, the implied Vol. of what is supposed to be one of the most volatile asset class was capped below 8% and traded in a relatively narrow range of 5.5% to 7.5%. See the volatilities graph again.

3/ CONCLUSION

The EMB ETF example is a perfect case in point of quite unexpected behavior of implied Vol. For a financial instrument which includes Turkish Bonds, Chinese Bonds, Brazilian Bonds and which is priced in USD, it was a surprise indeed to see this fairly narrow range of implied Vol during the second half of the year. But clearly the fear factor in EM Bonds was lacking, therefore preventing the Vol. spikes that panic buying of options trigger.



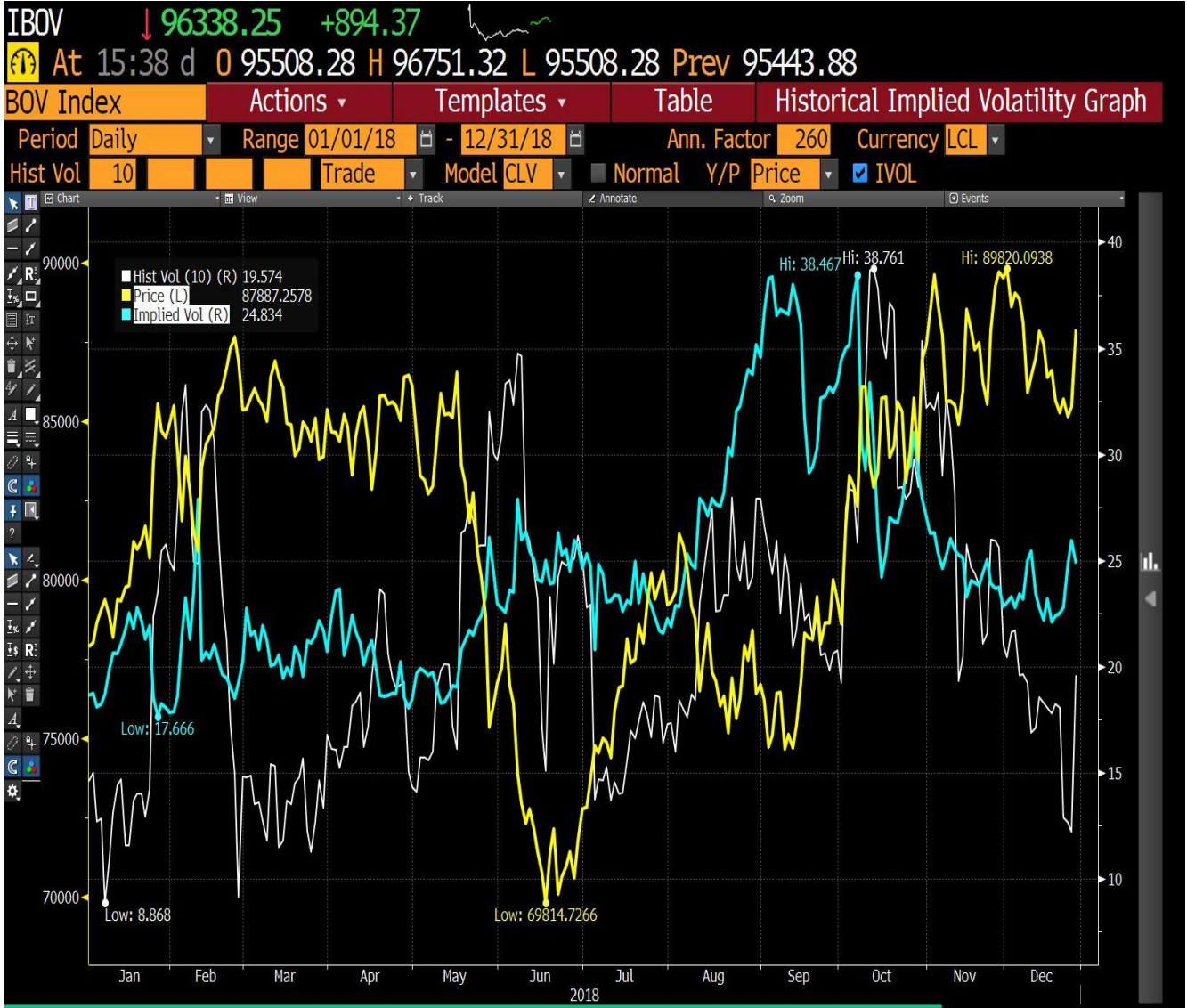
III/ BOVESPA (BRAZILIAN INDEX) VOLATILITY

We are now going to review some of the main EM stock exchange indices, starting with the Brazilian index: the BOVESPA. We focused on the Brazilian currency volatility at the end of the part III of this study. One of the main interests, let alone advantages, of being invested in EM stocks is that they provide, generally speaking, a certain level of decorrelation with the Developed markets. They directly depend on the FX rate of their national currency vs the USD. They directly depend on their internal macro-economic factors and on their domestic policies as we'll see with the Bovespa.

1/ HOW DID THE YEAR START

In perfect sympathy with all the main Equities indices in the world, the BOVESPA started 2018 with a 2 months firework, barely interrupted by a consolidation phase towards the beginning of Feb., which took it to what was at this time a new historic high of 88318, i.e. an increase of 15.6% in less than 2 months! The implied Vol. performance was not as spectacular. Even during the US markets VIX explosion, quietly climbing from a low of 17.66% to a high of 27.8% reached on the 9th of February, as you can see on the chart below (blue curve RHS). This is still a decent increase of course, but it was still far below the 10 days historical Vol (white curve, RHS) which ended at 33% on Feb. 6th.

Then followed a two and a half months of consolidation with the index trading around 85000 and the implied Vol. doing nothing of note in a tight trading range (between 20% and 25%). Until the 16th of May when following a 4th vain attempt to clear the 88000 mark decisively the BOVESPA started to retreat. And therefore, the volatilities started to move up.... See chart below again.



Source: Bloomberg

2/ OF THE IMPORTANCE OF LOCAL POLITICAL FACTORS

What happened in the middle of May 2018 was simply the – late, very late – realization of the relentless upward move of the USD which started back mid-February and accelerated further around the 15th of May, when markets became increasingly worried that the FED could hike Fed funds 4 times in the full calendar year against an expected 3 times. The Brazilian Bonds market headed south straight away, as you can see on the chart below which shows you the yield of a generic 10 years Bond.

AQ608474 Corp (BNTNF 10 01/01/29)



Source: Bloomberg

The BOVESPA got slaughtered, losing 20.7% in a month, down to its annual low just above 69000. Obviously the implied Vol. went all the way back up again, reaching again the 27/28%. But the best was yet to come! Indeed, with the presidential election looming large on the calendar (October), the implied Vol. never came off, and after a brief pause in July it skyrocketed towards 38%. This particular level ended up being a very strong resistance as 3 attempts to trade above that mark consistently failed in September and the day before election-day, on 5th October. With a surprisingly good result from a financial markets point of view, the implied Vol. started to come off sharply the day after the first round results, in tandem with the yield of the government bonds, and quickly dove back towards a new trading range of 25% to 30%, while the index, spurred by this landslide victory, kept climbing to new historic highs above 91240! The index ended 2018 at 87887.26 while the implied Vol. finished the year just below 25%.



3/ CONCLUSION

So, in what was quite a volatile year for the main Brazilian index, its implied Volatility more than doubled in 9 months, mainly reacting to political uncertainties rather than changes in economic fundamentals, although you could argue that the implied Vol. actually followed the sharp moves of the 10 years government Bonds yield. Whatever way you want to look at the Bovespa Vol., it's worth remembering that when there is a lot at stake in any election, uncertainty is always running high, and therefore, options being one of the most favored way of hedging against that, the implied Vol. can be extremely volatile, and can climb very high very quickly!

IV/ ARGENTINIAN ASSETS VOLATILITIES

And now, let's cross the Brazilian border with Argentina.

A/ EQUITIES

Where the main stock exchange index, the MERVAL, also had a torrid year. Especially considering the apparently unexpected economic crisis which gripped the country.

1/ HOW DID THE YEAR START

Like everywhere else in the world, the Argentinian equity market had only one way to go at the beginning of 2018: UP. And so up it went from 30000 to a high of 35461 traded on the 1st of February. An impressive performance as it represents a gain of 17.5% in one month. Obviously even in the (Wonder)land of the gauchos, the laws of gravity apply and eventually what goes up must come down. So for seven months in a row the Merval declined continuously to reach its annual low of 24618 at the very end of August. A collapse of 30.5% from the high.

2/ WHEN ALL THE BAD NEWS ARE PRICED IN.

As you can see in the chart below, the fall was relentless with only two noticeable rebounds in May and July. Argentina was diving deeper and deeper into another very predictable economic crisis. With a collapse of its currency, of its industrial production and a sharp increase in its inflation rate. And therefore an explosion of the yields on the Argentinian sovereign debt (more on that later). Under such circumstances, volatility never sleeps for long. And, as you can see in the chart of the historical Vols. (2nd chart below) they all exploded higher!

MERVAL Index (S&P MERVAL Index TR (ARS))



Source: Bloomberg



Note the huge spike of the 10 days historical Vol. from a low of 12.743% in April to the top of 89.608% at the end of June. An almost 7-fold increase. And as you can see, even the 100 days historical Vol. was multiplied by 2.5 between January (19.889%) and the end of September where it stood at 49.54%. When all looked lost and gloomy, when probably every foreign investor had already fled the market, when all the speculators had taken a short position, then came a huge rebound which lifted the Merval from its June lows to 35118, reached at the end of September. So all the way back! Which essentially prevented a collapse of the volatilities. They obviously came off from their very high levels but consolidated in ranges which were quite high. The ultimate evidence of the massive swings in the Merval prices can be seen in the fact that the highest historical Vol. at the end of the year was the 100 days Vol. still at 42%!

3/ CONCLUSION

The case of the Merval Index in 2018 illustrates quite well the behaviour of the Emerging equity markets during hard economic times. A collapse until the proverbial rubber becomes too stretched and then a massive rebound until the rubber band ends overstretched the other way! An ideal market to trade volatility as implied Vol. itself is very volatile.

B/ DEBT INSTRUMENTS

As it is difficult to talk about Argentina financial matters without mentioning its debt and its established reputation of being a “serial defaulter”, we are briefly studying the case of a very particular Argentinian debt instrument: the 7.125% 100 Years Bonds issued in USD during the summer of 2017.

Yes, ladies and gentlemen, a sovereign government which last defaulted on its debt 16 years before, managed to sell 100 Years Bonds, in USD with a 7.125% coupon to yield starved investors. They issued \$2.6 billion, but they could have issued \$5bn, so oversubscribed it was....

1/ HOW DID THE YEAR START

The first 6 months of this Bond life saw a stellar debut. With an historical high traded in Oct. at 105. And a few attempts at overcoming this mark as you can see on the chart below.

AO026636 Corp (ARGENT 7 1/8 06/28/17)

Bloomberg



Source: Bloomberg

Unfortunately, when we entered 2018, straight from the word GO, the price started to come off. The highest close of the year took place on the very first day of the year at 103. Then it came off consistently until the 31st of August when it traded at its lowest level ever: 68.5! An astonishing collapse of 33.95% in 8 months for a sovereign state bond!

2/ THE HIGHEST BOND VOLATILITY EVER???

Such a collapse can NOT leave volatility unmoved. And volatilities started to all move up in January. From low points situated between 6% and 10% for the 10/30/60 or 90 days historical Vol. See the chart below with the 10 days Vol. (Blue curve RHS) obviously the most volatile, the 30 days (green curve) the 60 days (yellow curve) and the 90 days (pink curve).

As you can observe, the 10 days historical Vol. was multiplied by more than 7 from its low point of 5% mid-April to its August peak of 36.5%! The 30 days increase almost 5-fold, and the 60 days roughly 3-fold. The 90 days was

multiplied by a paltry 2.5 from 10.7% to 25.25%. These are very substantial moves which occur only during extremely rare circumstances when the stress in the markets reaches a very intense level.

Bloomberg



Source: Bloomberg

Nevertheless, note that following a brief (dead cat) bounce in September, the second visit of the lows of the year did NOT trigger another volatility spike. As if investors had been somehow reassured that there would not be any default.



3/ CONCLUSION

It is clear that because of its duration and sensitivity, a 100 years bond will always be more volatile than a 30 years. But still the impressive amplitude of the Vol. moves can be seen only during maximum stress periods in the financial markets. These periods are usually due to exogenous factors, as opposed to purely financial fundamentals factors. Human perception of given events being one of them.

V/ RUSSIAN ASSETS VOLATILITIES

Let's now study a typical Commodities exporting economy: Russia.

A/ EQUITIES MOEX INDEX

The Russian markets were a very interesting case in 2018, as between the economic sanctions, the USD increase (bad for most commodities prices), the ongoing problems in Ukraine and the global economic slowdown, all the stars were aligned to give us a very volatile year (apart from domestic political instability). Surprisingly it was the exact opposite! And the Russian stock exchange ended the year in positive territory, in local currency at least...

1/ HOW DID THE YEAR START

It started in the same way as all the other stock markets. Up, UP and HIGHER UP! Oh, not for very long. It climbed 12.65% between Jan 1st and end of February before consolidating in March and literally collapsing on the 9th of April (-8.85%) following the official announcement of a new round of economic sanctions on Russians oligarchs and companies like RUSAL (the biggest aluminium producer in the world). See the chart below: the MOEX index curve in yellow (LHS). As you would expect, the volatilities went through the roof at that time, as shown by the 10 days historical Vol. graph below (white curve RHS).



Source: Bloomberg

This is the very definition of a spike! 10 days Vol. was multiplied by (almost) 5 in 12 days (from 12% to 58.92%) before collapsing even faster and falling all the way back to 9% on the 2nd of May as the stock market started to slowly recover...

2/ A NICE AND QUIET SUMMER (LETO)

With the Russian Ruble falling off the cliff, a lot of the pain coming from the sanctions were actually offset and exporting Russian companies were still able to benefit from the increase in prices of some important commodities like gas and especially oil. So the MOEX recovered quite well and established a new yearly high of 2493.91 on the 3rd of October, in the wake of the general bullishness for equities worldwide. In such circumstances, it's clear that volatilities are left aside. So for 5 months the 10 days historical Vol. was going sideways in a 10% to 20% range. A nicely boring range-bound market... And even the traditional October slaughter of the worldwide equities markets did not generate enough fear to push volatilities much higher, as can be seen on the chart above. The 10 days historical Vol. struggling to get back to 27.6% maximum at the end of October. With the index consolidating its gains and going back to a 2000/2300 range, volatilities followed suit to establish themselves between 10% and 20%, where they all finished a relatively subdued year



3/ CONCLUSION

Although the consistent slide of the main commodities in 2018 should have weighed on the Russian stock indices, especially given the near 40% collapse of the crude oil market – let’s not forget that Russia was still at that time the biggest crude oil producer in the world (11 million barrels a day...) – they actually showed many signs of extreme resilience!

And apart from a spike, granted it was a massive one, of volatilities in February, nothing interesting happened on this front either!

We don’t think there is any better evidence that when there is no fear, there is no Vol. explosion!

B/ RUSSIAN BOND INDEX

Let’s now study the Russian Government Bonds, via their most liquid index, the RGBI (Russian Government Bonds Index).

1/ HOW DID THE YEAR START

Like virtually every other asset in the world, the RGBI started the year with strong bids, climbing gently from 142 to 145.24 reached around mid-March.

But the 9th of April sanctions announcement pushed the RGBI in the back and it fell off the cliff! Collapsing to 130.52 at the beginning of September.

That is a fall of more than 10% in 5 months! For supposedly safer Governments Bonds!

So Bonds volatilities, which admittedly started the year very low, from 1.03% to 1.66% for the 10 days historical Vol. to the 100 days historical Vol., did go through the roof at the beginning of April. With the perfect Vol. spike of the 10 days historical days jumping towards 11.135% in 4 months and falling all the way back towards 1.5% in May!

2/ NOT SUCH A NICE AND QUIET SUMMER...

As you can see on the chart of the RGBI below, although the 10 days historical Vol. spiked again above 10% in September when the RGBI established its yearly low, it didn’t print any new high. At the opposite, the smoother 50 days and 100 days historical Vols needed more time to react and topped in November and early December respectively, at 6.1% and 5.86% respectively.

Compared to the lows of the year these were all very impressive increases! Just take a look at the chart below to see for yourself the evolution in 2018 of the RGBI Index (pink curve LHS) and the 10 days/50 days/100 days (white/orange/green curves respectively, RHS).

As opposed to the stock markets, the government bonds did not benefit in any way of the Ruble collapse. This explains why the Russian bonds never quite recovered from their summer losses, when as we have seen in A/ the equity markets rebounded sharply and ended the year positively.



Source: Bloomberg

3/ CONCLUSION

The fact that the collapse of the RGBI outlasted the stock exchange's one is also due to the fact that traditionally, in the Emerging markets, foreign investors are more involved in the government bonds than they are in the stock exchanges. So if, as was the case in the spring 2018, large foreign investors want to totally exit the bonds markets for political and/or economic reasons, it will take longer and it will trigger more sharp declines days during which Vol. spikes can materialize very easily.