FINANCIAL STABILITY BOARD

Lessons Learnt from the COVID-19 Pandemic from a Financial Stability Perspective

Final report

28 October 2021

The Financial Stability Board (FSB) coordinates at the international level the work of national financial authorities and international standard-setting bodies in order to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies. Its mandate is set out in the FSB Charter, which governs the policymaking and related activities of the FSB. These activities, including any decisions reached in their context, shall not be binding or give rise to any legal rights or obligations.

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Executive Summary

This final report updates the July interim report on the preliminary lessons learnt for financial stability from the COVID-19 pandemic, and outlines actions by the FSB and other standard-setting bodies (SSBs) in response to those lessons. The update reflects feedback from external stakeholders and the FSB's Regional Consultative Groups (RCGs), recent studies in this area, and progress made in relevant international initiatives.

The functioning of capital and liquidity buffers may warrant further consideration. The analysis in the July 2021 BCBS report on early lessons from the pandemic will be updated and included, as relevant, in a more comprehensive evaluation report covering the Basel reforms implemented over the past decade that the Committee plans to publish in late 2022 as additional data on the impact of the COVID-19 pandemic becomes available. This evaluation work, along with other relevant work and discussions in the FSB, will serve as an input to the FSB report to the G20 in 2022 on how to improve functionality of international financial standards and reduce pro-cyclicality to safeguard global financial stability and support an equitable recovery from the COVID-19 pandemic.

The March 2020 market turmoil has underscored the need to strengthen resilience in the non-bank financial intermediation (NBFI) sector. The FSB is taking forward a comprehensive work programme to enhance NBFI resilience while preserving its benefits. As a concrete first step, the FSB has issued policy proposals to address vulnerabilities in money market funds (MMFs). Work is ongoing by the FSB and its members to assess and address vulnerabilities in other specific areas that may have contributed to liquidity imbalances and their amplification during the March 2020 market turmoil. The focus of the NBFI work programme in 2022 is to develop a systemic approach to NBFI, by deepening the understanding and monitoring of associated risks and developing policies to address them where appropriate. The FSB, working with SSBs, will report to the G20 in 2022 on these initiatives (with a separate report on USD funding and emerging market economy (EME) vulnerabilities) and on policies to address systemic risk in NBFI.

Some concerns about possible excessive procyclicality in the financial system remain. CPMI IOSCO and BCBS are taking forward work on procyclicality in margining practices, including on margin models and the liquidity management preparedness of market participants to meet margin calls. In some cases, work on procyclicality should take into account that support measures may have dampened or delayed the impact of potential amplification mechanisms. This caveat may in particular apply to further analysis of potential procyclicality of the impact of expected credit loss (ECL) provisions on banks' capital positions, and call for further monitoring by the BCBS, which would in turn inform policy and/or supervisory considerations on bank provisioning. The NBFI progress report will also include findings from work on the behaviour of bond market participants.

The international standards adopted through the G20 reforms overall provided sufficient flexibility to support an effective policy response during COVID-19. These findings are confirmed by the ongoing monitoring by the FSB and SSBs of jurisdictions' COVID-19 responses. The FSB and SSBs will continue to monitor those responses, with a focus on drawing lessons about the flexibility embedded in international standards.

The pandemic highlights the importance of effective operational risk management arrangements being in place before a shock hits. The FSB will continue to provide a forum for discussion amongst regulators and supervisors to promote strengthening of control and operational resilience frameworks to address threats to business continuity that could arise from information and communications technology (ICT) and cyber related vulnerabilities.

Outsourcing to third-party providers may have enhanced operational resilience at financial institutions, particularly in a number of EMEs with less developed ICT infrastructures, but poses new challenges for operational risk management. Based on its analysis of regulatory and supervisory issues associated with financial institutions' reliance on third-party providers, including views expressed during the public consultation, the FSB is launching further work to develop common definitions and terminologies related to third-party risk management and outsourcing, as well as expectations for financial authorities' use in oversight of financial institutions' reliance on critical service providers.

Cyber attacks have increased significantly. Recognising that information on cyber incidents is crucial for effective actions and promoting financial stability, the FSB will take work forward to achieve greater convergence in cyber incident reporting.

The COVID-19 pandemic highlighted the importance of effective cross-border cooperation, coordination and information sharing. The FSB will identify a set of good practices and emerging practices of Crisis Management Groups (CMGs) to enhance preparedness for, and facilitate the management and resolution of, a cross-border financial crisis that may affect a global systemically important bank (G-SIB). A good practices report is expected to be published by end 2021. The FSB will also continue to monitor progress in recovery and resolution planning for G-SIBs.

Access to timely and comprehensive data and effective analytical tools are key to assess and address financial risks from the COVID-19 pandemic. The FSB will continue to provide a forum for regulatory and supervisory authorities to exchange views and experiences on stress tests and scenario analyses as well as on the development and use of SupTech, RegTech and other tools to conduct analysis. The FSB will also support further international cooperation to address data gaps relevant to financial stability after the conclusion of the G20 Data Gaps Initiative at the end of 2021.

The COVID-19 experience also raises broader policy issues that warrant the FSB's attention.

- The pandemic is not yet over. Identifying systemic vulnerabilities early on remains a priority. The FSB will continue to monitor and discuss policy responses to COVID-19, including potential cross-border effects and implications for EMEs in particular. As measures are wound down, FSB members will also share experiences on their effects.

- Addressing debt overhang in the non-financial corporate sector may be a key task for policymakers going forward. The FSB is studying possible approaches to dealing with debt overhang issues and intends to issue a discussion paper on the topic later in 2021. The FSB will also publish in 2022 a thematic peer review on corporate debt workouts.

- The pandemic has reinforced the need to promote resilience amidst rapid technological change in the economy and financial system. The FSB will continue work on topics relating to the financial stability, regulatory and supervisory implications of FinTech.
- COVID-19 has also reinforced the importance of completing remaining elements of the post-crisis reform agenda. The FSB and SSBs will continue to monitor implementation of G20 reforms through progress reports, assessments and peer reviews.
- Finally, the FSB will examine in due course how macroprudential policy has functioned during the pandemic and its aftermath. Such an assessment should be informed by the outcome of specific work discussed in the main parts of this report.

1. Introduction

The COVID-19 pandemic is the first major test of the global financial system after the financial crisis of 2008. While the core of the financial system – including major banks and financial market infrastructures (FMIs) – proved resilient, the macroeconomic shock led initially to severe liquidity stress in some other parts of the system. In particular, the stress in key funding markets highlighted financial vulnerabilities in parts of the NBFI sector and prompted unprecedented central bank intervention. While significantly different in nature from the 2008 crisis, this real-life test holds important lessons for financial policy, especially on the functioning of the G20 financial regulatory reforms.

Against this background, the Italian G20 Presidency asked the FSB to identify preliminary lessons for financial stability from the COVID-19 pandemic. In response to this request, the FSB, in collaboration with SSBs, prepared an interim report on lessons learnt. The interim report, which was submitted to the July 2021 meeting of G20 Finance Ministers and Central Bank Governors, identifies preliminary lessons for financial stability from the COVID-19 experience.[1] Some of these lessons, which are described below, reflect issues that had been identified well before the pandemic but were given additional impetus from the COVID-19 experience; these include, for example, the analysis of vulnerabilities in the NBFI sector; sources of potential procyclicality in the financial system; and regulatory and supervisory coordination and information sharing to avoid potential sources of market fragmentation.

This final report updates the assessment provided in the July interim report and outlines actions by the FSB and SSBs in response to lessons learnt. The update reflects feedback from external stakeholders and the FSB RCGs, obtained through outreach events.[2] It also takes into account recent studies in this area and progress made in relevant international initiatives.

The report is organised around the main issues identified in the interim report. For each of these issues, the report recalls the key findings from the interim report; updates the assessment in light of information that has become available since the publication of that report; and presents a way forward on aspects related to the functioning of the G20 reforms that warrant further attention at the international level. The proposed next steps recognise that many of the lessons learnt are still preliminary, and the concluding section therefore highlights some broader policy issues that warrant further monitoring and analysis.

2. Market and institutional resilience

The global financial system has weathered the pandemic thus far thanks to greater resilience, supported by G20 financial regulatory reforms, and the swift, determined and bold international policy response. Core parts of the system entered the pandemic in a more resilient state than before the 2008 financial crisis. Large banks hold more capital, have more liquidity and are less leveraged, which allowed them to cushion, rather than amplify, the macroeconomic shock.

1 See *Lessons learnt from the COVID-19 pandemic from a financial stability perspective: Interim report* (July 2021).

2 A recording of the August 2021 virtual workshop on the lessons learnt from the COVID-19 pandemic from a financial stability perspective is available on the FSB website.

Significant progress in addressing the too-big-to-fail problem also added to bank resilience.[3] FMIs, particularly central counterparties (CCPs), functioned as intended. However, the pandemic experience also highlighted differences in resilience within and across financial sectors. Authorities had to take decisive and unprecedented action to sustain the supply of financing to the real economy, alleviate US dollar funding shortages and support market functioning.

2.1. Functioning of capital and liquidity buffers

The functioning of capital and liquidity buffers may warrant further consideration. Banks generally did not need to use their capital and liquidity buffers to meet loan demand thus far. They maintained strong capital positions during the pandemic, supported by public measures. However, there are indications that banks might be reluctant to dip into their buffers if needed to meet credit demand, in spite of the flexibility in the regulatory framework. Authorities released countercyclical capital buffers quickly, but such buffers were not always available or of sufficient scale to provide substantial additional macroprudential space. And while banks did not face large liquidity pressures overall, some took defensive actions to maintain their liquidity levels well above regulatory minima.[4]

This conclusion is also reflected in some external studies.[5] These studies note that the regulatory reforms helped the banking sector perform well during the COVID-19-related stress, but that more work is needed to examine why capital and liquidity buffers were not more extensively utilised. They stress that getting the balance right between self-insurance by market participants versus backstops against extreme tail risks by authorities is a key issue for financial policymakers. In this context, the appropriate level of backstops, public disclosures, as well as buffer size and use (including how quickly to rebuild buffers after being drawn upon) become relevant. Some stakeholders also highlighted issues with the structure of buffers, noting that countercyclical capital buffers were released quickly (where available) compared to capital conservation buffers, although it should be noted that the latter were designed to limit capital distributions by banks experiencing idiosyncratic stress at any point in the economic cycle.

The evidence on the use of buffers available thus far raises a number of issues. First, at the microprudential level, a better understanding of the factors that influence banks' use of buffers may help to identify which supervisory approaches, including public communication, could further support the use of buffers in line with the intentions of authorities and the flexibility available in the regulatory framework. Relatedly, the interaction between constraints on profit distribution and the use of buffers may warrant further examination. Second, from a macroprudential perspective, it may be beneficial to consider whether there is sufficient releasable capital in place to address future systemic shocks.

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3 See the FSB *Evaluation of the effects of too-big-to-fail reforms: Final Report* (March 2021).

4 See *Early lessons from the Covid-19 pandemic on the Basel reforms* (July 2021) for a detailed discussion.

5 See, for example, *The role of financial markets and institutions in supporting the global economy during the COVID-19 pandemic* by the FSF, IIF and ISDA (March 2021); *COVID-19: a stress test of bank regulatory reforms* by Emerson and Schuermann, (March 2021); and *Lessons in financial regulation* by Elliott (Oliver Wyman, July 2020).

Way forward

The analysis presented in the July 2021 BCBS report on *Early lessons from the Covid-19 pandemic on the Basel reforms* will be updated and included, as relevant, in a more comprehensive evaluation report covering the Basel reforms implemented over the past decade that the Committee plans to publish in late 2022 as additional data on the impact of COVID-19 becomes available. This evaluation work, along with other relevant work and discussions in the FSB, will serve as an input to the FSB report to the G20 in 2022 on how to improve functionality of international financial standards and reduce pro-cyclicality to safeguard global financial stability and support a more equitable recovery.

2.2. Strengthening resilience in the NBFI sector

The March 2020 market turmoil has underscored the need to strengthen resilience in the NBFI sector.[6] The impact of the COVID-19 pandemic has highlighted vulnerabilities in particular activities and mechanisms in the sector stemming from liquidity mismatches, leverage and interconnectedness, which may have caused liquidity imbalances and propagated stress. They include: significant outflows from non-government MMFs and certain types of open-ended funds (OEFs); shifts of liquidity due to margin calls, which in some instances may have been larger than expected; the willingness and capacity of dealers to intermediate in core funding markets; and the drivers of dislocations in core bond markets, including the role of leverage in amplifying the stress. The turmoil has also highlighted the importance of interconnectedness within the NBFI sector and with banks.[7]

The FSB has developed a comprehensive work programme to enhance the resilience of the NBFI sector while preserving its benefits. Its programme builds on the lessons from the March 2020 market turmoil and includes analytical and policy work to examine and, where appropriate, address specific issues that contributed to amplification of the shock; enhancing understanding and strengthening the monitoring of systemic risks in NBFI; and developing and assessing policies to address systemic risks in NBFI. Enhancing NBFI resilience should ensure a more stable provision of financing to the economy and reduce the need for extraordinary central bank interventions. These efforts should not compromise the resilience in other parts of the system or the important role that NBFI plays in financing the real economy.

As a concrete first step, the FSB has issued policy proposals to enhance MMF resilience.[8] FSB members are assessing, or will assess, MMF vulnerabilities in their jurisdiction and will address them using the framework and policy toolkit in the FSB report, in line with their domestic legal frameworks. In addition, the FSB will, working with IOSCO, review progress made by member jurisdictions in adopting reforms to enhance MMF resilience. The review process involves a stocktake to be completed by the end of 2023 of the measures adopted by FSB member jurisdictions, to be followed by 2026 with an assessment of the effectiveness of these measures in addressing risks to financial stability. IOSCO also plans to revisit its 2012 *Policy*

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6 See the *Holistic Review of the March Market Turmoil* (November 2020).

7 For an analysis of COVID-19 lessons for NBFI from an external stakeholder perspective, see the *Report of the Task Force on Financial Stability* by the Brookings Institution (June 2021) and *Lessons from COVID-19: Overview of Financial Stability and Non-Bank Financial Institutions* by BlackRock (September 2020).

8 See *Policy Proposals to Enhance Money Market Fund Resilience* (October 2021).

Recommendations for Money Market Funds in light of the framework and policy toolkit in the report. Finally, the FSB and IOSCO intend to carry out follow-up work, complementing MMF policy reforms, to enhance the functioning and resilience of short-term funding markets.

Way forward

Work is ongoing by the FSB and its members to assess and address vulnerabilities in specific areas that may have contributed to the build-up of liquidity imbalances and their amplification during the March 2020 market turmoil. This includes work on liquidity risk and its management in OEFs; the structure and drivers of liquidity in core bond markets during stress, including the role of leveraged investors; margining practices, including participants' liquidity preparedness to meet margin calls (see below); and fragilities in USD cross-border funding and their interaction with vulnerabilities in EMEs. The focus of the NBFI work programme in 2022 is to use the insights from these areas to develop a systemic approach to NBFI, by deepening the understanding and monitoring of associated risks and by developing policies to address them where appropriate. The FSB, working with SSBs, will report to the G20 in 2022 on the main findings of these initiatives (with a separate report on USD funding and EME vulnerabilities) and on policies to address systemic risk in NBFI.

2.3. Procyclicality

Some concerns about possible excessive procyclicality in the financial system remain. Margin calls in some centrally cleared and non-centrally cleared derivatives markets during the peak of the March 2020 turmoil may have been larger than expected or insufficiently anticipated by market participants, adding to the overall demand for cash. The actions of certain investors may have contributed to the amplification of liquidity imbalances and their propagation through the financial system. Dealers' capacity to intermediate in some markets may not have kept up with the growth in these markets, which may have reduced dealers' willingness to absorb risk in times of stress. Moreover, while having declined since 2008, mechanistic use of credit rating agency ratings may persist in some specific areas. Also, further work may be useful to examine the potential procyclicality of the new ECL accounting standards' interaction with capital requirements.[9]

CPMI, IOSCO and BCBS are taking forward work on procyclicality in margining practices. Given the rapid increases in market volatility during March 2020, there was a broad based and rapid increase in margin calls across the financial system. The size of the aggregate changes in levels and flows of margin differed across markets and CCPs, with significant dispersion in the size of centrally cleared initial margin increases across, and within, asset classes. Non-centrally cleared initial margin remained relatively stable during the stress period. CPMI, IOSCO and BCBS are consulting on potential areas for further work, which may inform policy considerations.[10]

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9 For external stakeholder views on the potential procyclicality elements of the regulatory framework, see *The role of financial markets and institutions in supporting the global economy during the COVID-19 pandemic* by the FSF, IIF and ISDA (March 2021); *Lessons in financial regulation* by Elliott (Oliver Wyman, July 2020); and *Lessons from COVID-19: Overview of Financial Stability and Non-Bank Financial Institutions* by BlackRock (September 2020).

10 See the BCBS-CPMI-IOSCO *Consultative report: Review of margining practices* (October 2021).

Way forward

In some cases, further work may be required to draw conclusions about potentially excessive procyclicality in the financial system as support measures may have dampened or delayed the impact of potential amplification mechanisms. This caveat may in particular apply to further analysis of potential procyclicality of the impact of ECL provisions on banks' capital positions, and call for further monitoring by the BCBS, which would in turn inform policy and/or supervisory considerations on bank provisioning. In terms of mechanistic reliance on external credit ratings, the FSB work underway on USD funding will explore this issue from the perspective of EMEs and include it in its 2022 report. On margining practices, further international work could help understand the degree and nature of CCP margin models' responsiveness to volatility and other market stresses as well as to explore appropriate ways to analyse, compare, and set baseline expectations as to procyclicality in various settings. This could also include work to evaluate the degree of responsiveness of non-centrally cleared margin models to market stresses. The NBFI progress report to the G20 will include findings from work on margining practices as well as on the behaviour of different participants in core bond markets (such as dealers and open-ended funds), including the drivers of that behaviour and policy implications.

2.4. Flexibility in international regulatory standards

The international standards adopted through the G20 reforms overall provided sufficient flexibility to support an effective policy response during COVID-19. A wide set of monetary, fiscal, regulatory and supervisory measures cushioned the impact of the COVID-19 pandemic on the financial system. Reflecting jurisdiction-specific circumstances and needs, authorities broadly used the flexibility within international standards to support financing to the real economy. In a few cases, individual temporary measures have gone beyond the flexibility available in standards, in order to respond to extreme financial conditions and provide additional operational flexibility to financial institutions. Monitoring and coordination, guided by the FSB COVID-19 Principles,[11] has discouraged unilateral actions that could distort the level playing field and lead to harmful market fragmentation.

These findings are confirmed by the ongoing monitoring by the FSB and SSBs on the use of flexibility of jurisdictions' COVID-19 responses with international standards. There have been limited new regulatory and supervisory measures introduced since 2020 in response to the pandemic, and few extensions of past measures. Most measures continue to use the flexibility embedded in existing international standards. In a few cases, authorities' temporary measures have gone beyond the flexibility of those standards, but a number of these measures have been unwound already or will be unwound by the end of 2021. A few prudential measures remain in place in some jurisdictions to extend the regulatory relief further, such as the extended transitional capital treatment of ECL provisions, central bank reserves exemptions from the leverage ratio and liquidity facilities. The motivation, timing and effects of measures that go beyond the flexibility embedded in international standards warrant further consideration, as they may have implications for the effective functioning of those standards.

[11] See *COVID-19 pandemic: Financial stability implications and policy measures taken* (April 2020) for the FSB Principles.

Way forward

The FSB and SSBs will also continue to monitor COVID-19 policy responses and to evaluate the functioning of the reforms, to draw lessons about the flexibility embedded in international standards. As measures are wound down, FSB members will also share experiences on their effects. As noted above, the issue of whether the regulatory or supervisory flexibility provided by authorities is used by financial institutions – such as in the case of bank capital and liquidity buffers – will require further work.

3. Operational resilience

COVID-19 has reinforced the importance of continuing to promote resilience amidst rapid technological change in the economy and the global financial system. Work-from-home arrangements and demand for online banking services propelled the adoption of new technologies and accelerated digitalisation in financial services. While outsourcing to third-party providers, such as cloud services, seems to have enhanced operational resilience at financial institutions, increased reliance on such services may give rise to new challenges and vulnerabilities. Effective management of such risks across the supply chain is essential for maintaining operational resilience and addressing cyber and information and communication technology (ICT) related vulnerabilities.

3.1. Remote working arrangements

The pandemic highlights the importance of effective operational risk management arrangements being in place before a shock hits. Precautionary lockdown measures tested the contingency plans of all financial market participants. Financial institutions and FMIs successfully invoked and adapted business continuity plans and adopted work-from-home arrangements at short notice. Notwithstanding new challenges, financial institutions and FMIs have generally been able to continue operations in this mode for a much longer period than expected, ensuring that financial markets remained open and orderly, despite in some cases significantly increased trading volumes. The experiences and measures described above underscore the importance of preparedness and planning for operational risk, business continuity and contingencies. Continued investment in and maintenance of security operations centres and cyber security (e.g. firewalls, antivirus software, intrusion detection systems) are essential. At the same time, financial institutions need to recognise the human factor as a core element of the cyber security chain as common methods of attack, such as phishing, target employees and consumers.[12]

Way forward

The FSB will continue to provide a forum for discussion amongst regulators and supervisors to promote the strengthening of control and operational resilience frameworks to address threats to business continuity that could arise from ICT and cyber related vulnerabilities.

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12 See the BCBS Principles for operational resilience (March 2021).

3.2. Outsourcing

Outsourcing to third-party providers may have enhanced operational resilience at financial institutions, particularly in a number of EMEs with less developed IT infrastructures, but poses new challenges for operational risk management. Increased reliance on cloud service providers and other third-party service providers may give rise to new practical challenges for financial institutions' operational and cyber resilience.[13] For instance, dependence on one or a small number of outsourced or third-party service providers for critical services could create a single point of failure with potential adverse consequences for financial stability and/or the safety and soundness of multiple financial institutions, and this concentration risk may have increased as a consequence of COVID-19. Moreover, accessing, auditing and obtaining information from those service providers poses challenges for financial institutions and authorities in managing the associated risks, in particular when onsite audits and inspections (including face-to-face meetings) may be restricted.

Way forward

Based on its analysis of regulatory and supervisory issues associated with financial institutions' reliance on third-party providers, the FSB is launching further work to develop common definitions and terminologies related to third-party risk management and outsourcing, and will develop expectations for financial authorities' use in oversight of financial institutions' reliance on critical service providers.

3.3. Cyber resilience

The number of cyber attacks has increased significantly. Most financial institutions' cyber frameworks did not envisage a scenario of near-universal remote working and the exploitation of such a situation by cyber threat actors. While cyber activities such as phishing, malware and ransomware are not new, they grew with the spread of the pandemic, from fewer than 5,000 incidents per week in February 2020 to more than 200,000 incidents per week in late April 2021.[14] Financial institutions have generally been resilient but they may need to consider adjustments to cyber risk management processes, cyber incident reporting, cyber incident response and recovery activities, as well as supply chain management of critical third-party service providers (e.g. cloud services). The BCBS has set out high-level expectations for banks to improve their resilience to cyber threats, including with regard to the widespread adoption of tools, effective practices and frameworks based on widely accepted industry standards.[15]

Way forward

Recognising that information on cyber incidents is crucial for effective actions and promoting financial stability, the FSB will take work forward to achieve greater convergence in cyber

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[13] See the FSB discussion paper on *Regulatory and Supervisory Issues Relating to Outsourcing and Third-Party Relationships* (November 2020).

[14] See the report by the Financial Services Information Sharing and Analysis Center on Navigating Cyber 2021: The Case for a Global FinCyber Utility.

[15] See the BCBS Newsletter on cyber security (September 2021).

incident reporting. This includes best practices for the types of information authorities may require related to cyber incidents to promote financial stability and creating a 'common language' for cyber incident reporting,

4. Crisis preparedness

The speed, scale and scope of the policy response to COVID-19 was without precedent. At the same time, the COVID-19 experience demonstrates once again how interconnected the global financial system is, and how market reactions and policies have cross-border effects, thereby underscoring the critical importance of international cooperation. It has also tested the usefulness and adequacy of new approaches for supervision and crisis management, including with respect to data and analytical tools.

4.1. International cooperation

The COVID-19 pandemic highlighted the importance of effective cross-border cooperation, coordination and information sharing. CMGs that have been established for all G-SIBs and supervisory colleges provided the backbone for communication and coordination during the COVID-19 pandemic. As the development of recovery and resolution plans is well advanced, authorities' focus is shifting to the testing of the plans, the conduct of simulations and their operational readiness.

Practical and secure arrangements to exchange relevant confidential information facilitates coordination in a crisis. This includes having bilateral and multilateral information-sharing arrangements in place with relevant authorities. This would help to clarify what information could be shared and who should share with whom, and how information should be shared (e.g. encrypted email, secure platform).

Way forward

Based on a stocktake of the operation of CMGs, the FSB will identify a set of good practices and emerging practices of CMGs to enhance preparedness for, and facilitate the management and resolution of, a cross-border financial crisis affecting a G-SIB. A good practices report will be published by end-2021. The FSB will also continue to monitor progress in recovery and resolution planning through the resolvability assessment process (RAP) for G-SIBs. In addition, as part of its work on enhancing cyber resilience, the FSB will identify key information items related to cyber incidents that should be shared across sectors and jurisdictions, and to understand any legal and operational impediments to sharing such information.

4.2. Information and tools

Access to timely and comprehensive data and effective analytical tools are key to assessing and addressing the financial risks arising from the COVID-19 pandemic. Authorities need to identify and address any information gaps (e.g. in regard to non-banks' positions and activities, non-bank liquidity preparedness for margin requirements, and the interconnectedness within the financial system and with corporates), and have the analytical tools to use all available data (e.g. trade repositories) effectively.

Financial institutions should prepare to withstand possibly increasing risks upon expiry of the wide range of policy responses introduced in response to the COVID-19 pandemic. Stress tests and reverse testing are useful in planning exit strategies to avoid cliff effects. For instance, loan loss provisioning should be sufficient before forbearance ends. The results of stress tests also provide important input to supervisory authorities for their assessments of banks' capital position. Authorities can provide data to financial institutions to help adapt stress test scenarios to their business models and portfolios.

Supervisory approaches have been adapted to maintain supervisory intensity in the current environment. Authorities have successfully adapted their supervisory plans and actions to a world of nearly universal remote working arrangements. Further adaptation of supervisory approaches may be ongoing, such as, for example, taking into account in particular emerging financial stability risks such as ICT and cyber risks. The development or enhancement of supervisory and regulatory technology (SupTech and RegTech) can help to further improve the effectiveness and efficiency of authorities' oversight, surveillance and analytical capabilities.

Way forward

The FSB will continue to provide a forum for regulatory and supervisory authorities to exchange views and experience on stress tests and scenario analyses as well as their experience with the development and use of SupTech, RegTech and other tools to conduct analysis. The FSB will also support further international cooperation to address data gaps relevant to financial stability after the conclusion of the G20 Data Gaps Initiative at the end of 2021.

5. Broader policy issues that warrant attention going forward

Steps to address lessons learnt need to take into account the evolving nature of the COVID-19 pandemic. Developments in the financial system since March 2020 have underlined the importance of the G20 reforms in promoting resilience and highlighted new challenges for financial stability. However, the economic and financial impact of the pandemic has been greatly mitigated to date by bold policy actions. This implies that resilience of the global financial system may still be tested, which may affect the analysis of vulnerabilities and the need for policy action. It also means that a highly unusual pattern of the global economy – including the uneven pattern of the recovery and historically low corporate bankruptcies – may limit the ability to draw firm conclusions on financial stability issues such as the cyclical behaviour of the financial system.

Against this background, identifying systemic vulnerabilities early on remains a priority. Preserving financial stability is a necessary precondition for ensuring the smooth flow of finance to the real economy. Banks and non-bank lenders could still face additional losses as policy measures are unwound, revealing the extent of the economic scarring across sectors and jurisdictions. While the results of recent bank stress tests suggest that the largest banks are well capitalised and will remain resilient under a range of recovery scenarios, there may be questions about banks' willingness to sustain real economy financing in an environment of deteriorating non-financial sector credit quality.

The FSB will continue to assess vulnerabilities in the global financial system on a regular basis, to inform timely policy action.

A gradual and targeted future unwinding of COVID-19 support measures should support financial stability during the recovery. Authorities may follow a flexible, state-contingent, data-driven approach, adjusting and withdrawing measures gradually and in a targeted manner; requiring beneficiaries to opt in; making the terms on which support is provided progressively less generous; and sequencing the withdrawal of support measures. Clear, consistent and timely communication about policy intentions can help the economy adjust to changes in policy. A continued exchange of information on adjustments to, and exiting from, policy support measures remains important going forward, not least because an asynchronous recovery from the pandemic across jurisdictions may increase the potential for cross-border spillovers.

The FSB will continue to monitor and regularly discuss policy responses to COVID-19, including potential cross-border effects and implications for EMEs in particular.

One of the legacies of the pandemic may be a build-up of leverage and debt overhang in the non-financial sector. Rapid and large credit support has increased debt levels, especially in the hardest-hit sectors. This is warranted in the context of an exogenous shock such as the one produced by the pandemic. However, it has added to corporate and, in some cases, sovereign indebtedness that was already a concern before the outbreak of COVID-19. And it may also keep unviable firms solvent with knock-on effects on the economy and financial system. Addressing debt overhang, including by assessing companies' viability, facilitating the market exit of unviable companies and an efficient reallocation of resources to viable firms may be a key task for policymakers going forward.

The FSB is studying possible approaches to dealing with debt overhang issues from a financial stability perspective and intends to issue a discussion paper on the topic later in 2021. The FSB will also publish in 2022 a thematic peer review on corporate debt workouts.

COVID-19 has reinforced the need to promote resilience amidst rapid technological change in the economy and global financial system. Beyond the more specific issues around operational and cyber resilience related to the shift to work-from-home arrangements, COVID-19 seems to have given a general boost to digital financial services, in particular various forms of digital payments, as well as to activity of FinTech and BigTech firms. This reinforces the need to assess the financial stability implications of fast-paced financial and technological innovation and ensure that supervisory and regulatory frameworks and approaches provide a solid basis for harnessing the benefits of such innovation while containing their risks, under the "same business, same risks, same rules" principle.

The FSB will continue work on the financial stability, regulatory and supervisory implications of FinTech, including through its monitoring of the financial stability risks of crypto-assets and follow-up work on the regulation and supervision of so-called "global stablecoins".

COVID-19 has reinforced the importance of completing remaining elements of the post-crisis reform agenda. Overall, those parts of the global financial system where implementation of post-crisis reforms is most advanced displayed greater resilience. The financial stability benefits of full, timely and consistent implementation of G20 reforms, including with respect to Basel III, OTC derivatives, resolution frameworks, and NBFI, remain as relevant as when they were initially agreed.

The FSB and SSBs will continue to monitor implementation of G20 reforms through regular progress reports, assessments and peer reviews.

Finally, it will be important to consider in due course how macroprudential policy has functioned both during the COVID-19 pandemic and in the aftermath. The pandemic was not only the first test of the post-2008 regulatory framework, but also of macroprudential policy approaches. A holistic assessment of macroprudential policies should be informed by the outcome of the specific work discussed in the main parts of this report, including on the functioning of bank buffers, on procyclicality and on crisis preparedness and management.

The FSB, working with SSBs, will examine in due course the functioning of the macroprudential policy framework during the COVID-19 pandemic and in the aftermath.