AUSTRALIAN FOREIGN EXCHANGE COMMITTEE

Over the first half of 2020, foreign exchange markets – including that for the Australian dollar (AUD) – have experienced periods of heightened volatility and varying liquidity. This was most notable in March. Liquidity conditions in G3 currency pairs were more resilient than the AUD and other 'commodity' currencies, with emerging market currency liquidity also deteriorating.

For the AUD, gauges of market liquidity (such as bid-offer spreads, impact of large-sized trades, volatility-to-volume measures) deteriorated in March with overall conditions assessed to be no more than 50 per cent of normal by AFXC members. Liquidity conditions were especially poor at the start of Australian trading, but tended to improve once Japanese markets opened.

The increased volatility in the AUD was associated with particularly sharp movements over short periods of time. On several occasions, the value of the AUD depreciated by more than US2c (>3%) in a matter of minutes, including on 19 March when the currency reached its lowest level in almost 20 years at US$0.55.

These episodes aside, AFXC members generally felt that liquidity in the AUD was adequate for core trading activities. But with market depth seen to be more limited, it was noted that some clients refrained from discretionary activity.

Nevertheless, trading volumes were high in March, with large rebalancing and hedging flows stemming from significant price movements across broader financial markets. As a consequence, sizeable flows were observed around the time of the daily benchmark fixings. With less liquidity in the market, some of the fixes (including for the AUD) were associated with volatility and sharp price movements. This fostered greater scrutiny of the benchmark methodology and processes amongst some market participants. In this context, the role (and visibility) of the User Groups for the WM/R FX Benchmarks was questioned by AFXC members.

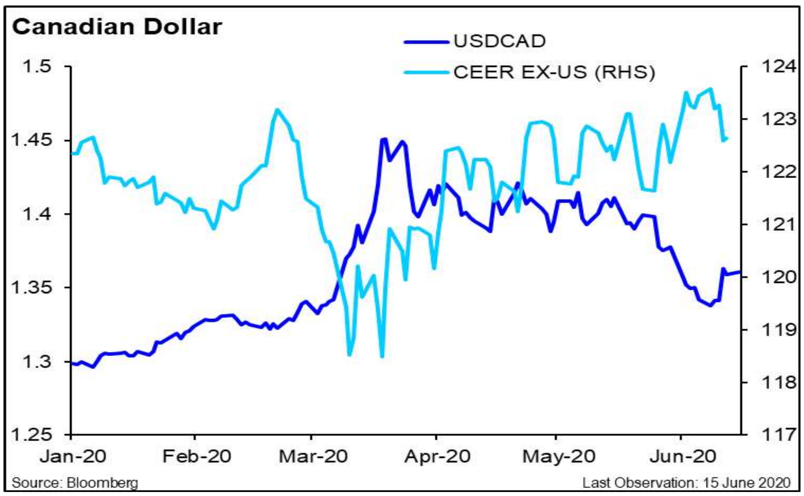
In subsequent months, liquidity in the AUD has recovered, but most AFXC members would assess it to be only around 75 to 80 per cent of normal. Liquidity over the Asian session was thought to be approaching usual levels, whereas trading conditions in the London session (including at the 4pm fix) were felt to have not yet normalised (albeit they remain more liquid than during Asian trading).

AFXC members have noted several developments associated with the recent period of market turbulence. Firstly, there was a decline in internalisation rates in March as market volatility increased. Secondly, the futures market has appeared to play a greater role in price discovery for the AUD relative to the primary market venues during the recent period (likely related to the speed of data updates).

Liquidity in the AUD forwards market deteriorated significantly during March, as traded parcel sizes declined and bid-offer spreads widened. The reduction in liquidity was most evident at longer tenors and in the AUD-crosses. By the end of May, bid-offer spreads had returned to normal levels, and in some cases were narrower than average levels seen in recent years. This likely reflects much more stable pricing in short-tenor AUD forwards (and broader AUD money market rates) following large liquidity provision from the central bank. For longer tenors, members report that forward spreads can still show significant variation from counterparty to counterparty, perhaps reflecting a greater variation in credit charges being applied than previously.

Update on the Canadian Dollar for June 22 GFXC Meeting

The CAD is slightly weaker against the USD since the beginning of March. The currency has been driven primarily by the sentiment around the economic impact of COVID-19 and, to a lesser extent, oil prices.

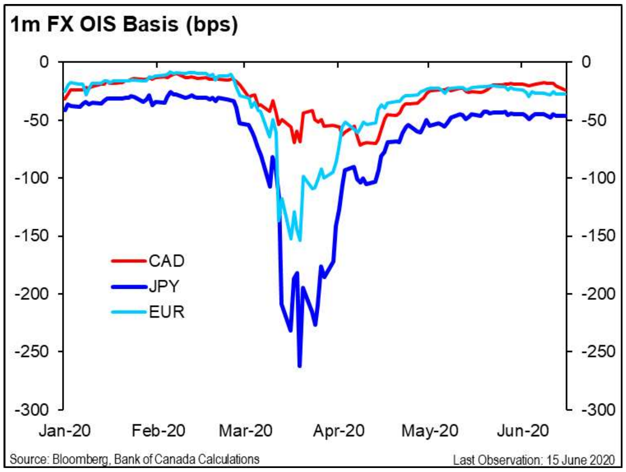


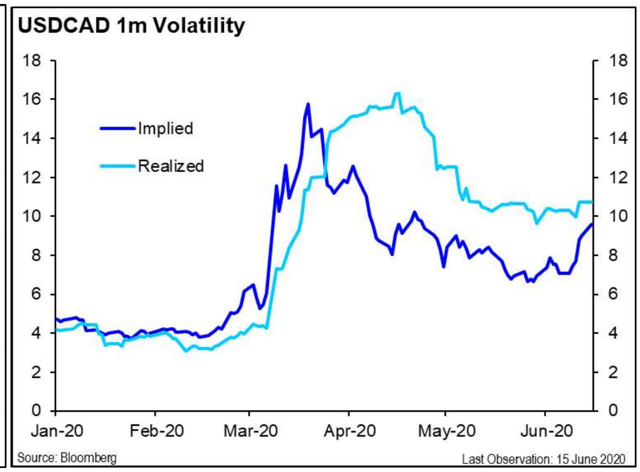
Market functioning

Spot CAD market has functioned relatively well. Liquidity conditions deteriorated in March but have steadily improved.

- Total volumes traded increased in March and early-April but subsequently declined.
- Inter-dealer trading migrated to primary trading platforms, although there was a sharp widening in bid-offer spreads. Average top of book spreads reached a peak of 3-4 pips, up from around 1-2 pips in February. Bid-offer spreads to trade larger sizes also increased.
- Since early April, market conditions have been gradually normalizing. Daily volumes on primary trading venues have returned to pre-COVID-19 crisis levels, but investor activity remains light.
- Bid-offer spreads have narrowed since April, although they remain wider than pre-crisis levels, both at top of book and to execute larger sizes.
- The CAD forward market did not experience the same degree of stress that was evident in some other currency pairs. However, liquidity in forwards declined, particularly in longer dated forwards. There were also very brief pockets of severe illiquidity with prices gapping.

- CAD implied FX OIS basis widen in March, but the moves were more muted than in other currencies. However, as conditions improved in other currency pairs in April, CAD implied basis took longer to "normalize".
- Short-dated CAD vols, which were quite elevated have also declined.





Agenda 1: Market Conditions

China FX Committee

Since March 2020, COVID-19 has created substantial volatility in global financial markets, accelerating the spread of financial risks, and causing significant dollar funding strains. Volatility was also widely observed in the global FX market. The U.S. dollar index had risen and fallen sharply in a range of nearly 9% in March, resulting notable fluctuations in currencies of both developed economies and emerging economies. Central banks and fiscal authorities have implemented various policy tools in response, which generated positive initial results. However, given the uncertainty around the future evolution of pandemic, additional risks remain in the financial markets, and it is still not clear whether policies are effective enough to buffer the economic downturn. The offshore CNH exchange rate also fluctuated due to global financial shocks and geopolitical turbulences, but overall it floated around 7 against the USD, exhibiting resilience compared with many other currencies.

Global dollar funding strains in March spilled over to China and pushed the USD funding cost in China higher as well. But China's timely reactions to the pandemic, early resumption of the economy and a series of powerful macro-policy measures all supported the RMB resilience. Despite some fluctuations, the

RMB exchange rate has remained basically stable at reasonable equilibrium level. From the start of 2020 to June 12th , RMB depreciated by 1.6% against the USD, and the CFETS RMB Index rose by 0.3%. In general, the RMB exchange rate against the USD features two-way fluctuations, China's FX market stays resilient, with its participants' expectation remaining stable.

China's cross-border capital flows were less affected by the pandemic. In the first quarter of 2020, China's international balance of payments maintained basic equilibrium with small current account deficit. China still implements a sound monetary policy, and interest-rate spreads between domestic and foreign currencies are within a reasonable range, so RMB assets remain highly attractive. As China further opens up its financial markets, we see consistent cross-border capital inflows.

The China FX Committee (CFXC) supports the work of the Global Foreign Exchange Committee (GFXC) with active participation in the construction and development of global FX market. On January 12th , 2020, the PBC signed the Statement of Commitment (SoC) to the FX Global Code, and published it on the CFXC public register. On March 26th , the CFXC shared the GFXC's statement on market conditions, promoting professional, fair, efficient and robust FX market functioning in times of intense volatility. In the future, the CFXC will continue to work and communicate closely with the GFXC to promote sound development of FX market.

Summary of FXCG members' feedback on FX market conditions and operational resilience in light of heightened market volatility

Foreign exchange (FX) market liquidity conditions deteriorated considerably during the peak period of the Covid-19 crisis as volatility spiked over the course of March. Liquidity conditions worsened significantly for all currency pairs, but most notably in Scandies and emerging market currencies, and for all FX asset classes but particularly in FX swaps. Risk appetite among market making institutions declined somewhat and internalisation ratios reportedly decreased for the most part amid thinner interbank liquidity resulting in a larger degree of manual intervention by dealers to manage flows.

On the client side, some noted more proactive attention on order handling and limit monitoring. Overall, market participants consider that FX market functioning was resilient and performed suitably considering the circumstances. IT-systems, venues and technical infrastructure were holding up and fully able to facilitate trading throughout the episode. Some clients had seen their credit limits lowered by counterparts, which may have affected their liquidity conditions, but the extent of this is unclear and may vary depending on client type and other factors. Swift and decisive central bank policy actions were seen to have calmed also FX markets and improved liquidity conditions effectively which allowed spreads to normalise as competitive pressures resumed.

FX trading volumes increased substantially at the height of the crisis and market makers tended to see an increase in algorithmic trading in the client community roughly in proportion with the general increase in turnover. Algorithmic trading enabled users to improve overall execution performance and was found to perform well in light of uncertain market conditions. Market makers observed dispersion in activity levels across different client types and are of the view that some clients that were new to algorithmic trading are likely to continue using such services. On the other hand, a few buy-side participants reported a stronger recourse to risk transfer activity and voice trading with price discovery moving to primary venues, partly due to one-sided flows making warehousing risk difficult. This was more or less in line with common observations amid volatile episodes.

Members report that working from home arrangements have surpassed expectations. Participants report that software and systems, communications, pricing and access have continued relatively uninterrupted during the stress episode. One observation claimed that most actors are focusing on operating and maintaining systems as they are, rather than embarking on major updates or system development projects amidst the working from home arrangements. Therefore, it puts into question whether the current level of working from home setup is sustainable in the long term. Several respondents also underline the importance that supervision, operational aspects and procedures are kept up to date and appropriately managed. Respondents were also of the view that the remote arrangements contributed little to the stress episode, rather people and markets were found to adapt quickly to the new reality. Many market participants now consider how to incorporate the lessons learned from the working from home arrangements into their long term business strategy. No respondent reported any substantial market breakdown, observed market abuse, significant complaints or violations against the FX Global Code (Code).

It was seen difficult to estimate the Code's potential influence in relation to the recent stress episode and market functioning. Some respondents noted that the Code probably had a positive impact in reducing risks to market functioning due to extensive preparatory work in ensuring business practices being aligned with the Code's principles after its publication in 2017. It could be worthwhile considering what lessons can be drawn from working from home arrangements for the Code's principles in future adaptations (e.g. supervision, information confidentiality, diversity of home working setups, minimum staffing at office). The respondents are of the view that financial markets have been resilient and any renewed stress episodes or shocks should be less severe than in March given infrastructure resilience and general preparedness. Some notable risks going forward are renewed outbreaks of Covid-cases as countries are seen to not be able to do another economic lockdown, geopolitical tensions, increase in corporate defaults, Brexit negotiations.

GFXC Conference Call 2020 – Brief Update on Recent HKD Development

Since beginning of the year, HKD has been relatively resilient with HKD strengthening from near the weak side of the peg at 7.85 to the strong side at 7.75. This has prompted HKMA to take action several times in defense of the peg. Allow me to give a quick recap of the reason behind.

HKD and USD rates differential has widened enormously since March Fed rate cut, reaching the widest level where HIBOR was trading 100bps over LIBOR by end of April. Carry trades driven by this rate differential gap have resulted in rapid HKD appreciation. In addition, Hong Kong stock market had experienced strong net purchase inflow from mainland China funds through the stock-connect scheme in March with total net inflow amounting to ~USD18bn, a triple of the normal flow and creating strong conversion demand for HKD. Since April, HKD has touched the strong side of the peg 16 times and triggered HKMA intervention in defense of the peg. As a result, the Aggregate Balance which represents all banks' settlement account balances kept at HKMA, increased from USD 7 billion to USD 16 billion, thus bringing down the HIBOR rates.

Recently, the market has cast doubt on the sustainability of the linked exchange rate system in light of the current budget deficit in response to Covid-19. Our linked exchange rate system however has served Hong Kong well for more than 36 years through many economic cycles, and continues to display strong resilience in adversity. The peg is underpinned by sizeable foreign reserves of over USD 440billion, along with a robust fiscal reserve of USD 155billion. It has been operating very smoothly even with massive fund flows in the past and will continue to be the cornerstone for Hong Kong's status as an international financial center.

Recent headlines relating to HK certainly have brought back some volatility to the market. However, HKD has been hovering near the strong side at 7.75 most of the time as mainland stock connect inflow continued to be strong and secondary listing on the Hong Kong stock exchange by US-listed Chinese firms continued to attract market demand. I believe HKD will stay on the strong side of the 7.75-7.85 band for the rest of 2020.

Summary on recent developments in Indian Forex Market

1. **Trend in Domestic Currency**

(a) INR, along with other EM currencies, came under pressure after the outbreak of the COVID-19 pandemic. The global risk-off sentiments led to a reversal of capital flows from emerging markets, an increase in safe asset demand, and the strengthening of USD. India witnessed unprecedented FPI outflows (debt and equity) during March 2020 resulting in a sharp increase in volatility of INR. Some of the depreciating pressure was cushioned by the crash in crude prices amid concerns of lower demand and the threat of a full-blown price war. Domestic factors such as the impact of the lockdown on domestic growth and employment and the restructuring of one private sector bank (Yes Bank) also dented the risk-appetite of investors. RBI's intervention in the forex market was limited as the factors causing depreciation of INR were predominantly driven by developments on the pandemic front.

(b) RBI took a series of measures starting March 27, 2020 to contain the negative effects of Covid-19 and maintain financial stability. Various measures included policy rate cuts, cut in cash reserve requirement (CRR), Long Term Repo Operations (LTROs), Targeted Long Term Repo Operations (TLTROs), refinance for All India Financial Institutions targeted at agriculture, rural development, small and medium industries, and housing, liquidity facility for mutual funds, etc. The Government of India also announced various measures amounting to 10% of GDP to boost the economy. These measures helped in assuaging the financial markets and led to an improvement in risk appetite among investors.

(c) FPI outflows reduced considerably during April and May 2020 as sentiments stabilized. Inflows into the equity markets resumed in June as global economies including India starting unlocking. The volatility in INR also came down. Selective buying of USD by RBI to reduce the appreciating pressure on INR helped to take the forex reserves beyond the $500 billion mark.

2. **India Foreign Exchange Committee (IFXC) related developments**

(i) **Launch of the IFXC website**: IFXC is close to launching its own website which will take over the IFXC related issues from the FEDAI website (which at present is hosting the IFXC material).

(ii) **Engaging buy-side participants**: All the corporate members of the IFXC have signed the Statement of Commitment (SoC) to the FX Global Code and the same have been uploaded in the public register on the FEDAI website. Concreted efforts are on to encourage other buy-side participants to adopt the FX Global Code and sign the SoC.

3. Forex related regulatory developments

(i) Revised Risk Management and Hedging Guidelines were issued for bringing residents and non-residents at par in terms of market access and product availability. This is a significant move away from prescriptive regulations to a principal-based regulatory regime.
(ii) A new channel, *viz.*, the Fully Accessible Route, for facilitating investment by real money accounts in local debt securities was opened. Under this route, there shall be no quantitative limit on investment by eligible investors. FPIs, Non-Resident Indians (NRIs), Overseas Citizens of India (OCIs) and other entities are permitted to invest in specified Government Securities. This is seen as a precursor to the inclusion of Indian debt securities in the Global Bond Indexes.
(iii) India banks were allowed to quote to non-residents round-the-clock, making the INR forex market virtually a 24 X 7 market.
(iv) Select banks have been permitted to deal in the offshore Non-Deliverable Derivative Contracts (NDDC) traded in the IFSC, *viz.*, GIFT City with effect from June 01, 2020. This removes the segmentation between the onshore and offshore markets and provides a linkage between the onshore deliverable and the offshore non-deliverable INR markets.

Tokyo FXC Summary of Market Conditions

- In March, liquidity conditions were markedly poor however, as a result of the aggressive actions taken by the government and central banks, in April, notable improvements on liquidity conditions mainly for G10 currencies were seen in Tokyo FX market. Once USDJPY bid-offer spread widened to approximately 3 pips however, as of current it is at 1 pip level.

- When Japan declared State of Emergency on 7th April many of the market participants shifted to working from home. In order to trade safely, we have noticed some customers trading in advance.

- On 25th May, State of Emergency was lifted in areas including the Tokyo metropolitan area however, overall trading volume still tends to be low due to decrease in commercial trades by corporates and direct investments being hold off. On the other hand, activities by investors are currently at the same level as before the coronavirus outbreak.

- The overall ratio of market makers working from home are over 50 percent and depending on the readiness of the market maker’s internal system, there are firms with higher ratio above 80%. Even after State of Emergency lifted, large portion of the market makers are still working from home.

- There are great uncertainties on the market outlook however, thanks to extraordinary stimulus and support measures from the government and central banks, it can be assumed that stable liquidity in the FX market will be supported.

- It must be noted however, that for some emerging currencies, liquidity conditions are still not back to where it was, and ongoing attention is necessary.

Evolution of Conditions in the Mexican peso Market

GFXC Meeting – 22 June 2020

As observed in most Emerging Market (EM) currencies, the Mexican peso (MXN) has had a significantly negative performance in recent months, accumulating a depreciation of around 15% in 2020. The main factors behind the weakening of EME currencies are the risk aversion environment in global financial markets following the COVID-19 global pandemic, given its potential implications in economic, financial, and social matters, as well as the fall in commodity prices.

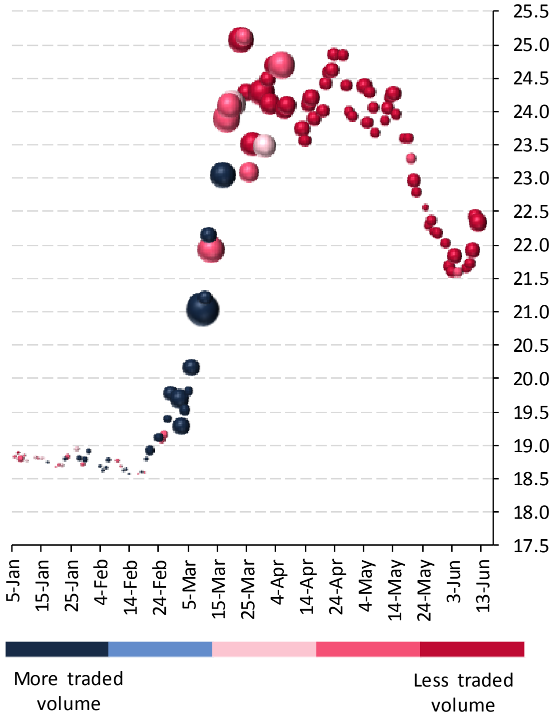
However, the MXN has been additionally affected by several dynamics. Firstly, the MXN was used as a proxy hedge for risky assets due to its high liquidity and the fact that it is fully deliverable, conditions that differentiate the Mexican peso from most EM currencies. Moreover, the low-volatility regime that prevailed in financial markets in the months and years prior to the crisis, and the high interest rate in Mexican assets relative to other EM, facilitated carry trades in favour of the peso and an important long MXN positioning from foreign investors, which were mostly liquidated during the crisis. Finally, the MXN depreciated to reflect the fundamental shock that this crisis will have in the Mexican economy, given the perspective of an important contraction in economic activity, lower oil prices and a weaker fiscal position. Therefore, all afore mentioned factors have resulted in significant outflows from Mexican markets by foreign investors, generating at some stages more significant adjustments in the Mexican peso than those observed in other EM currencies.

In response to the risk aversion sentiment in global financial markets, market trading conditions for the MXN deteriorated significantly, particularly in March during the early stages of the global pandemic, with volatility and liquidity metrics reaching levels only observed during the Global Financial Crisis of 2008-09. In order to promote a two-way market in the MXN, and to restore orderly market conditions, the FX Commission in Mexico decided that the Bank of Mexico would increase the total amount authorized for its NDF program from USD 20 to 30 billion. Hence, the Bank of Mexico intervened in the market in March 12 and March 18, offering FX hedges for tenors between 1 and 3 months, and consequently, increasing the outstanding amount of NDFs by roughly USD 2 billion (current total outstanding amount: USD 7.5 billion). Additionally, in the beginning of April the Bank of Mexico tapped the swap line that was announced with the Federal Reserve and auctioned 3-month US dollar credits, allotting USD 6.59 billion and partly relieving the demand for USD funding from local banks.

Although market conditions in the Mexican peso have improved in recent weeks, with some of these metrics such as bid-ask spreads and market depth showing a more steady improvement since the second half of March, liquidity for the Mexican peso remains fragile and far from the conditions observed in the months prior to the crisis. In particular, daily turnover in the MXN, both locally and abroad, has remained significantly subdued. Given that uncertainty regarding the economic, financial and social implications of the pandemic remain elevated, it is expected that market conditions will remain fragile. Also, in line with what has been observed in global markets due to the measures implemented by the Federal Reserve and other central banks, USD funding conditions in Mexico have somewhat normalized in recent weeks.

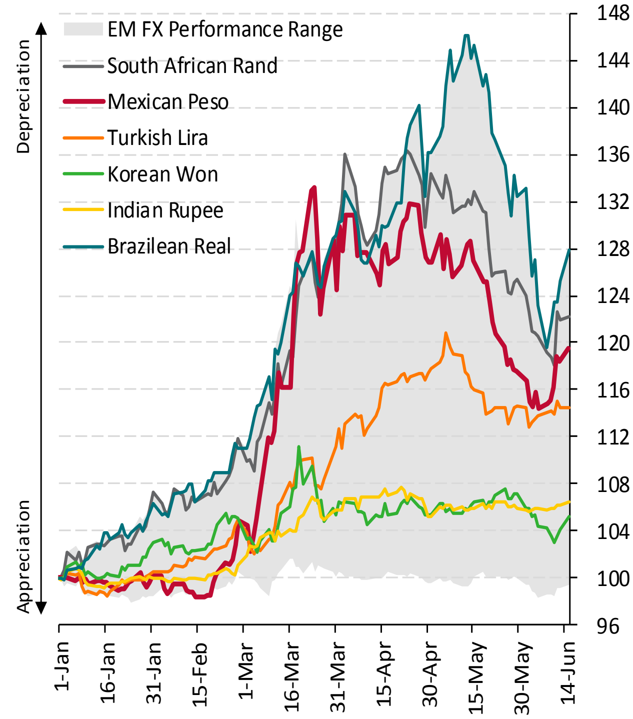
However, it is considered that although market conditions have improved and that the measures implemented by the FX Commission have supported a more orderly functioning of the foreign exchange market, trading conditions in the Mexican peso market remain fragile and contingent to the functioning of global financial markets given recent fears of a second wave of contagion from the COVID-19 pandemic.

Mexican Peso Exchange Rate and Trading Conditions
Mexican pesos per US dollar



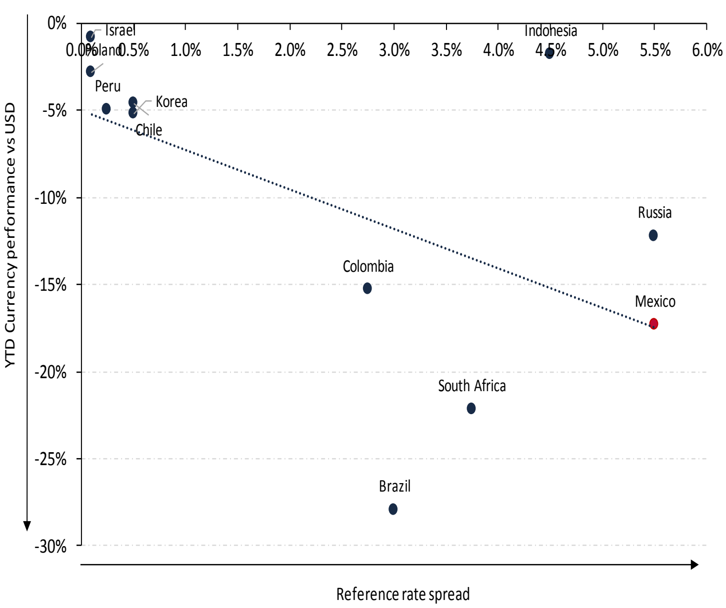
Note: Spot trade volume has been classified in percentiles according to historical data since January 2017 until today (0%-20%, 21%-40%, 41%-60%, 61%-80%, 81%-100%). The size of the sphere is determined by the level of intraday realized volatility.
Source: Calculations made by the Bank of Mexico with internal and Bloomberg data.

Performance of Selected EM Currencies
Index (100 = Dec 31, 2019)



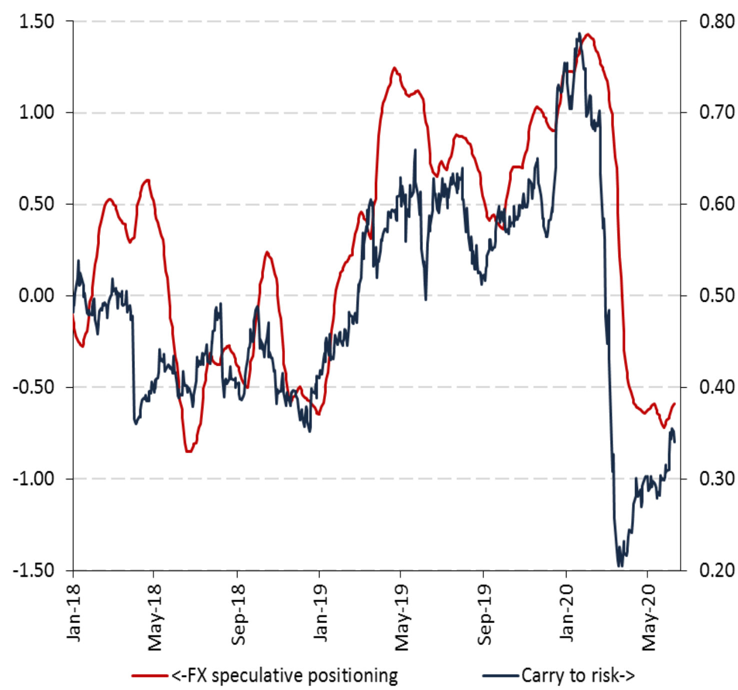
Note: The currencies considered for the EM FX Performance Range Index where those pertaining to the following countries: Mexico, Brazil, Colombia, Chile, Peru, Hungary, Czech Republic, Poland, Russia, Israel, Turkey, South Africa, India, Indonesia, Malaysia, Philippines and Thailand.
Source: Calculations made by the Bank of Mexico with Bloomberg data.

EM Currency Performance during 2020 and Reference Rates Spread
Percentage



Source: Bloomberg

Speculative Positioning and Carry-to-Risk in the Mexican Peso
Standard Deviations (Z-Score); Index

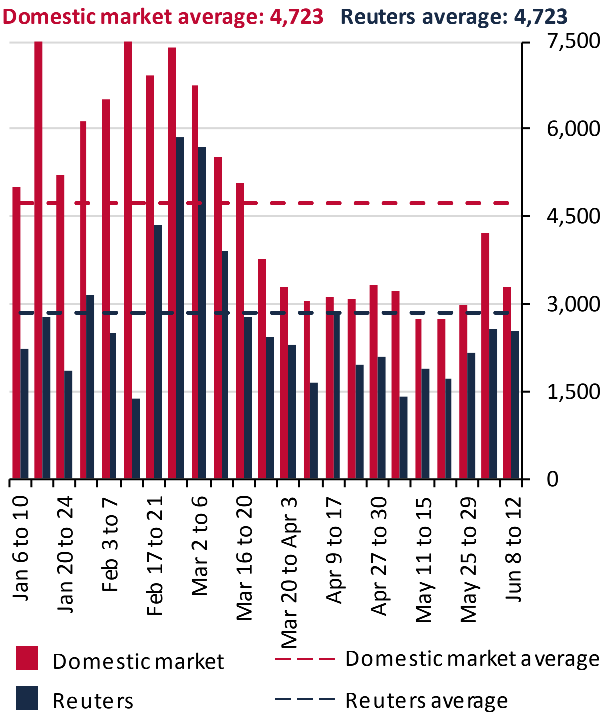


Note: The FX speculative positioning is a 10 day z-score moving average. 3-month carry to risk for USD/MXN was calculated using the Bloomberg quotes for 3-month forward points and 3-month implied volatility in ATM options for USD/MXN.
Source: Calculations by the Bank of Mexico with Bloomberg and CME data.

BANCO DE MÉXICO

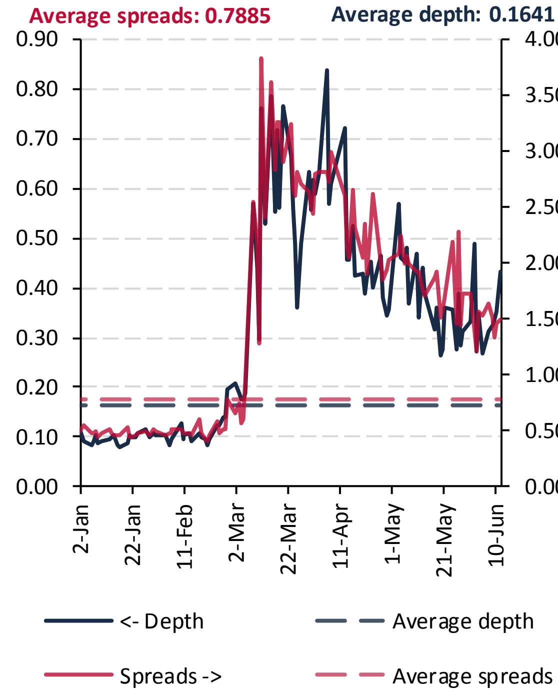
CMCM
COMITÉ DEL MERCADO CAMBIARIO MEXICANO

USD/MXN Spot Traded Volume
Millions of US dollars



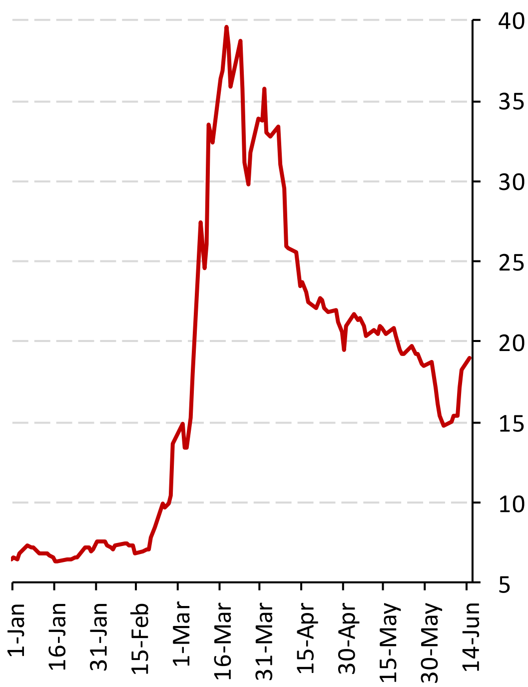
Source: Calculations made by the Bank of Mexico with internal and Refinitiv data

Bid-Ask Spreads and Market Depth for Spot USD/MXN
Peso Cents



Source: Calculations made by the Bank of Mexico with Refinitiv data

1-month implied volatility in USD/MXN ATM options
Percentage



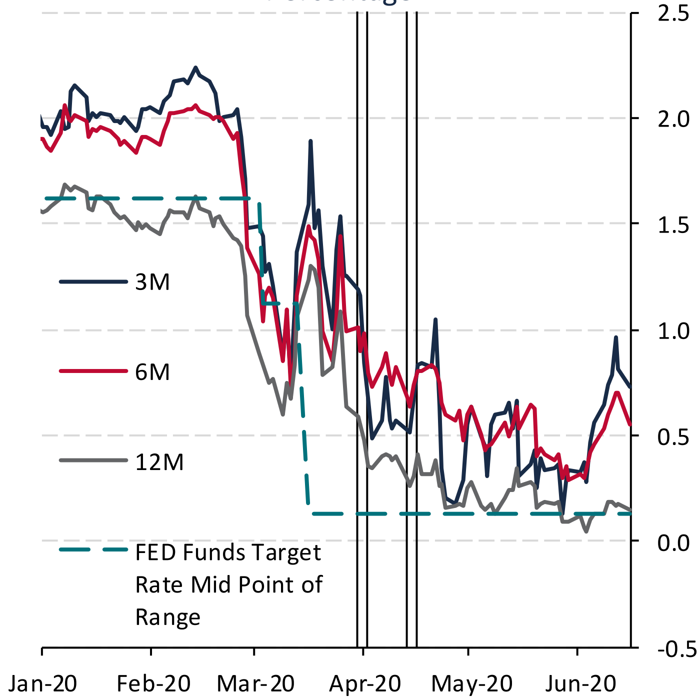
Source: Bloomberg

1-month 25 delta Risk Reversal for USD/MXN options
Percentage

Source: Bloomberg

USD Forward Implied Yields in the USD/MXN Forward Curve

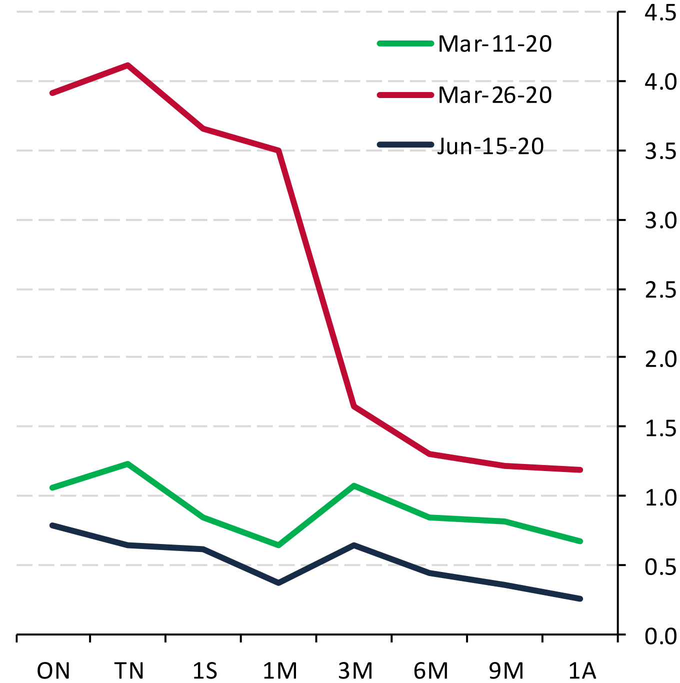
Percentage



Note: Vertical black lines represent the announcement of coordinated action by the BOC, BOJ, ECB, FED and SNB to enhance the provision of liquidity via the standing U.S. dollar liquidity agreement (March 15th), the agreement between the Federal Reserve and Banco de Mexico to establish a 60 billion U.S. dollars temporary swap-line (March 19th) and the announcements by the Mexican Foreign Exchange Commission (March 30th and April 2nd) about the use of the aforementioned swap line to offer credits in US dollars during two auctions for 5 billion U.S. dollars each.
Source: Calculations by the Bank of Mexico with Bloomberg and Refinitiv data.

USD Forward Implied Yields in the USD/MXN Forward Curve

Percentage



Note: March 11, represents the day before new NDFs were auctioned in Mexico by Banco de México and March 26 represents the maximum levels observed in implied volatilities in USD/MXN.
Source: Refinitiv

The Moscow FXJSC – Market Conditions, Russia

The situation on the Russian financial market reflected the global market reaction to the coronavirus pandemic. Pandemic risk off and the lack of confidence in the conclusion of a new agreement to limit production on the oil market in March led to the exit of foreign investors from Russian assets, which began in the last decade of February and continued at an accelerated pace in the first half of March, has slowed down significantly since 20 March, and stopped in some sectors. As a result of outflow of non-residents and increased volatility in the market, OFZ (Russian government bonds in RUB) yields along the whole length of the curve by the middle of the month increased significantly (on average, by the most notable terms over the period from March 2 to 19, the growth amounted to 176 bp), which was translated into growth of yields on other debt instruments, as well as accompanied by a decrease in stock indices. In the reporting period, the securities market was supported by measures taken by the Bank of Russia to fix the fair value of financial instruments, which allowed market participants to purchase securities without fear of their subsequent negative revaluation.

In March, there were large purchases of foreign currency in the domestic market by non-residents and foreign subsidiary banks. In just one month this group of participants purchased vouchers for the equivalent of RUB 389.4 billion, which is more than the corresponding figures for 2014-2015. As part of implementing the budget rule, the Bank of Russia suspended foreign currency purchases and began proactive sales. Sales of foreign currency by the Bank of Russia made it possible to smooth out the negative impact of a sharp decline in non-fruit prices on currency inflows within the current account of the balance of payments.

For the first time in a long time, both non-residents and foreign subsidiary banks took a long position on the foreign exchange swap market instead of a short one, which changed the total position of the participants by USD 10 billion. U.S. within one month. To prevent the revival of the foreign currency liquidity deficit, the Bank of Russia has extended its limits on "foreign exchange swap" with the Bank of Russia from USD 3 billion to USD 5 billion.

A significant structural surplus of liquidity in the banking sector contributed to sustainable functioning of the money market. However, in order to provide credit institutions with more flexibility in liquidity management in the face of growing margin requirements in the stock and foreign exchange markets and uncertainty related to customer behavior, the Bank of Russia has implemented measures to support the liquidity of the banking sector. Fine-tuning auctions were held, the Lombard list was expanded, the requirements for compliance with liquidity standards H26 (H27) were relaxed, and the fee for the use of irrevocable credit lines was reduced from 0.5 to 0.15 per cent, while the aggregate maximum limit was increased from 1.5 to 5 trillion RUB. In addition, restrictions on the maximum possible limit of irrevocable credit lines at the level of individual systemically important credit institutions were removed. Taken together, these measures help to ensure the sustainability of the money market and maintain short-term rates close to the Bank of Russia's key rate.

In April 2020, the impact of the Coronavirus pandemic on economies and markets continued to shape global market conditions. The rate of capital outflow from the Russian market, observed from the end of February to the end of March, slowed down in April, and in some segments purchases of Russian assets resumed.

The transition of WTI oil prices to a negative area in April was a unique case in history and affected the Russian stock futures market. Not all market participants turned out to be ready for such a situation and as a result of trades they suffered a loss. In the future, the Moscow Exchange plans to establish more detailed trading rules for non-standard situations and increase the transparency of decisions made by the exchange.

Unlike the situation in 2008-2009 and 2014-2015, the surge of volatility in the foreign exchange market in March-April 2020 was not accompanied by a significant change in the behavior of non-financial companies and individuals. Non-residents were the main agents of volatility in the currency market. Proactive sales of currency within the budget rule and the currency received as a result of the sale of a stake in Sberbank ensured sufficient supply against the background of increased demand from foreign participants. Compared to the previous month, in April currency sales operations by the Bank of Russia slightly exceeded aggregate purchases by non-residents and subsidiaries by foreign banks. In March-April 2020, the Russian market did not have such a pronounced liquidity problem as other markets (Europe, Japan, South Korea and Malaysia). Offer of the Bank of Russia to provide foreign currency liquidity with an increased limit of USD 5 billion was not in demand by market participants. At the same time, non-residents continue to increase their long position in the foreign exchange market. At the end of April, the total net position of non-residents and foreign subsidiary banks reached $8bn. This is a record high for the last few years.

In addition to the provision of currency in the domestic market by the Bank of Russia, the growth of oil prices at the end of April was a favorable factor for strengthening the national currency: in April the ruble appreciated by 6% against the US dollar and then 6% in May (so the dollar almost totally rebound to the levels before pandemic – 68 RUB per 1 USD (with 82 as high in March).

The volume of operation on FX market jumped in Mar and spreads increased 2-3 times and then get back to normal. The market share of Moscow Exchanged increased again compare with FX OTC market.

Inflationary pressures in the economy are easing and the impact of disinflationary factors is increasing. This is due to the exhaustion of the March ruble weakening transfer to prices and aggravation of competition in the conditions of strong decline in demand. On the whole in May, the seasonally adjusted price increase is estimated at around 4% per year.

The trajectory of key rate of Bank of Russia is in downward trend with current 5.5% and market expectation of the 0.5%-1% cut on Friday later this week.

The Moscow FXJSC Chairman,

Sergey Romanchuk

The text is prepared based on Central Bank of Russia reports on risks of financial markets, Mar-Apr2020, https://www.cbr.ru/finstab/analytics/

PM

DATUM:	2020-06-15
AVDELNING:	AFM/FO, Sveriges Riksbank
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Developments in the Scandinavian FX markets

Swedish krona, SEK

When the market turbulence associated with Covid-19 began in early March, reactions in the FX (spot) market were rather muted initially, especially in comparison with equities and fixed income products. This included the market for the Swedish krona, which in trade-weighted terms remained fairly stable for about ten days. A delayed reaction began around March 18, with the krona depreciating almost 4 per cent in trade-weighted terms from the strongest intraday levels on March 17 to the weakest on March 19. The krona recovered from the exceptionally weak levels rather rapidly, but remained at weaker than pre-corona levels throughout the month of April. In May, boosted e.g. by a strong risk sentiment, the krona strengthened steadily and the krona was at the end of the month almost 3 percent stronger in trade-weighted terms. In terms of bilateral exchange rates, the normally stable NOKSEK cross exhibited large swings in March.

Implicit volatility in the market for EURSEK and USDSEK FX options rose sharply in tandem with broader financial markets in early March for all maturities, but has at present fallen back to levels that are only somewhat elevated compared to pre-Covid 19 levels. Realized volatility in the FX market also rose rapidly after an initial delay. In line with the global perceived shortage of dollars at the height of the market turbulence, the cost of borrowing USD against lending SEK in the FX swap market rose significantly (especially when adjusted for the rate differential) in March. This market is now back to normal functioning, e.g. on the back of central bank actions.

In terms of market functioning, there were at times signs of stress in the SEK market, in particular the FX swap market, but overall the Riksbank assesses that the market withstood the stress satisfactorily. Nonetheless, it is worth noting that preliminary data as well as anecdotal information from market contacts suggest that SEK liquidity deteriorated at the height of the market turbulence. However, the same sources of information suggest that liquidity has since improved again. Survey evidence from the Riksbank's forthcoming Financial markets survey (date of publication: 2020-06-16) also suggest that market contacts moreover consider that the liquidity of the krona deteriorated less than expected during the turbulence, and also that it deteriorated less than the liquidity of comparable currencies did.

Norwegian krone, NOK

This year there has been significant moves in the Norwegian krone.

After weakening somewhat in January and February, the depreciation escalated in March with a significant fall in the oil price and the negative economic impact and the uncertainty related to Covid-19. On March 18 – 19 the import-weighted krone exchange rate weakened by 13-14 per cent to record weak levels. Also against euro and dollar, the krone reached record weak levels. Uncertainty in the NOK market was particularly high at that time, and the exchange rate movements were amplified by limited liquidity. On 19 March, Norges Bank announced that, given the extraordinary conditions in the foreign exchange market, there might be a need to intervene in the market by purchasing NOK. To support market functioning, Norges Bank made extraordinary NOK purchases in the foreign exchange market totaling NOK 3.5bn in March.

Since then, the oil price has increased significantly, the risk sentiment has improved and the weakening of the krone is partly reversed. Implied volatility has come down from record high levels, but is still higher than before the outbreak of Covid-19. According to our market contacts, liquidity in the market for Norwegian kroner has improved.

A lot of market participants in the market for Norwegian krone referred to GFXC’s press release on 26 March 2020 “GFXC Issues Statement on FX Market Conditions”.

Danish krone, DKK

After strains in the global funding markets in the middle of March we have seen increased volatility and movements in the EURDKK exchange rate. The liquidity has worsened, and to date it remains lower than beginning of the year. Further to the general draught of liquidity in the market, the Danish central bank changed the interest rate mid-March. In the context of Denmark's fixed exchange rate policy, the interest rate increase followed Danmarks Nationalbank's sale of foreign exchange in the market for 65 bln. DKK during the month of March.

Market participants currently see that we are roughly back to 60 percent of the pre-Covid 19 liquidity in spot and around 80 percent in the swap market. During the month of March, we saw very good turnover and definitely an increase from January and in particular February. We noticed increased hedging activity, but once the panic faded so did the interest in EURDKK, which actually is one of the reasons why liquidity and stability is still not back to pre-Covid 19 levels. Overall execution costs were not dramatically elevated during this period

In order to smoothing the strains in dollar funding the Nordic central banks got a swap-agreement with Federal Reserve in the late part of March and Danmarks Nationalbank re-activated a similar swap-agreement with the ECB regarding euro liquidity.

USD and G10 observations:

G10 liquidity was also affected, especially peripheral G10. While USD and most of G10 improved after the expansion of the list of central banks with USD swap lines, Scandies didn’t normalise until May.

Summaries for the different FX markets above have been provided by the respective central banks.

Market Conditions in SGD FX Markets in 2020

1. Since the start of 2020, the key issue weighing on global financial markets has been the effects of the Covid-19 pandemic.

   (a) Along with global markets, equity markets in Southeast Asia fell sharply by 25%-40% from February before bottoming by end-March. EM Asia debt markets were also hit hard, due to an unwinding of carry trades from higher yielding currencies in the risk-off environment, and from credit rating downgrades in some instances.

   (b) Regional markets subsequently recovered, supported by strong fiscal and central bank responses initially, and gradual of economies from the lockdowns to contain the spread of the virus. SGD markets were supported by a strong fiscal response, announced through four packages that amounted to about 19% of GDP. Outflows from regional equity and debt markets also abated, notwithstanding larger issuances from EM sovereigns amid widening fiscal deficits.

2. Against this backdrop, ASEAN currencies weakened sharply in late February and March, depreciating by 15-16% against the dollar at the trough before a gradual recovery from late-March. Over the same period, the SGD depreciated by -8.5% against the dollar between Jan to March, before rebounding subsequently to a smaller year-to-date decline of about -3.5% by mid-June.

   (a) Liquidity conditions worsened significantly in March. As with most other currencies globally, spreads on USDSGD FX spot widened significantly during this period, by around 3-4x on some days compared to historical spreads. Sweep-to-fill spreads (i.e. spreads on larger size order such as US$50m) widened even more.

   (b) Meanwhile, turnover volumes doubled during periods in March, driven anecdotally by rebalancing fund flows amidst the market turmoil. There was also a significant increase in the use of execution algorithm by end users during this period, for SGD FX as with other currencies. Based on market intelligence, the main drivers were the much wider spreads in voice/risk-transfer pricing, which made execution algorithms a more attractive option. The increase in execution algorithm use was attributed also to an increase in the number of dealers who were working from home, though this was likely a less significant factor, as volumes normalised by April, even as many dealers continued to work from home.

   (c) Notwithstanding the increased volatility, markets remained largely functional. Implied volatilities in SGD and most other regional currencies also did not exceed GFC levels.

(d) Liquidity conditions improved significantly by early-April. Bid-ask spreads narrowed though they have yet to fully recover and presently remain about 50% wider than pre-crisis levels.

3. While market conditions have since stabilised, SGD and regional markets remain vulnerable to sudden shifts in risk aversion. A possible "second wave" of Covid-19 infections is risk of particular concern to market participants, as governments and central banks have already utilised significant resources in the initial rounds of stimulus. This is a risk that bears watching.

South African Reserve Bank

South African Foreign Exchange Committee

16 June 2020

Summary of market conditions in the South African foreign exchange market

The foreign exchange (FX) market in emerging markets (EM), including South Africa, have experienced heightened volatility along with associated deterioration in liquidity conditions amid mounting fears that the Coronavirus (Covid-19) was spreading across the world. Since the beginning of the Covid-19 induced global financial market crisis in March 2020, EM currencies depreciated across the board on a broadly stronger USD and weak global risk sentiment, in part also reflecting global growth concerns. The bids-offer spreads within the EM currencies widened as the liquidity conditions dried up and as volatility increased across various financial asset classes. Notwithstanding the global risk-off sentiment, the sell-off in EM currencies was also attributed to idiosyncratic factors within these economies.

Spot market conditions

The ZAR depreciated from R13.93 in the beginning of the year to a record high level of R19.35 against the USD in early April - equating to a loss of 38.90% as the crisis intensified. The weakness of ZAR; amongst others, also reflected weak domestic fundamentals and the downgrade of South Africa's sovereign rating by both Moody's and S&P rating agencies. The disruption in the FX market was further exacerbated by the subsequent exclusion of South African bonds from the Global Bond Index (WGBI), adversely impacting the ZAR and the local bond markets.

The USDZAR bid-offer spread increased from a daily average of R0.1600 in February to a high of R0.47 during the month of March, as the country imposed a lockdown in an effort to contain the spread of the virus. In addition, the USDZAR 3-month implied volatility increased from 13.20% to 24.34%, the highest level since November 2011.

Post South Africa’s exclusion from the WGBI in the month of May 2020, market conditions stabilised somewhat on improved global risk sentiment. Sentiment was supported by fiscal and monetary stimulus in advanced economies as well as market optimism around over the re-opening of economies, which spurred hopes of a global economic recovery. The ZAR recovered nearly 40% of its losses against the USD to trade around R17.00 and briefly touching R16.3600, supported by the positive global backdrop. The rand has since weakened to level R17,00 as EM currencies weakened on mounting concerns over a second wave of COVID-19 infection rates globally.

Domestic forward market conditions

Similar to the trend observed in the spot market, the spread in the forward market widened as the demand for USD against the rand (ZAR) increased, creating USD liquidity funding stress.

In the forward market, the FX implied rates spiked by more than 300 basis points above the repo rate in mid-March 2020, reflecting a shortage of ZAR liquidity. The ZAR liquidity conditions in the forward market improved after the South African Reserve Bank (SARB) announced the introduction of additional liquidity measures, thereby injecting liquidity in the system in order to alleviate liquidity strains which had developed in certain funding markets. Since the introduction of liquidity adding measures by the SARB, FX implied rates in the domestic market have stabilised and funding conditions in the forward market has since normalised. However, the FX implied rates remain highly volatile, amid persistent uncertainties in the global markets.

The ZAR cross-currency basis swap spread, used to indicate liquidity conditions in USD funding markets, fell sharply into the negative territory. In the meanwhile, the USD funding conditions appears to show some improvement after the Federal Reserve (Fed) established swap lines with some EM countries while at the same time, the New York Fed introduced the Foreign and International Monetary Authorities (FIMA) facility.

Conclusion

Conditions in the domestic foreign exchange market continue to largely reflect developments in the global markets and partly idiosyncratic factors. Price discovery is evident in both spot and forward markets, with liquidity providers or market makers quoting bid and offer prices despite highly volatile global financial markets .

The Current Trend of FX market in South Korea

June 16, 2020

1. FX market

☐ In March, USD/KRW exchange rate(won) and its volatility dramatically rose due to the spread of COVID-19 and greatly heightened risk aversion giving rise to a heavy fall of global stock and oil prices, showing a record high number since 2008 global financial crisis.

- However, after the release of BOK's USD dollar liquidity arrangement with the Fed and major countries' aggressive measures including a variety of fiscal and monetary policies by the U.S., the USD/KRW rate sustainably fell and its volatility stabilized at a fast pace.

- Since April, USD/KRW rate has fluctuated in the range from 1,210 to 1,240 following the development of COVID-19 and US-China conflicts.

  * USD/KRW Rate(won): 1,213.7 end of Feb → 1,285.7 on Mar. 19 → 1,218.2 end of April → 1,238.5 end of May → 1,207.0 on June. 16

☐ In FX swap market, the USD/KRW cross-currency swap basis recovered from its lowest level in mid-March to its previous level thanks to the improvement of USD liquidity condition influenced by interest rate difference between the U.S. and South Korea back to plus territory and the provision of USD by the BOK using the proceeds of swap transaction with the FED.

- In March, the BOK signed a 60 billion dollar-bilateral currency swap arrangement with the Fed amid surging demand for US dollars due to expanded risk aversion in the global financial markets. It then conducted competitive US dollar loan facility auctions using the proceeds of swap transactions, for the first time since the global financial crisis, providing about 20 billion dollars from end of March to early May.

- FX market stability rules were applied flexibly in consideration of the FX liquidity conditions of financial institutions. Amid growing concerns over domestic FX liquidity conditions, the BOK raised the ceilings on the FX derivatives positions of banks by 25% and lowered the FX liquidity coverage ratio by 10% points, effective temporarily until the end of September. In addition, the Bank temporarily lifted the levy on financial institutions' non-deposit FX liabilities.

  * Swap basis(3M, bp): -23 end of Feb → -270 on Mar. 24 → -83 end of April → -30 end of May → -82 on June. 16

□ In the future, if necessary, the BOK may conduct appropriate measures including additional auctions of USD loan and smoothing operation in FX market in consideration of global financial sentiment.

2. GFXC code

□ Seoul FXC code and domestic institutions' bylaws properly reflected the revision of GFXC code as we mentioned in previous meetings. Any progress has not taken relating to GFXC, mainly focusing on electronic trades which is not common in domestic FX market.

Zurich, 15 June 2020

Swiss FX Committee (SFXC) view on FX market conditions

1. Operational set-up

Many market participants in Switzerland/Liechtenstein activated Business Continuity Measures (BCM) early in the crisis, with the main objective to ensure continuity of front- and back-office operations throughout the pandemic. Most market participants achieved this by splitting teams, primarily between different office locations or, alternatively, between the office and employees' homes (teleworking). In some cases where trading activities were conducted from home, this required temporary amendments to off-premises dealing policies. Among the market participants continuing to use office locations, some prepared plans to move to home-based trading in case pandemic risks and responses by public health authorities would escalate - to date, the activation of these plans was not necessary.

Operationally, the spreading of staff across multiple locations went smoothly and participants reported that they were generally able to maintain their trading activities without interruption, for both market making and client-facing activities. There were no broader network or IT issues reported. Some market participants noted that for teleworking arrangements, the recording of relevant client communication via telephone was no longer possible. Overall, the regular testing of secondary locations and remote access solutions before the crisis proved to be very valuable.

As the Swiss government eased Coronavirus restrictions as of 6 June, many market participants plan to gradually move staff back to their primary working locations. However, a substantial number of staff will continue to work under current arrangements for a considerable period.

2. FX market conditions in Switzerland

Market participants report that the FX spot market continued to function well overall throughout March and April as asset prices adjusted rapidly to the pandemic. Nevertheless, clear signs of stress showed up: FX turnover rose sharply, and to some degree migrated to primary markets; volatility in major FX spot rates rose by roughly 3 to 4 times; liquidity as measured by bid-ask spreads and the depth of the order book deteriorated (chart 1). Market participants noted that during the height of the crisis in March, it became increasingly difficult to execute FX swaps in a meaningful size, especially when the USD was one of the currencies involved.

Notwithstanding this stress, FX desks were able to execute their transactions successfully and reported adequate liquidity available at most times. However, best execution became more challenging as traders had to navigate greater uncertainty (i.e. higher market risk) and higher trading costs (i.e. wider bid-ask spreads and larger market impact). The choice of liquidity provider became more important with greater dispersion between quotes across FX spot and derivatives instruments. While bid-ask spreads for FX spot and derivatives widened during the pandemic, the top-of-book spreads in FX spot did not appear outsized once adjusted for elevated spot price volatility.

With respect to execution channels, request for quote (RFQ) remained cost effective for smaller orders. However, the cost of transferring risk for larger orders rose relatively more, reflecting lower order book depth. In this context, some market participants note that FX desks may have increased their use of electronic and algorithmic trade execution. Other reasons cited for this increase are the operational benefits while dealing in a home setup, e.g. no need for telephone contacts and the availability of execution data to assess best execution on a post-trade basis. Some noted that spillovers from disruptions in trading in other asses classes affected their treasury and FX hedging activities. The statement of the GFXC on 26 March regarding FX market conditions was seen as helpful by Swiss market participants.

3. CHF market conditions

CHF spot rate and spot volumes: as risk aversion rose, safe haven currencies such as the CHF appreciated (chart 2). Concerns about the cohesion of the euro area weighed on the EUR in March, April and early May. Against this backdrop, interest in EURCHF short positions increased significantly. With the improvement in risk sentiment and the EU recovery fund proposal, the CHF reversed some of its gains since mid-May.

Turnover on EBS in CHF pairs roughly doubled between February and March, with the daily average rising from $2.5bn to $4.9bn for USDCHF and from €1.4bn to €2.9bn for EURCHF. Turnover on secondary ECNs did not match the doubling of volumes on EBS, indicating that the share of the primary market was elevated during the crisis. For most currency pairs, turnover normalized thereafter, with the exception of EURCHF.

CHF options market: The rise in realized volatility was matched by option-implied volatilities: annualized 3M implied at-the-money volatility in USDCHF surged from around 5% in mid-February to 12% at its peak on 19 March; EURCHF volatility also increased, jumping from around 4% to over 8% (chart 3). Option-implied volatility normalised rather quickly after these peaks. Risk reversals (3M) in USDCHF dropped to a record low and in EURCHF to the lowest level since early 2017. This indicates that hedging and/or speculative demand against/for further CHF appreciation remained high until May.

CHF FX swap market: Alongside a tightening in USD funding markets, the FX swap basis in USD pairs (including USDCHF) rose sharply in March (chart 4). Other indicators also suggested rising stress in FX swap markets including wider spreads, especially for larger-sized quote requests, and elevated differences between quotes to different customer groups (chart 5). Central bank actions in late March, including the expansion of terms/frequency and the easing of conditions in USD provision through the bilateral swap lines, stabilized FX swap markets. While demand at the SNB's USD auctions was initially strong, it gradually dissipated over April as the basis and general market conditions normalized (chart 6).

Chart 1 – Turnover and Bid-ask Spreads – March and April 2020

Monthly averages relative to reference period average (%)

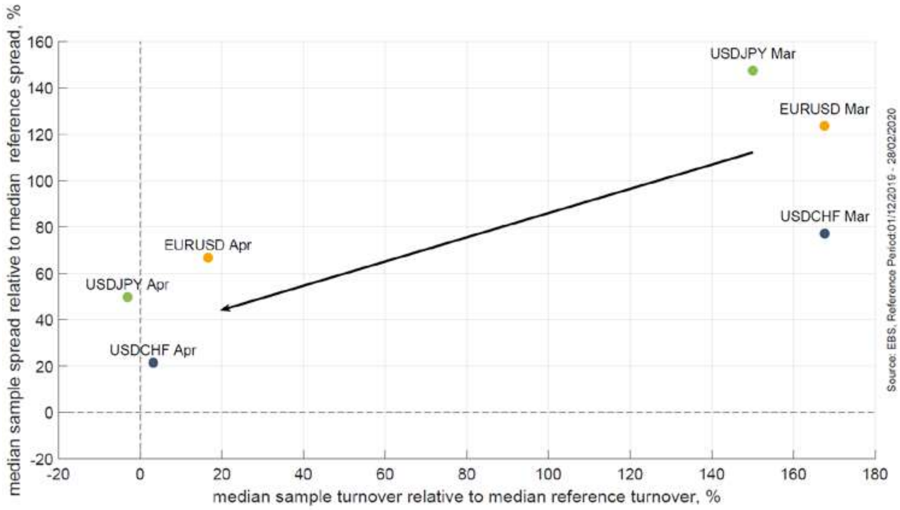


Chart 2 – Trade-weighted Indices (% change since beginning of 2020)

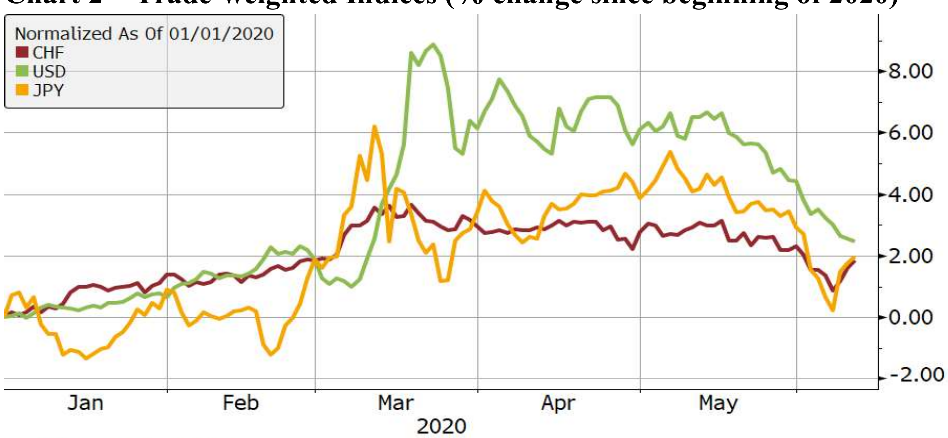


Chart 3 – 3-month At-the-money Option-implied Volatility (% pts)

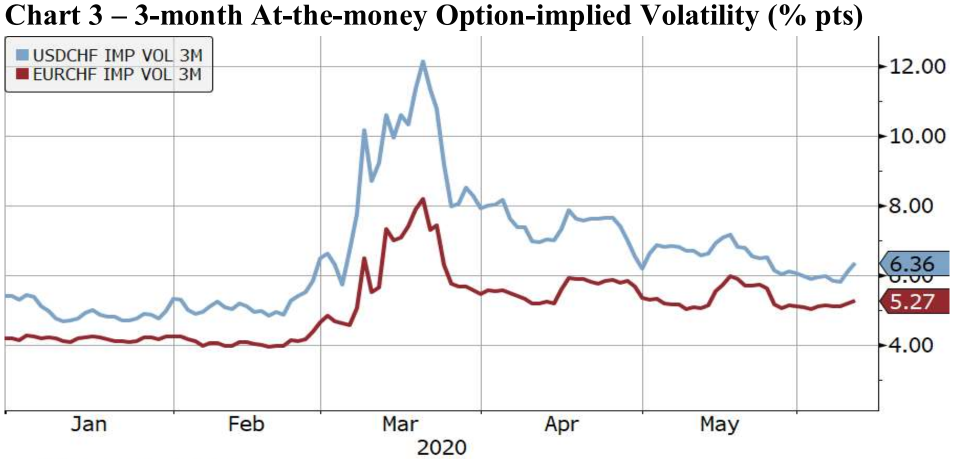
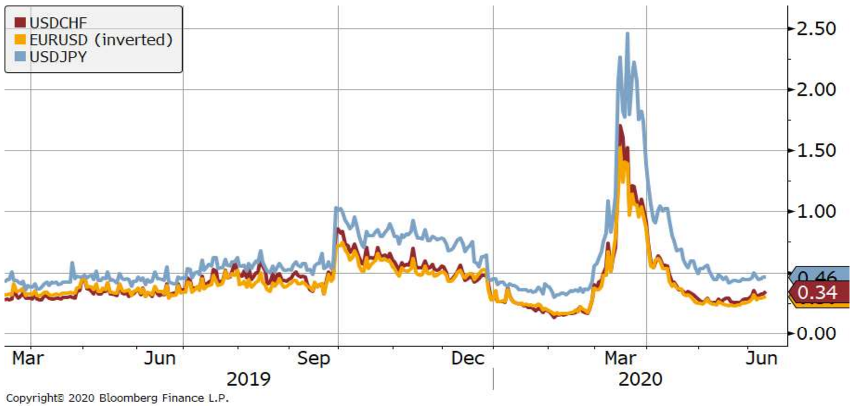


Chart 4 – 3-month FX Swap Basis (% pts)*



*Calculated using OIS rates

Chart 5 – CHF pairs FX Swap Bid-ask Spreads (basis points)

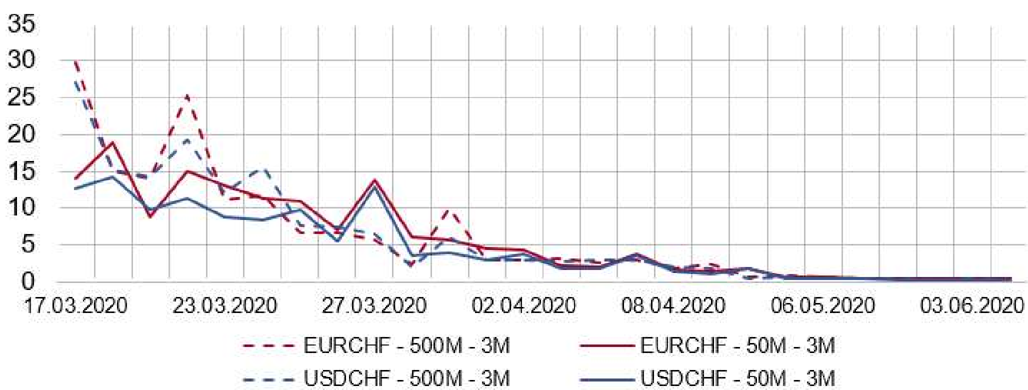
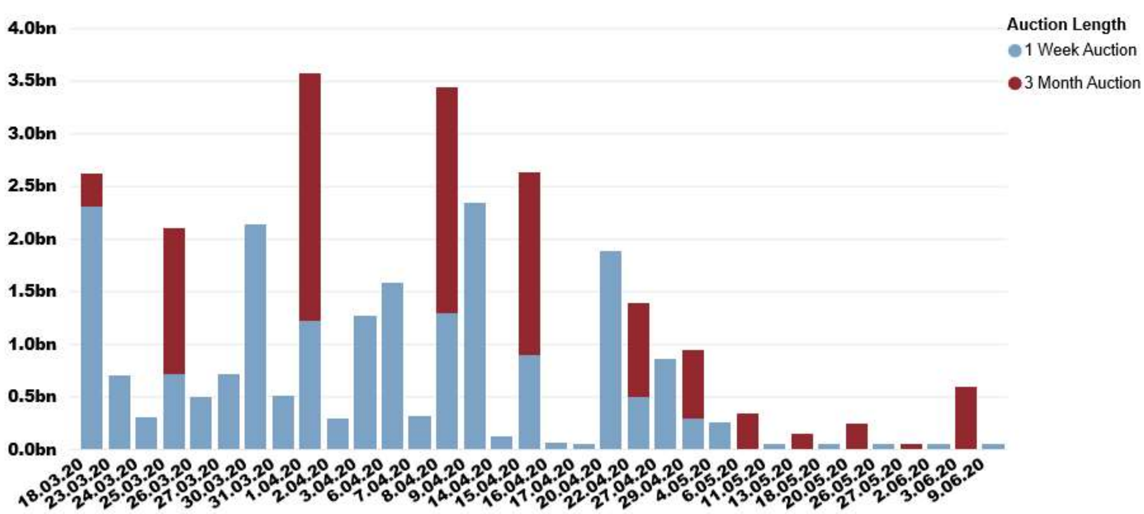


Chart 6 – SNB's USD Auction Volumes (US$ billion)



GFXC Conference Call – 22 June 2020

Update on FX Market Conditions

London Foreign Exchange Joint Standing Committee

Market Conditions

- End-2019 and early-2020 (since the previous GFXC meeting in December) saw markets largely continue the low volatility trend observed in recent years.

- By early-March a sharp rise in volatility had been observed across asset classes – equity, fixed income and FX, including emerging market currencies – as Covid-19 took hold.

- During the first half of March, FX market conditions deteriorated as the impact of Covid-19 deepened, with increased volatility and a widening of spreads observed in all markets, particularly in lesser traded currency pairs and FX swaps.

- FX spot volumes traded were very high at times and although prices experienced some extreme intraday volatility, market function appeared to be orderly with no notable issues. The FX swap market had been more impaired as broader demand for US dollar liquidity increased.

- Market conditions and liquidity improved considerably after central banks announced enhancements to the provision of liquidity via standing US dollar liquidity swap-line arrangements. This included introducing new US dollar repo operations with an 84-day maturity at a weekly frequency, lowering the price of all swap-line-funded facilities, as well as increasing the frequency of 7 day maturity US dollar repo operations to daily.

- Liquidity nevertheless remained challenging in places. Conditions in FX spot and forward markets have recovered but not quite to the levels seen pre-Covid-19. US dollar funding markets have now stabilised, and forward pricing has normalised across asset classes.

Benchmarks

- Market participants responded positively to the GFXC Statement in March re month-end fixings and reported that month-end fixings had functioned effectively.

- Some market participants and market commentators have suggested that recent volatility highlights structural issues regarding benchmark fixings including: potential signalling risk, undue market impact, and barriers to change.

Algorithmic Execution

- The challenging market conditions have seen demand for execution algorithms increase. Some market participants expanding their existing use of algorithms, and others using algorithms for the first time.

foreign exchange committee
FXC

June 16, 2020

FX Conditions Summary for Global Foreign Exchange Committee

The following summarizes the NY FXC's discussions on conditions in spot FX and dollar funding markets, in the wake of the COVID-19 related market volatility.

Spot FX Liquidity

- Despite a significant increase in FX volatility and deterioration of market conditions in March, spot FX continued to function well, especially compared to other asset classes. Conditions have gradually improved in both G10 and to a lesser extent EM currencies, though measures such as spreads and depth have not fully returned to Jan/Feb levels.
- Liquidity conditions varied based on currency pair, with particular emerging market and oil-sensitive currencies experiencing more acute and prolonged bouts of challenged liquidity. Options markets have also had a slower return to normalcy than spot.
- After observing extremely high FX trading volumes in March, spot volumes declined substantially in April, due in large part to firms operating in a remote environment.
- While remote-working arrangements contributed to the deterioration in liquidity conditions, no major systemic issues were reported. Overall, the FX ecosystem remained resilient throughout the past months (prime brokerage, back-office functioning, etc). That said, current arrangements could be tested in the future in the event of a sharp resurgence of volatility, as severe market volatility in March had already moderated by the time most firms were almost entirely working from home (WFH).
- Market conditions over quarter-end (31 March) were resilient in North American hours, though there was observed volatility in some currencies at the Tokyo fix. In anticipation of the event, market participants seemed to have planned ahead of the quarter-end by proactively executing month-end related trades prior to the 31st and increasing usage of buy-side (peer-to-peer) platforms. This behavior was likely encouraged, in part, by the GFXC statement.

Dollar Funding

- Conditions in dollar-funding deteriorated in late March against the backdrop of corporate drawdowns of credit lines and margin calls.
- The Federal Reserve's expansion of the frequency, tenors and scope of the central bank liquidity swap line operations supported a narrowing of FX swap basis spreads. Near-dated basis spreads in major currency pairs have mostly returned to pre-COVID levels.
- Dollar LIBOR-OIS spreads have compressed significantly, supported by the swap lines, increased corporate issuance which spurred additional CP demand, and, more recently, money fund inflows. These spreads had remained somewhat stickier (compared to the FX basis) earlier in the spring, as the CPFF became operational in mid-April.