Bond Market Stress and Policy Responses in the EMEAP Region during COVID-19

EMEAP Working Group on Financial Markets

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Members

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[1] EMEAP, established in 1991, is a cooperative organization of central banks and monetary authorities in the East Asia and Pacific region. Its primary objective is to strengthen the cooperative relationship among its members. It comprises the central banks of eleven economies: Australia, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, New Zealand, the Philippines, Singapore, and Thailand.

[2] The WGFM studies financial market developments in EMEAP member jurisdictions as well as on ad-hoc topics that may arise from time to time, promotes local currency denominated bond markets through the Asian Bond Fund initiative, and serves as a platform to exchange views on market conditions among member central banks.

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Executive Summary

Bond markets in most EMEAP economies experienced stress conditions during March/April 2020 along with the global market turmoil. This was manifested in, for example, spikes in bond yields and credit spreads, widening bid-ask spreads for government bonds, sharp bond funds outflows, stretched bond dealers' capacity to intermediate, and lukewarm appetite for government bond auctions along with a significant drop in corporate issuances.

Bond market stress in the EMEAP region in March/April 2020 was caused by a confluence of external and domestic factors:

- EMEAP government bond markets co-moved with the US Treasury market, with both experiencing stress in March 2020. This reflected the US Treasury market being the global benchmark for asset prices and the growing integration of regional markets with the global system. The global de-risking and USD funding strains also led to heightened demand for liquidity, and in turn contributed to a significant sell-off in regional bond markets.
- Global and domestic non-bank financial intermediaries (NBFIs) in some EMEAP jurisdictions, such as investment funds and asset managers, have played a role in transmitting or amplifying the shock as they sold off domestic bonds to raise liquidity to meet margin calls and redemption pressures amid the dash-for-cash environment globally.
- Emerging markets (EM) in the region with significant foreign investor participation in their local currency bond markets experienced a brief self-reinforcing cycle of currency depreciation, bond fund outflows and rising bond yields. This was especially evident in the sharp unwinding of market positions by foreign investors, who may not have hedged their currency risk.
- Other developments also played a part in the regional bond market stresses, including the worsening economic outlook, elevated credit risk, domestic COVID-19 developments, contingency work arrangements, and expectations of a substantial increase in government bond supply.

EMEAP central banks responded swiftly to the bond market stress with various policy actions, including asset purchases, new liquidity facilities, enhanced access to existing facilities and monetary policy easing. A number of these policy actions were actually implemented by EMEAP members for the first time.

- **Government bond market:** A majority of EMEAP members purchased government bonds, with different policy objectives. For EM central banks, the main objectives were to stabilise the bond markets. For the advanced economies (AEs), the main objectives were both stabilising the market and monetary easing.
- **Corporate bond market:** A few EMEAP jurisdictions have either expanded the existing corporate bond purchase programmes or rolled out new ones. Some also introduced new liquidity facilities to support the corporate bond markets.

EMEAP members were mindful of the policy challenges, potential risks and negative side-effects associated with their interventions in the bond markets. Hence they were careful in designing and adjusting the policy measures. To prevent moral hazard and over-reliance of market participants on central bank measures, EMEAP central banks adjusted the size and/or pricing of their intervention in the government/corporate bond markets as market conditions improved. With similar concerns, a corporate bond purchase programme rolled out by an EMEAP member was also designed to require corporates to seek market funding first before requesting funding from the central bank.

In addition, clear communication and transparency regarding policy objectives, principles and governance were needed to allay any concerns over monetary financing of fiscal or corporate debts. Meanwhile, to reduce the financial risks to central bank and public money, some EMEAP central banks have put in place risk sharing or mitigation arrangements.

EMEAP central banks' policy actions have succeeded in restoring functioning and confidence in the bond markets, along with the stabilisation of global market conditions on the back of interventions by central banks in AEs, notably the US Federal Reserve. EMEAP members viewed that both their actual policy responses and the announcement effects were important in stabilising the bond markets at the height of the crisis. Government bond yields in the region gradually declined after April 2020, with bid-ask spreads also narrowing. Bid-to-cover ratios for government bond auctions have recovered. Recovery in the corporate bond market was slower, reflecting the lingering credit risk concern amid COVID-19. Credit spreads were elevated for some time while issuance recovered gradually.

Some of these policy measures to support bond markets have been exited while some others remain in place. The continuation of some policy measures and the option to reinstate the exited policy measures could enhance central banks' capability to quickly respond to future market stress and strengthen the resilience of the market to adverse shocks.

- As market conditions have improved, the new liquidity facilities rolled out by EMEAP central banks to stabilise corporate bond markets or support mutual funds have been exited as the need for emergency funding has reduced. Two member central banks have halted government bond purchases in the light of progress in economic recovery, while other EMEAP central banks have generally reduced the government bond purchases which were to support market functioning. Some policy measures that have been ended could be reinstated in future.
- On the other hand, EMEAP central banks have maintained some policy measures for a longer time. For example, one member has extended its corporate bond purchase programme and another one has maintained the expanded range of eligible collateral for repurchase operations. Some EMEAP members maintain the purchase of government bonds as part of monetary policy tools, and also as a potential tool that could be used to stabilise the market.

The COVID-19 experience offered a number of lessons learnt for central banks, with respect to bond market resilience and calibrating policy responses to future stress episodes.

- EMEAP bond markets are susceptible to global shocks, given the interconnectedness of the global financial system, activities of global and domestic NBFIs and participation of foreign investors. These point to the importance of strengthening the resilience of the bond markets to future shocks ex-ante, which would lessen the need for central bank intervention.

  - EMEAP members have continued to closely monitor the bond markets and financial markets more broadly. In view of the potential risks associated with NBFIs, some EMEAP jurisdictions have stepped up to strengthen the liquidity risk management of investment funds.
  - The March/April 2020 stress episode demonstrated that a strong domestic investor base could be a stabilising force for the bond market amid flight of foreign investors.

- Bond markets could become dysfunctional in very stressful events and thereby threaten effective financial intermediation. Central bank policymaking shall take this into account, with due consideration of the market conditions, policy trade-offs and overall economic situation.
- Both asset purchase and liquidity facilities can be useful tools in addressing bond market dysfunction.
  - EMEAP members' experience in designing and implementing these policy tools suggested that the intervention should be temporary in nature to mitigate moral hazard. Pricing of purchases or facilities should be set in a way that incentivises market participants to utilise market channels. Similarly, for programmes to support corporate financing, a co-financing arrangement could be put in place to reduce the reliance on central bank funding. Intervention should also be flexibly adjusted to reduce the level of policy support as market conditions improved.
  - Furthermore, communication and transparency are important to alleviate concerns over central bank independence and moral hazard. The communication strategy needs to be carefully crafted to provide the market with confidence during very stressful market conditions while avoiding the perception that there will be a permanent backstop, and allowing central banks to retain some flexibility in intervention.
  - Close coordination with government and other financial regulators is also needed for effective and multi-faceted policy responses. Such coordination would also help address the risks associated with NBFIs such as investment funds as they may not fall under central bank's regulatory remit.
  - The decision to exit or extend policy measures shall be guided by careful assessments of market and economic conditions, stated policy objectives and utilisation. Clear, transparent and advance communication could help manage public expectations on policy exit.
- The experience also underscores the benefits of having a wider range of policy tools available or policy tools that could be reinstated quickly.

Collaboration among EMEAP members would continue to be beneficial. For example, EMEAP members could further explore specific issues highlighted in this report (e.g. the spillover of foreign shocks to the region; potential risks and policy implications regarding the developments of NBFIs), the design and implementation of crisis response tools, and communication challenges.

1. Introduction

A well-functioning bond market is critical to effective credit intermediation and the importance of the bond market as a funding source has been growing in the EMEAP region. It helps corporates to diversify their funding sources, in addition to bank loans and equity financing. Governments tap the bond markets to finance their spending, even more so since the outbreak of COVID-19 as fiscal spending has burgeoned to arrest the economic decline. In March 2020, as the COVID-19 virus spread globally, global financial markets were shaken, with extreme risk aversion and "dash for cash". Bond markets in a number of EMEAP economies were also under stress. With the bond market playing an increasingly critical role, the bond market stress during March 2020 amid the global market turmoil posed various concerns to authorities in the region.

Bond markets in the region have gradually recovered owing to the swift actions of central banks and governments in the region and globally. However, the episode revealed that bond markets in the region remain susceptible to global shocks, notwithstanding the much improved banking sector resilience and macro fundamentals and reduced currency and liquidity mismatches of borrowers in the region. With the lingering COVID-19 pandemic and ongoing monetary policy normalisation by major central banks, the global risk-on/risk-off sentiment and potential tightening in global financial conditions may again destabilise bond markets and financial stability in the region.

In the face of these challenges, EMEAP members have maintained frequent dialogue and remained vigilant against renewed rounds of financial market turmoil and capital flow volatilities. Although the next stress episode may be different, a review of the bond market stress in the EMEAP region during March 2020 and the relevant policy responses could provide policymakers with better understanding of the market dynamics under stress conditions, and lessons learnt for future stress episodes. Such a review could also offer some insights into strengthening resilience of bond markets in the longer term.

At the same time, a focussed study on the Asia-Pacific bond markets could contribute to international discussions on COVID-19-related market stress and issues surrounding non-bank financial intermediaries (NBFI).

This report first reviews the developments of bond markets in the EMEAP region during March-April 2020 (Section 2). In Sections 3-6, the report documents the major policy measures relevant to the bond markets in the region, the policy challenges and effectiveness, and the ongoing discussion on policy exit/continuation. Section 7 offers a number of lessons learnt from the March 2020 market stress episode and Section 8 suggests some potential topics for regional collaboration on bond market-related issues.

The report has drawn on inputs from EMEAP members, including through a survey conducted in April 2021, additional inputs in December 2021-January 2022, discussions at EMEAP forum, and desktop research.

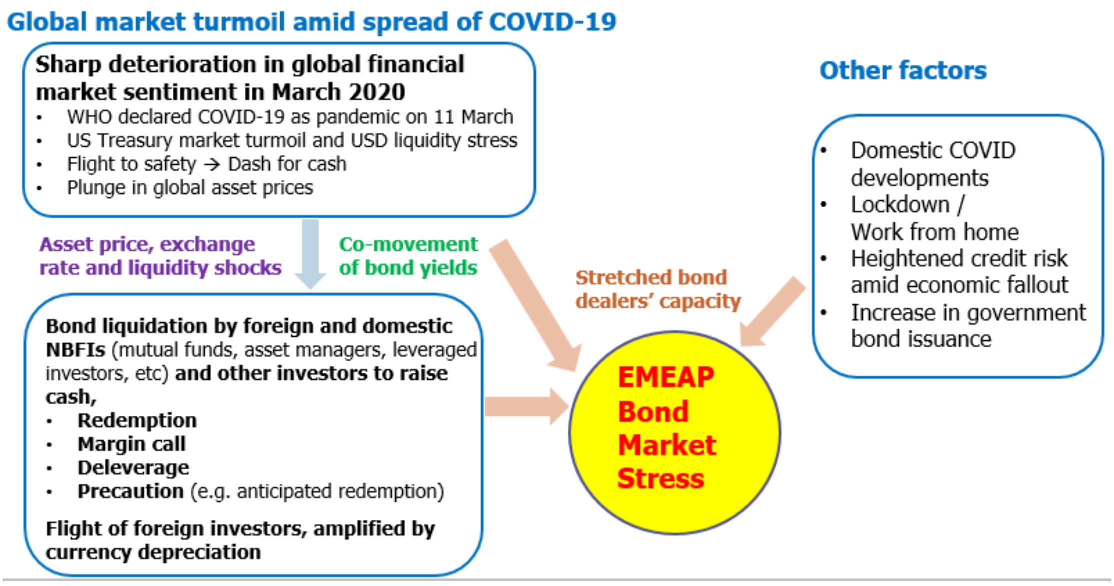
2. EMEAP bond market stress during the global market turmoil in March 2020

Bond markets in EMEAP economies were functioning orderly as the COVID-19 virus started to spread across the region in January and February 2020. Bond yields were falling along with policy rate cuts by central banks in the region and bond funds registered inflows, while equities markets and currencies in the region had begun to weaken amid a worsening regional economic outlook.

However, as the virus spread globally and the World Health Organization declared the COVID-19 outbreak a pandemic on 11 March 2020, global financial markets were shaken, with a "dash for cash" and massive sell-off of both risky and relatively safe assets to obtain cash or cash-like instruments amid extreme risk aversion. Core funding markets, including the US Treasury market, were under severe stress. Most currencies had depreciated against the USD and FX/cross-currency basis swap spreads vis-à-vis USD had widened sharply amid heightened demand for USD liquidity. Portfolio outflows from bond funds and equity funds were drastic globally.[3]

The shock waves soon reached the EMEAP region, resulting in deterioration in bond market functioning. Chart 1 presents a stylised map highlighting the key factors contributing to the bond market stress in the region in March 2020, which will be discussed below.[4]

Chart 1: A stylised map of the March 2020 bond market stress



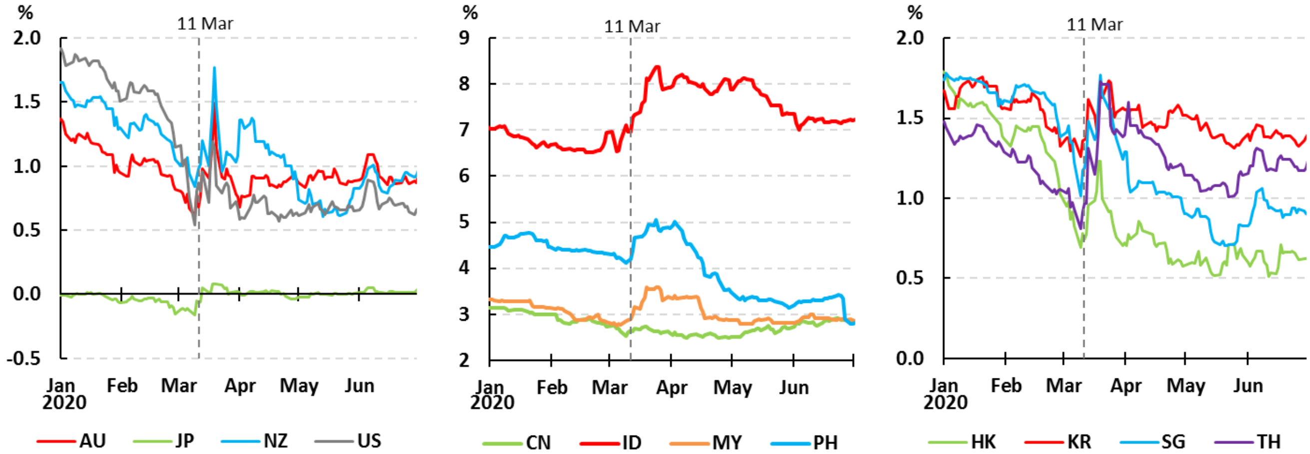
[3] See Financial Stability Board (FSB) (2020) for a detailed account of the March 2020 global market turmoil.
[4] The various global and domestic factors varied in importance across EMEAP jurisdictions in accounting for the bond market stress in March-April 2020. In general, most EMEAP members pointed out that the deterioration in global financial conditions/ "dash for cash" and asset price shock have impacted their bond markets, although a few members noted that their bond markets were more affected by domestic developments. Given the fact that government and corporate bonds in the region were mainly denominated in local currency, the report will focus on local currency bond market segments.

Government bonds in the EMEAP region co-moved with the US Treasuries

While the US Treasury market experienced dislocation in the second and third weeks of March 2020, the EMEAP bond markets were also under stress in the period. Local currency government bond yields in the region spiked around 12/13 March and stayed elevated for a week or two (Chart 2), while bid-ask spreads of benchmark government bonds also widened at the same time (Chart 3), indicating a decline in liquidity in the bond markets. In the primary market, government bond auctions conducted in the most stressful weeks in March (i.e. 11-31 March) tended to receive lukewarm demand, with bid-to-cover ratio generally lower compared with auctions of similar tenors earlier in the year (Chart 4).

Chart 2: Government bond yields spiked in mid-March

10-year government bond yields

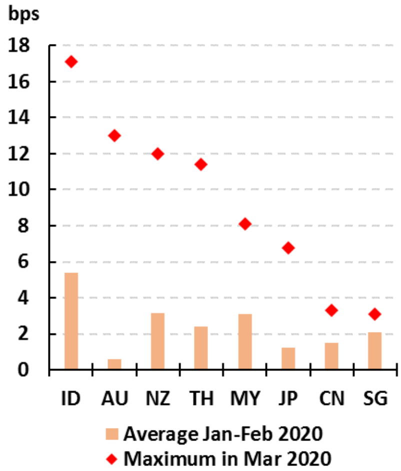


Sources: Bloomberg; National data.

The co-movement between sovereign yields in the US and the EMEAP region reflected the US Treasury market being a benchmark for global bond markets, and the fact that the region has become increasingly integrated with global financial markets. It was observed that over the last decade or so, government bond yields of EMEAP economies have increasingly co-moved with the US Treasury yields (Chart 5), and risk premium was an important channel of the spillover of US Treasury yields to emerging Asia local currency bond yields, indicating that investors required a higher compensation for holding emerging market economy (EME) bonds during stress times.[5]

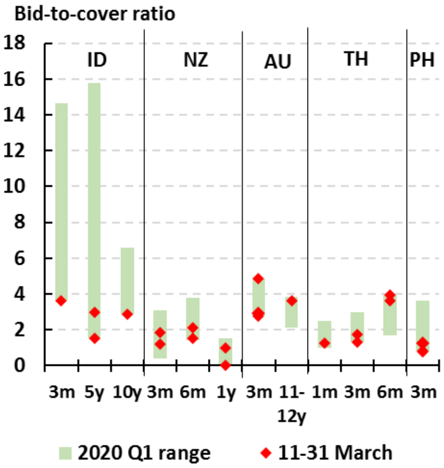
[5] See, for example, discussions in Bank for International Settlements (BIS) (2020) and Yiu et al (2020).

Chart 3: Bid-ask spread widened a lot



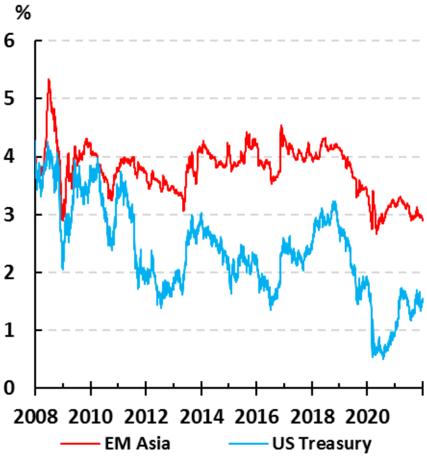
Sources: Bloomberg; National data

Chart 4: Lower appetite for government securities auctions during the most stressful weeks



Note: Selected jurisdictions and tenors with more auctions held in the period. BOT bills for Thailand; government bills/bonds for others.
Sources: National data; EMEAP calculations

Chart 5: EMEAP bond yields tend to co-move with the US Treasury yield



Note: JP Morgan Government Bond Index – EM Asia, 7-10 years yield. 10-year US Treasury yields.
Sources: Bloomberg; JP Morgan

Global "dash for cash" and de-risking hit the EMEAP bond markets, with NBFIs also playing a role

The USD liquidity strain, "dash for cash" and de-risking globally had led market participants to liquidate financial assets to obtain USD and cash more broadly. Among them were NBFIs, including money market funds, open-ended funds, hedge funds and leveraged investors, which liquidated assets to reduce leverage, to meet margin calls, or to meet realised and anticipated redemption demand.[6]

While the presence of these non-bank players was generally more significant in the US and Europe, their behaviours could have propagated the market stress across borders under an interconnected global financial system. For instance, BOJ's analysis suggested that Japanese financial institutions were adversely affected due to overlap of assets held by domestic and foreign entities, even if activities of NBFIs in Japan's financial system were limited.[7] Further, amid the March 2020 global sell-off, EM bond funds were found to be more prone to selling as EM bonds are typically considered less liquid assets compared with AE bonds.[8]

In some EMEAP jurisdictions, domestic NBFIs also played a role in transmitting the global shock to domestic bond markets during March 2020, as they had exposures to foreign assets or were adversely affected by the global market turmoil.

[6] See FSB (2020) for more discussion on the role played by NBFIs in the global market turmoil in March 2020. In view of the crucial roles of NBFI in the market turmoil, the FSB has initiated its work programme on NBFI aiming to enhance the resilience of the NBFI sector while preserving its benefits.
[7] BOJ (2021).
[8] Schrimpf et al (2021).

The BOT reported that a few fixed income funds that largely invested in foreign bonds were hard hit in March 2020 amid the global asset price shock.[9] With redemption pressure, these funds sold liquid assets such as short and long-term domestic government bonds, and corporate bonds. Mutual funds, which are usually net buyers in the government bond market, also contributed to large-scale selloffs, while retail investors who generally purchase corporate bonds in lower rating categories became inactive and preferred to hoard cash instead.

In Korea, securities companies sold commercial papers and short-term bonds to meet margin calls related to equity-linked securities (underlying assets included US, European and Asian equities) due to the global stock market slump.[10] In New Zealand, the RBNZ observed that some investment funds and asset managers pre-emptively sold assets to obtain liquidity in preparation for redemption, though the redemption did not realise eventually.

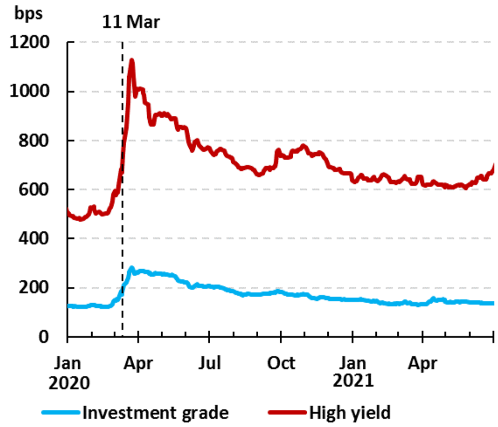
At the same time, leveraged investment strategies employed by some NBFIs also had a pro-cyclical effect. For example, in Australia, among those selling government bonds were investors with leveraged positions that had been trading the bond futures basis. As the government bond market became dislocated, they were forced to unwind trades to meet margin calls or internal risk limits, exacerbating the stress in bond market.[11]

EMEAP members also reported selling of bonds by asset managers, trust entities, banks, institutional and retail investors in the region, and from abroad. With the overwhelming selling pressure, bond market functioning in the EMEAP region generally deteriorated. Even government bond markets became dysfunctional in several EMEAP jurisdictions, as evidenced by the indicators aforementioned.

Corporate bond markets were hard hit with the spillover from government bond markets and extreme risk aversion, in particular for sectors most affected by the pandemic (e.g. air transport and hospitality) and lower-rated bonds or bonds with "fallen-angel" risks. Corporate bond spreads widened (Chart 6) and some EMEAP jurisdictions saw corporate bond issuance significantly lower around March and April 2020.[12] With the worsening economic outlook, there were 181 credit rating downgrades in March for non-financial corporates in the region, compared with a total of 84 in the first two months of 2020.[13] A few EMEAP members also observed stress in local government bonds and bank bonds, with similar symptoms.

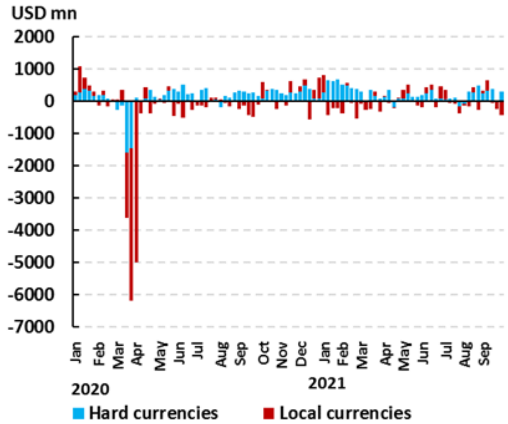
[9] The NAV of these funds fell by around 10%-55% from December 2019 to late March 2020. See Portfolio Advisor, "Eastspring liquidates funds in Asia on coronavirus outflows", 31 March 2020.
[10] See more discussion in BOK (2020).
[11] See more discussion in Finlay et al (2020).
[12] For example, in Korea, net issuance of corporate bonds rated AA or higher registered –KRW 0.6 trillion in March 2020, compared with monthly average of KRW 0.8 trillion in 2019 (See BOK (2020), Box II-1); in Singapore, there was no USD-denominated non-financial corporate bond issuance in March 2020, and only two SGD-denominated bonds were issued, with an aggregate value of SGD 0.25 billion, compared with over SGD 4 billion and over SGD 1 billion respectively in January and February 2020 (See MAS (2020), Box A).
[13] Include rating actions of the major three credit rating agencies (S&P, Moody's and Fitch) and those active in the region (e.g. Dagong, JCR, KIS, MARC, PEFIN).

Chart 6: Corporate bond spreads widened



Note: Sub-indices of JP Morgan Asia Credit Index. USD bonds in Asia ex-Japan. Spread over US Treasury yields.
Source: JP Morgan

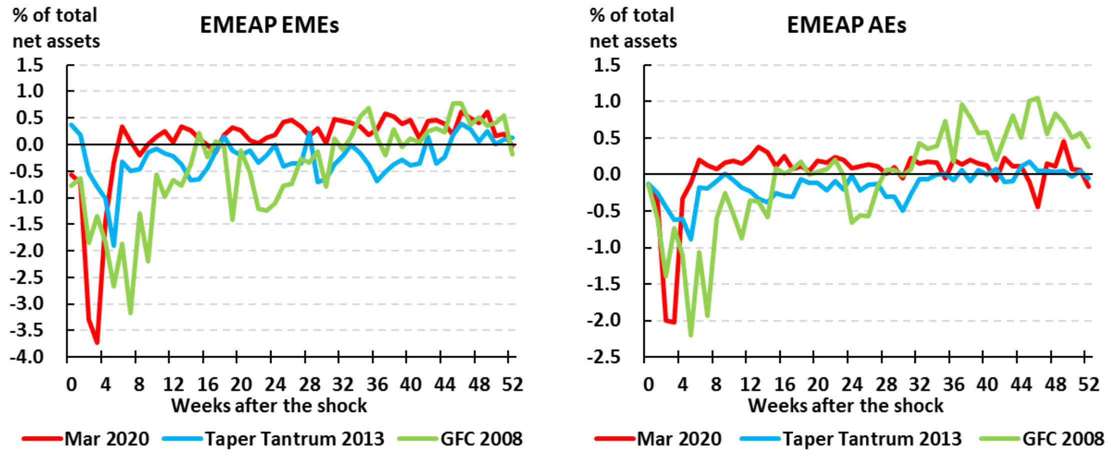
Chart 7: Drastic bond portfolio outflows in both hard and local currencies



Note: EM Asia, ex-China
Sources: EPFR; EMEAP calculations

The region saw drastic outflows from bond funds (both local currency and hard currency) around mid-March (Chart 7). In the most stressful two weeks in March, portfolio outflows from bond funds in the region overall amounted to around 1-4% (per week) of total net assets. This magnitude was comparable to the outflows in the first few weeks after the collapse of Lehman Brothers in September 2008 during the Global Financial Crisis (GFC) and more severe than that during Taper Tantrum in 2013. But the portfolio outflows in March 2020 were relatively brief, with inflows gradually returning in April (Chart 8).[14]

Chart 8: Sharp outflows but faster reversal in both EMEAP EMEs and AEs, compared with previous stress episodes



Note: Weekly data; simple average across jurisdictions. Time zero refers to 4 March 2020, 22 May 2013 and 10 September 2008 respectively for March 2020, Taper Tantrum and GFC episodes.
Sources: EPFR; EMEAP calculations

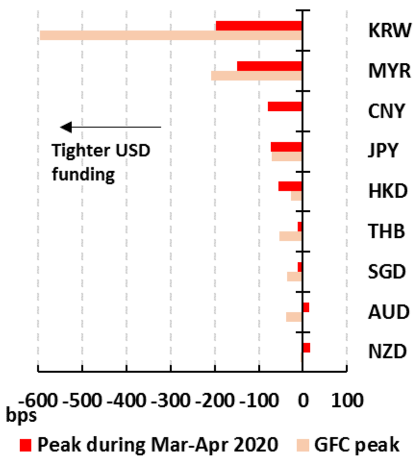
[14] The monthly portfolio flow data compiled by the Institute of International Finance also showed significant debt portfolio outflows from EMEs in the region generally during March-April 2020.

Currency depreciation, rise in bond yields and bond outflows reinforcing each other

Furthermore, EMEAP economies have seen sharp currency depreciation and some also experienced significant USD funding stress, with the cross-currency basis swap spread widening significantly (Chart 9). During the most stressful period in 10 March–31 March 2020, currencies in the region depreciated against the USD by around 2-14%.[15] Some EMEAP members noted the spillover of USD funding stress to the domestic funding market and bond market. Banks also hoarded USD liquidity to prepare for potential drawdown of committed loan facilities.

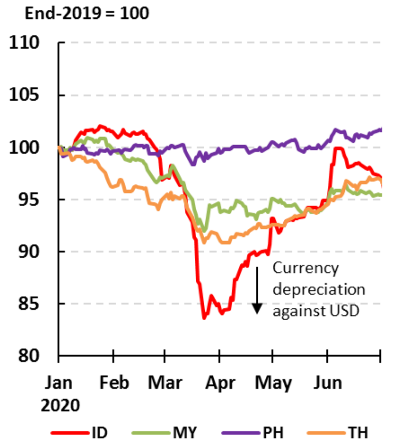
For EMEs, currency depreciation appeared to have aggravated capital outflows and the stress in local currency bond markets. Foreign portfolio investors faced amplified losses as local currency bond yields increased and local currencies depreciated, prompting them to liquidate their local currency bond holdings; this in turn led to further increases in local currency bond yields and currency depreciation.[16] Several EMEs in the region saw currency depreciation, a jump in local currency government bond yields and a significant decline in foreign investor participation in March 2020 (Charts 10-11, and Chart 2 above on bond yields).[17]

Chart 9: Cross-currency basis widened significantly



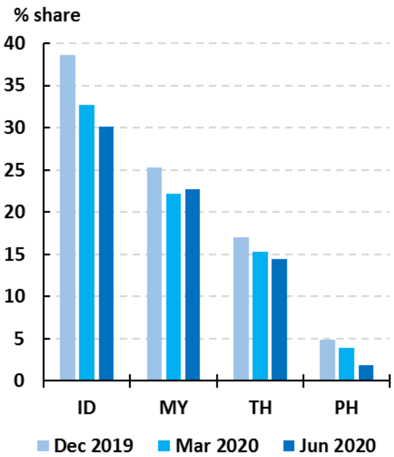
Note: 1-year cross-currency basis (against USD)
Source: Bloomberg

Chart 10: EM Currency depreciation



Sources: Bloomberg; EMEAP calculations

Chart 11: Fall in foreign investors' share in local currency government bonds



Source: AsianBondsOnline

The correlation between exchange rate and bond yields can be especially strong when foreign investors do not hedge their currency risk exposures. While data on currency risk hedging by foreign investors are limited, a few EMEAP members observed that usually a sizable proportion of local currency bond holdings by foreign investors are

[15] Changes from 10 March to trough in the period until 31 March 2020. For reference, currencies of major EMEs in other region also depreciated sharply against the USD in the period, from around 4% (INR) to close to 20% (MXN); some AE currencies also recorded double-digit depreciation against the USD (e.g. GBP).
[16] For example, see discussions in Hoffman et al (2020) and Bertaut et al (2021).
[17] For EMEAP EMEs, foreign investors mainly invested in government bond market segment while corporate bonds were mostly held by domestic investors. Also see Committee on the Global Financial System (CGFS) (2019).

unhedged as foreign investors look for currency gain in addition to higher yields (but would hedge more if expecting the local currency to depreciate). An earlier study by the Asian Development Bank (ADB) had similar findings, and revealed that hedging behaviour of foreign investors also depended on the type of investors and investment mandate of funds, e.g. whether they were tracking a hedged or unhedged benchmark index.[18]

Stretched bond dealers' capacity to intermediate amid one-sided sell-off and volatile market conditions

With the dash for cash and strong one-sided selling pressures in government and corporate bond markets, some EMEAP members and market intelligence revealed that bond dealers' capacity to undertake bond trades was stretched as their own balance sheets began to run up against internal risk limits amid turbulent market conditions, and bank dealers scaled back their market making activities. Banks also noted that liquidity in bond markets was very thin during Asian hours, with prices easily affected by a single trade. In addition, the shift to working from home for dealers impacted the trading volume in the bond markets, as dealers found it more challenging to make two-way prices promptly and some bond dealers also wanted to minimise trades amid challenging operational environment at the initial stage of pandemic. These have hampered liquidity in the bond markets.

Other developments

Some other developments have also contributed to the bond market stress in the EMEAP region. The rising infections domestically, lockdown measures and disruption to economic activities have added to the demand for liquidity while contingency work arrangements have impacted the ability of market participants to trade. On the supply side, government bond supply was anticipated to grow substantially in the EMEAP region along with massive fiscal spending to fight the pandemic, which added to the imbalance between bond supply and demand, and suppressed bond prices. Indeed, from December 2019 to June 2021, government bonds outstanding have grown by over 40% in Australia, Hong Kong, Indonesia, New Zealand and the Philippines; and by 20-30% in China, Korea, Malaysia and Thailand. Related to bond supply, market intelligence suggested that the growth in the size of the bond market in Asia relative to dealers' capacity over the past decade had also made it more challenging for bond dealers to intermediate in times of stress.

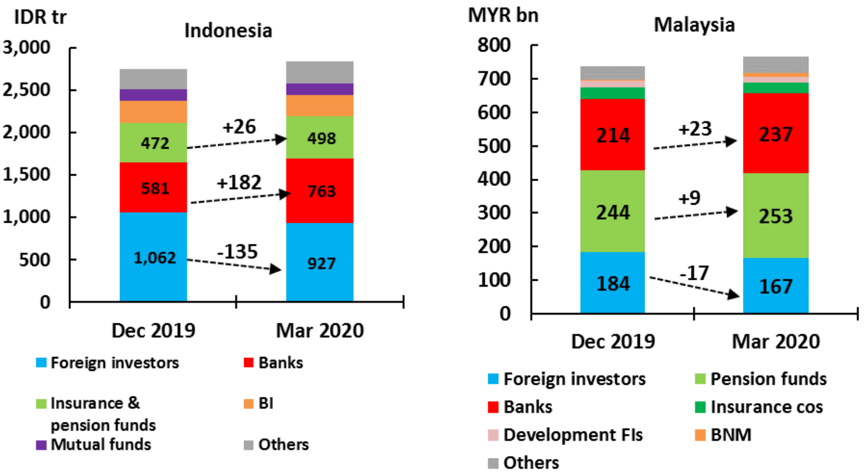
Factors alleviating the liquidity stress

On the other hand, EMEAP members have pointed out some factors that have helped alleviate the liquidity stress. A few EMEAP members observed that domestic investors were purchasing government bonds in dips when foreign investors were selling, thus providing support to the bond markets (Chart 12). Besides, the banking systems in the

[18] The ADB study was based on conversations with market participants in selected Asian economies (Korea, Indonesia, Malaysia, the Philippines and Thailand). See ADB (2015).

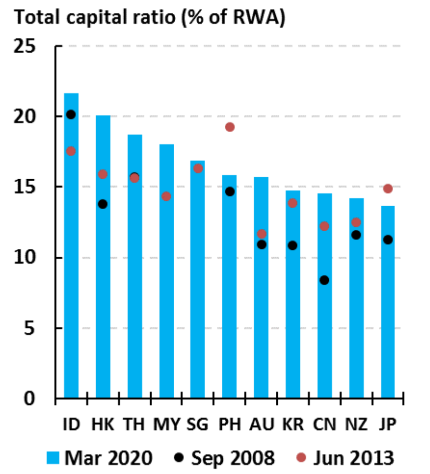
EMEAP region were generally in good shape entering the crisis, being well-capitalised and having ample liquidity, compared with previous stress episodes (Chart 13). Thus, banks were able to continue to provide funding to corporates via the available credit lines. As observed by some EMEAP members, there was an increase in drawdown of bank credit lines around that time.[19] Importantly, these two factors reflected the fruitful efforts of the region in developing local currency bond markets and strengthening the banking system over the years.

Chart 12: Domestic investors buying government bonds in dips, e.g. in Indonesia and Malaysia



Note: Holdings of government bonds as at quarter end.
Sources: CEIC; National data; EMEAP calculations.

Chart 13: EMEAP banking system entered the crisis in good shape



Source: National data

Bond markets recovered on a slew of policy responses

As central banks in the region and globally (notably the US Federal Reserves) rolled out a slew of policy measures to alleviate liquidity stress and support the economy,[20] global and regional bond markets gradually stabilised in April and May, with government bonds recovering noticeably faster than corporate bonds. This may have reflected that corporate bond markets not only suffered from liquidity but also credit risk concerns as the pandemic prolonged. Indeed, corporate bond spreads were elevated in some EMEAP jurisdictions until late 2020 while issuances recovered gradually.

[19] One EMEAP member observed tighter USD funding conditions in the interbank market as a result of increased demand for USD bank credit while some other members noted the transmission of stress from bond market to banks was limited.
[20] Policy measures adopted by EMEAP central banks are discussed in Section 3.

3. EMEAP members' policy responses to the bond market stress

In the face of the heavy sell-off of government and corporate bonds amid the heightened demand for liquidity in March-April 2020, authorities in the EMEAP region have responded by shoring up demand for bonds and supplying liquidity to the financial system.

Table 1 below presents a stocktake of EMEAP central bank major policy measures relevant to bond markets. A majority of EMEAP members engaged in government bond purchases. In the corporate bond market, some member central banks purchased corporate bonds or implemented new facilities to support corporate financing. Some EMEAP members expanded the scope of eligible collateral for existing central bank market operations.[21]

Table 1: Major policy measures relevant to bond markets in EMEAP jurisdictions[a]

	Policy measures specific to bond markets		Other measures to inject liquidity into the financial system		
	Government bonds[b]	Corporate bonds[c]	Enchanced access to existing facilities[d]	New facilities[e]	Monetary policy easing[f]
AU	✓		✓	✓	✓
CN			✓	✓	✓
HK				✓	✓
ID	✓		✓		✓
JP	✓	✓	✓	✓	
KR	✓	✓	✓	✓	✓
MY	✓		✓	✓	✓
NZ	✓	✓	✓	✓	✓
PH	✓		✓		✓
SG			✓	✓	✓
TH	✓	✓		✓	✓

Notes:

a. Include policy measures that involved central banks.
b. Purchase of government bonds.
c. Include corporate bond purchase programmes/instruments and/or new liquidity facilities.
d. E.g. expand the range of eligible collateral to include corporate bonds or lower-rated corporate bonds, increase in the amount and maturity of repo operations, changes in the tenor and pricing of liquidity facilities, increase in the frequency and volume of FX swap auctions, increase in the amount of special lending operations, relaxed eligibility criteria for the rediscounting facility, and reduction in the overnight reverse repurchase volume offering.
e. E.g. temporary USD swap lines, temporary USD liquidity facility, bilateral local currency swap arrangements, term funding facility for the banking system. Some similar facilities already existed in some EMEAP jurisdictions prior to the March 2020 global market turmoil. For example, in the Philippines, the said facilities already existed, along with the bilateral local currency swap arrangements and term funding facility for the banking system.
f. E.g. policy rate cuts, lowering reserve requirements.

Sources: EMEAP survey; BIS' "A global database on central banks' monetary responses to Covid-19"; authorities' websites.

[21] Apart from these measures, members had also introduced other measures more tailored to domestic market conditions. For example, in China, priority for bond issuance had been offered to financial institutions and enterprises whose bond funds were mainly used for epidemic prevention and control.

In addition to policy measures directed towards bond markets, EMEAP members implemented a wide range of other measures to support financial market liquidity and functioning more broadly, thereby also alleviating the stress in government and corporate bond markets (e.g. monetary policy easing, USD facilities).

This report focuses on policy measures directed towards government and corporate bond markets.

3.1 Government bond market

Eight EMEAP members have purchased government bonds during COVID-19. To some EMEAP members, government bond purchases were new or rarely undertaken in previous episodes of market turmoil to serve the purposes of supporting bond market functioning and liquidity.[22] One exception is the BOJ which had been conducting asset purchases under the framework of Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control (YCC), in pursuit of market stability and monetary policy objectives.

Same tool, different objectives in AEs and EMEs

The objectives of government bond purchases for AEs and EMEs differed. Government bond purchases in AEs served the purposes of both supporting market functioning and monetary policy easing. In EMEs, purchases were mainly to stabilise the bond market and financial market, whereas monetary policy easing was not an objective of asset purchases (Table 2). Several central banks in EMEAP EMEs still had room to cut policy rate to provide further stimulus as opposed to resorting to large quantitative easing.[23] Indeed, bond purchases by EMEs in other regions also mainly served to address bond market dislocations during heightened stress.[24]

For both AEs and EMEs in the region, government bond purchases by central banks to support market functioning mainly happened during March-June 2020 when the bond markets were still affected by the March 2020 global turmoil. While the need for such purchases have lessened afterwards, central banks did periodically conduct further purchases to react to or pre-empt resurgence of market volatility.

Meanwhile, government bond purchases by AE central banks in the region as part of monetary policy were adjusted in accordance with monetary policy settings. Since launching asset purchase programmes in March 2020, the RBA and RBNZ both subsequently expanded the purchases to provide more monetary stimulus. With economic recovery well underway, the RBNZ slowed and later stopped asset purchases in 2021. RBA also gradually slowed the pace of asset purchases in 2021 and ceased further purchases in February 2022, considering the progress towards the goals of full

[22] Some EMEAP members had been conducting outright government bond purchases as part of the central bank's open market operations before 2020 but the scales were relatively small.
[23] From March 2020 to 2021 Q1, policy rate in Indonesia was lowered from 4.5% to 3.5%; in Malaysia from 2.5% to 1.75%; in the Philippines from 3.25% to 2%; in Thailand from 0.75% to 0.5%.
[24] See, for example, Arslan et al (2020) and Fratto et al (2021).

employment and inflation consistent with target. BOJ continued purchases of government bonds, as part of the QQE with YCC framework.

Table 2: EMEAP central banks' government bond purchases

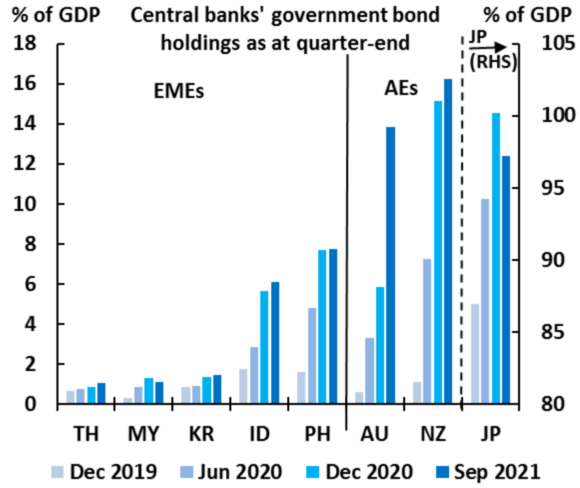
		Objectives	New policy measure?
Market functioning + Monetary policy	**AU**	Initially to support bond market functioning and achieve the 3-year AGS yield target. From November 2020, government bonds were also purchased to ease monetary policy.	Yes
	JP	To stabilise the market and ease monetary conditions under the QQE with YCC framework.	No
	NZ	To support market functioning and ease monetary policy in the initial phase; being shifted towards being only for monetary policy as market normalised.	Yes
Market functioning	**KR**	To stabilise the bond market.	No
	MY	To ensure smooth functioning of the domestic bond market and manage liquidity as part of its monetary policy tool.	No
	PH	To support bond market functioning and provide liquidity.	No, but this tool was not actively used before 2020 due to the high level of liquidity in the system.
	TH	To support market functioning and price discovery in the government bond market as well as restore public confidence.	No, but this tool was rarely used for this purpose
	ID	To ensure market liquidity and stabilise Rupiah exchange rate as part of triple intervention policy.[25]	No

Sources: EMEAP survey; central banks' websites

Partly reflecting the differences in objectives of government bond purchases, government bonds held by EM central banks in the region were generally lower than those by AE central banks (Chart 14).

[25] BI's triple intervention policy is a strategy to manage rupiah exchange rates through the spot and Domestic Non Deliverable Forward (DNDF) markets, as well as purchasing government securities (SBN) in the secondary market.

Chart 14: EM central banks hold relatively smaller amount of government bonds



Note: Central banks' holdings of government bonds as at quarter-end.
Sources: CEIC; national data; EMEAP calculations.

3.2 Corporate bond market

In contrast to the more active purchases in the government bond market, only a few EMEAP jurisdictions have deployed asset purchase programmes in corporate bond markets. Some central banks believed that the effects of the intervention in government bond markets would trickle down to the corporate bond market and the broader economy. In comparison, more central banks have introduced new or enhanced existing central bank facilities to provide funding against corporate bonds as collateral. These measures were more conventional and could be more easily deployed. These facilities also involved lower financial risks to central banks, compared with corporate bond purchases (Table 3).

In Japan, corporate bond and commercial paper (CP) purchases had been part of the BOJ framework of QQE with YCC before COVID-19. Since March 2020, the BOJ has greatly expanded the sizes of these purchases from an upper limit of JPY 5.4 trillion to JPY 20 trillion until March 2022.

In Thailand, the BOT and the Ministry of Finance announced the intention to set up the Corporate Bond Stabilization Fund (BSF) on 7 April 2020 to provide THB400 billion in bridge financing. Established on 19 April and starting to receive applications on 29 April 2020, the BSF was designed to act as a liquidity backstop for solvent and fundamentally sound firms to rollover their maturing corporate bonds during 2020-2022 so that large-scale defaults might be prevented, which could in turn stabilise the corporate bond market. The BSF has not been utilised so far since its establishment.

Table 3: Policy measures relevant to corporate bond markets in EMEAP jurisdictions[a]

	Policy measures	Remarks
JP	**BOJ corporate bond and commercial paper (CP) purchases** (Expansion of existing programme under the framework of QQE with YCC)	• Eligible assets: Corporate bonds rated BBB or higher; CPs rated a-2 or higher.
KR	**Special Purpose Vehicle (SPV),** launched in July 2020 to purchase corporate bonds and CP; with loans provided by BOK and equity and loans by Korea Development Bank.	• Eligible assets: Corporate bonds and CPs rated AA to BBB, and "fallen angels". • Until end of 2021.
	Corporate Bond-Backed Lending Facility (CBBLF) - To offer loans to banks and non-bank financial institutions with high-rated corporate bonds (at least AA-) as collateral for a maximum of six months.	• To provide a safety net for businesses, banks and non-bank financial institutions. • With a ceiling of KRW 10 tr. • Terminated in Feb 2021.
NZ	**Corporate Open Market Operations (COMO) -** To offer short-term funding to banks which pledge eligible corporate and asset-backed securities with RBNZ.	• To support corporate bond market functioning • No bids were received. • Terminated in Mar 2021.
TH	**BOT Corporate Bond Stabilization Fund (BSF),** launched in April 2020 to provide bridge financing through purchasing corporate bonds issued by solvent and fundamentally sound firms.	• Eligible assets: Issuer must be at investment grade. • Firms must raise at least 50% of the funding from other sources. • The funding cost is at a penalty rate of 1-2% higher than the market interest rate. • THB 400 billion available from 19 April 2020 to 31 December 2022, but it has never been used.
	Mutual Fund Liquidity Facility (MFLF)[b] **-** To provide a maximum of 6-month funding through repurchase agreement or repo transactions against an expanded scope of eligible collaterals (including both government and corporate bonds) to financial institutions which offered liquidity support to fixed income funds.	• To offer liquidity support in the fixed income funds and bond markets. • The outstanding drawdown amount reached its height at THB 56 bn in Apr 2020, a month after the launch of the facility. • Expired in Mar 2021.

Notes:

a. Include only programmes that involved central banks. Governments in the EMEAP region have also introduced corporate asset purchase programmes, e.g. Australian government's Structured Finance Support Fund.
b. While the BOT MFLF is relevant to both government and corporate bond markets, it is included in this sub-section for the sake of comparison.

Sources: EMEAP survey; authorities' websites.

In Korea, in view of the weakness in the market of lower-rated corporate bonds at the time, a special purpose vehicle (SPV) was launched to purchase lower-rated corporate bonds and commercial papers (ranging from grade AA to BBB) and “fallen angels” to relieve the liquidity stress of lower-rated companies. The SPV started operation in July 2020, with senior loans provided by BOK and equity and subordinated loans by Korea Development Bank (KDB). As of end-October 2021, the SPV had purchased a total of KRW4.4 trillion worth of corporate bonds and CP, 13.5% of which were rated BBB.

BOK, RBNZ and BOT have introduced new liquidity facilities to provide short-term funding against corporate bonds as collaterals.[26] These facilities on the one hand provided an additional source of funding to banks and/or NBFIs to support credit intermediation to the broader economy; and on the other hand, served to alleviate the pressures to liquidate corporate bond holdings at distressed prices as they could be pledged to central banks for funding.

The facilities by BOK and RBNZ involved short-term liquidity provision to address bond market stress, while the BOT facility was aimed at stemming the spillover of the mutual fund market stress to bond markets. Against the backdrop of heavy redemption pressure facing some fixed income funds in March 2020, the BOT Mutual Fund Liquidity Facility (MFLF) offered much needed liquidity to the market.

The new liquidity facilities of BOK, RBNZ and BOT were terminated or expired in Q1 2021 as market conditions stabilised. In fact, most of the drawdown under BOT MFLF happened in the first month and all borrowings had been repaid by November 2020. The RBNZ Corporate Open Market Operations (COMO) did not even receive any bids at all during its time of operation.

3.3 Other policy measures

A number of other policy measures had been deployed to provide liquidity to the overall financial system and support financial market functioning in the midst of global market distress in March 2020.

A number of EMEAP central banks have enhanced access to existing central bank facilities or market operations by expanding the range of eligible collateral and/or counterparties. For example, the RBA has expanded the range of corporate debt securities eligible as collateral for domestic market operations by accepting non-AAA corporate bonds for the first time; the BNM expanded its eligible collateral for monetary operations to include corporate bonds and sukuk rated from A- and above as opposed to previous AAA rating requirement; BOK added 11 new non-bank financial institutions to the list of eligible institutions for repurchase agreement transactions on a temporary basis during April-July 2020. These measures alleviated the pressure to liquidate corporate bond holdings at distressed prices, in addition to providing liquidity to the market.

Some EMEAP members, such as the HKMA and MAS, established new facilities to provide USD to the market, which acted as liquidity backstops and were important in

[26] The tenor of funding available under these facilities were short-term. BOK CBBLF: within 6 months; RBNZ COMO: 1 day to 3 months; BOT MFLF: up to 6 months.

curtailing the self-reinforcing liquidation cycles by preventing the spillover of USD funding stress to the domestic funding market and bond market. To further facilitate banks' access to USD liquidity, the MAS accepted a wider range of collateral for the MAS USD Facility, from only allowing SGD-denominated collaterals to including cash and marketable securities in other major currencies. The credit rating requirement was also loosened from at least AA- to BBB-.

Furthermore, there were measures to facilitate bond dealers' market making activities amid market volatility, in order to reinforce government bond market functionality. In March 2020, the MAS temporarily increased the SGS per-bond limit of primary dealers (PDs) for the MAS Enhanced Repo Facility (ERF)[27], providing them with additional flexibility to obtain specific bonds.

4. Policy challenges

When deploying the various policy measures, EMEAP members had faced challenges with respect to some potential side-effects and risks, coordination with other authorities and operational constraints.

EMEAP central banks confronted several policy challenges

Moral hazard – Like other central banks which have deployed policy measures to support market functioning, EMEAP members were concerned that market participants could become over-reliant on central bank support measures. This could be detrimental to market discipline and financial stability in the future. A key challenge thus lied in designing the policy measures that could effectively provide a backstop to the market during very stressful times and allow orderly market adjustment, while not discouraging market participants from applying prudent risk assessment and liquidity management.

Risks to central bank independence and credibility – There is a risk that large purchases of government bonds may arouse market concerns over monetary financing of fiscal debt, especially as the purchases happened at a time when fiscal spending was much needed. As such purchases were new or rarely used in large scale in most EMEAP jurisdictions, EMEAP central banks needed to tread carefully to avoid any such perception and make sure the purchases were in line with their mandates (e.g. financial stability; price stability).

For corporate bond purchases and facilities, delineating the set of eligible corporate bonds involved judgement call and could draw public controversy. Furthermore, providing funding to the non-bank sector or corporates and acting as market maker in the corporate bond market may not be crystal clear as part of central

[27] The ERF is an existing MAS facility that aims to support PDs' market making activities, by enabling PDs to borrow specific SGS on an overnight basis from MAS by pledging another SGS bond that they currently hold. SGS refers to Singapore Government Securities.

bank mandates, although such policy actions could be justified in the context of maintaining economic and financial stability and effective financial intermediation.[28]

Exposing the central banks and public money to financial risks arising from asset purchases could also be controversial. For instance, in Thailand, after the intention to set up the BSF was announced, there were concerns surrounding the central bank's remit, potential influence exerted by big businesses and the risk to public money.[29]

Inter-agency coordination – Policy measures to support the non-bank financial sector and corporates would require coordination with other regulators or public agencies. Some policy measures would also require legislative deliberation and approval, e.g. measures that involved government money or new measures empowered by new legislation. Ensuring smooth inter-agency coordination within a very short period of time was very critical.

For instance, the BOT shared that close coordination with the Ministry of Finance and the Securities and Exchange Commission was critical to ensure a speedy policy response to address the spillover from the stress in mutual fund industry to the bond market. Both the BOT's BSF and Korea's SPV to purchase corporate bonds involved efforts and time in coordinating with government agencies and getting approval from the parliament.

Operational challenges – Some EMEAP members encountered operational challenges in introducing and implementing new government bond purchases programmes in short time and under lockdown, with constraints on manpower and system infrastructure. For example, BSP has encountered challenges in the initial stage related to limited access to trading platform, operational constraint during lockdown, and lack of automated trading and settlement systems. These limited the range of government securities it could purchase at the beginning.[30] Some other members also noted that implementing new policy measures within a very short time posed challenges to the operational process or systems.

Careful policy design, clear communication and risk-mitigation arrangements helped address the policy challenges

Facing these challenges, EMEAP central banks placed much emphasis on policy design and flexibility, communication, transparency and governance. Some risk-mitigation arrangements were also in place to limit the financial risks to central banks.

Careful policy design with flexibility – EMEAP central banks were careful in designing the policy measures and retained some flexibility in adjusting the level of policy support along with the evolving developments, such that emergency policy support was temporary in nature and not a permanent backstop as markets return to normal. This

[28] EMEAP central banks generally have the mandates regarding supporting the economy, maintaining financial stability and effective financial intermediation. Policy measures to support the corporate sector were in line with these mandates.
[29] See, for example, Bangkok Post, "Bank of Thailand's BSF faces slew of criticism", 17 April 2020; and the Nation Thailand, "BOT on defensive over Bt400 bn bond-buying scheme", 10 April 2020.
[30] See BSP (2020).

helps reduce the risk of moral hazard and ensures policy measures remain aligned with their objectives.

For purchases aimed at stabilising the bond markets, the size, pricing and scope of interventions were determined taking into account the assessment of market conditions. For example, the BOT assessed market conditions as part of normal open market operation to help determine the size of government bond purchases. The BSP has recalibrated its pricing of its government securities purchase window as market conditions improved so as to incentivise trading among banks rather than just trading with the BSP.

Similarly, for corporate bond purchases and liquidity facilities, to avoid the potential moral hazard problem, the BOT's BSF charges a facility premium and a higher borrowing rate than the market, and borrowers must seek other funding sources before resorting to the BSF (i.e. BSF would support no more than 50% of the funding needs). For the MFLF, the BOT gradually reduced the subsidy to the facility lending rate to prevent possible opportunistic usage of MFLF once the liquidity conditions had improved.

Clear communication, transparency and governance – To allay concerns over monetary financing of fiscal debt and central bank independence, EMEAP members shared that central banks needed to clearly communicate the objective of intervention and that the intervention was consistent with the central bank mandates.[31] Information on policy implementation and effectiveness was also provided to the public.

As for interventions in corporate bond market, the BOT placed much emphasis on communication, transparency and governance. The BSF policies and operating guidelines are made public, clearly stating the governance structure, firm eligibility, programme design and risk management framework.[32] Approval is to be made by experts with no conflicts of interest with the companies. These features helped to enhance public confidence in the policy measure and central bank. For the Korea's SPV, to ensure it was a policy measure to stabilise the financial market rather than supporting specific companies or distressed companies, there was ceiling of purchases for each firm (2% of total support amount) and the purchases excluded companies with interest coverage ratio of less than 100% for two years in a row (pre-COVID-19).[33]

Risk-mitigation arrangements – Some policy measures involved some forms of risk sharing or mitigation features. For the SPV in Korea, the BOK provided senior loans amounting to 80% of the SPV funding, with the remaining provided by the KDB (in equity and subordinated loans); credit risk to the SPV was lowered by excluding companies which were financially distressed pre-COVID. For the BSF to purchase corporate bonds, the BOT would be indemnified by the government for limited amount of losses up to THB40 bn (i.e. equivalent to 10% of the Fund size); eligible firms must be investment grade, thus lowering the credit risk to public money. Similar risk-sharing arrangement was also in place for RBNZ's purchase of government bonds. The government would cover losses which the RBNZ may incur as a result of operating the large-scale asset purchase programme.

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[31] In this regard, EMEAP central banks have utilised different communication channels, including speeches, reports and communications with parliament and investors.
[32] See BOT "Corporate Bond Stabilisation Fund (BSF): Policies and Operating Guidelines" for details.
[33] BOK (2021), Box II-1.

Operational improvement – Operational improvements have been made to facilitate the policy implementation. For example, BSP had enhanced the operational infrastructure and procedures such that it can purchase a wider range of government securities, with availability of information on prices and transaction details also improved. Likewise, RBNZ had streamlined the processes and systems for the asset purchase programme to maximise operational efficiency and manage associated risks.

5. Policy effectiveness

Members generally assessed that policy measures had been effective in alleviating bond market stress. The stabilisation of global financial conditions on the back of the central banks' and government interventions globally, notably bond purchases, the expansion of central bank swap lines and FIMA facilities by the US Federal Reserve, had also helped. The objectives of restoring market functioning and easing liquidity strains in the financial system had been achieved. This was evident from a number of quantitative indicators, such as the decline in government bond yields and bid-ask spreads, a recovery in bid-cover ratios for government bond issuance and a return of portfolio inflows in April and May 2020, although corporate bond markets took more time to recover. Purchases of bonds by central banks have also helped to alleviate bond dealers' capacity constraints.

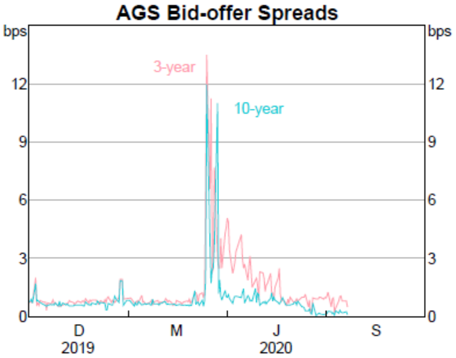
Charts 15-17 present some examples of the effects of central bank policy measures on bond markets in the region. In Australia, government bond yields and bid-ask spreads dropped following RBA's introduction of the 3-year yield target and announcement on 19 March 2020 of government bond purchases to achieve the yield target and address market dislocations. Likewise, BSP's government securities purchase window has restored market confidence, with appetite for government bond issuance recovering. In Korea, the announcement of the Corporate Bond-Backed Lending Facility (CBBLF) on 16 April 2020 has stabilised corporate bond spread although the facility was yet to be effective (effective from 4 May). With the SPV starting to buy corporate bonds in July 2020, Korean corporate bond spread narrowed gradually towards the end of the year. Firms whose bonds were purchased by the SPV also issued a higher volume of bonds than initially planned.[34]

As for other EMEAP jurisdictions, RBNZ estimated that its government bond purchases in the first few months have lowered the government bond yields by 50-100 bps.[35] BOT observed that redemptions slowed down following its introduction of the MFLF and volatility in the corporate bond market decreased following the establishment of the BSF (though the BSF has never been used).[36]

[34] BOK (2021), BoxII-1.
[35] RBNZ (2020).
[36] BOT (2020).

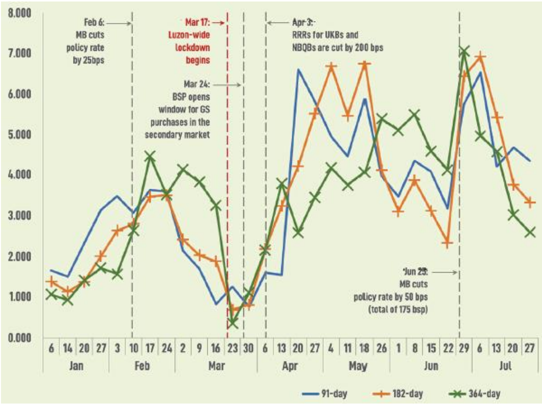
Policy responses were effective in stabilising the markets…

Chart 15: RBA actions have stabilised the market



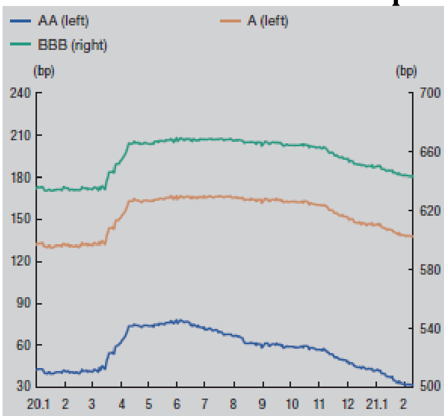
Source: Finlay et al (2020)

Chart 16: Bid-cover ratio for government bond auction recovered after BSP actions



Source: BSP (2020)

Chart 17: Corporate bond spread in Korea stabilised following the announcement of CBBLF in April



Note: 3-year maturity basis. Difference in the yields of credit bonds and Korea's Treasury bonds.
Source: BOK (2021)

EMEAP members' experience not only provided evidence that central banks' policy measures were effective in stabilising the bond markets, but also demonstrated that central bank communication and announcements could help restore market confidence, even before the implementation of policy measures; and some policy measures, though with low or no usage, were useful as a backstop during stress episodes.[37]

6. Policy exit or continuation

With the bond markets stabilising, the need for emergency policy support has diminished. In deciding whether to withdraw or continue the policy measures, EMEAP members consider overall economic and market conditions, policy effectiveness and any adverse impacts of policy exit on the market.

Some of the policy measures have been withdrawn…

New liquidity facilities introduced to support corporate bond markets or the mutual fund market (i.e. BOK's CBBLF, RBNZ's COMO and BOT's MFLF) had been terminated by the respective central banks or ended with a pre-set expiry date, as utilisation was low and the need to provide emergency funding has lessened amid improved market conditions.

[37] FSB analysis also suggested that market participants pay close attention to authorities' communications during a crisis in order to understand how they may act; and their initial evidence suggested that the market reacted more to the announcement of COVID-19 programmes, rather than to uptake of those measures, in both AEs and emerging market and developing economies. See FSB (2021).

In Korea, the SPV to purchase corporate bonds was terminated (after several extensions) while being converted to an emergency device which could be reinstated in stress situation. The BOJ has completed its additional purchases of CP and corporate bonds at the end of March 2022 as scheduled, after which it will purchase about the same amount of CP and corporate bonds as prior to the COVID-19 pandemic.

RBNZ had halted purchases of government bonds, whether for supporting market functioning or monetary policy purpose, as it has started to normalise monetary policy. RBA has also ended purchases of government bonds for market functioning and monetary policy purposes. Other central banks in the region have generally scaled down purchases for supporting market functioning.

...while some others continued or stay for longer

Some policy measures remained in place, albeit low or nil usage. The BOT extended the BSF liquidity support to the end of 2022 to maintain market confidence and financial stability, considering that future situation regarding both the emergence of COVID variants and subdued recovery given economic scarring effects of COVID-19 is still uncertain. In fact, the 5-year emergency decree allows the BSF to operate until 2024, if needed. The RBA is likely to maintain the expanded range of collateral that is eligible for repurchase operations for the foreseeable future.

The BSP maintains its outright purchase and sale of government securities as part of the interest rate corridor framework to enhance flexibility of its monetary operations, and also as part of its operational readiness to respond to various financial market developments.

Meanwhile, the BOJ continues with powerful monetary easing under the current QQE with YCC to achieve the price stability target of 2 percent.

Some EMEAP central banks are deliberating the eventual unwinding of the bond purchases

Meanwhile, some EMEAP members have been deliberating the approaches to eventually unwinding the bond holdings although this may not be imminent.

With monetary policy tightening underway, RBNZ considers how best to balance the need for tighter monetary policy, the liquidity requirements of the banking system, and any impacts arising from decreased bond supply (due to reduced government bond issuance). In February, RBNZ decided to not reinvest the proceeds of any upcoming bond maturities under its asset purchase programme, and to sell nominal New Zealand Government Bonds and Inflation-indexed New Zealand Government Bonds to the government at a rate of NZD 5 billion per fiscal year, commencing in July 2022, provided it remained consistent with RBNZ's monetary policy objectives, and subject to market conditions.[38] In unwinding asset purchases, RBNZ emphasised the importance of preserving the central bank's independence and believes the unwinding will require

[38] Meanwhile, RBNZ will hold the Local Government Funding Agency Bonds until maturity as the holdings of these bonds are comparatively small.

careful co-ordination to ensure there is no market disruption or adverse signalling to market participants with respect to any future monetary policy decision.

The BSP said it would be cautious in the eventual unwinding of its government bond holdings, given the liquidity implication. Its exit strategy will be gradual and will remain consistent with its data-dependent approach to policymaking which is outcome-based rather than calendar-based. The timing and conditions under which the BSP will start unwinding its pandemic interventions will continue to be guided by the inflation and growth outlook and the risks surrounding such outlook.

The RBA ceased asset purchases in February 2022 and does not plan to reinvest the proceeds of maturing government bonds.

Clear and transparent, and advance communication could help manage public expectation on policy exit/continuation

Clear and transparent communication on the key aspects of the policy measures is important. Members generally agreed that central banks need to clearly communicate the objectives of policy measures. This provides a yardstick for assessing whether continuation or withdrawal of the policy measures is warranted, in light of economic and market conditions. Going a step further, a forward guidance could be considered to provide direction and manage market expectation. For example, the BSP considers a careful and strategic communication via guidance-type language as essential in helping manage expectations and prevent any disorderly market reaction. In a similar vein, the BOJ always explains that it will persistently continue with powerful monetary easing under the current QQE with YCC to achieve the price stability target of 2 percent.

Along this line, central banks also need to be transparent in communicating with the markets and the public on the relevant data and facts, policy effectiveness, governance and operating procedures such that the public could evaluate the policy measures. This also helps allay any concerns the public may have regarding the policy measures.

In addition, several EMEAP members see the importance of advance communication of policy changes. This allows the markets to get prepared and adapted to the policy changes. The communication of policy changes could be in the form of speeches, publications, monetary policy statements, or notice to financial institutions. RBNZ shared that the exit from its asset purchase program was well signalled through its communications, and without market disruption. This was in part enhanced by the program design allowing the RBNZ to maintain the flexibility to adjust weekly purchases to suit market conditions, which was typically communicated one week in advance.

Enriched policy toolbox could help improve resilience of the bond markets to future shocks

Importantly, the continuation of some of the policy measures essentially enhances central banks' ability to quickly address market stress, with the tools on hand to purchase bonds or provide liquidity against bonds as collateral when the need arises. Some policy measures that have been withdrawn could also be reinstated if conditions warrant, with the institutional arrangements already in place (e.g. Korea's SPV to purchase corporate bond). In addition, the operational improvements made when implementing the policy measures during COVID-19 market stress (as discussed in Section 4) would facilitate future deployment of the same or similar policy tools.

The mere availability of these emergency tools could help to prevent any initial market stress from spreading. In particular, the COVID-19 market stress episode suggested that the availability of liquidity backstop during stressful times could enhance market confidence, even as the policy measures were not actively used (e.g. the BOT's BSF). As such, the enriched policy toolbox should improve the resilience of the bond markets to future adverse shocks.

Meanwhile, the COVID-19 experience has offered some guide to central banks to improve the use of these policy tools in case they are needed to cope with the next crisis, especially with respect to the issues surrounding moral hazard and central bank independence. This is discussed in the next section.

7. Lessons learnt

The bond market stress and the experience of policy responses during the COVID-19 stress episode offered a number of lessons learnt for central banks in the region.

Bond market stress and resilience

The March 2020 stress episode has highlighted that EMEAP bond markets are susceptible to global shocks, given the high interconnectedness of the global financial system, and the abrupt selling of unhedged local currency bond holdings by foreign investors and NBFIs in transmitting or amplifying the shocks. These point to the importance of strengthening the resilience of the region's bond markets to market shocks ex-ante, which would help mitigate the propagation of shocks and lessen the need for central bank intervention in future.

After the March 2020 bond market stress, EMEAP members have continued to closely monitor the bond markets and financial markets more broadly. In addition to the usual market surveillance, some members have strengthened market intelligence and analysis, and/or enhanced communications with market participants to gauge financial market conditions and obtain market intelligence.

In view of the potential risks posed by NBFIs, authorities in some EMEAP jurisdictions have stepped up to strengthen the liquidity risk management of investment funds by revising the relevant regulations or urging them to re-examine their liquidity management plans. Some central banks in the region have also conducted analyses on NBFI-related issues.

The March/April 2020 bond market stress also illustrated that foreign investor participation in local currency bond markets could be double-edged sword. Previous research has found that despite reducing yield spreads during tranquil periods, large foreign participation could amplify a widening of yield spreads in times of stress, reflecting the currency risk of foreign investors.[39] While continued development of hedging markets in the region is facilitating FX hedging by foreign investors, some foreign investors deliberately leave their currency risk unhedged and could be flighty in times of stress. On the other hand, domestic investors could be a market stabilising force, as demonstrated by the experience in some EMEAP jurisdictions where domestic investors have bought domestic government bonds in dips while foreign investors were selling during March/April 2020. Indeed, several EMEAP jurisdictions have been working to expand domestic investor base, for example, by tailoring government bond issuance to suit domestic investors' needs; using digital channels to improve the distributional channel of bond offerings and to strengthen investor education; facilitating the growth of institutional investors with relatively longer investment horizon.

Insights into the role of central banks and calibrating policy responses

Central banks played an important role in stabilising bond markets and broader financial markets in the March 2020 global market turmoil. The episode showed that even the government bonds that are usually deemed safe and liquid could become illiquid; and bond markets could become dysfunctional. Such widespread de-risking and dysfunction in bond markets could threaten effective financial intermediation, which could in turn impact the real economy. These are relevant to the mandates of central banks generally and should be taken into account in central banks' policymaking. In contemplating future interventions, factors that should be considered include the market conditions, the policy trade-off and the overall economic situation.

Central banks in the region have utilised a number of different policy tools – conventional and new – to combat the bond market stress. As members' experience suggested, asset purchases and liquidity facilities were effective in addressing the widespread sell-off and dysfunction in bond markets. Even though some asset purchase programmes or liquidity facilities were not actively used, the announcement effect and the availability of a backstop in stressful times can restore investors' confidence and stabilise the markets.

In this connection, the experience of EMEAP members in deploying various policy tools have offered some general principles in policy responses, especially with respect to ensuring sufficient policy support to address market stress while mitigating the potential side-effects of these tools.

- As and where intervention is deemed necessary, intervention should be temporary and not be seen as a permanent backstop such that the market would not become overly reliant on central bank intervention in bond markets. Pricing of central bank asset purchases and facilities should be set in a way that incentivises market participants to utilise market channels and, where appropriate, limits or prevents opportunistic use of central bank funding. For programmes to support corporate financing, co-financing arrangement could also be put in place such that corporates are required to utilise market funding first.

[39] Ho (2019).

- Flexibility in intervention allows authorities to adjust the pricing, size, scope, etc to achieve stated policy objectives under evolving market conditions. When market conditions improve, the level of policy support should be reduced.

- Communication is important in conveying the objectives of central bank intervention, improving transparency, allaying market concerns and safeguarding central bank independence. In particular, the communication strategy needs to be carefully crafted to provide the market with confidence during very stressful market conditions while avoiding the perception that there will be a permanent backstop and allowing central banks to retain some flexibility in intervention.

- Coordination between the central bank and other financial and fiscal authorities is crucial to effective and multi-faceted policy responses. Such coordination would also help address the risks of NBFIs such as investment funds, as they may not fall under central banks' regulatory remit.

- The decision to exit or extend policy measures, and the timing of it, shall be guided by careful assessments of market and economic conditions, stated policy objectives and utilisation. Clear and transparent, and advance communication could help manage public expectation on policy exit/continuation.

The experience of EMEAP members further suggested that a range of different measures could be complementary and reinforcing. For example, asset purchases target specific bond market segments; funding facilities may aim at stimulating bank lending; and policy rate cuts serves to lower funding costs for the broader economy. When used together, they could substantially lower funding costs of the economy and also help to stabilise bond and other financial markets. This underscores the benefits of having a wider range of policy tools available or policy tools that could be reinstated quickly. In connection with this, some EMEAP members have been working to enhance their ability to deploy different policy tools, for example, by conducting assessments of policy measures used and/or exploring new policy tools, including their design, effectiveness, limitations and challenges. Ongoing international work on policy frameworks to address macro-financial stability risks associated with capital flows and exchange rate volatilities also offers some insights in this respect.[40]

Apart from this EMEAP report, relevant work by other international forums, notably the Bank for International Settlements (BIS) and FSB (ongoing) work related to bond markets and central bank tools would also benefit EMEAP members. These efforts would contribute to the understanding of the COVID-19 related market stress and to enhancing central banks' capability in crisis response.

[40] For example, research by the International Monetary Fund (IMF) on integrated policy framework and the BIS on macro-financial stability policy framework.

8. Potential topics for regional collaboration

Sharing of experience should not stop at this report. EMEAP members would benefit from continued exchange of experience in tackling any emerging risks in the bond market and financial markets, focussed studies or discussions on specific areas of interest. Members would also benefit from sharing by experts on these topics or any relevant training courses. In this respect, a number of topics have emerged from this report that may be worth pursuing, depending on the evolving developments:

a. Ongoing bond market conditions, e.g. liquidity and market making in the bond markets, and market access of lower-grade issuers, implications of sizable bank holdings of domestic government bonds;
b. Potential risks and policy implications regarding the developments of NBFIs;
c. Spillover of foreign shocks to the region, e.g. impact of US monetary normalisation on bond markets in the region;
d. Policy initiatives to deepen financial market developments (e.g. developing hedging instruments and expanding investor base);
e. Communication challenges and how to manage market and public expectations when designing, implementing and exiting policy measures; and
f. Central bank policy tools and policy framework, e.g. design and implementation of crisis response tools, including the normalisation/exit policy.

9. Conclusion

The bond market stress in the EMEAP region during March/April 2020 has illustrated that the region's bond markets are susceptible to global shocks. This reflected the high interconnectedness of the global financial system and increased participation of foreign investors in the bond markets in the region, in addition to the significant uncertainty about the economic outlook for the region. Although the significance of NBFIs is generally not as prominent as in major AEs, global and domestic NBFIs in some EMEAP jurisdictions have played a role in transmitting or amplifying the shock.

EMEAP members have responded to the bond market stress with swift policy actions, including asset purchases, new liquidity facilities and other measures to inject liquidity to the financial system. These policy responses have succeeded in stabilising the market and preventing further spillover of the market stress. EMEAP members have maintained some policy measures while withdrawing some others as the need for emergency support has diminished. Going forward, the continuation of some of the policy measures and the option to reinstate some exited measures could enhance central banks' capability to quickly respond to future market stress, helping to prevent the initial stress from spreading and thus strengthening market resilience to adverse shock.

The COVID-19 episode offers valuable lessons learnt for central banks. As the region's bond markets are susceptible to global shocks, EMEAP members have continued to closely monitor the bond markets and financial markets more broadly. In view of the potential risks associated with NBFIs, some EMEAP jurisdictions have stepped up to strengthen the liquidity risk management of investment funds. The March 2020 episode also demonstrated that a strong domestic investor base could be a stabilising force for the bond market amid flight of foreign investors. These are conducive to mitigating the propagation of future market shocks and lessening the need for central bank intervention in future. That said, when intervention is judged warranted in extreme stressed situations, central banks could learn from the COVID-19 experiences when considering a policy response. For example, intervention should be temporary and not be seen as permanent backstop; certain policy design features could help prevent over-reliance on central bank support; intervention should be flexible to changing market conditions; the importance of communication in conveying the objectives of central bank intervention, improving transparency, allaying market concerns and safeguarding central bank independence; and close coordination with other authorities. The experience in calibrating policy measures – conventional and new – in a short time span to stabilise the market while mitigating the potential side-effects (e.g. moral hazard, risks to central bank independence) could guide central banks in calibrating crisis response in future. The COVID-19 episode also underscores the benefits of having a wider range of policy tools available or policy tools that could be reinstated quickly.

For EMEAP as a whole, more experience sharing or joint focussed studies on the topics relevant to bond markets would benefit members. Suggested topics include ongoing bond market conditions; spillovers of foreign shocks to the region; potential risks and policy implications regarding the developments of NBFIs; financial market development; communication challenges and central bank tools and policy frameworks to manage various risks (e.g. risks arising from capital flow and exchange rate volatilities).

For these various aspects, EMEAP can also take reference from relevant BIS and FSB work concerning NBFIs, central bank actions against market dysfunctions, and how to navigate the multiple communication challenges in the future.

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