Nordea
MARKETS

FX Quants

28 May 2020

More risk!

- As restrictions are being eased across the world, there's now demand for more risk.
- It seems like the markets have also fallen into the trap of positive expectations. If you ask about the future outlook after a period of grim sentiment, it's no wonder survey results indicate a strong sense of optimism.
- If you want to play into this optimism, the EURCHF might be a safe option. The Swiss National Bank doesn't want to see the CHF rate strengthen too much but there's room for depreciation. More on this later.

Contents

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Macro

The latest events

Market observations

» The S&P 500 is above 3,000. All is well now.

» FX vols, too, show a positive trend and have continued to decline. In fact, the vols of the currency pairs in the Quants universe have fallen by nearly a whole percentage point on average since two weeks ago.

» EM has also finally joined the rally. The USDMXN in particular has come down considerably. Similarly, the USDZAR has quickly come down after its sideways movement over the past couple of months. The oil-sensitive rouble has been getting stronger for quite a while now.

» The equity markets are supported by an endless flow of money from the central banks and FX vols follow the realised vols, as the vol premium can't be allowed to widen too much. All of this is OK. But it looks like the worst may be yet to come in terms of the economic impact of coronavirus. According to antibody tests, only a small part of the population has had the disease and the famous "second wave" looks somewhat likely.

» If governments restrict the movement of people again in the summer or autumn, the emergency loans granted earlier will simply not be enough to keep businesses afloat. And if businesses go bankrupt, recovery will be slow. The central banks may also end up having to admit that they can't keep propping up the equity markets forever. In this case, share prices might come crashing down.

» When we look at the current economic situation and take into account the possibility of new restrictions, it's hard to see these equity index levels and FX vols lasting for very long.

» The EM carry has remained very moderate despite the crisis. For example, the EURRUB 1Y carry is only 5.1%. Of course all crises are not directly comparable but 5.1% is not much compared to the RUB carry after the Lehman Brothers collapse in 2008 and Russia's military intervention in Ukraine in 2014.

EURRUB 3M carry p.a. The rate differential has remained very moderate during the crisis.

TOP-5	1Y CARRY	Chg. from previous	Carry / Vol
EURTRY	14.0%	-2.6%	0.67
USDTRY	13.8%	-1.6%	0.65
USDIDR	7.1%	-0.2%	0.60
EURMXN	5.6%	+0.2%	0.35
EURRUB	5.1%	-0.1%	0.35

Top 5 carries in the Quants universe

Macro picture

» **US**: Recent comments from the Fed members have confirmed that we won't see negative interest rates in the US. Meanwhile, yield curve control is on the table. The latest data show that US workers have filed close to 3 million new unemployment claims in just a week. In April, retail sales plunged by more than 16% month on month. There's no business when consumers can't get out to shop. Restaurant reservations, too, are still more than 80% below last year's level despite picking up recently.

» **Eurozone**: As restrictions are being eased, economic activity is gradually recovering towards more normal levels but there's still a lot of catching up to do. PMIs remain low (services 28.7, manufacturing 39.5), especially as they depict development compared to the previous month. The ECB has continued its asset purchases, keeping yields on Italian government bonds relatively stable. But if the central bank continues purchasing bonds at the current rate, the 750-billion-euro envelope for its PEPP programme will run out in the autumn already. It's therefore likely that the ECB will have to increase its programme, perhaps as soon as in June. While the EU is busy with planning a recovery fund, it doesn't have the support of all Member States to provide direct stimulus, as some of them would prefer loans instead. There will probably be many more twists and turns to come before the fund is approved.

» **Sweden**: In April, Sweden's official unemployment rate rose to 7.9%. Without the new furlough system, the number would be considerably higher. If the furloughs eventually turn into layoffs, the unemployment rate could be about 15–20% in the autumn. Inflation, on the other hand, is a distant worry, with core inflation at 1.0% (y/y) in April and energy prices pushing overall inflation down to -0.4%. Housing prices fell by 2% since March but rose by 2.9% year on year. In Stockholm, however, the prices of flats dropped by 3.9% (m/m) and households have little faith in a rebound. This means that the prices may fall even lower this summer, which would also further dampen consumption through the wealth effect.

» **China**: Economic activity is still not back to normal. The larger the business, the stronger its recovery and especially small service sector companies are struggling. In April, manufacturing output grew by 3.9% year on year, while the struggles of consumers are reflected in the 7.5% drop in retail sales. However, demand for credit is clearly on the increase and more money is pouring into the economy than before the crisis. The tensions between the US and China have escalated again after the pandemic. Trump is bound to take a tougher stance on China ahead of the US presidential election in response to US voters' negative views on China. Moreover, China is unlikely to meet the agreed sharp import increase from the US. This means we may see trade disputes making their way back to the headlines.

Directionals

Macro ideas without forgetting quants

α – Investment   – Hedge

The Swiss money-making machine (1/2)

» The Swiss take money matters seriously. This makes it an attractive place for investors to park their money in a crisis. Or more simply, makes it attractive to buy Swiss francs.

» With the reliable Germany tied to the same monetary union as Italy, there's no other safe haven like Switzerland in Europe. According to ancient samurai mythology, the currency of Japan is also a safe haven but here I have to disagree with the markets.

» There's an abundance of dollars in the world, and the dollar determines whether the global economy works or not. This was evident in the swap market two months ago, too. Not least because of its key role, the dollar is usually a pretty safe bet in times of crisis.

» If investors had to choose between these three safe havens, a disproportionately large number of safe haven seekers would inevitably end up going for the small country called Switzerland.

» However, an overvalued currency creates problems for the Swiss cuckoo clock and chocolate exporters.

» To protect Switzerland's exports, the SNB prints more francs, sells them to foreigners and calls it an intervention. It's usually done the other way around in the case of EM currencies when investors are trying to trip up the currency of a wavering country. Unlike EMs, Switzerland actually benefits from these interventions.

» Through naïve eyes it would appear that all the SNB has to do is to print money on an A4 paper, cut it up into pieces and exchange them for foreign currency and equities. As someone who's watched Ozark and completed a couple of AML trainings, I can safely say this is money laundering at its finest. Fresh-off-the-printer cash is exchanged for legitimate equities, government bonds and foreign currency.

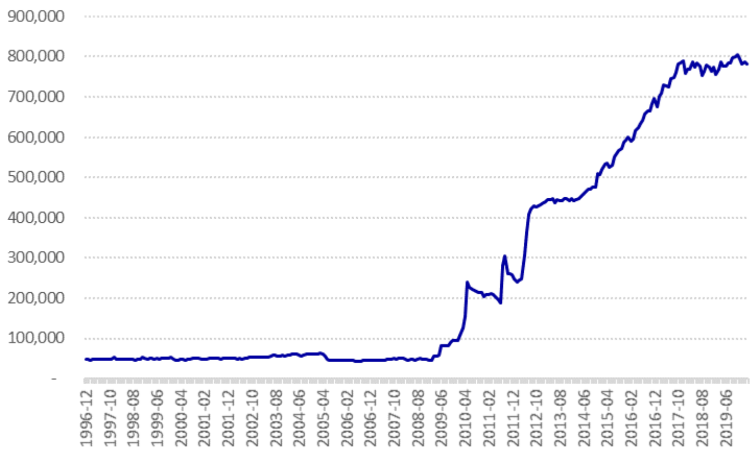
» And all this falls into Switzerland's lap only because investors believe in the country's ability to manage its finances.

» Some people – journalists in particular – are worried about this because the "SNB's balance sheet keeps swelling up as the small country desperately tries to fend off speculators". I'm not really sure what to think about this.

» In the back of my head I have the idea that an intervening central bank has been pushed into a corner. It will do everything in its power to save the currency. The dwindling (EM) or ballooning (Switzerland) of reserves is seen as an indicator of how far into a corner the central bank has been pushed and how close it is to giving up.

» But does Switzerland actually have anything to worry about? Let's take an extreme example: Switzerland has to counteract upward pressure on its currency even more and the SNB's balance sheet fills up with shady equities, volatile currencies and the debt of unstable countries. Then comes a new coronavirus shock and the value of these assets goes down. The SNB's equity falls into negative territory and the Swiss government has to capitalise the national bank, as the reserves of local banks are at risk.

EURCHF spot. It seemed that the CHF appreciation stopped at 1.05. The SNB is transparent about its interventions and its desire to control the CHF's appreciation.



SNB foreign currency reserves, CHF millions. The SNB's foreign currency reserves have grown markedly even after Francogeddon. For the past few years, growth seemed to have come to a halt, while the CHF has strengthened at the same time. It's possible that purchases have been made as usual but the CHF-denominated value has remained constant. Interventions made during the coronavirus crisis don't seem to have had a big impact at least at this stage. *Source: SNB*

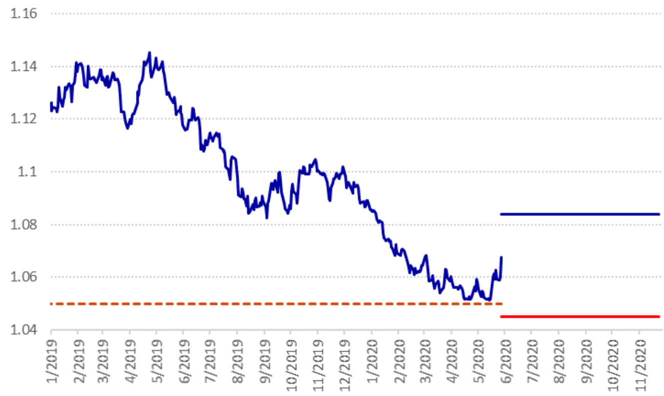
Directionals

Macro ideas without forgetting quants

α – Investment – Hedge

The Swiss money-making machine (2/2)

- The markets would stop appreciating Switzerland's way of handling its finances and the franc would no longer be an attractive safe haven. Mission accomplished.
- The franc has been saved from appreciation and the SNB has a big pool of foreign assets it acquired for free. By selling them gradually, it may also prevent the franc from depreciating too much should there be a shock towards that direction.
- This gives Switzerland a money-making machine that serves its purpose even when broken. So I wonder if there's much of a reason to think that the EURCHF would fall much below 1.05 – a perceived pain point for SNB.
- Those who saw *Franc-enstein* or *Franc-ogeddon* would probably point out now that there was a situation in which the SNB "gave up" in the face of market forces and let the EURCHF plummet. But that wasn't the case, was it? The SNB set up the EURCHF floor because the euro was the closest major currency to which the franc could be pegged. However, at the end of the floor in 2014 the franc had already weakened against ***other currencies than the euro***.
- In the small EURCHF universe the CHF was still strong but in the outside world the CHF was already priced reasonably. The euro was the only one rotting and there was no point in maintaining a floor against it.
- The EURCHF has been on a steady decline throughout the crisis and even for a couple of years before that. It looks like 1.05 is too strong for Switzerland and the SNB doesn't want to let the rate fall below this.
- If the coronavirus crisis takes a turn for the better, we could expect the Swiss franc to depreciate against the euro. But if a second wave hits, which seems likely in my opinion, the franc may not appreciate below 1.05 with the SNB dead-set against it.
- Having a determined central bank on the opposite side may make the EURCHF's return distribution uneven. To drop a fancy word, the return distribution is potentially *convex*.
- You can take advantage of the uneven return distribution, for example, by buying an EURCHF call option and financing it by selling a put option below 1.05.
- The risk of course being that the markets' perceived threshold pain point of 1.05, is not real after all and the SNB will let the rate fall below that. It's also possible that, if a severe crisis hits, the SNB will decide against tilting at windmills – something we would have hoped to see from all central banks over the past 10 years.
- But in the current market situation this is a viable risk-on option, as it includes a potential free central bank put.



EURCHF 6M RR. By selling a 1.045 put below the SNB's possible floor of 1.05, you can finance a 1.0840 call, which is a good level compared to recent years. Timing-wise it might be an attractive option to wait for the spot to reach 1.06, for example.

α

- Buy EURCHF 6M call 1.0839
- Sell EURCHF 6M put 1.0450
- Zero-cost structure with Bloomberg vols. Spot ref 1.0674

Raw ideas

Brief unfiltered comments

α – Investment – Hedge

Currency or currency pair	α-TRADE	Comments
No ideas in this category	–	–

***Data source**: All data – including indicative product pricing – is sourced from Bloomberg unless stated otherwise*

MST analysis

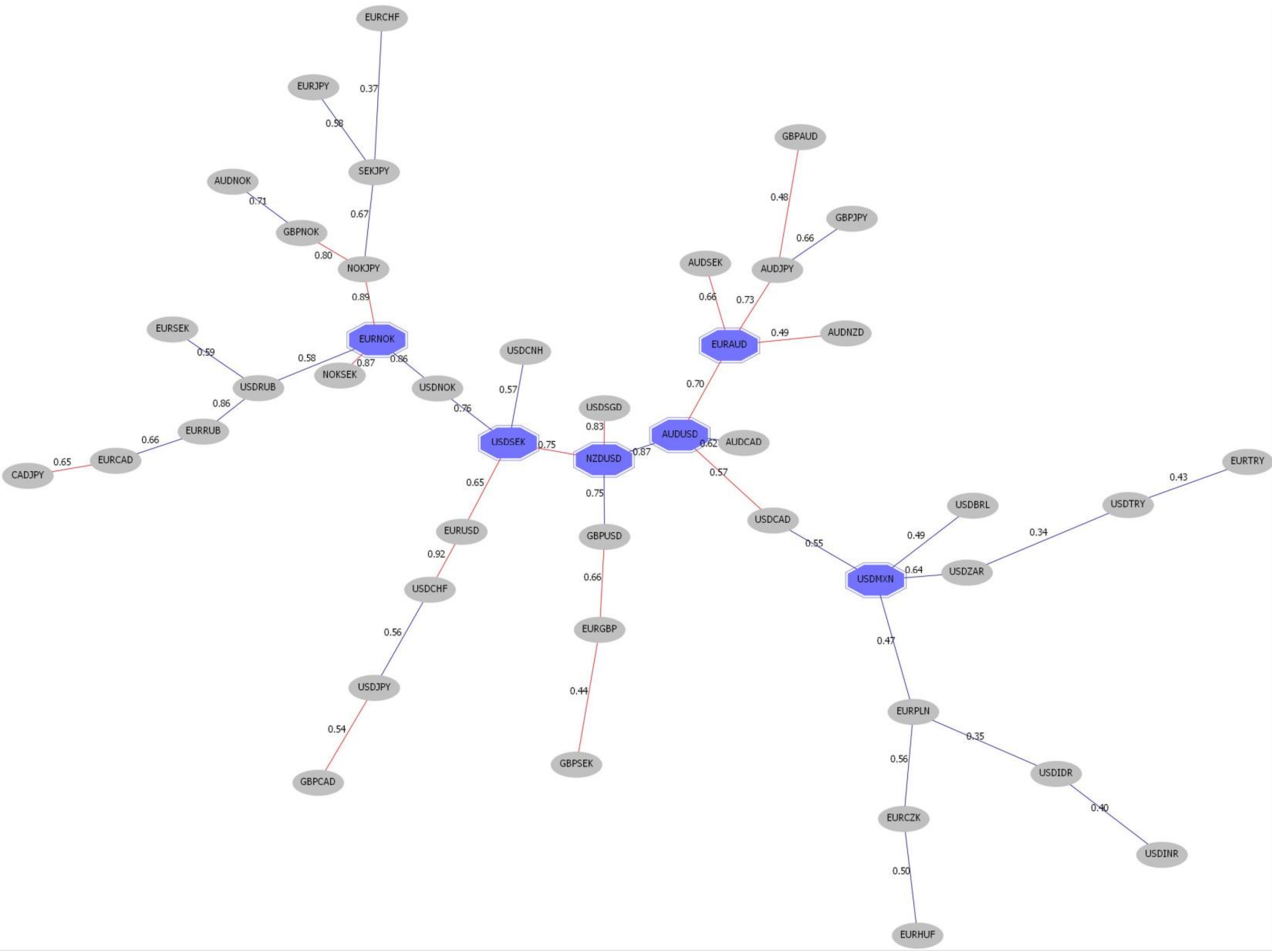
Overview of market interactions

The picture is not as clear as last time

- Two weeks ago the MST chart was clearly divided into the different “sub-components" of coronavirus. Oil, China, EM and safe havens were easily recognisable.
- But now the market picture is less obvious. EM/China are still reflected in the AUD pairs and oil is evident in the NOK-RUB-CAD chain but the overall picture has become slightly fragmented.

Minimum Spanning Tree

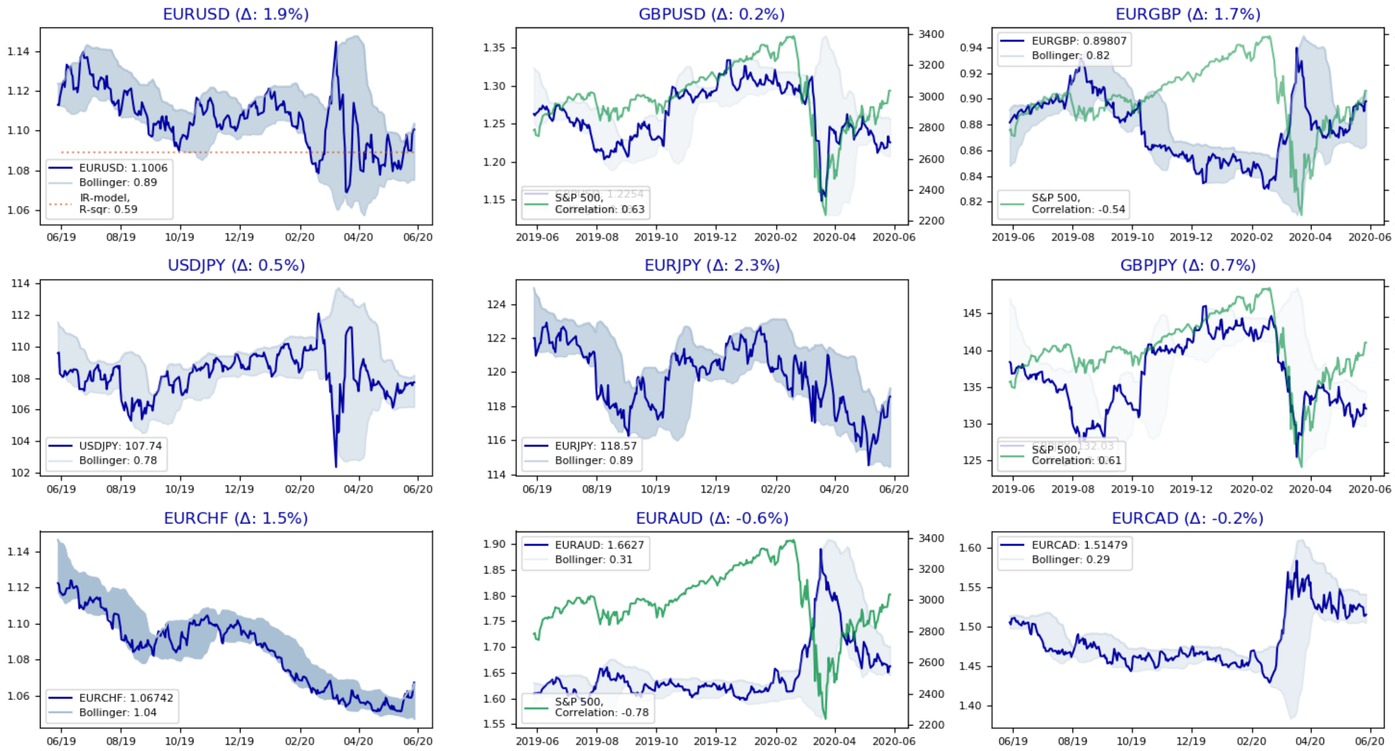
- The connection describes the coefficient of determination of OLS regression. The shorter the distance, the higher the coefficient of determination.
- The red colour means a negative beta coefficient.
- Short connections indicate an interaction relationship and clusters indicate market dominance.

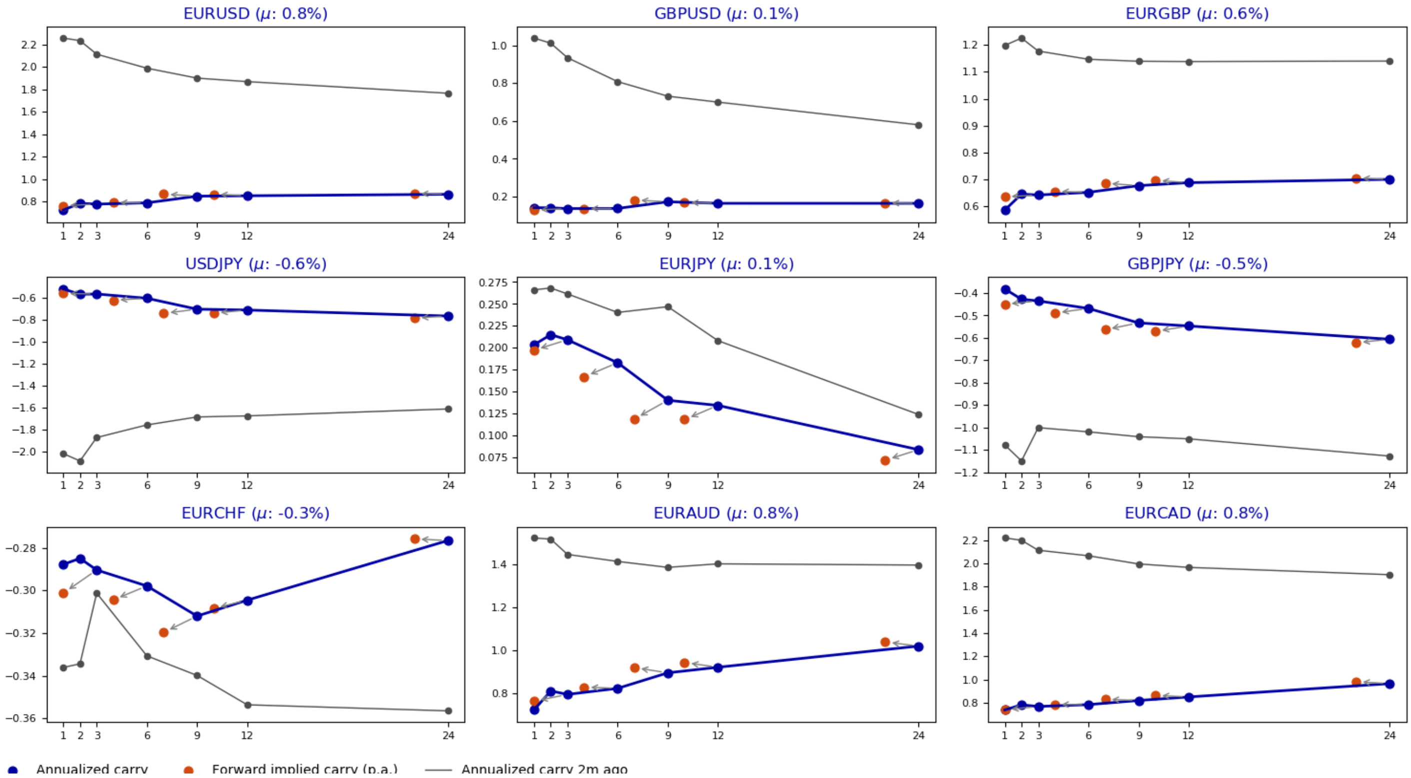


Majors

Spot, technicals and annualised forwards

FX Quants





Majors

Term structure of volatility and skew

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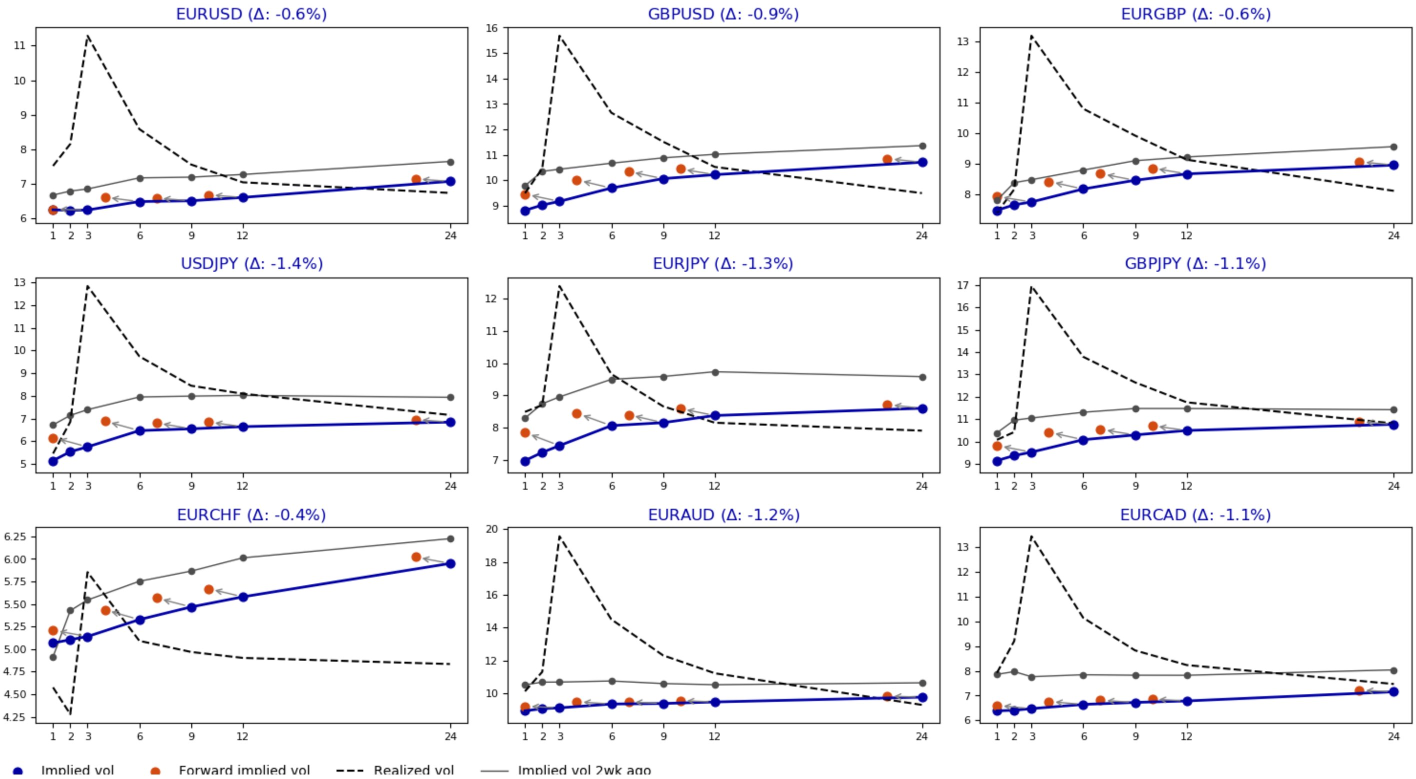
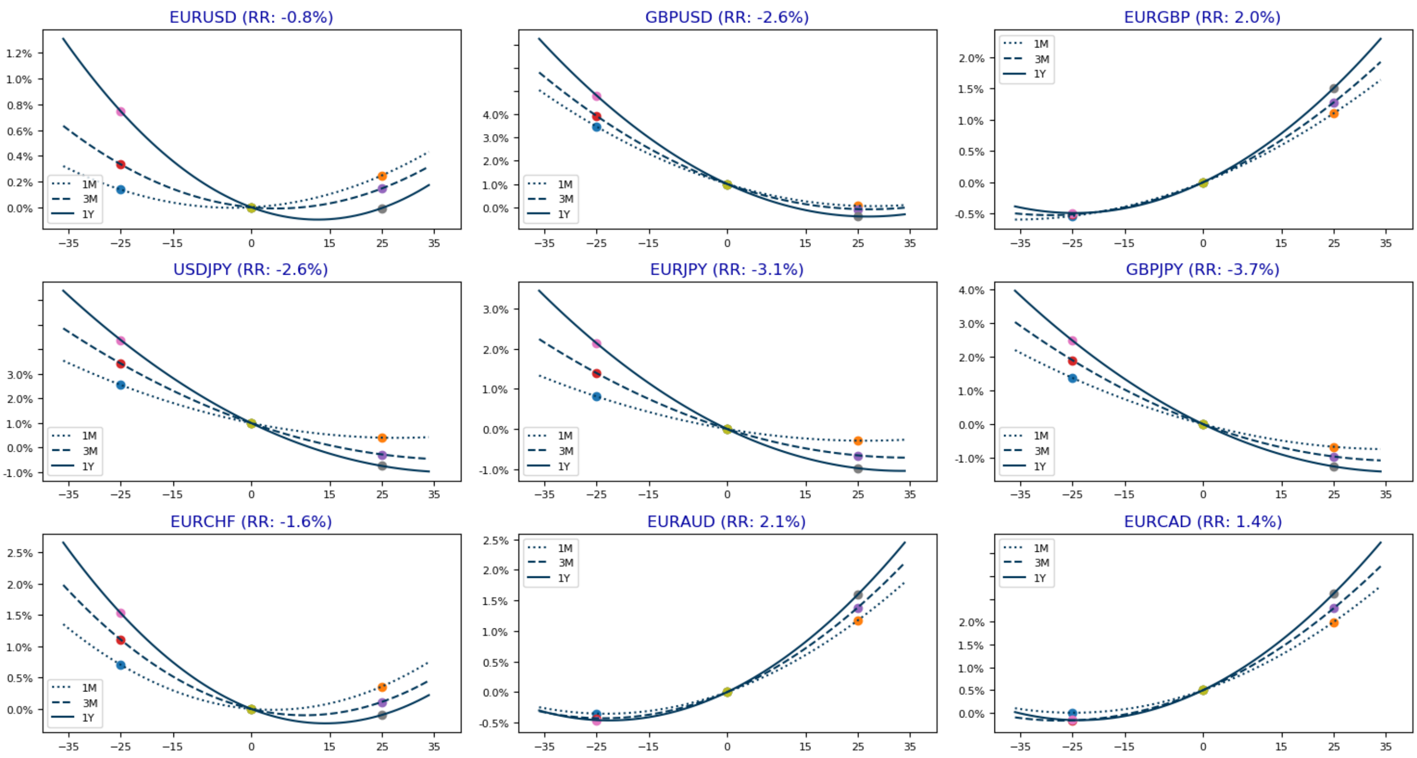
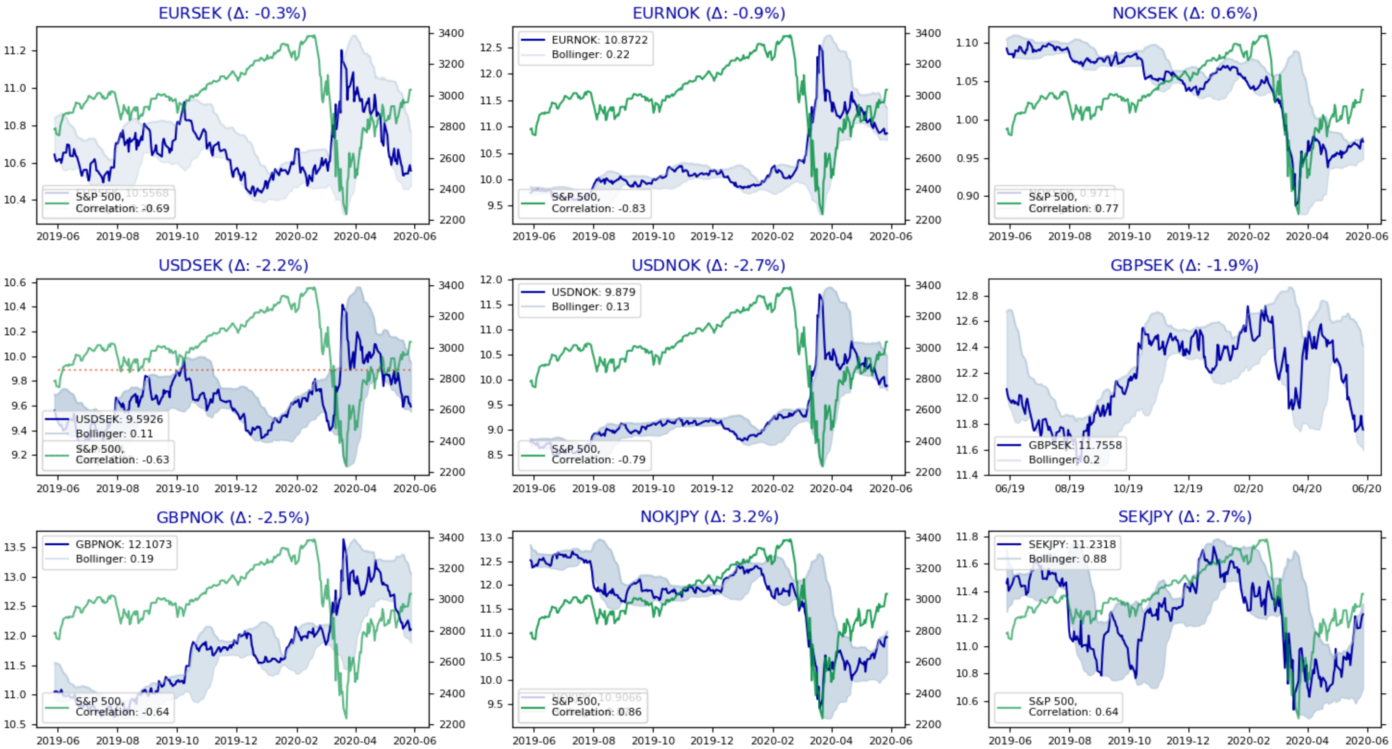


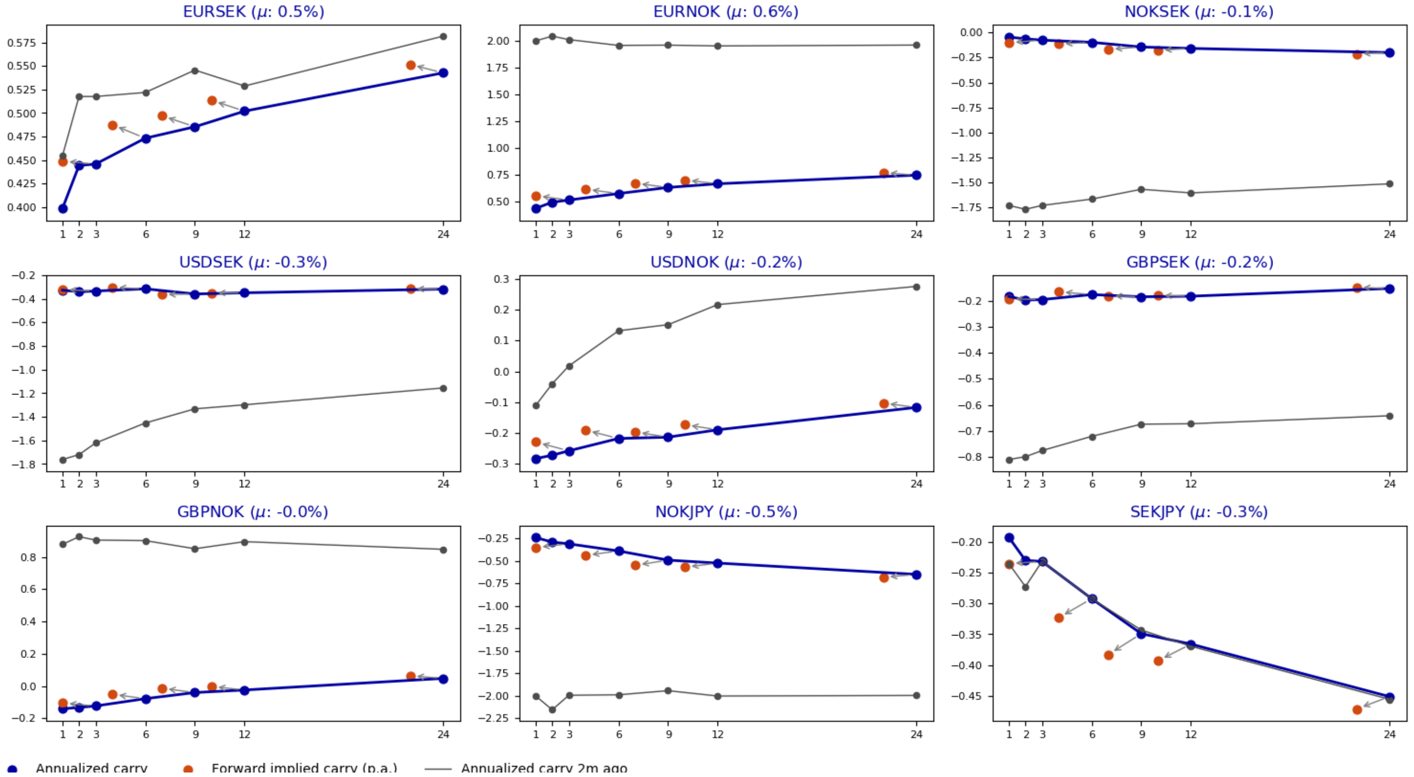


Scandies

Spot, technicals and annualised forwards

FX Quants





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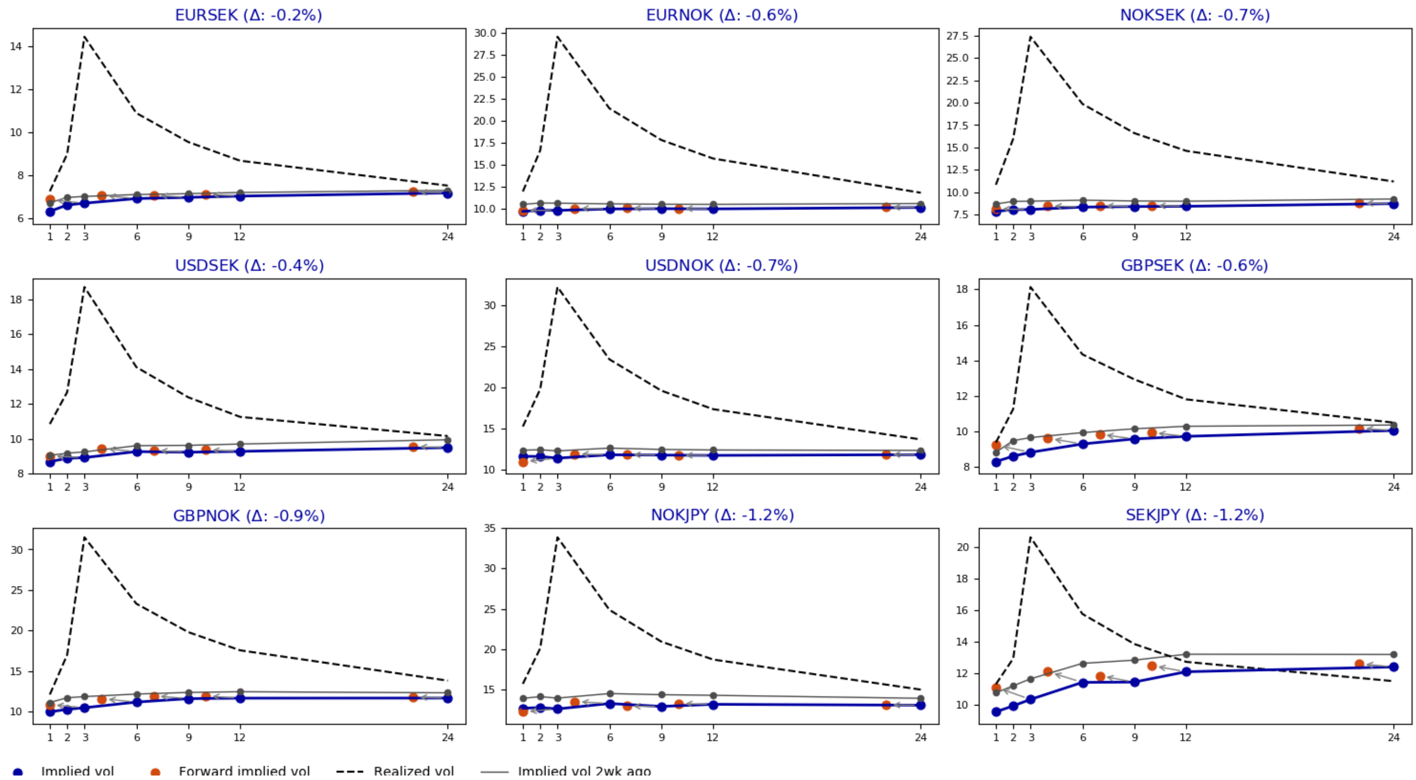
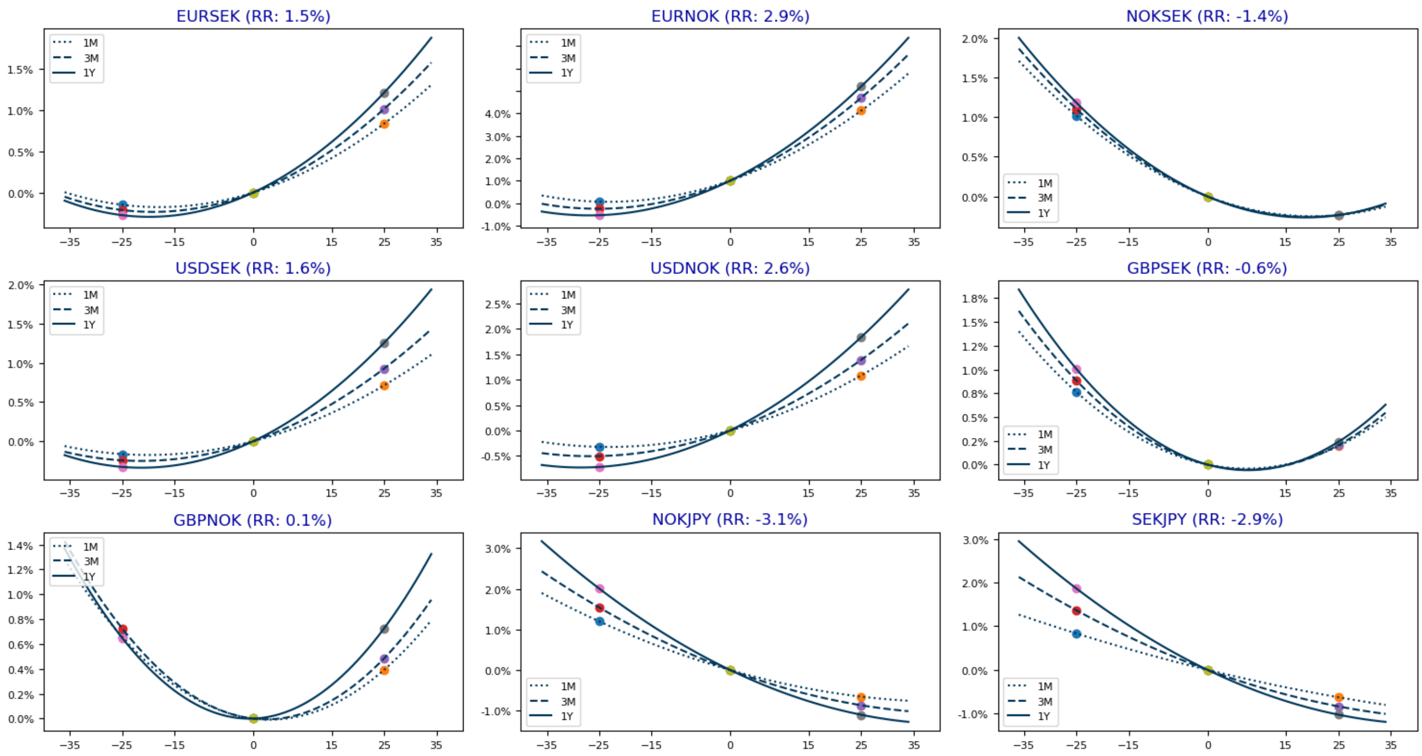
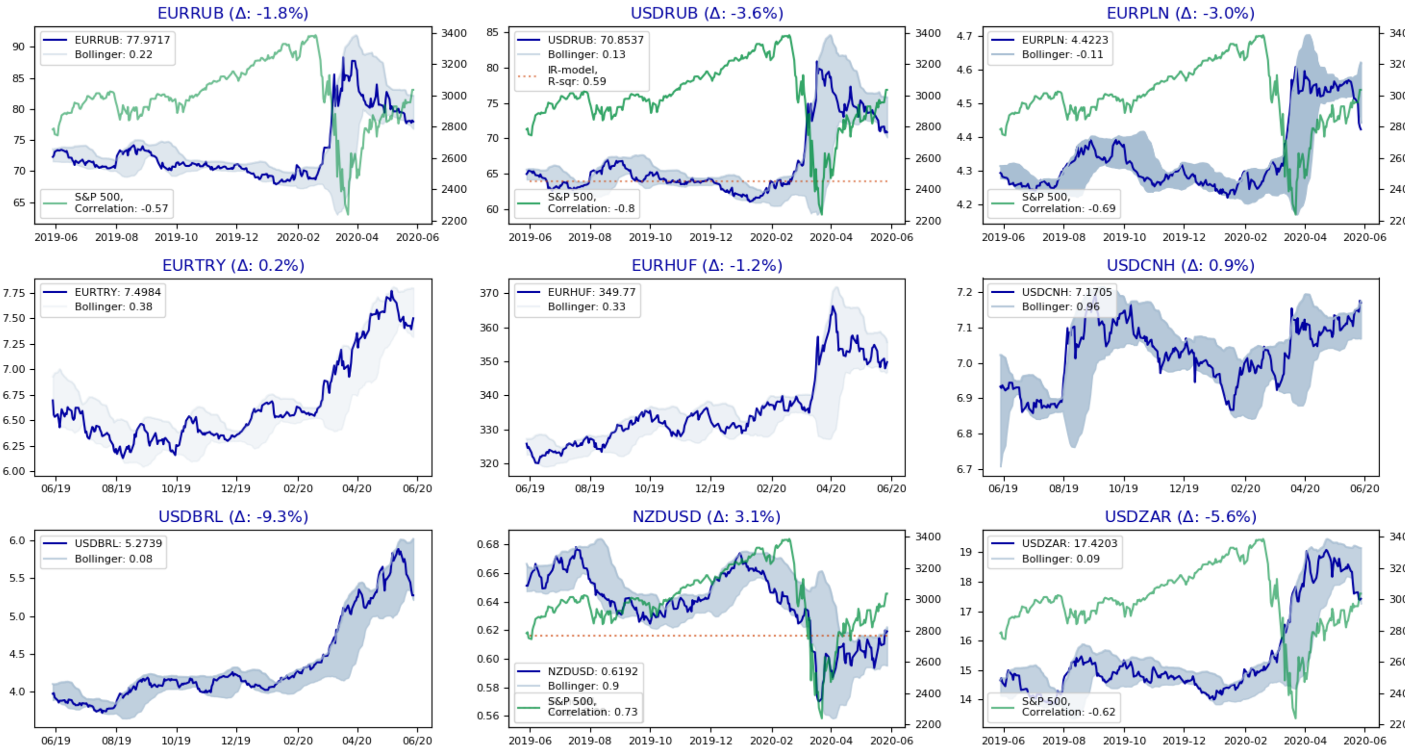


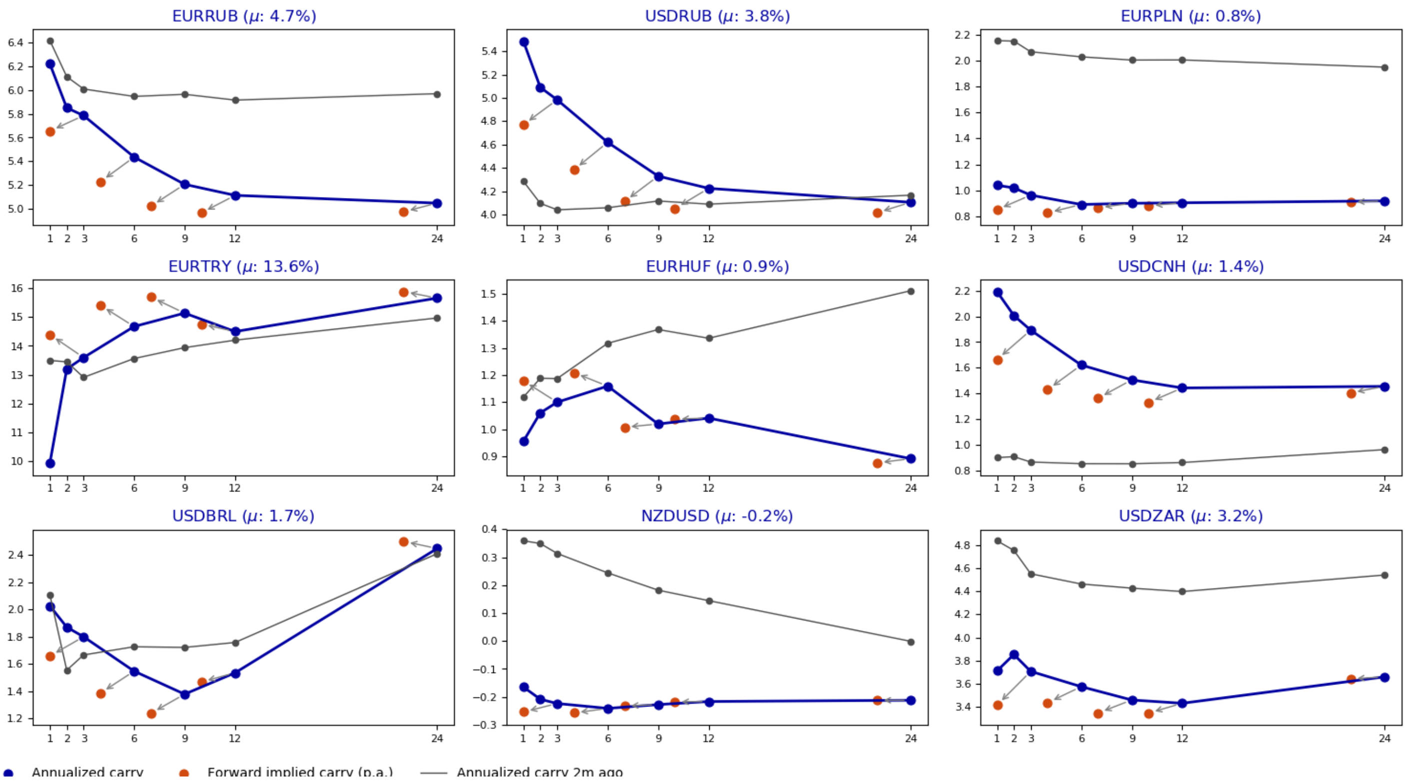


Emerging Markets

Spot, technicals and annualised forwards

FX Quants

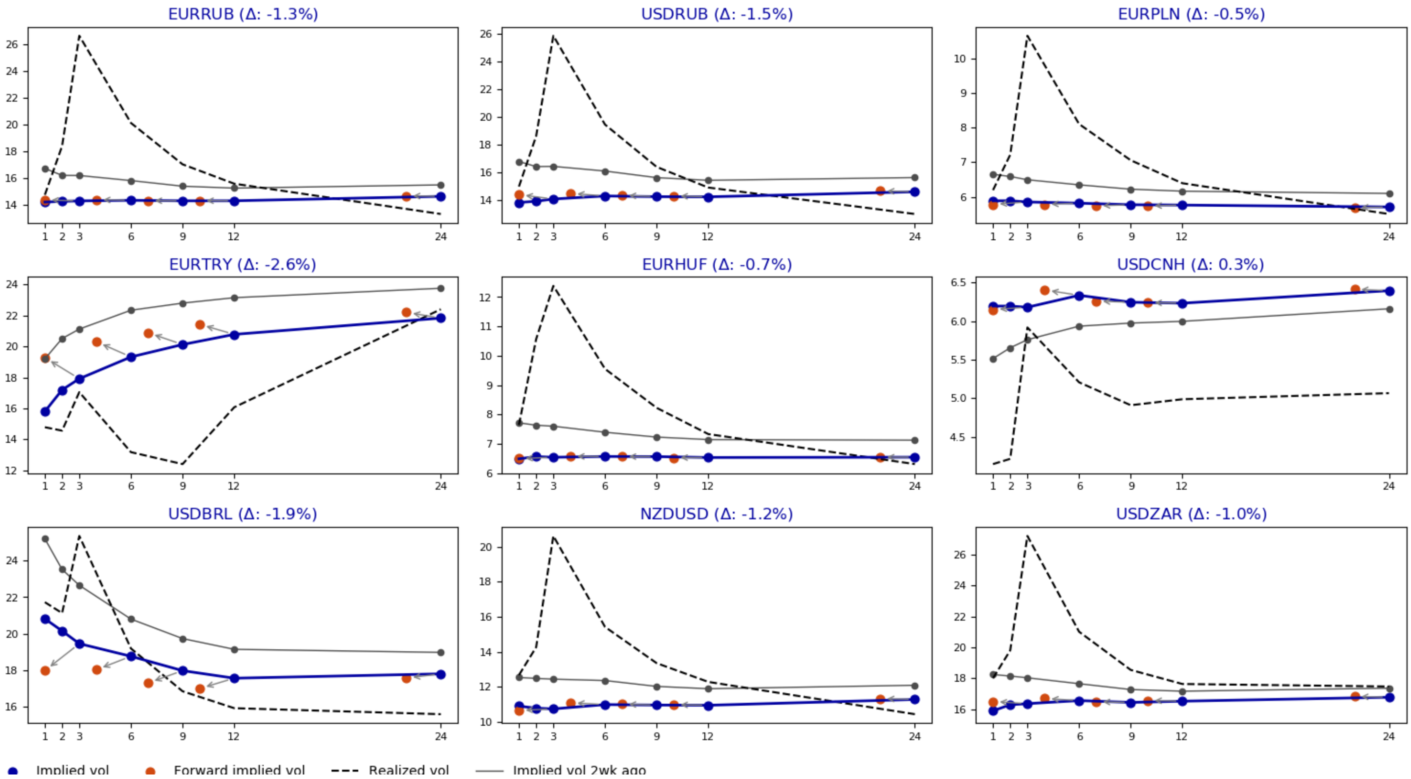


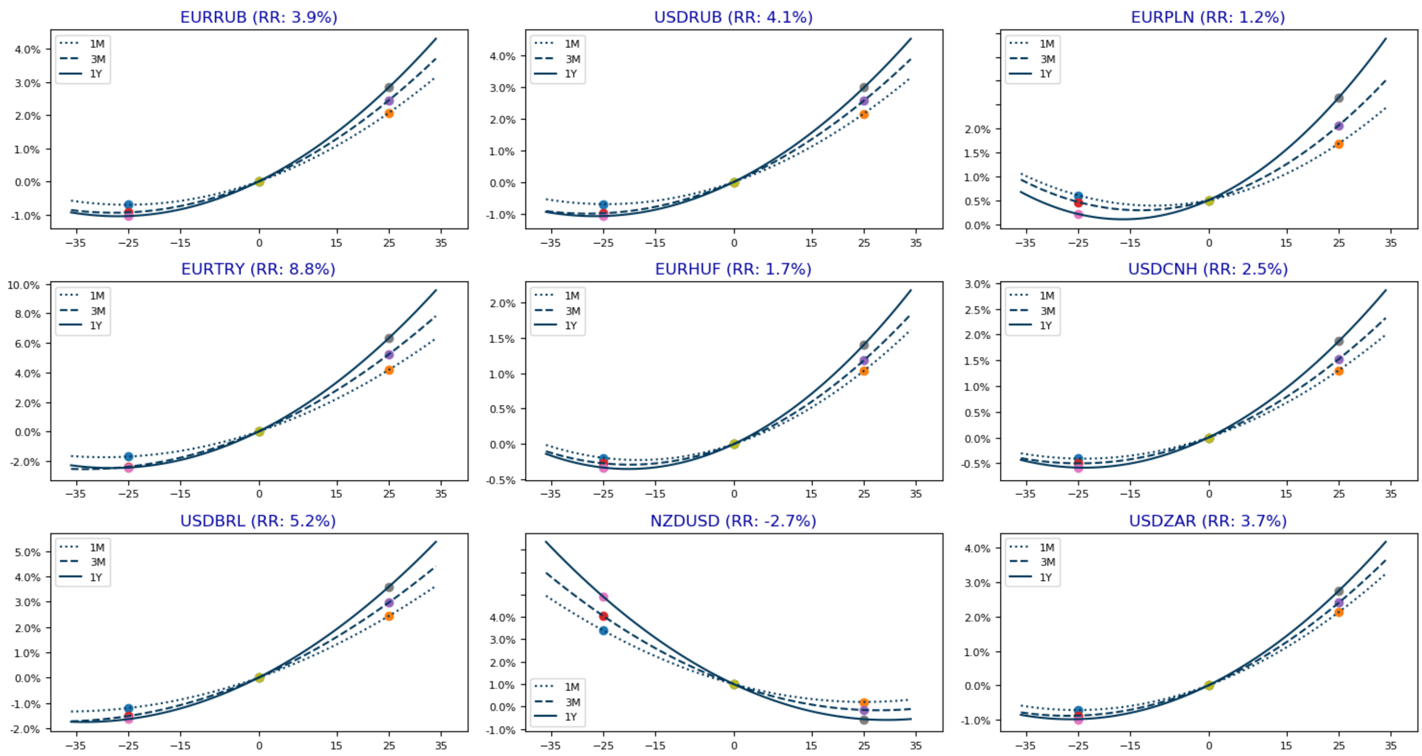


Emerging Markets

Term structure of volatility and skew

FX Quants





Heat maps

MST analysis

The Minimum Spanning Tree (MST) depicts connections between currency pairs. The length of the connection depicts the strength of the connection between a currency pair: the closer the currencies are, the stronger the connection. The blue colour represents a direct and the red colour an inverse interaction relationship.

The MST graph organises the coefficient of determination of OLS regression between currency pairs with Prim's algorithm. The blue colour represents a positive beta coefficient and the red colour a negative one.

Spot history

The graphs depict a spot's **12-month history** as well as the **Bollinger confidence interval** of one month and two standard deviations. The darkness of the Bollinger cloud depends on the absolute Bollinger value. When the spot is between the levels, the cloud is light in colour, and when the spot goes outside the standard deviation, the cloud is at its darkest.

In addition to the Bollinger cloud, the graph depicts the yield spread model forecast, provided that the coefficient of determination is high enough.

The risk-on/off **stock correlation** determines whether the S&P500 price is shown on the graph.

Forward curves

The graph depicts **annualised forward costs** for each key maturity.

In addition to current levels, the graphs depict (in green) **future forward costs** priced by the markets. The arrows show from which maturity the transition occurs (e.g. 6M rolls in two months to a 4M forward cost).

Current costs can also be compared to **historical forward costs** from two months prior.

Volatility curves

Like forward curves, volatility curves depict **annualised ATM volatilities for** key maturities.

These can be easily compared to **historical ATM volatilities** from two weeks prior.

Forward volatilities priced by the markets are also included, depicted as green spheres.

In addition to ATM volatilities, the graphs also depict high frequency **realised volatilities** for different periods.

Volatility skews (smiles)

The graphs depict the shape of the volatility curves calculated for ATM, 25dC and 25dP vols for 1M, 3M and 1Y maturities.

The curve shape between market data points is based always on non-linear interpolation whose accuracy cannot be confirmed - even after the fact. Interpolation calculated based on market data must always be approached with reservation.

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