

GLOBAL FOREIGN EXCHANGE COMMITTEE

SUMMARY OF MARKET CONDITIONS BY GFXC MEMBER COMMITTEES

Material for 9 December 2021 GFXC Meeting



AUSTRALIAN FOREIGN EXCHANGE COMMITTEE

Liquidity conditions and market functioning in foreign exchange markets since June 2021 have remained relatively orderly – including that for the Australian dollar, although volatility in the swap market has emerged in recent weeks.

Interbank turnover in AUD spot markets has been a touch lower than in the first half of the year (with some market participants pointing to increased internalisation as a driver). While bid-ask spreads are little changed, they briefly widened by around half a pip following the discovery of the Omicron COVID variant in late November. However, bid-ask spreads remain a touch narrower than those observed in the second half of 2020. The depth of market liquidity remains relatively high.

Conditions in the AUD forward markets had been orderly for most of this period, but deteriorated following a change in expectations for the path of RBA policy after the release of Australia's September CPI data in late October. This re-pricing sponsored a washout of positions which at times generated one-way flow to buy/sell AUD in the swaps market. Dealers reacted to this one-way price action by widening bid-ask spreads and reducing their provision of liquidity (mostly by holding inventory for shorter periods). Conditions stabilised by mid-November, but market liquidity remained below levels observed prior to the episode.

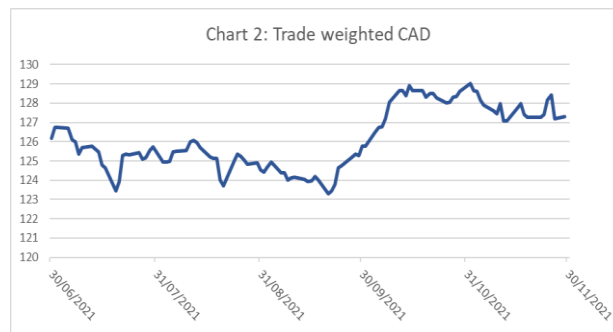
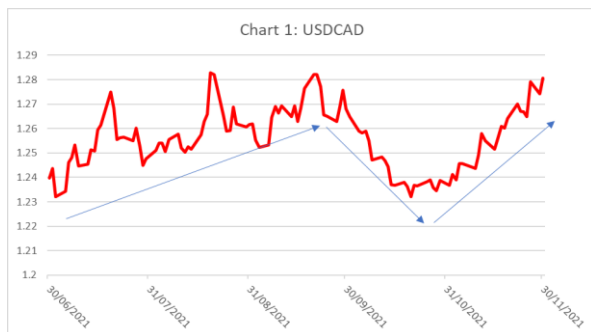
Further tensions in the FX forwards market were evident in late November/early December as calendar-year-end pressures emerged. The combination of local asset managers' requirements to lend AUD via swap to roll currency hedges, and market expectations that US banks would withdraw USD supply over year-end for regulatory reasons, drove one-sided price action to sell/buy AUD. With FX forward prices moving quickly on relatively small trading volumes, dealers were again reluctant to warehouse risk and as a result bid-ask spreads were widened by factors of 5 to 10.

Activity in option markets remains around the highest level observed since 2018. Despite dislocations in other markets, this has not flowed through to liquidity conditions in the options space, with pricing and liquidity remaining relatively resilient.

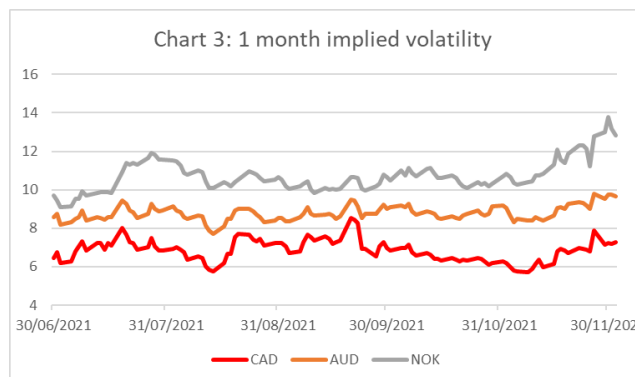
Update on Canadian dollar market conditions

The Canadian dollar depreciated by about 3% against the US dollar in the second half of 2021 (Chart 1). The currency has been fairly volatile, trading in a wide range between 1.23 and 1.28. The currency is unchanged over the same period on a trade-weighted basis, excluding the US dollar (Chart 2).

Movements in the Canadian dollar over the latter half of the year can be broken down into three distinct phases. From July to September, the CAD depreciated on the back of a broadly stronger US dollar following the June FOMC meeting which was perceived to be hawkish by markets. Unwinding of long Canadian positions amplified the weakness at the time. From September to mid-October, the CAD appreciated, driven by higher oil prices, favourable terms of trade and widening interest rate differentials on the back of expectations of a more hawkish tone from the Bank of Canada. However, since mid-October, the CAD once again depreciated, weighed by a relatively more hawkish Federal reserve and, more recently, concerns over the omicron variant.



Similar to other major currencies, CAD [implied] volatility has recently increased. However, volatility remains lower than other commodity linked currencies (chart 3) and below the average over the last five years. Dealers have not reported any significant issues with liquidity. Bid-offer





spreads in the spot market have widened recently but remain well below levels seen after the Covid-19 crisis.

Similar to other currency pairs, FX basis swap spreads over the turn of the year have recently widened. Dealers have noted a decline in volumes in the forward market but no specific strains in US dollar funding. US dollar funding is available, albeit at higher rates. Volatility in the forward market has also increased, driven by elevated levels of volatility in front-end rates. Bid-offer spreads in the basis swap market for year-end are around 0.5 point wide, while spreads for tenors well beyond the turn are around 0.2 points wide.

Various positioning measures indicate that CAD positioning is relatively neutral after extreme long positions were unwound in the middle of the year.

Market Conditions Update from the China FX Committee

1. The Global FX Market Overview

In 2H 2021, major developed economies have benefitted from further economic recovery as high vaccination rates have allowed the removal of many COVID-19 restrictions. However, with concerns around supply chain disruptions, inflation pressure and potential risks in the financial markets, exchange rate fluctuations were still observed in these currencies. Several factors put emerging markets (EM) under pressure, including low vaccination rates, slow economic recovery and a stronger USD supported by the Fed's monetary policy shift. Volatility in both developed market (DM) currencies and EM currencies declined slightly.

2. China's FX Market Overview

i. RMB exchange rate: In 2H 2021, the RMB exchange rate, like in 1H 2021, has featured two-way fluctuation and remained basically stable at a reasonable and equilibrium level. The USD/CNY fixing rate was 6.3907 at the end of October, suggesting that CNY appreciated 1.09% against USD compared with the end of June. The CFETS RMB Index, which measures the RMB against a basket of currencies, was 100.22 at the end of October, appreciating about 2.27% from the end of June. The USD/CNY swap curve became steeper, and the implied volatility of USD/CNY options remained stable with a slight decline, reflecting stable market expectations.

ii. Market liquidity: In 2H 2021, China's FX market has featured active trading and relatively abundant liquidity. From July to October, the average daily trading volume in the interbank FX market was above USD 120 billion.

iii. Cross-border capital flows: In the first three quarters, China's current account registered a surplus of USD 202.8 billion, accounting for about 1.6% of GDP, within a reasonable equilibrium range. Foreign direct investment recorded a surplus of USD 163.6 billion, and foreign investors increased

their holdings of Chinese bonds and stocks by RMB 604.3 billion and RMB 154.2 billion, confirming foreign investor confidence in China. The inclusion of Chinese government bonds in the FTSE World Government Bond Index (WGBI) from October is expected to attract more foreign capital inflows.

3. Issues to Monitor

- i. Change in monetary policy stances in major economies
- ii. COVID-19 developments
- iii. Market sentiment
- iv. Other issues: year-end liquidity in the global FX market, geopolitical factors, etc.

Foreign Exchange Contact Group

Frankfurt am Main, Thursday, 25 November 2021, 14:00-16:00

SUMMARY OF THE DISCUSSION

1. Review of recent market developments and outlook

A guest speaker FX strategist introduced the market review and outlook topic, and then members held a Q&A session. **The recent divergence in the monetary policy stance of the Fed compared with that of many other central banks had caused a widening in short-term yield differentials between US Treasuries and other global bond markets and had led to an appreciation of the US dollar against most developed and emerging market currencies.** This appreciation had occurred within orderly market conditions, as the FX market was lightly positioned and large volumes had not given rise to heightened realised volatility. The notable pressure on specific emerging market currencies (e.g. the Turkish lira and Mexican peso) seemed rather to be related to domestic idiosyncratic developments in those countries. Looking ahead, the lack of significant reaction by Fed officials to the repricing of market expectations towards a quicker tapering of quantitative easing and a more front-loaded approach to hiking interest rates suggested that the strong US dollar phase could continue over the next three to six months. In terms of valuation, the current value of the USD was not assessed to be problematic, as it was broadly in line with the levels prevailing in 2019. In such an environment, market participants would hesitate to re-enter positions in emerging market currencies as part of so-called carry trades.

Most members confirmed the view that the US dollar would strengthen against the euro, particularly based on their expectations regarding the central banks' respective outlooks for monetary policy. In their opinion, recent communications by members of the ECB's Governing Council suggested a comparatively more patient stance by the ECB, which would be conducive to an even lower EUR/USD exchange rate. The increasing scarcity of euro-denominated collateral, owing to lower expected sovereign debt issuance going forward and the expected continuation of the ECB's assets purchases, was creating pressures in the EUR/USD cross-currency basis. This, in turn, was contributing, albeit in a more limited way, to the ongoing downward trend in the spot exchange rate. Moreover, some members cited the potential of renewed lockdowns in euro area countries as an additional near-term downside risk for the euro. On the other hand, the main upside risks were associated with potential changes in the ECB's rhetoric regarding the inflation outlook or the post-PEPP calibration of monetary policy.

Several members highlighted that FX market liquidity in the major currencies was uneven across the various market segments, with ample liquidity in the spot market, but poorer conditions and wide bid-offer spreads in the forward and swap markets, particularly in tenors crossing the year-end. Some members mentioned that the EUR/USD basis swap pricing was being impacted by the scarcity of high-quality collateral in certain jurisdictions in the euro area. Liquidity in FX option markets was concentrated around a few key market events, such as the Fed, ECB and Bank of England policy meetings in December and forthcoming CPI releases, but otherwise was largely absent. The somewhat elevated option-implied volatility contrasted with still very low realised volatility in most major FX currency pairs.

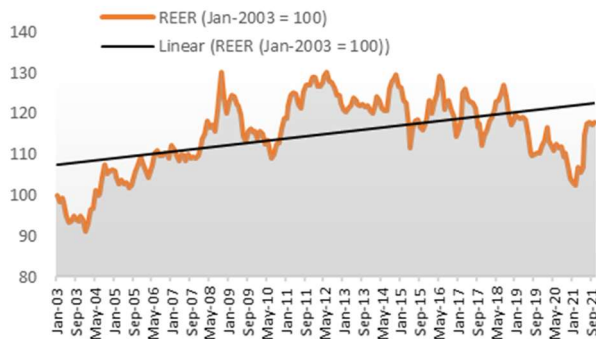
GEORGIEN FX Committee view on FX market conditions

November 2021

Despite the fact that COVID-19 pandemic continues to have a negative effect on the Georgian economy, gradual rise in vaccination process and open of country borders assisted to rebound economic activity and to have its positive effect on economy and on FX market as well kick starting positive expectations;

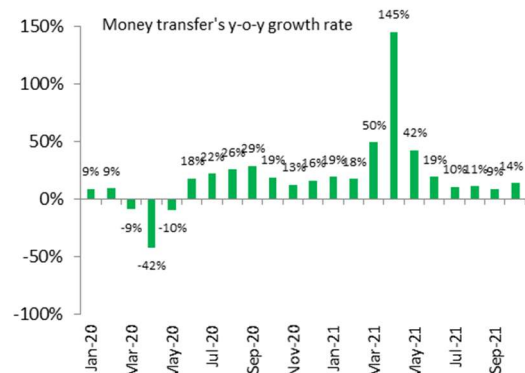
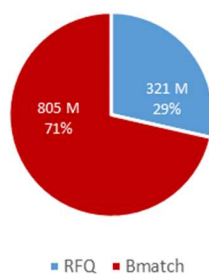
In Q3 2021, Georgia still observed slight rise of remittance inflows, tourism revenues started to demonstrate first signs of recovery, showing record high growth in the export of travel services in June 2021. Tight monetary policy (NBG further increased the policy rate by 50 bps to 10% in August 2021), supported stronger GEL and curbed negative expectations. New regulation to reduce minimum reserve requirements on funds attracted in foreign currency, assisted deposit larisation and higher demand on GEL. Despite the strong performance of GEL, REER (real effective exchange rate) remains below its long-term trend, indicating room for further appreciation potential.

In the third quarter of 2021, the GEL nominal exchange rate appreciated by 6.2% against the US dollar and by 8.1% against the Euro, as compared to the previous quarter. According to average quarterly data, it should be noted that the real exchange rate appreciated against all trading partner countries - the Russian ruble by 5.2% and against the Turkish lira by 8.1%. Over the same period, the nominal effective exchange rate appreciated by 6.7% on a quarterly and by 1.4% on an annual basis. In terms of the price-adjusted exchange rate, in the third quarter of 2021 the real effective exchange rate appreciated by 7.8% on a quarterly basis and by 6.0% on a year-on-year basis.



New interbank FX trading platform – Bloomberg Bmatch was launched in Georgia in 2020 and operates successfully since. At this stage, the platform is already used by NBG (Central Bank), 14 commercial banks, 4 microfinance organizations, 3 resident corporations and 1 foreign investment fund. Since March 2020 more than 10 000 completed deals were done on Bloomberg Bmatch platform with total turnover 1.3 Bln USD. Increased transparency and competitiveness gained popularity to Bmatch platform (70% of interbank FX market trades), hence the spreads on B-match are relatively low compared to other trading platforms.

Interbank FX Trades by Bmatch-RFQ 2021 (Jan-Oct)



GFXC Conference Call December 2021 – Hong Kong FX Market Summary

HKD has gradually weakened from 7.76 levels since June to have touched 7.8020 briefly before bouncing back to 7.79 levels. Comparing to the first half of the year, there has been further cool down in local stock market sentiment. At the same time, robust US economic data and reopening of economic activities continued to support a strong dollar, asserting some pressure to a range of currencies including the HKD.

Through the recent FOMC meetings, Fed had made its intentions clear that they will wind down its monthly asset purchases starting from November 2021. The prospect of higher inflation also led to market speculations of a faster US rate hike next year.

The Hong Kong Monetary Authority (HKMA) announced to increase the issuance size of Exchange Fund Bills (EFBs) by a total of HK\$80 billion during September to December, to meet the ongoing demand from banks amid abundance of liquidity in the banking system. According to the current schedule, the HKD Aggregate Balance will be reduced to HKD 377 billion (USD 48 billion equivalent) by the end of 2021. With the year-end approaching where there expected to be some seasonal funding demand, 1M HIBOR which crossed the year-end has increased from 6 basis points mid-year to 18 basis points as of 2 December. In HKD money market, there are some demand in 6-12 month HKD interbank borrowing, and the 1-year HKD interbank rate has gone up from 0.30% in October to 0.42% recently amid some market participants are interested in taking long term HKD funding to hedge against coming US rate hikes. Nevertheless, the overall market liquidity remained

abundant and the HKD market is functioning normally.

Locally, the Hong Kong bourse remained weak in sentiment in the second half of the year. Hang Seng Index is down 10% from beginning of the year, 20% from the peak registered in mid-February. Headlines such as cybersecurity policies from China, the refinancing problem of some of the highly-leveraged China property developers, and more recently the discovery of the new Omicron variant, have made investors to become more risk off. IPO listing activities also remained uneventful with lackluster first day performance. These also explain the recent weakness for HKD.

Heading into the year end, the HKD will continue to be driven by a range of factors, such as business activities such as IPOs, equity flows, market expectation on the pace of US interest rate hikes, seasonal year-end funding demand, etc.

Market conditions – India

Updates for 09 December 2021 GFXC meeting

1. Reserve Bank Measures and trend in Domestic Currency

- i. INR trended with an overall depreciating bias against the USD during the period from July to November 2021. It remained range-bound for most part of July and August as higher crude oil prices and the dampened global risk appetite were offset by quick recovery of the country from the second Covid wave. However, INR witnessed a bout of sharp appreciation post the Jackson hole symposium to touch a high 72.92 on September 01, 2021 tracking dollar weakness. However, it was not able to sustain its appreciating trend and started depreciating amid continued inflation concerns globally and indications from the Fed, in its September policy meeting, that it would start tapering its monthly bond purchases November onwards and complete the process by mid-2022. The surge in crude oil prices, concerns of slowdown in major economies globally along with FPIs turning negative on the domestic equities saw INR touch a low of 75.67 on October 12, 2021, its lowest level in more than a year.

INR recovered from the lows aided by crude prices coming-off its high and IPO related FPI inflows during the second half of October. However, the upside has remained capped as Fed announced its tapering plans and with market players starting to price in US rate hikes sooner than expected. The emergence of Omicron variant has further cast a shadow over the global economy.

- ii. The calendar year 2020 saw India receive significantly high FPI inflows (around \$25 billion) into the equity segment. However, in 2021, net inflows of only around \$5.56 billion were received till date. Despite intermittent heavy inflows related to IPOs during the year, 5 out of the 11 months (till November) have witnessed outflows, as participants positioned themselves for the tightening of the liquidity conditions by the global central banks. Debt FPI flows have however turned positive during the year after being negative during the last calendar year.

- iii. After a contraction in June, the Manufacturing PMI has steadily expanded in the months ahead as the sector came out of the impact of the second Covid wave. The Markit Manufacturing PMI came in at a 10-month high of 57.6 in November 2021. Services sector also recovered with the Markit Services PMI coming in at 58.4 in October. Further, the annualised GDP for the quarter-ending September came at 8.4%, exceeding market expectations.
- iv. Monetary policy decisions in this period saw the Reserve Bank continuing to maintain status quo on the rate front while continuing to keep the accommodative stance. It continues to support the market with a slew of targeted measures such as on-tap Targeted Long-Term Repo Operations (TLTRO), On-Tap Term Liquidity Facility to ease access to Emergency Health Services and special liquidity window for contact intensive sectors in the nature of SLTRO. However, the Reserve Bank also announced 28-day Variable Rate Reverse Repo (VRRR), in addition to the existing fortnightly 14-day VRRR for liquidity rebalancing as a part of its liquidity management operations. Further, it was announced that the secondary market Government security acquisition programme (G-SAP) would be need based, going forward.
- v. Yields of the Government securities hardened tracking rise in global treasury yields amid persistence of higher inflation for longer-than-initially expected and expectations that central banks will tighten policy earlier than previously envisaged along with hardening crude oil prices. The generic 10-year yield rose from 6.04% and touched a high of 6.41% in the interim and is currently at 6.35% amid continuing market expectations of faster policy normalization on the domestic front.

2. Regulatory Developments

The Reserve Bank came out with a comprehensive Master Direction for market makers in OTC derivatives. The Bank also announced a review of the investments by Foreign Portfolio Investors, by permitting them to invest in debt securities issued by Infrastructure Investment Trusts (InvITs) and Real Estate Investment Trusts (REITs).

Market Conditions Update

2nd Dec 2021

- Since June this year, while the Covid-19 delta variant was raging worldwide, the impact on global economic growth was relatively minor, as mainly in developed countries, vaccination rates rose, medical response capabilities improved, and large-scale lockdowns were avoided except for some countries that responded strictly. In the Chinese real estate market, there were some concerns about systemic risk due to the firm stance of the authorities, and while some risk assets' price temporarily weakened and was brought to attention, price remained firm overall without major disruption.
- After September, it has become clear that the issue on global supply constraint will be longer than expected, and with focus on uncertainties in inflation and exit policies of monetary policy in each country, volatility has risen significantly in the money market. Under these circumstances, in the FWD market, there were some voices on decline in market liquidity for some currencies. The direction to re-opening has been maintained globally, and economic activity is going well in general. However, market participants are becoming more wary of uncertainty about inflation, and as central banks in developed countries are becoming sensitive to monetary policy developments, market liquidity may decline in the event of volatility, and this must be closely monitored.
- From summer to mid-September in Japan, with the rapid spread of delta variant, some market participants considered to raise the ratio of their employees working from home again, however operations by both buy-side and sell-side were conducted calmly and stably, and this situation was handled without major disruption. Since the state of emergency was lifted in October, the ratio of market participants working from the office has greatly increased. Although liquidity has remained in a somewhat declining state with the end of the year approaching, market functioning is generally maintained well.
- Market volume has not changed significantly since the previous update. Although decline in direct investment has not fully returned, it can be evaluated that it's returning gradually.



Evolution of Market Conditions for the Mexican Peso

GFXC Meeting – December 9th, 2021

Since the last update in June, trading conditions in the Mexican peso have continued to normalize with respect to the deterioration experienced at the outset of the COVID-19 pandemic as a result of various factors including the set of global stimulus measures implemented by financial authorities globally, better prospects with regards to COVID-19 pandemic given the evolution of global vaccination campaigns, as well as the gradual reopening of both developed and emerging economies, which have partially eased concerns about the global economic outlook.

Despite the aforementioned improvement in trading conditions for the Mexican peso, it is worth noting that pre-COVID levels have not been reached yet, which creates room for further improvement in both observed and prospective market trading conditions. For instance, average bid-ask spreads and top-of-book market depth for the second half of 2021 are still 14% above and 39% below pre-COVID averages, respectively. On the other hand, prospective measures such as implied volatility and skewness in the options markets reflect similar dynamics. As an example, 1-month implied volatility in USD/MXN at-the-money options is currently around 400 basis points above levels observed in 2019 while 1-month risk-reversals as measured with 25 delta at-the-money USD/MXN options has remained more than 100 basis points above 2019 levels.

Similar to what was mentioned in the last GFXC meeting, risk-off episodes in global financial markets have confirmed Mexican peso's vulnerability and the trading conditions' sensibility to external and local risk factors. It is worth noting that trading conditions for Mexican peso in response to risk aversion episodes have followed similar deterioration trends to other "high-beta" currencies, occasionally exacerbated in the Mexican currency given its "proxy-hedge" nature. In this sense, recent developments in the expected monetary policy path from central banks in advanced economies, global inflation concerns, the evolution of COVID-19 pandemic including the appearance of new strains of the virus, and most recently, local idiosyncratic factors, confirmed the aforementioned vulnerability of the Mexican peso, which during these specific episodes has negatively reflected in spot and derivatives markets' dynamics. For instance, while the Mexican peso traded in a sideways trend for most of the period since our last meeting, the currency experienced an upward pressure since the end of September similar to its main emerging market peers, reaching a year-to-date high a few days ago. In more detail, since the June meeting, the Mexican peso depreciated 7.5%, without standing out within the emerging market complex. Given the above reasons, the evolution of key risks and vulnerabilities for the Mexican peso will be crucial as both Mexican assets and trading conditions continue their stabilizing trend.

With regards to USD funding markets in Mexico, conditions have continued to improve throughout 2021. In this way, basis points for cross currency swaps have remained low and stable during most of the second half of 2021, with occasional distortions mainly as a result of an excess of USD supply in global and local markets, which coupled with a recent increase in demand for foreign exchange hedging, resulted in disruptions in USD/MXN funding markets and upward pressures in Mexican peso implied forward yields. For instance, during the past month, several funding squeeze episodes were observed in forward markets with MXN ON implied yields, and tenors up to 2 months, trading at levels above 10%, which compares to Banco de México's overnight reference rate of 5%.

Finally, it is worth mentioning that since the previous meeting, Banco de México carried out two USD financing auctions, drawing on the swap line agreement with the Federal Reserve, offering a total of USD 600 million with interest expressed and allocated for only USD 150 million, which has provided evidence that market participants have no further needs for USD liquidity. In fact, given the aforementioned improvement in USD funding conditions and the fact that domestic financial markets have reflected a more stable behavior, Banco de México's Board of Governors and Mexico's Foreign Exchange Commission have continued with a strategy of staggered withdrawal of this mechanism, with currently just USD 50 million outstanding.

The Moscow FXJSC – Market Conditions, Russia

06 Dec 2021

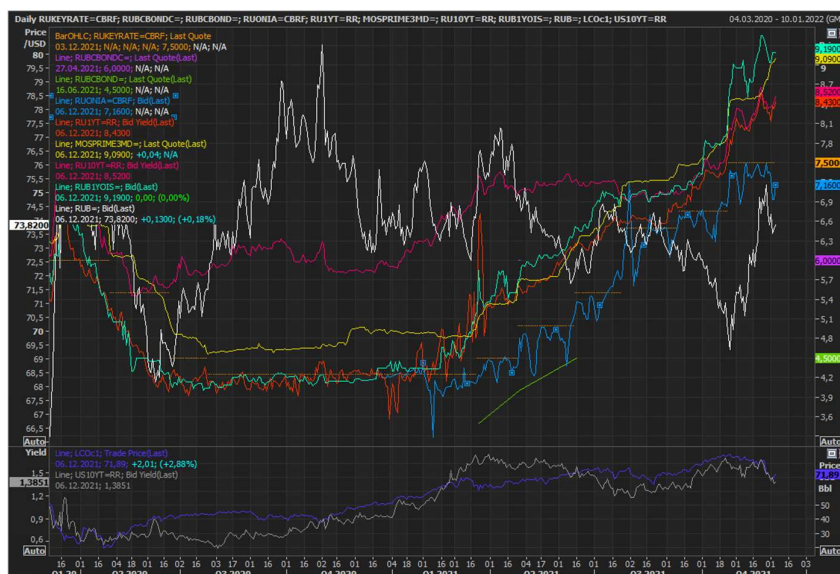
A recovery in global economic activity as a result of increased vaccination rates and the gradual easing of restrictive measures contributed to improved investor sentiment in October 2021, with global stock indices rising and oil prices rising to their highest levels in several years. A reduction in net capital inflows to EM debt markets was caused by a rise in US government bond yields amid heightened expectations of a faster rollback of monetary stimulus by the US Federal Reserve.

In the Russian OFZ market, there was a significant increase in yields against the backdrop of rising inflation and increased US government bond yields. Yields on OFZs (Russian Government Bonds) with maturities of 2-5 years increased mainly, resulting in an inverted yield curve (in the area after two years). According to NSD, the total volume of non-residents' investments in OFZs declined by RUB55.7 billion over the month. The main outflow took place precisely in the last week of October (Rb 81bn) against the background of rising ruble interest rates. The Russian Ministry of Finance limited the volume of primary market placements in order to stabilize the government debt market.

The situation on the Russian financial market continued reflecting the global market trends, but in October RUB appreciated more on rising gas prices which are not sterilized by the budget rule purchases of FX by MinFin/Central Bank. Sanctions fear due to escalation of Russia – Ukraine tensions let to more than expected capital outflow in the November with increased the country risk premium against other EM-commodities currencies as well as from DM-commodities and DXY index of dollar:



% Changes of USD against RUB (green), EMFX Commodities currencies, DMFX Com (orange), and DXY dollar index (blue).



Yield of US10YT (grey) on LHS and RUB interest rates and RU10YT (red) on the RHS with inverted Brent oil price on the sub chart below. Orange line – CBR’s key rate which is now 7.5%. CPI YoY in year reached 8.13%. CBR communication is still very hawkish (market expects 1% hike on 17Dec21 to 8.5%) which should protect ruble from the weakening and limit the inflation expectation growth.

Bank of Russia one of the first who started monetary policy normalization based on actual inflation data and expectation of rapid economic growth in 2021. Market expectation is to see another 100 bp hike at 17th of December and 0.5% more to 9% in the 2022.

Bank of Russia also continued making regular FX operation to mirror Government FX trades for the budget rule, taking away the excess of the foreign currency from the market due to growth of the oil prices over budget cut price around 43.3 USD for barrel of Brent to replenishment of country welfare fund.

Although uncertainty with respect to external challenges remains, the stable macroeconomic situation and the financial sector's margin of safety will contribute to the stability of the Russian economy. The Bank of Russia is ready to use its toolkit to maintain financial stability if necessary.¹

¹ This Market Conditions Report is based on the papers of Bank of Russia published on www.cbr.ru

Summary of market conditions in the Scandinavian FX market

Development in Danish kroner (DKK):

- DKK has continued to trade on the strong side of the central rate since the beginning of 2021. Danmarks Nationalbank has intervened and bought EURDKK throughout the period to counter increased demand for Danish kroner from domestic participants primarily derived from hedging of FX exposure.
- Following the previous months of intervention the level of interest rates was cut by 10 bps beginning of October.
- DKK traded somewhat lower after the change in interest rate, but the demand for DKK due to year-end has – together with a lower than expected net-position – caused the currency to strengthen towards the level before the rate cut.
- Liquidity in FX Spot has gradually deteriorated during the review period. The daily trading range remains fairly stable with most activity stemming from domestic participants.
- EURDKK may fluctuate by up to 2.25 per cent on either side of the central rate. However, Danmarks Nationalbank ensures that the fluctuations are far smaller in practice. This reflects that Danmarks Nationalbank takes consistent action as the krone exchange rate starts drifting away from the central rate.

Recent developments for Swedish Krona (SEK):

- The SEK was trading sideways during summer and in to mid October, with EURSEK staying in a 10.10 to 10.30 range. Realized and implicit volatility reached 2-year lows during the summer.
- However from mid October volatility picked up significantly and EUR/SEK fell briefly through 10.00 on temporary equity market related flows but SEK has been under pressure in the past 2 weeks on rising risk aversion, a dovish Riksbank and negative seasonality.
- In trade-weighted terms, SEK has weakened 2,5 percent since end of June
- Market activity has picked up in H2 alongside improved post Covid -19 economic fundamentals. For Scandies (especially SEK) two factors have added to activity.
 - 1. The M&A/corporate action agenda has been very busy with many very large deals being finalized during Sep-Nov
 - 2. Strong global stock markets have pushed AUM's to new highs, increasing the hedging/rebalancing needs among real money.
- Liquidity in SEK-spot market has been satisfactory up until mid-October, but has deteriorated since and hit a 2021 low point late last week as Omicron virus concern sent popular positions into tailspin after inflation concern had dominated markets. Anecdotally, some attribute the fall in liquidity to limited risk bearing capacity amongst market participants.
- SEK FX-Swap Market is suffering as year-end closes in. Uncertainty regarding resolution-fees and decreased interest to take on risk in SEK FX-Swaps has deteriorated liquidity in SEK FX-Swaps badly going in to the turn of the year. The pattern has been the same for several years, but according to market participants the year-end effect is worse than previous years. To some extent this has also affected liquidity in the FX-spot market negatively.

Recent developments for Norwegian Krone (NOK):

- In the period since the G7 meeting in June, there have been large moves in the Norwegian krone. However, in the period overall, the krone measured against the import-weighted krone is fairly unchanged.
- During the summer, concerns about the COVID-19 infection situation and uncertainty about the economic outlook in the global economy contributed to a depreciation of risk sensitive currencies like the Norwegian krone. After the summer, until late October, the Norwegian krone appreciated significantly, and reached the strongest level measured against the import-weighted krone exchange rate since 2018. This development coincided with an increase in the oil price to the highest level since 2014 and a sharp increase in natural gas prices to new all-time highs. Since then, the Norwegian krone has depreciated back to the levels seen in June. Concerns about increased COVID-19 infection and Omicron have reduced the risk sentiment in financial markets and together with a sharp fall in the oil price contributed to selling of the Norwegian krone.
- Implied volatility has come down significantly from record high levels in March last year, but is still higher than before the outbreak of COVID-19. In relation to the increased uncertainty caused by increased infection of COVID-19 and Omicron, 3-month volatility in EURNOK has increased to the highest levels since November last year, and liquidity has deteriorated significantly.

SUMMARY OF CONDITIONS IN THE SINGAPORE FX MARKET (DECEMBER 2021)

Key Drivers. Over the past six months, the key regional and domestic FX market drivers were:

- Global inflation and implications for monetary policy outlook. Higher-than-expected inflation outturns in economies, notably in the US and UK, challenged prevailing narratives that inflation would be transitory. Consequently, global breakeven inflation and nominal yields, particularly on the short-end, rose sharply in Q4 as markets priced in the prospect of earlier rate hikes by global central banks. Nonetheless, the Fed's announcement of tapering at the November FOMC meeting was met with a muted response in the markets, as market participants were well prepared this time round for the taper. In slight contrast to global developments, relatively larger output gaps, weaker inflation and credit growth argued for delaying of rate hikes in most parts of Asia. Nevertheless, Korea was the first central bank in Asia to raise rates due to concerns over rising household debt and inflation. In Singapore, the Monetary Authority of Singapore (MAS) announced in its Monetary Policy Statement in October, the decision to raise the slope of the S\$NEER policy band slightly (elaborated further below).
- "Living with COVID-19" and reopening of borders. A resurgence of COVID-19 cases in Q2-Q3 led to the re-enactment of movement controls in many countries, including Asia. Nonetheless, vaccination rates have increased, with Asia catching up to global average, and most countries adopting a "living with COVID-19" strategy. Asia's COVID-19 cases have also fallen. Consequently, Asia has progressively reopened its borders. In Singapore, the steady rollout of vaccination booster shots and vaccinated-differentiated safe management measures have helped to preserve the functioning of the healthcare system, and facilitate the progressive easing of domestic and border restrictions (e.g. launch of quarantine free vaccinated travel lanes). However, more recently in December, the outbreak of the Omicron variant has created uncertainties in the outlook for the global economy. Risk taking has taken a temporary step back pending further clarity on the transmissibility and severity of this new variant.
- Singapore Monetary Policy. In October, MAS announced the decision to raise the slope of the Singapore dollar nominal effective exchange rate (S\$NEER) policy band slightly, while keeping the width of the policy band and the level at which it is centred unchanged. Prior to that, MAS had maintained a zero percent rate of appreciation in the S\$NEER policy band since March 2020. The policy decision reflected a recognition that underlying inflation pressures on both import prices and domestic wage costs are building up amid tight supply and strengthening demand. At the same time, there remains downside risks from the pandemic, both domestically and in the region. Overall, MAS assessed that a pre-emptive measured adjustment to monetary policy settings will ensure medium-term price stability while recognising the risks to the recovery. MAS' estimates suggest that the shift in monetary policy stance is still accommodative in real terms.

Asian FX Markets. Asian currencies weakened sharply against a broadly stronger USD in early-Q3, amid a pullback in risk appetite from COVID-19 resurgence in the region and growing market expectation for the commencement of the Fed's taper by year-end. However, Asian currencies subsequently retraced some of their losses in Q4 as the region's COVID-19 situation improved, leading to an outperformance against non-USD majors and most other EM currencies. Asian currency volatility also declined in H2 2021, compared with the elevated level of volatility and uncertainties in the outlook for Fed policy in H1.

Singapore Dollar FX (SGD). Over the past half-year, the S\$NEER remained broadly stable even as the SGD weakened bilaterally against a broadly appreciating USD (Figure 1). USD/SGD FX implied volatilities remained stable from June to October but rose in November as the SGD weakened against a surging USD (Figure 2). 6M offshore-onshore SGD forward spreads also rose in November as offshore long USD, short SGD positioning increased (Figure 3). Bid-ask spreads (Figure 4) and SGD FX spot turnover volumes (Figure 5) were broadly stable in 2H 2021, although liquidity conditions continued to remain below pre-crisis levels.

Key funding markets. SGD interest rates have been on the uptrend in H2 2021, underpinned by market expectations that major central banks will tighten monetary policy earlier than expected due to growing inflation pressures. Since June 2021, the 1-month and 3-month SOR have risen 7bps to 0.28% and 9bps to 0.33% respectively (Figure 6). MAS maintained an adequate amount of liquidity in the banking system to moderate interest rate volatility as SGD rates appreciated. Meanwhile, SGS yields eased slightly in Q3 in line with UST yields after a sharp rise in H1 2021, but rose again in Q4 following rise in global yields. All in, 10Y SGS yield rose by 19bps since June 2021 (Figure 7). Domestic and regional USD funding conditions remained stable, albeit with a slight uptick likely indicatively of nascent seasonal year-end tightness (Figures 8 and 9).

Fig.1: USD/SGD and S\$NEER movements

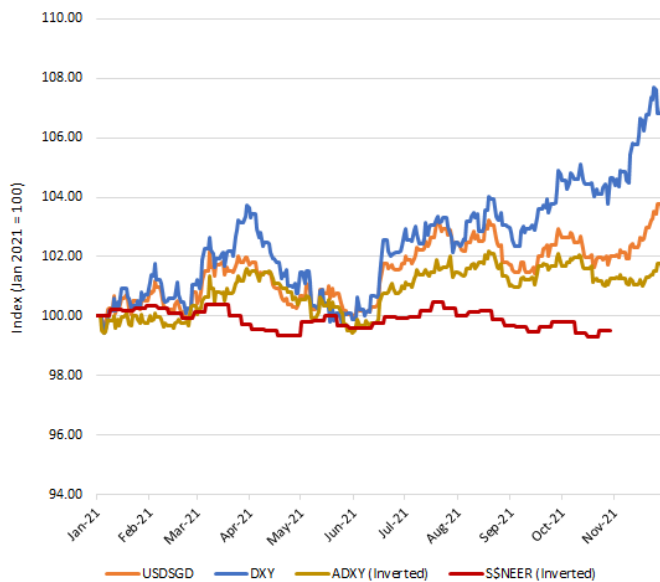


Fig. 2: USD/SGD Volatility and Risk Reversal

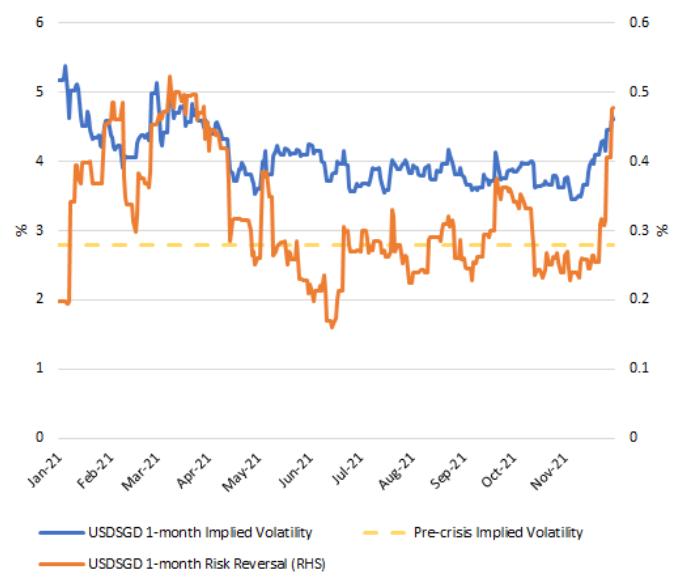


Fig. 3: 6M Offshore-Onshore SGD Forward Spread

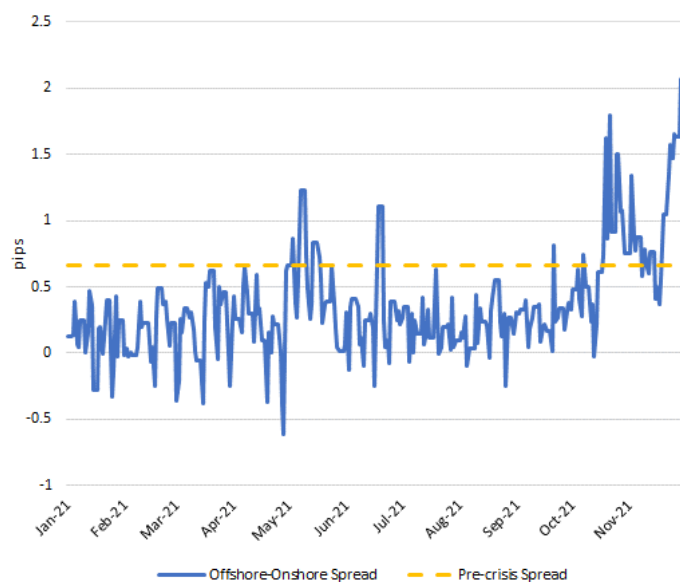


Fig. 4: USD/SGD Bid-Ask Spread

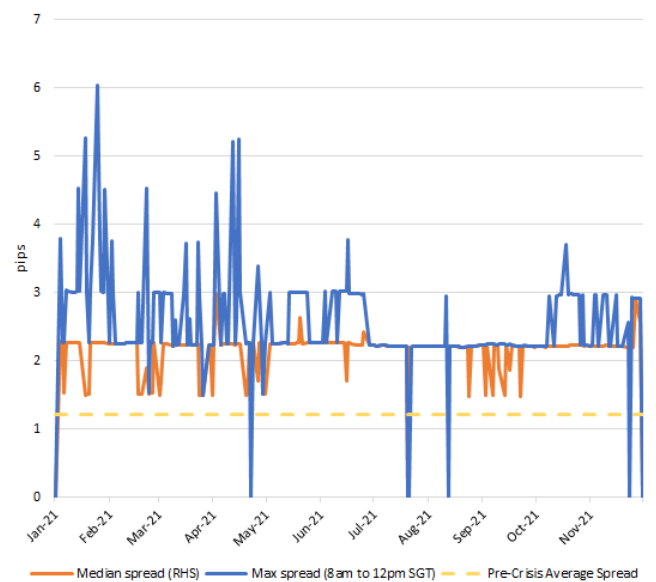


Fig. 5: USD/SGD Volume

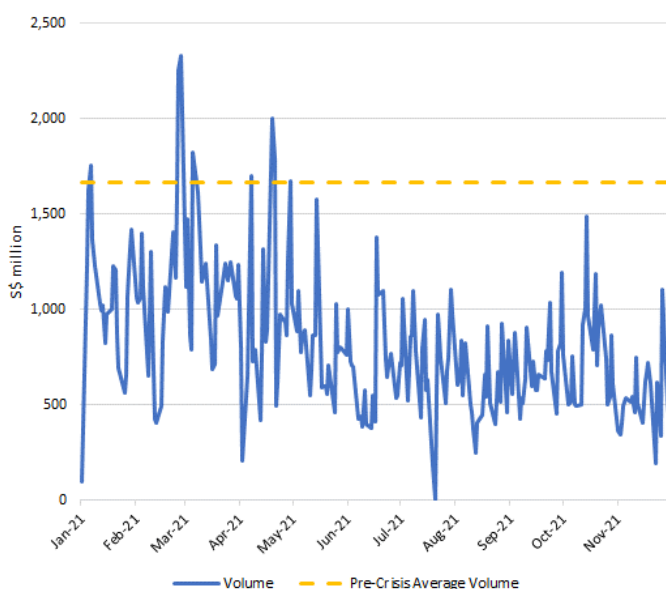


Fig. 6 1M & 3M SOR



Fig. 7: 10Y UST and SGS Yield movements

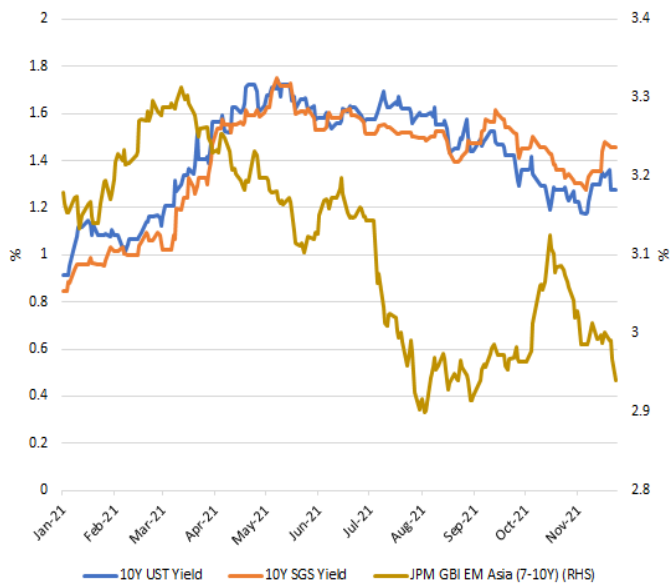


Fig. 8: Implied Regional Term USD Funding Rates (3M)

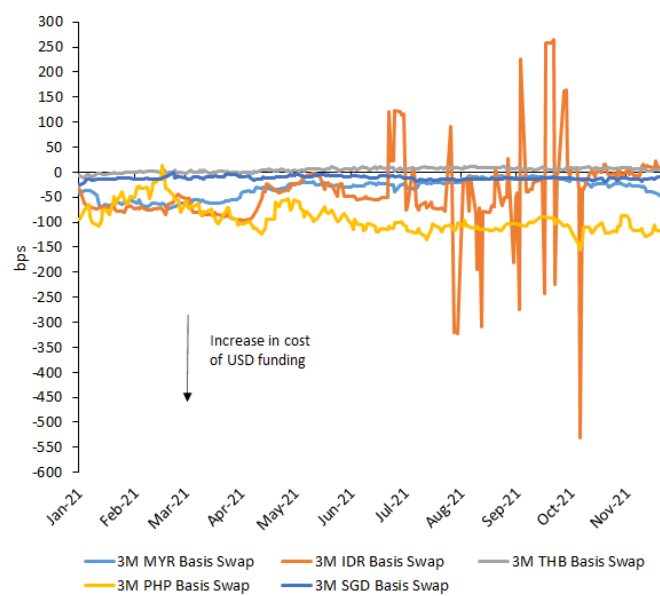
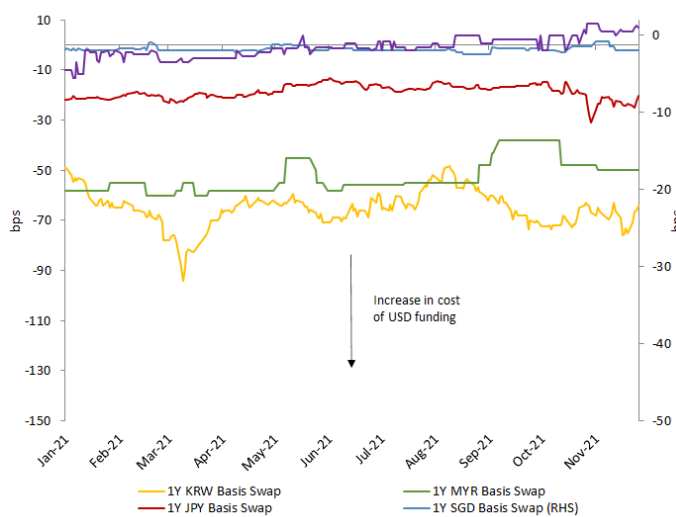


Fig. 9: Regional Term USD Funding Rates (1Y)



Summary of conditions in the South African foreign exchange market

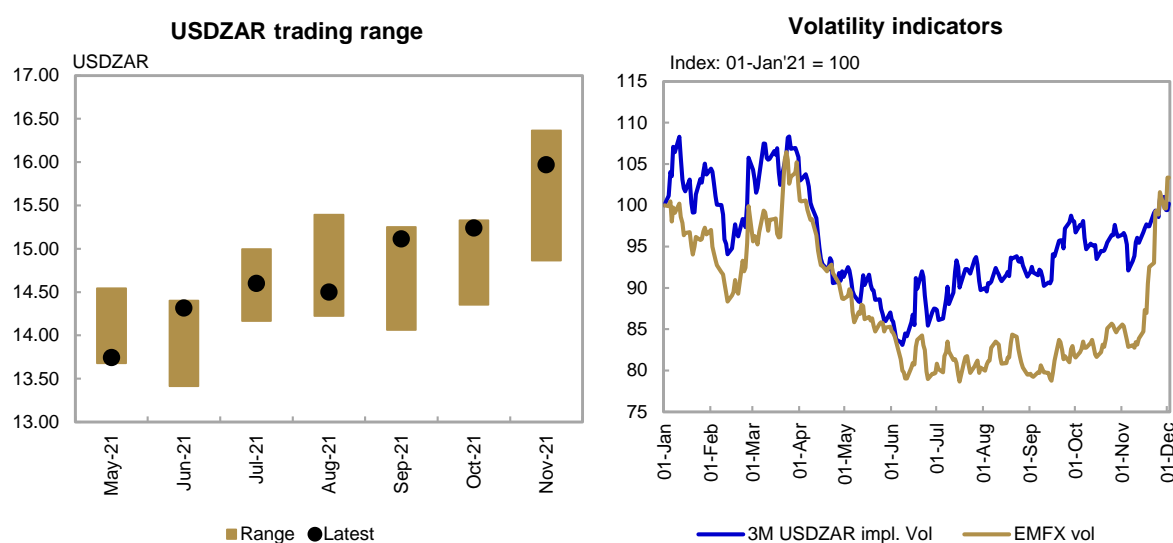
Emerging market (EM) currencies depreciated across the board, reflecting weak global risk sentiment, a broadly stronger US dollar (USD), and idiosyncratic factors. The USD appreciated to its highest level in 16 months, supported by expectations for early US Federal Reserve tightening. The South African rand (ZAR), perceived as a high-beta EM currency, depreciated by more than 10% against a USD, since 28 June 2021. On the year-to-date basis, the ZAR depreciated by more than 8%, reversing gains recorded in the first half of 2021. On a traded weighted basis, the ZAR weakened by 7.8% during the review period and by 4.6% on year-to-date basis.

SA specific factors that contributed to a weaker exchange rate of ZAR included, the July 2021 civil unrests; power outages; policy uncertainty post-municipal election; as well as rising Covid-19 infection cases. Meanwhile, positive terms of trade in South Africa; supportive 2021 Medium-Term Budget policy statement (MTBPS); as well as interest rate hike by the central bank, appeared to have provided little support to the ZAR.

Measures of FX market volatility moved higher, with the 3-month USDZAR options implied volatility rising to around 16.50%, a level last seen in April 2021. The USDZAR bid-offer spread widened sharply as liquidity conditions deteriorated somewhat within the unfavourable international backdrop. The USDZAR spot trading range widened to SA239 cents, after the local currency fluctuated between R14.06 and R16.37, level last seen in November 2020.

Overall, the ZAR along with other EM peers remain susceptible to growing global headwinds, including tightening global financial conditions, rising global Covid-19 infection rates, and weak growth prospects. Meanwhile, high energy prices and rising inflationary pressures pose a monetary-policy credibility challenge of having to contain inflation in a low growth environment.

Figure 1: USDZAR trading range and volatility indicators



Source: Bloomberg

Funding conditions in the domestic FX forward market remained somewhat volatile in the year-to-date. Notwithstanding a brief improvement at the end of October 2021, short-term FX-implied rates¹ have shown a relatively large and persistent spread above repo policy rate, worsening over month- and quarter-ends. Volatility in the FX-implied rates continue to reflect demand and supply dynamics, specifically abundant US dollar liquidity in the domestic market; as well as seasonal factors such as month-, and quarter-ends funding requirements. The ample US dollar liquidity adversely affected the local banks capacity to absorb and efficiently deploy surplus USD, and thereby reducing the appetite to lend ZAR liquidity via FX swaps.

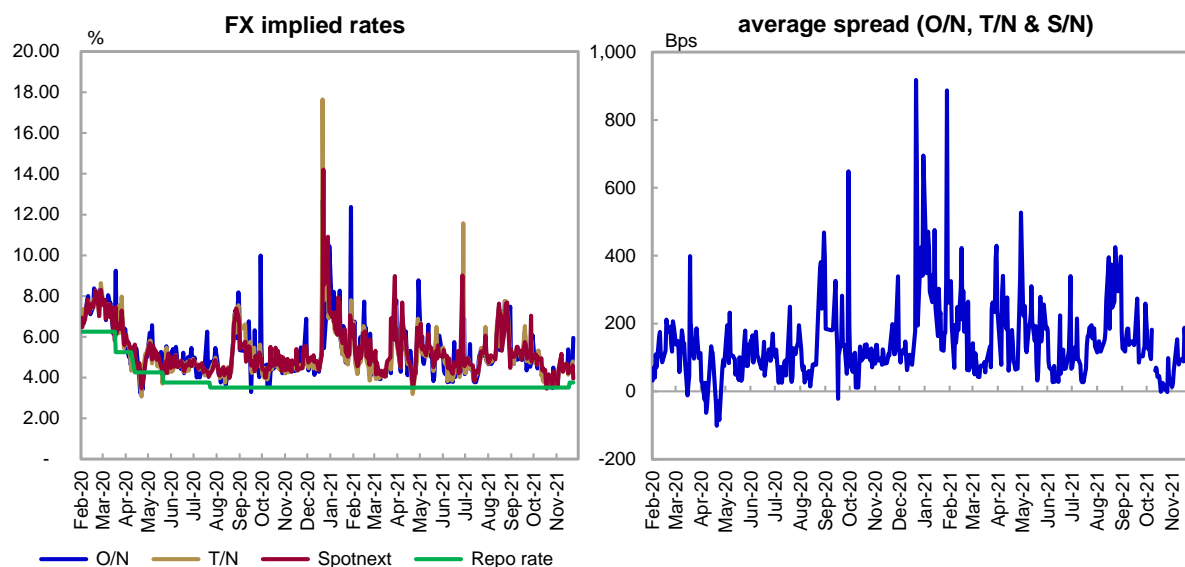
The FX implied rates spiked higher to an average rate of 5.35% in the third quarter of 2021, driven by banks' funding requirements to facilitate a larger corporate mergers and acquisition transactions, corporate dividend- and tax payments, as well as month-end funding needs. These rates subsequently stabilised to an average rate of around 4.25% towards the end of October 2021. The decline in FX implied rates was mainly attributed to an improved demand for USD funding in the global markets as the Fed embarks on monetary policy normalisation. At margins, the improved demand for USD liquidity enhanced local banks capacity to deploy ZAR liquidity via FX swaps, thereby

¹ This refers to overnight (O/N), tomorrow next(T/N), spot next (S/N) FX implied rates

contributing to easing of funding costs in the forward market. In line with general improvement in funding conditions in the FX forward market, the 1-year ZAR cross currency basis swap points eased from a historical level of 122 basis points to levels around 60 basis points.

During the latter part of November 2021, however, FX implied rates spiked up as market participants price in expectations of rapid interest rate hikes by EMs, including South Africa. Additionally, the month-end liquidity funding requirements as well as market nervousness relating to potential insufficient liquidity ahead of the year-end, added to higher funding costs in the domestic forward market.

Figure 2: FX implied rates



Source: Refinitiv

Zurich, 1 December 2021

Swiss FX Committee view on FX market conditions

Since the last GFXC call in June, the CHF has appreciated by about 3% in nominal trade-weighted terms. The CHF is currently trading at its strongest level since early 2015 after the discontinuation of the minimum exchange rate of EURCHF 1.20. A generally weaker EUR mainly drove the recent appreciation of the CHF. EURCHF trades currently more than 4% lower while USDCHF is up by about 2% (Chart 1).

Observed spot market liquidity has improved since June. Turnover on the primary market in the two major CHF-pairs has increased. In particular, EURCHF turnover has been above long-term averages. Spreads in the interbank market have narrowed markedly and have been mostly below their long-term averages in recent months (Chart 2).

The implied volatility for EURCHF and USDCHF has risen since the beginning of November in line with other major pairs in the G10-universe, reaching levels last seen in spring this year. However, implied volatilities are not high by historical standards and are close to levels that prevailed before the outbreak of the pandemic.

FX swap market conditions remained calm. There was no substantial demand for USD repos at the Swiss National Bank this year apart from two auctions in March covering the quarter-end. As usual, towards year-end, the USDCHF basis is widening again. So far, the observed widening of the USDCHF basis has been comparable to 2020, but less pronounced than in previous years.

Chart 1: CHF spot market

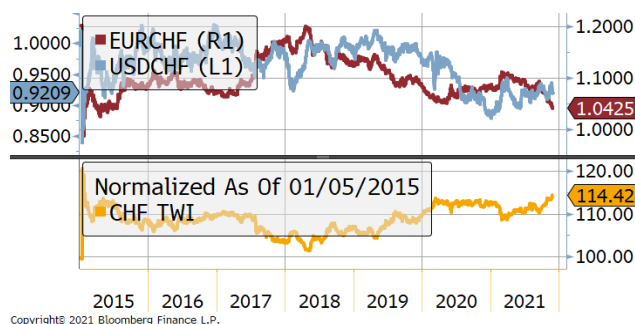
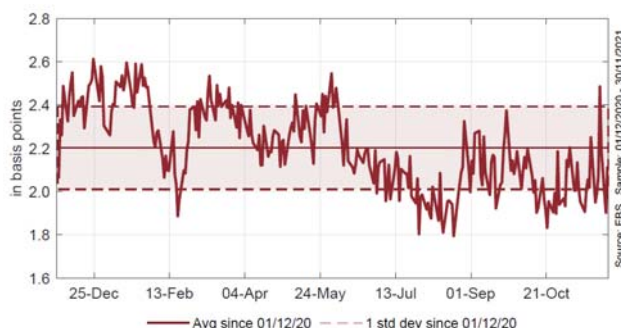


Chart 2: EURCHF 5M Top of Book Spread on EBS



GFXC Conference Call – December 2021

Update of FX Market Conditions

London Foreign Exchange Joint Standing Committee (FXJSC)

Major Currencies

G10 FX markets have functioned well in the period so far. Liquidity has been roughly in line with H1 2021 conditions. Spreads remain at pre-pandemic levels. And volumes are little changed compared to earlier in the year in developed and emerging markets alike.

Implied volatility measures in major FX currencies continued trending downwards in Q3 to reach the lowest levels since the onset of Covid-19. In Q4, this one-year long downward trend came to a halt and volatilities have somewhat rallied since, but are still around or below 2017/2018 lows.

FX has been much more sensitive to front end pricing and the USD has tracked the moves in rates closely with the DXY rallying by around 7% off the June lows in line with market pricing of FED tightening (up to 60 basis points being priced through to year end 2023).

Sterling

Sterling has been remarkably stable on a trade weighted basis since May. Sterling ERI (Exchange Rate Index) has only marginally fallen since the beginning of H2, and has been contained in a 2.4% range throughout the period. For context, GBP is down 4% against the USD, whilst up 0.8% against the EUR and 1.8% against the JPY. The latest inflation print came in at 4.2% (highest since 2011) highlighting the demand for goods and supply bottlenecks.

Emerging Markets

A key focus in Emerging Markets FX was the Turkish Lira which depreciated 30% against the USD in a month, in the context of interest rates cuts and high inflation. The Russian Ruble also saw a downward move against the USD (more than 7% in a month).

Inflation narratives

The key market focus in H2 has been on the inflation narrative and the 'transient versus persistent' debate, and potential unwind of Central Banks stimulus. This has led to increased front end rates volatility whereas the dynamic of the back end was driven by stagflation and strong supply demand that kept overall levels of long end yields contained.

COVID-19 dynamics

The caveat remains the developments around the Omicron variant, with more clarity expected as vaccine data becomes available. Since its discovery markets have seen flows into safe-haven assets, and USD has come off the recent highs.

Liquidity

- Overall, current FX market conditions in the US have been characterized as highly liquid.
 - Top of book bid-ask spreads in G-10 currencies are narrower on average compared to pre-COVID levels. In G-3 currencies, spreads are roughly 20 percent tighter than levels seen in 2019 on average.
 - Measures of market depth and density in G10 pairs are reportedly at or near all-time highs, as the low volatility environment and subsequent entrance of a greater number of high-frequency traders has encouraged greater participation in FX order books.
 - Broad measures of EM liquidity have also largely returned to pre-COVID levels or better. Currencies including CNH, KRW, HKD, ZAR, MXN and RUB are reported to have tighter bid-ask spreads when compared to 2019 levels.
 - Some EM currencies, such as TRY, continue to stand out as clear outliers liquidity-wise, given idiosyncratic economic and financial risks.
 - There has been little reported spillover to FX from episodes of liquidity challenges in short-end rates markets.

Volume

- Per the FXC's April 2021 North American FX Volume survey, daily average FX volumes increased on both a 6-month and an annual basis. Total average daily FX volume increased by 3.6 percent since the October 2020 survey to \$966.7 billion.
 - The increase in volumes since October 2020 was driven most notably by an 8.2 percent increase in swaps, which rose to the highest levels recorded in the history of the survey (\$357.1 billion average daily volume) and accounted for 37 percent of all FX turnover.
 - Spot volumes rose 3.2 percent since October, to an average \$384.1 billion per day in April.
- FX volume reportedly declined over the second half of the year (through October), amid low realized volatility.
- Ongoing volumes declines in the primary market venues remain notable, as such venues tend to host more activity in more volatile environments.
- Relatedly, internalization rates among major FX dealers have reportedly reached all-time highs for many currency pairs.