Basel Committee
on Banking Supervision

BIS

A review of the work of the Basel Committee in 2022

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Introduction

It is a pleasure to be back in the Middle East after a few years of virtual meetings. This high-level meeting that we co-organise alongside our friends at the Arab Monetary Fund and Financial Stability Institute has always attracted a lot of interest and this year is no exception. I am honoured to see so many of you here today. Fortunately, the timing is such that I am not competing for your attention with the football world cup, which is taking place nearby. I'm not sure that listening to this speech will, for many of you, be as enjoyable as watching the football – I guess that depends on which country you support. But the good news is that my speech will take much less time than a football match, will be less controversial, at least I hope, and is free from any discussion of the merits of VAR. By VAR, I am referring to video assistant referees rather than value-at-risk. Though, it is true, both can be controversial.

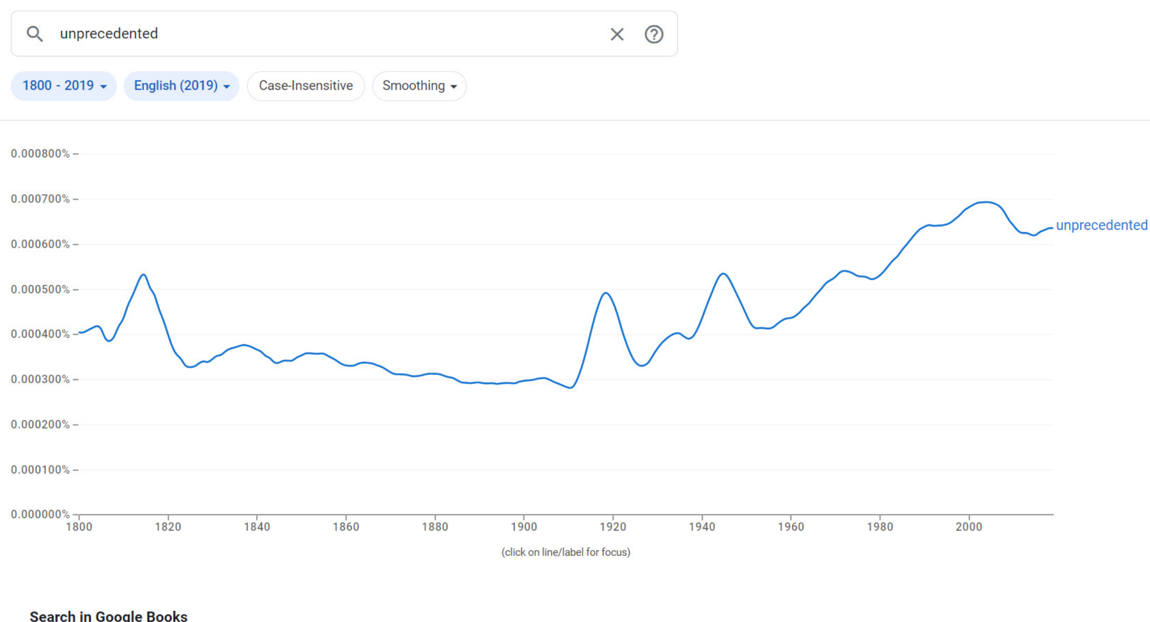
As the year is almost ending, in my remarks today I will review some of the key elements of the Basel Committee's work over the past year, and also reflect a little on the Committee's priorities over the coming period.

Over the past few years, the frequency of unprecedented events seems to have been unprecedented (see the first chart – unfortunately the Google Books Ngram Viewer stops in 2018 – but like all good economists – let's assume it continues to be true).[1] The past year alone has included a pandemic (hopefully the tail-end of it in most parts of the world), an inflationary shock, war in Europe, numerous extreme climate-related disasters and numerous financial shocks (in both traditional finance and the crypto world). As central bankers and supervisors, we are trained to look for possible downside events and to think through the potential ramifications of what happens when unexpected (bad) things happen. But reality over the past few years seems to have been even more extreme than our own vivid imaginations. Unprecedented has become all too common. This has important implications for how we think about tools like stress testing, the frequency and severity of tail events, and reliance on quantitative models that use historical data. I

[1] Source: Google Books Ngram Viewer, As one would expect, there is a peak in March/April 2020, and there remains even now an elevated level of "unprecedentness".

will come back to some of these issues when I conclude. But first, I would like to review the key elements of the Committee's work in 2022.

1. Unprecedented number of unprecedented events



Over the past year the Basel Committee's work programme has covered a broad range of topics. It has focused on policy development and supervisory risk assessments of emerging risks, and the evaluation and monitoring of previously agreed standards.

My brief review will be far from exhaustive. But let me begin with the work to evaluate the impact of the Basel III reforms.

Basel III evaluations

Evaluation is an important part of the policy development process. We don't presume that the regulatory framework is perfect. But making changes comes with a burden of proof to demonstrate that they result in material improvements to the efficacy of the framework without compromising resilience. Moreover, as the start date for Basel III implementation looms large, the focus is rightly on implementing what has already been agreed before contemplating any further changes.

The Committee established its evaluation programme in mid-2020 with the goal of assessing if the already implemented Basel III reforms have achieved their overarching objective of increasing the banking sector's resilience. We completed three evaluations in 2021–22. A great

deal of effort has gone into reviewing a broad range of evidence and undertaking extensive new empirical research to assess the effects and impact of the Basel III reforms.

So what are the main findings of the Committee's evaluation of Basel III?

The onset of the Covid-19 pandemic provided a first stress test of the effect of the Basel standards. But the impact on the banking system of the real-life Covid-19 stress test was clearly shielded by the "unprecedented" global monetary and fiscal response.

With that caveat in mind, the first report on *Early lessons from the Covid-19 pandemic on the Basel reforms*[2] (published in July 2021), using primarily vendor data, found that the increased quality and higher levels of capital and liquidity helped banks absorb the initial impact of the Covid-19 pandemic. It found that banks maintained lending and other critical services during the pandemic. It also pointed to some areas where further analysis was warranted, such as useability of capital and liquidity buffers, potential sources of cyclicality in the framework, and the treatment of central bank reserves in the leverage ratio.

The second report *Buffer usability and cyclicality in the Basel framework*[3] (October 2022), utilised unique bank-level data collected by the Committee, and further investigated topics raised in the first report. The report found some indications of a positive relationship between banks' capital headroom and lending and that temporary reductions in capital requirements supported lending during the Covid-19 pandemic. Little evidence was found that banks' reluctance to use liquidity buffers affected their lending and market activity. There was also little sign of procyclical effects on lending during the pandemic related to the introduction of the expected credit loss (ECL) accounting framework. However, the evidence was not very conclusive in part because it is difficult to distinguish between the effects of the Basel reforms and those of the extensive support measures undertaken by authorities to address the economic impact of the pandemic. Given the high bar for any policy reconsideration, it is not yet clear what possible future actions could be taken in the light of this evidence. The Committee recently issued a newsletter recognising and supporting a trend across jurisdictions to set a positive cycle-neutral countercyclical capital buffer.[4] Since overall lending continued during the pandemic, a reduction by more weakly capitalised banks might not be a concern. In any case, the robustness of the evidence is a necessary condition for any possible Committee policy responses.

I will not go into the detailed findings of the third and broader report *Evaluation of the impact and efficacy of the Basel III reforms*. We plan to publish the report later this month. Overall, this report demonstrates that, since the implementation of the Basel reforms, the resilience of the global banking sector has increased, which is partly attributable to the reforms and not just the general post-crisis recovery. The attribution to the benefits of the reforms is made by comparing the difference in banks' capital and liquidity strength just prior to and after the introduction of the

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[2] Basel Committee on Banking Supervision, Early lessons from the Covid-19 pandemic on the Basel reforms, July 2021.

[3] Basel Committee on Banking Supervision, Buffer usability and cyclicality in the Basel Framework, October 2022.

[4] Basel Committee on Banking Supervision, Newsletter on positive cycle-neutral countercyclical capital buffer rates, October 2022.

reforms. This shows that banks with a weaker initial position see a greater improvement in regulatory ratios. Also, using market measures, the report shows that systemic risk decreases post-reforms. Finally, the report also looks at the effects of the reforms on banks' funding cost and lending, as well as at the interactions across various elements of the reforms and the complexity of the Basel III framework.

The report does not reveal redundancies or conflicts across the various elements of the Basel III reforms. While the Basel III framework is more complex than Basel II, the evidence supports the value of the individual standards and the multi-dimensional framework. The move to a multiple metrics framework was, of course, a key element of the Basel III reform package. It was motivated by a recognition that each regulatory measure has strengths and weaknesses. The multiple metrics framework is more robust to arbitrage and erosion over time, as each measure offsets the shortcomings and adverse incentives of the others.[5]

Taken together, the main takeaway from these three evaluation reports is that, while the debate continues on whether there are elements of the framework that might not always fully function as intended, there is consensus that the reforms have made the banking system more resilient.

Digitalisation

Let me now turn to the broad topic of digitalisation. This is clearly a high priority topic at both the national and global level. Just last week the Committee held its biennial International Conference of Banking Supervisors (ICBS), which was devoted to the theme of "Financial technology and its implications for banks and banking supervision". The conference covered a broad range of issues, which I can't do justice to here. However, for those of you who are interested in getting deeper into the details, the first session can be viewed on the BIS website.[6]

Today, I would like to spend a bit more time reviewing the Committee's work on digitalisation – covering both regulation and supervision.

Regulation

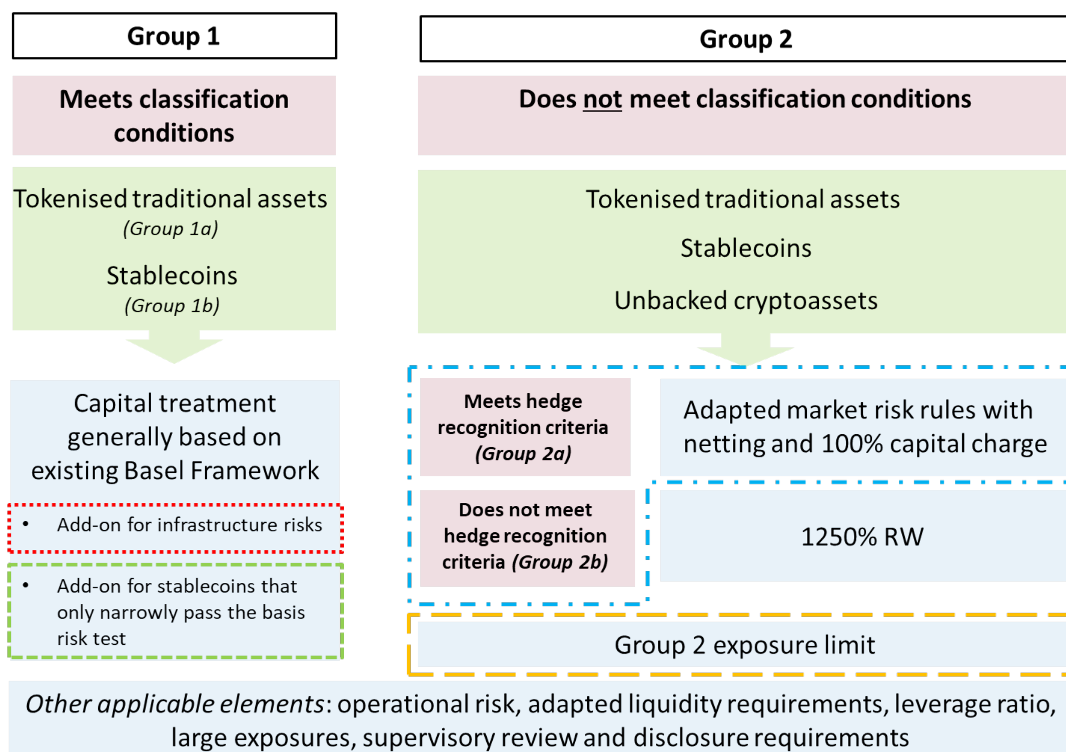
Starting with regulation, in June 2022, the Committee published its second consultative document on the prudential treatment of banks' exposures to cryptoassets (see the second chart). In developing the standard, we started by trying to answer the question: is it appropriate to apply the existing Basel Framework to at least some types of cryptoasset? And, if so, what conditions should we use to identify them? This approach led us to the structure of the proposal in the first consultation paper, which was maintained in the second consultation. That is, cryptoassets are

[5] See S Ingves, "Finalising Basel III: Coherence, calibration and complexity", keynote speech at the second Conference on Banking Development, Stability and Sustainability, 2 December 2015, Santiago, Chile.

[6] Twenty-second International Conference of Banking Supervisors, 29 November–1 December 2022.

divided into two broad groups to determine minimum risk-based capital requirements for credit and market risk.

2. Prudential treatment of banks' cryptoasset exposures – second consultation



Group 1 cryptoassets are those that meet a set of classification conditions. These assets will generally be subject to risk-based capital requirements based on the risk weights of underlying exposures as set out in the existing Basel capital framework.

Group 2 cryptoassets are those that fail to meet any of the classification conditions. As a result, they pose additional and higher risks compared with Group 1 cryptoassets and consequently will be subject to a newly prescribed conservative capital treatment.

The classification conditions relate to the nature of the cryptoasset, issues of legal certainty, the reliability of the design of the cryptoasset arrangement and the regulation and supervision of entities performing significant functions. Group 1 cryptoassets include tokenised traditional assets (Group 1a), and cryptoassets with effective stabilisation mechanisms (Group 1b). Stablecoins can only be included in Group 1b if they are redeemable for underlying traditional asset(s) (eg cash, bonds, commodities, equities) and the stabilisation mechanism is assessed to be effective. Algorithm-based stablecoins or those stablecoins that use protocols to maintain their value are not eligible for Group 1.

A key area of debate has been the set of conditions that determine whether a stablecoin can be included in Group 1. There is a question in the second consultation paper (CP) around

whether the features of stablecoins (eg assets backing the stablecoins and stability of the market value of the stablecoins) should be the primary means of classification, or whether the issuer of the stablecoin must be "supervised and regulated by a supervisor that applies prudential capital and liquidity requirements".

The second CP also proposed that for a subset of Group 2 assets (so called Group 2a assets), some limited recognition of hedging positions would be recognised, subject to a conservative cap on banks' overall exposure to Group 2 cryptoassets.

In addition to the capital requirements for credit and market risk, the consultation provides guidance on the application of other aspects of the Basel Framework to cryptoassets, such as liquidity requirements, operational risk, the leverage ratio and large exposures. The liquidity requirements have been expanded to more fully address the risks posed by crypto-liabilities that may arise in the context of banks issuing stablecoins or other tokenised claims. The consultation also includes an expanded section on how the supervisory review process should be applied in the case of banks' cryptoasset activities and requires banks to regularly disclose information regarding their cryptoasset exposures and activities.

Chart 2 summarises the framework. The Committee has now completed an extensive consultation process. We have made a lot of progress on the outstanding issues and aim to finalise the standard around the end of this year.

Supervision

Turning now to the supervisory work on digitalisation, which has been both broad and extensive, although by its nature less publicly visible. My description will not so much be a summary of the work that has been done, but rather a categorisation of issues that have received significant supervisory attention over the past year. I will divide the work into the following four interrelated categories:

- first, new technologies;
- second, new players and business models;
- third, new products; and
- fourth new forms of old risks.

New technologies

Distributed ledger technology (DLT) is at the heart of many new innovations and new products. The present (or near future) use of DLT in the banking system, either directly to automate traditional banking functions or indirectly through exposures to new products or processes that are built on DLT, raises a number of supervisory issues. This includes questions about expectations for governance, operational risk management, data security, and mitigation of money-laundering and terrorist financing risks. Any new technology or product would raise such issues, but the nature of DLT, particularly when based on permissionless systems, heightens some of these

concerns. At the same time, the technology has the potential to increase efficiency and reduce risks that characterise existing processes – particularly settlement risk. Making informed decisions about whether DTL innovations provide a net benefit will be an ongoing challenge for supervisors.

Artificial intelligence and machine learning (AI/ML) is another rapidly evolving technology with the potential to improve banks' operational efficiency and increase automation across a range of banking services, such as credit decisions or anti-money laundering (AML) checks. While there is the potential for significant opportunities, the use of AI/ML also poses new risks and challenges. The Committee recently published a newsletter outlining some of the issues that the use of this technology raises for banks and banking supervision.[7] These include, for example, issues around understanding and explaining the outcomes of "black-box" models, data governance challenges, the potential for bias and increased third-party and cyber risks.

As these technologies become more embedded into banking services (and society more generally), supervisory processes for judging what is safe and sound, and being able to distinguish between responsible and irresponsible innovation, will no doubt improve. But, for now, we still have some way to go.

New players and business models

With new technologies come new players into the business of banking. These new players come in many shapes and sizes: bigtechs, fintechs, digital banks, and a range of other service providers. New entrants increase competition for banking services, but also offer opportunities for collaboration with incumbent banks. The increase in collaboration between banks and fintechs has been one emerging trend.[8] But banks have also been adjusting their own business models through greater investments in technology, investment in or acquisition of fintech firms, and expanding beyond core banking services into adjacent offerings. For policymakers, the changing market structure raises questions regarding the regulatory perimeter, viability of new and changing banking business models and increasing complexity in the delivery of banking services. I will come back to the complexity issue when I discuss the risks.

New products

Building on the new technologies, a number of new products or methods of delivering old products have emerged. This is an area of significant ongoing development, and it is difficult at this stage to judge which, if any, will be truly transformative. As supervisors consider new products, the potential for increased connections, unintended consequences and risk transmission will need to be thoughtfully considered. I will touch on three general products: stablecoins, tokenised assets and smart contracts.

Stablecoins are cryptoassets that purport to peg their value to a specific asset, or pool of assets. Currently the main use of stablecoins is for market participants to trade in other types of

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[7] See Basel Committee on Banking Supervision, *Newsletter on artificial intelligence and machine learning*, March 2022.

[8] See, M Brue, "Collaboration is the new competition in Fintech", Forbes, 16 December 2020.

cryptoassets, but they also have the potential to lower costs and achieve more timely settlement. If banks move to broader adoption of stablecoin technology, this could provide a link between the unbacked crypto ecosystem and the traditional financial sector, with an increased risk of contagion between the two systems. Also, even if stablecoins start to be used more for real world transactions, can they be relied upon to fulfil their promise of providing a stable store of value? How can a stablecoin promise redemption under all circumstances, at the value of the currency to which it is pegged, if it is not fully backed by cash and central bank reserves? Even highly rated bonds (such as government bonds) that back a stablecoin can give rise to a liquidity mismatch with the claims of the stablecoin holders.

The tokenisation of assets refers to the process of issuing a digital token that represents a real asset and placing this on a distributed ledger. This process may bring a variety of benefits and opportunities to banks, including greater liquidity, accessibility and transparency. However, supervisors will need to ensure banks intermediating such assets address open questions regarding the legal status of the tokens and settlement finality. Assessing the potential impact to liquidity risks that could arise via broader adoption of tokenisation, both for individual firms as well as systemically, will also be important for supervisors.

A smart contract is self-executing code that can trigger an action if certain pre-specified conditions are met. While they may facilitate increased automation, incorporating smart contracts in banks' processes will likely require additional controls to mitigate risks and establish mechanisms for legal recourse where they are used. While smart contracts can increase transparency in some contexts, they require banks and their supervisors to have the skills to audit and validate them. Additionally, automaticity in the financial system may be a benefit in benign economic environments but can become a liability in times of deteriorating liquidity and stress. How will such contracts work when inevitable unexpected events occur? As policymakers, we know that, no matter how well designed, regulatory policies are never set in stone and evolve as markets and risks emerge. In such a scenario, what happens if smart contracts need to be changed? More generally, when smart contracts are used by decentralised applications, the issue of who ultimately is responsible for the smart contract raises significant legal and regulatory challenges.

New forms of old risks

It is not surprising that the combination of new technologies, new entrants, new business models and new products, leads to elevated levels of risk that need to be addressed. Some of these risks may be novel, though in many cases it will just be a case of understanding old risks in a new context. In this regard the Committee is continuing to assess the implications of multiple issues, including: the increased reliance on third parties and the use of more complex value chains, the challenge of understanding the new technologies and determining who/what can be trusted, the mitigation of money-laundering and terrorist financing risk, cyber security risks and various issues relating to data, such as governance, access and transparency.

On the issue of more complex value chains, some have drawn an analogy with the rise of global supply chains.[9] While these global supply chains increase efficiency, their increasing complexity and concentration made supply chains for many companies more vulnerable to disruption. A similar effect may occur as the supply of banking services becomes more complex and dependent on a greater number of service providers.

Underlying many of these new technologies, products and business models is the use of more complex data. Banks are increasingly seeking to access and utilise a wide range of data sources – including alternative, unstructured and synthetic data – and are facing increased pressure to share data with third parties, for example, under open banking regimes. These trends may pose challenges for banks' data governance practices, particularly in ensuring data quality, relevance, security and confidentiality.

I conclude the discussion of digitalisation by stating the obvious. Continued work is needed to refine supervisory approaches to assessing these risks. There is much still to learn and understand. My key takeaways to date are that: (i) we need to hold the line and avoid approving new businesses or products that are not clearly understood; (ii) protecting the stability of the core financial system remains key; and (iii) start by enforcing the basics of risk management and governance as set out in the Committee's supervisory guidances such as the corporate governance principles.[10]

Climate-related financial risks

The Committee recognises that climate change may result in physical and transition risks that could affect the safety and soundness of individual banking institutions and have broader financial stability implications. The assessment, measurement and mitigation of climate-related financial risks therefore has been, and remains, a key priority for the Committee.

The Committee started its work in this area by conducting a stocktake of members' existing regulatory and supervisory initiatives on climate-related financial risks, the results of which were published in April 2020. The Committee then conducted analyses to better understand the risk features of climate change and its potential implications for individual banks and the broader banking system. On that basis, it published two analytical reports in April 2021 on *Climate-related Risk Drivers and their Transmission Channels* and *Climate-related Financial Risks – Measurement Methodologies*.

The first report explores how climate-related risk drivers, including physical risks and transition risks, can arise and affect both banks and the banking system via micro- and macroeconomic transmission channels. The second report provides an overview of conceptual issues related to climate-related financial risk measurement and methodologies, as well as

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9 M Hsu, "Safeguarding trust in banking: an update", remarks at the TCH + BPI Annual Conference, New York, September 2022.

10 Basel Committee on Banking Supervision, *Corporate governance principles for banks*, July 2015.

practical implementation by banks and banking supervisors. Taken together, the reports conclude that traditional risk categories reflected in the Basel Framework (eg credit, market, operational risk etc.), can be used to capture climate-related financial risks. This conclusion provided a conceptual foundation for the Committee's next steps in the assessment, measurement and mitigation of climate-related financial risks.

Building on the analytical work, the Committee is examining the extent to which these risks are addressed within the Basel Framework, identifying potential gaps, and considering possible measures to address any gaps. The Committee is adopting a holistic approach, considering all available tools in the Basel Framework, spanning regulatory, supervisory and disclosure elements.

Work on regulation includes analysis of the conceptual issues related to the measurement and mitigation of climate-related financial risks, including the forward-looking nature of this risk, a high degree of uncertainty, issues associated with time horizon, and incomplete data and methodological challenges. Consistent with this approach, the Committee has developed answers to frequently asked questions (FAQs) that clarify how banks may incorporate climate-related financial risks into the existing Pillar 1 framework without making any changes to the standards themselves. These FAQs are being published today.

With regard to supervision, the Committee issued the *Principles for the effective management and supervision of climate-related financial risks* in June 2022. The Principles seek to achieve a balance in improving practices and providing a common baseline for internationally active banks and supervisors, while maintaining sufficient flexibility given the degree of heterogeneity and evolving practices in this area. The Committee expects implementation of the principles as soon as possible and will monitor progress across member jurisdictions.

With regard to disclosure, the Committee has publicly supported the establishment of the International Sustainability Standards Board (ISSB) to develop global standards to improve the consistency, comparability and reliability of sustainability reporting. In parallel with the ISSB's work, the Committee is exploring the use of Pillar 3 of the Basel Framework to promote a common disclosure baseline across internationally active banks.

Supervisory coordination

Under the broad heading of supervisory coordination, I would like to cover three other areas of work that the Committee has completed this year. This covers work related to the macrofinancial outlook; data collection; and banks exposures to non-bank financial intermediaries (NBFIs).

Macrofinancial outlook

The macrofinancial environment in many jurisdictions is characterised by rising inflation and interest rates, stretched asset valuations (property and equity markets); and high levels of public and private sector debt. Rising interest rates are beneficial to banks (in terms of increased margins and profitability), but they also increase risks (in terms of elevated credit risk and interest rate risk). These impacts differ across jurisdictions and bank business models. To address these risks,

jurisdictions are pursuing a range of regulatory and supervisory measures. This may include (for example):

- raising capital levels;
- stress testing;
- setting exposure limits; and targeted on-site reviews and analyses to address elevated levels of interest rate risk in the banking book (IRRBB); and
- a broad range of actions to prepare banks for potential deterioration in the credit quality of borrowers and counterparties.

Data

Over the course of this year, the Committee published many new dashboards to explore data from its various collection exercises.[11] The dashboard site provides an overview of the scores and indicator components for global systemically important banks and the implementation status per country in the Regulatory Consistency Assessment Programme by standard. Furthermore, the current and past results from the Basel III Monitoring exercise are presented for eight different topics. A ninth dashboard summarising the cumulative effect of the Basel III reforms will be published alongside the next monitoring report around end-February 2023.

This is all part of our effort to disseminate the Committee's analysis in a more interactive and user-friendly manner. We hope this has been helpful to all stakeholders and the Committee will continue to streamline and make more effective its data collection and dissemination of the associated outputs.

Non-bank financial intermediation (NBFI)

The Committee has held several discussions on NBFI over the past few years, with a particular focus on the supervisory implications and takeaways from recent episodes of NBFI distress, including Greensill and Archegos. Based on this work, the Committee issued a supervisory newsletter[12] in late November (24 November) on bank exposures to NBFI. The newsletter notes the rapid growth of NBFI and cross-border financial stability risks. It then highlights some of the observed deficiencies in banks' risk management practices related to NBFI, including counterparty credit risk management, governance arrangements – including for onboarding – and inadequate data collection.

Conclusion

The Committee's work over 2022 has been extensive and also responsive to key emerging macroeconomic and financial stability challenges. Looking ahead, many of the issues that

[11] Basel Committee on Banking Supervision, BCBS Dashboards, www.bis.org/bcbs/dashboards.htm.

[12] Basel Committee on Banking Supervision, *Newsletter on bank exposures to non-bank financial intermediaries*, November 2022.

dominated the agenda in 2022 will probably continue to dominate the Committee's agenda in the coming year. This includes:

- the wide range of open issues related to digitalisation;
- ongoing work to address climate-related financial risks, which includes further work on regulation, supervision and disclosure;
- increasing bank and supervisory preparedness against a broad range of downside macrofinancial risks; and
- better understanding of banks' interconnections with NBFIs

I started this speech with a discussion of the ever-increasing frequency of unprecedented events and the challenges this poses for supervision and regulation. I also questioned whether you would have chosen to listen to me rather than watch a football match had one been on. As a football fan myself, I am looking forward to watching which teams progress to the next stage of the world cup. But any team that has reached this stage has done so with a good foundation of skills, years of preparation, a stroke of luck, and, last but not least, execution and adaptability in the face of uncertain events on the field of play.

It should come as no surprise to you, therefore, that I think banking supervision should follow the same approach as a good football team in dealing with an increasingly uncertain world. After the poor performance in the previous challenge of the financial crisis, supervisors responded by building up their skills and undertaking years of preparation through the development of Basel III. The multiple metrics approach of the framework, and the constraints on the use of internal models through the output floor, when combined with effective supervision, represent our best strategy, or game plan, for successfully dealing with unprecedented events. Now is the time for the execution of that strategy, by which I mean the implementation of Basel III – in full, consistently and as soon as possible. You didn't think I would get through a whole speech without mentioning Basel III implementation, did you?