Basel Committee
on Banking Supervision

Back to the (macroprudential) future: Reflections and questions on macroprudential policy

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Keynote speech at the HKMA-BIS joint conference on "Future-proof supervision for an innovative banking world"
Hong Kong SAR, 24 March 2023

Introduction

Good morning, and thank you for inviting me to speak at this joint HKMA-BIS joint conference celebrating the HKMA's 30th anniversary.

As the Chair of the Basel Committee, I should mention two more anniversaries that are worth commemorating today. First, the Committee has met in person in Hong Kong over the last couple of days. It has been 10 years since the Committee last met in Hong Kong. I speak on behalf of all Committee members in saying that it is a pleasure to be back here, and I thank the HKMA for its hospitality this week.

Second, it has been 14 years since the HKMA joined the Committee as a member. Since 2009, the HKMA has always been a highly valued member, not least for its long-standing commitment to cross-border cooperation and its constructive contributions, including chairing some of the key Committee groups. These contributions have been critical in supporting the work of the Committee and in seeing through our major post-Great Financial Crisis (GFC) regulatory and supervisory reforms. The Committee has benefited in many ways from the HKMA's perspectives and experiences across a wide range of issues during this period, and am sure it will continue to do so in the future.

But let me come back to the 30th anniversary milestone and revisit the work of the Committee in the year of the HKMA's establishment. In 1993, the Basel Committee had only recently finalised the Basel I framework, and was issuing consultation papers on the prudential treatment for capitalising against market risk and measuring interest rate risk.[1] In some respects, certain elements of these consultations sowed the seeds for the development of the Basel II framework later in the 1990s.

Yet despite the passing of 30 years, some of the Committee's supervisory concerns in 1993 sound familiar. Going back to the consultation papers issued at that time, the Committee

[1] BCBS (1993a, 1993b, 1993c).

noted that market risks to banks were growing as a result of "the rapid development of financial markets".[2] It went on to stress that interest rate risk is "a significant risk which banks and their supervisors need to monitor carefully", and that "a change in interest rates might adversely affect a bank's financial condition through its effect on all interest-related assets, liabilities and off-balance-sheet items".[3] Clearly, these messages continue to hold today, as we have seen from recent events.

Recent events have further highlighted the importance of a resilient global banking system underpinned by effective bank governance and risk management practices, robust regulatory standards, and strong supervision supported by proactive cross-border cooperation. Since the Great Financial Crisis, the Basel III reforms have helped the global banking system absorb different shocks and continue to lend to creditworthy households and businesses.

The risks of high inflation, lower growth and geopolitical tensions are posing risk management challenges to banks. Years of unprecedentedly low interest rates underpinned the build-up of leverage across household and corporate sectors. As central banks raise interest rates to combat inflation, borrowers are now facing sharply rising debt service burdens. A broad-based repricing in asset markets could also expose banks to additional risks and new risk management challenges.

Banks and supervisors must therefore be vigilant to the evolving outlook to ensure that the global banking system is resilient. The Committee will continue to closely monitor bank and market developments and assess the financial stability risks of higher interest rates to the global banking system.

In addition, the Committee agreed to take stock of the regulatory and supervisory implications stemming from recent events, with a view to learn lessons.

So the theme of our conference today – future-proofing supervision for an innovative banking world– is a highly topical one. We have witnessed profound changes to the global banking system as a result of ongoing structural and disruptive factors, geopolitical developments and conjunctural risks. Indeed, many of these issues were discussed by the Committee earlier this week and summarised in the press release published yesterday.[4] But there are also perennial challenges and risks faced by banks and supervisors. So it is right to take a step back and review our supervisory and regulatory philosophy in the light of such changes.

Today, I will focus the rest of my remarks on one area which has witnessed profound transformation, namely, the use of macroprudential regulation and supervision.

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[2] Ibid.

[3] Ibid.

[4] Press release: Basel Committee to review recent market developments, advances work on climate-related financial risks, and reviews Basel Core Principles (BCBS (2023)).

The return of the Mac(ropru)

At its most basic, macroprudential regulation and supervision seeks to safeguard financial stability by applying (primarily) prudential measures through a system-wide perspective on the distribution and evolution of risks across two main dimensions:

- The cross-sectional distribution of risks resulting from interconnections, common exposures and collective behavioural responses by financial institutions at any given point in time.

- The evolution and amplification of risks at an aggregate level over time resulting from the inherent procyclical dynamics of financial institutions and markets through the financial cycle.[5]

Economic historians may note that macroprudential policy is not a post-GFC innovation. Peter Cooke, one of my esteemed predecessors as Chair of the Committee, first mentioned the term at a Committee meeting in June 1979, where he noted that "the Committee had a justifiable concern with macroprudential problems" and that "it was the link between those and macroeconomic ones which formed the boundary of the Committee's interest".[6] The BIS then used the term publicly in a report in 1986, where it defined it as a policy that promotes "the safety and soundness of the broad financial system and payments mechanism".[7]

The pre-GFC macroprudential world was not just limited to conceptual discussions. Many jurisdictions – including several in the Asia-Pacific region – had in effect applied macroprudential measures years before the GFC.[8] For example, Hong Kong applied bank exposure limits to the property market as far back as 1994, Malaysia increased risk weights for certain housing loans in 2005, and India increase provisioning requirements in the same year. Macroprudential policy is therefore, in many ways, an old idea whose time has come round again.[9]

But the GFC also painfully highlighted the limited systematic use of macroprudential regulation and supervision. Fuelled by very high levels of leverage and maturity transformation, a web of opaque and highly interconnected chains between financial entities was left largely untouched by regulation in the run-up to the crisis. As risks started to crystallise, the sharp retrenchment of key financial services by banks and other financial entities, in part a necessary process to unwind the excessive leverage in the system, exacerbated economic conditions and hindered the subsequent recovery (Graph 1). A fundamental revamp of regulation and supervision was needed.[10]

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[5] See, for example, Borio (2003) for a deeper elaboration.

[6] Clement (2010).

[7] BIS (1986).

[8] Borio and Shim (2007).

[9] Borio (2009).

[10] BCBS (2015).

Thankfully, the GFC did not go to waste, as it prompted a breakthrough in the use and application of the macroprudential perspective.[11] Jurisdictions around the world adopted financial stability mandates, deploying an increasing number of macroprudential measures over time (Graph 2).[12] The term "macroprudential" itself has now been comfortably adopted into the vernacular of central banks and supervisory authorities (Graph 3).

The Committee itself was quick in applying a more rigorous macroprudential regulatory and supervisory overlay post-GFC. It set up a high-level Macroprudential Supervision Group to develop approaches to promote the practical implementation of macroprudential supervision for the banking sector. The Committee's broad work on macroprudential issues comprised three main dimensions.

First, the introduction of regulatory capital and liquidity buffers. These buffers provide an additional layer of shock-absorbing capacity over and above minimum requirements. They are intended to be used by banks in times of stress to absorb losses and meet liquidity demands in an orderly way, while continuing to lend to creditworthy households and businesses. They include the following:

- The capital conservation buffer, which provides banks with an additional layer of resilience and capacity to absorb losses in times of stress while providing key services to the real economy.

- Buffers for globally systemically important banks (G-SIBs) and domestic systemically important banks (D-SIBs), which add a further layer of resilience for banks with a large systemic footprint. The Committee has been conducting an annual G-SIB assessment exercise since 2011 and many of our members have also applied the D-SIB framework.

- A countercyclical capital buffer, which can vary over time and aims to protect the banking system as a whole against losses resulting from the build-up of systemic risk.

- A buffer of high-quality liquid assets to help meet potential liquidity outflows in times of stress, as stipulated in the Liquidity Coverage Ratio (LCR).

Second, the development of a suite of regulatory and supervisory metrics. In addition to the risk-weighted ratio, the Basel III framework also includes a leverage ratio, large exposure limits and two liquidity standards (the LCR and the Net Stable Funding Ratio). And supervisory stress testing plays an increasingly important role across a number of jurisdictions.

The move towards a "multiple metrics" framework recognises that each individual regulatory/supervisory measure has strengths and weaknesses and cannot be relied on in

[11] Knot (2022).

[12] BIS (2018).

isolation.[13] 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. For example, the leverage ratio provides an absolute cap on leverage, but, by itself, could incentivise banks to increase their holdings of higher-risk assets. The risk-weighted framework compensates for this as it constrains banks that materially increase their risk profile without any commensurate regulatory capital to fund their balance sheets. And the liquidity standards require banks to maintain a prudent buffer of high-quality liquid assets and restrict the degree of maturity mismatch. The design of the Basel III framework was in itself based on a system-wide perspective on these metrics.[14]

Third, the Committee now pursues a more rigorous and forward-looking approach to its supervisory initiatives. This includes our regular exchanges of views of emerging risks and vulnerabilities and our ongoing work in promoting strong supervision through the issuance of guidelines, sound practices and supervisory newsletters. We approach this work through both a macro- and microprudential lens.

Looking back: initial Basel III macroprudential lessons learned

So, what has been our experience to date with regard to the macroprudential elements of Basel III? The Committee has been evaluating the impact and efficacy of these reforms, drawing on a wide range of empirical evidence and consulting with external stakeholders.[15] We have published three reports to date.[16] I could not do them justice in a single speech, so let me just highlight a few high-level takeaways.

The overarching story is a generally encouraging, albeit incomplete, one.

Starting with the impact of Basel III macroprudential reforms on banks' resilience, the Committee found that the introduction of these reforms was associated with a decline in various measures of systemic risk.[17] Starting with the G-SIB framework, we found that G-SIBs reduced the share of complex and high-risk assets of their balance sheets in response to their G-SIB designation by a greater proportion relative to non-G-SIBs. They also issued more capital than non-G-SIBs. Importantly, this behaviour did not come at the cost of a significant (negative) change in their lending behaviour. More broadly, our evaluation found that banks' capital strength can help dampen negative feedback effects among banks under stress, thereby reducing the probability of a stress resulting from the failure or distress of a single bank. Such outcomes are fully aligned with the objectives of the G-SIB framework.

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[13] Ingves (2016).

[14] Borio et al (2020).

[15] Hernández de Cos (2019, 2021, 2022).

[16] BCBS (2021, 2022b, 2022e).

[17] These include ΔCoVaR, Exposure-ΔCoVaR, Marginal Expected Shortfall and SRISK.

The experience with the countercyclical capital buffer as a time-varying macroprudential tool has also been broadly positive. First, the buffer has been deployed by several of our members (Graph 4). Prior to the Covid-19 pandemic, eight out of 27 Committee member jurisdictions – of which Hong Kong was one of the first – had activated (or announced their intention to activate) the buffer. Seven of these jurisdictions subsequently released the buffer in response to the pandemic – consistent with a broader loosening in macroprudential policy more generally (Graph 5) – and five of them have since reactivated (or announced their intention to reactivate) the buffer in response to an increase in cyclical systemic risks, with an additional member recently activating the buffer for the first time as well.

Second, the empirical analysis finds some evidence that, during the pandemic period, capital releases a positive additional effect on lending. Banks that benefited from capital relief measures during the pandemic tended to see stronger loan growth than other banks. Limited sample size and data frequency do not allow us to draw any definitive conclusions at this stage as to the specific effect of the countercyclical capital buffer on bank lending in times of stress but, in general, countercyclical supervisory measures were shown to be effective.

Looking ahead: open questions about the path for macroprudential policy

Given our experience so far, what is the outlook for the Basel III macroprudential tools? The past decade placed macroprudential policy firmly back on the map of central banks and supervisors. The decade ahead will, in my view, ideally see it being deployed as part of a holistic macro-financial stability framework – one that considers the joint operation of monetary, micro/macroprudential and fiscal policies to stabilise the economy.[18] To help reach that goal, let me outline three open questions that I believe warrant further reflection. I should note that these reflect my personal views and are not necessarily those of the Committee as a whole. Our member jurisdictions are fully committed to implementing all aspects of Basel III in full, consistently and as soon as possible, as recently reaffirmed by our oversight body, the Group of Central Bank Governors and Heads of Supervision.[19]

The first question relates to the role and design of the countercyclical capital buffer. In short, is there a need to further specify or refine the intended objectives, calibration and mechanics of this regime? Or is there virtue in providing sufficient leeway and flexibility for jurisdictions to adapt the framework in a manner that reflects domestic considerations?

As currently designed, the countercyclical capital buffer's primary objective is to build resilience over the credit cycle. The Committee's guidance notes that the buffer seeks "to ensure that the banking sector in aggregate has the capital on hand to help maintain the flow of credit in the economy without its solvency being questioned, when the broader financial system

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[18] BIS (2022).

[19] BCBS (2022a).

experiences stress after a period of excess credit growth".[20] The Committee also recognised that there might be a "positive side benefit" of the buffer insofar as it helps lean against the build-up phase of the credit cycle, but that this was not a formal objective.[21]

Yet, in practice, buffer releases by our members to date have been due either to the pandemic or to political economy events, and not in response to downturns emanating from credit-fuelled booms. True, such releases were arguably still consistent with the ultimate, system-wide, macro-financial resilience objective. But they also underline the buffer's potentially broader scope and remit. Is there a need therefore to further assess the reasons for the countercyclical capital buffer and its magnitude during the build-up phase? More broadly, where does the buffer sit alongside other time-varying micro/macroprudential measures, such as stress testing or more targeted policy measures such as those that many jurisdictions have used to dampen excessive growth in their housing markets?

Related to the above, we have also seen a range of practices when it comes to deciding on the appropriate buffer rate. An increasing number of jurisdictions have chosen to implement "positive cycle-neutral" buffer rates. Put simply, the countercyclical capital buffer is set at a positive rate when risks are judged to be neither subdued nor elevated. Just as with any countercyclical capital buffer rate decisions, authorities can draw on a wide range of quantitative and qualitative indicators to help decide on the appropriate neutral level, including the common credit-to-GDP reference guide and supervisory judgment. Such an approach can help further bolster the banking system's resilience by ensuring that there are sufficient releasable buffers in the event of sudden shocks. This is why the Committee issued a newsletter last year recognising such benefits and supporting the ability of authorities to set a positive cycle-neutral rate on a voluntary basis.[22]

My second question relates to whether additional global macroprudential measures are needed. The Basel III countercyclical capital buffer and G-SIB regimes represent a significant milestone when it comes to developing a common global macroprudential baseline that jurisdictions can build on. The Committee also recently issued guiding principles for the operationalisation of a sectoral countercyclical capital buffer, which would allow for a more targeted macroprudential tool in response to the build-up of risk in a specific sector.[23] Should we build on this framework and consider other macroprudential tools? Two examples spring to mind.

First, could more be done when it comes to cross-sectional macroprudential dimension of the Basel III framework and non-bank financial intermediation (NBFI)? The NBFI sector has grown significantly since the GFC, and now encompasses nearly half of total global financial assets (Graph 6). While the focus of the Committee is on the global banking system, the growth in NBFI is of importance, given the interconnections between banks and NBFIs. Banks' cross-border claims

[20] BCBS (2010).

[21] Ibid.

[22] BCBS (2022c).

[23] BCBS (2019).

on NBFIs grew by almost 40% during 2016 and 2019.[24] In aggregate, banks' funding from, and exposures to, NBFI account for almost 8% and 5%, respectively, of their total assets, although this masks considerable divergences across jurisdictions.[25] Events over the past three years, including the market turmoil in March 2020, idiosyncratic episodes of NBFI distress and margin dynamics have highlighted how these channels of interconnections can pose risks to banks.

Against this backdrop, the Committee relies on various tools and measures to mitigate system-wide NBFI risks to the global banking system. The calculation of banks' G-SIB scores is in part based on banks' intra-financial system assets and liabilities. The Committee's post-GFC reforms include a range of regulatory measures related to banks' exposures to NBFI, including with regard to banks' exposures to central counterparties, securitisations, equity investments in funds and margin requirements for non-centrally cleared derivatives. The Committee has also issued supervisory guidelines on the identification and management of step-in risk resulting from potential financial distress in shadow banking entities spilling over to banks.[26] And, most recently, the Committee published a supervisory newsletter last year in which it underlined the importance of reviewing and enforcing existing guidelines and standards with regard to banks' NBFI risk management practices, due diligence and disclosures.[27] We also plan to develop additional guidance with regard to NBFI risk management over the course of this year.

While great progress has been made in shoring up banks' resilience with regard to NBFI entities, the question is whether that is sufficient? To date, virtually every episode of NBFI distress has involved banks, either as a direct counterpart or through indirect channels. To the extent that NBFIs continues to grow in systemic importance, is there a need for additional bank macroprudential measures aimed at mitigating risks to the banking system from interconnections with NBFIs? It is not possible to provide a definite answer at this stage given ongoing initiatives, but I believe that we should at least keep this question open.

A second set of macroprudential measures that could potentially benefit from further global work relates to targeted measures such as loan-to-value (LTV) and debt-to-income (DTI) type limits. These have historically been the macroprudential measures most used by jurisdictions: about 300 such measures were applied between 1995 and 2018.[28] This is perhaps not surprising, as the empirical literature suggests that such limits may help curb housing credit growth.[29] While these home-grown measures have generally worked well and Committee members have been sharing approaches and experiences, the question is whether benefits would accrue from a common set of global principles for designing and operationalising such measures?

My last question is about an issue that has already received much attention, namely, the

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[24] Garcia Luna and Hardy (2019).

[25] FSB (2022).

[26] BCBS (2017).

[27] BCBS (2022d).

[28] BIS (2018).

[29] Ibid.

usability of Basel III buffers. To what extent are these buffers usable in the way in which they were intended when designed? The headline conclusion from the Committee's own evaluations is that, while there is some indication of a positive relationship between capital headroom and lending, it is hard to draw firm conclusions at this stage, given data limitations, variations in experience across jurisdictions and the difficulty of distinguishing between the effects of Basel III and other wide-ranging support measures deployed during the pandemic.[30] I won't provide a detailed account of the various arguments that have been put forward arguing in favour of changes to the framework or maintaining the status quo. Instead I would encourage you to read the reports, which provide a comprehensive assessment of the various factors at play.

Rather, let me make a few more general points. No matter how the framework of regulatory buffers is designed, a few things remain true in my view. You can't use what you don't have – that means supervisors will need to ensure the appropriate build-up of buffers during good times. There needs to be a will to take action – which, to be frank, will usually be unpopular at the time. And secondly, whether or not the "true" impediments to drawing down buffers comes from supervisors, market participants and/or banks themselves, to what extent could this simply reflect a discomfort about going below a certain level of resilience? To put it another way, a buffer is only truly a buffer if, after it is completely used up, there remains no question as to the bank's strength. To use an extreme example, few people would question whether a bank could use, say, a 5% buffer if it resulted in a decline in its capital ratio from 25% to 20%. Conversely, if using a 5% buffer resulted in bank's capital ratio going from 10% to 5%, that would clearly raise questions about it as a going concern. To be clear, I am not advocating a 25% capital ratio. But we should recognise that the usability of buffers depends in some respect on where you land in terms of a post-buffer-use capital ratio.

There is no single or easy answer to these questions, but I believe that we would be advancing the cause of global financial stability by further reflecting upon them over the coming decade.

Conclusions

In conclusion, good progress has been made by the Committee over the past decade in adding a macroprudential overlay to the Basel framework. We have already seen the benefits of these measures with regard to safeguarding the resilience of the global banking system and its ability to absorb system-wide shocks. But there are also a number of important questions and issues that warrant further reflection, especially as part of a holistic macro-financial stability framework.

By its nature, however, any macroprudential regime builds on, and complements, the underlying microprudential regime. Whether we look at the past 30 years or more recently, there have been no shortages of episodes that have highlighted the importance of having a robust microprudential regulatory and supervisory regime, including with regard to fundamentals such as liquidity and interest rate risk management and interconnections with NBFI entities. So as we

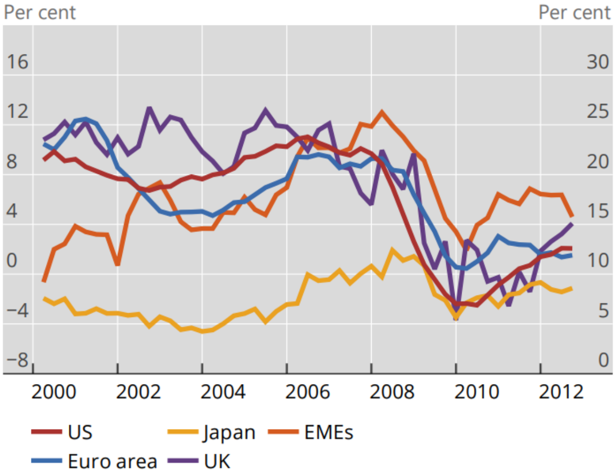
[30] BCBS (2022b).

advance our thinking and work on macroprudential policy, we should also continue to ensure that the microprudential base is robust.

As the Committee comprises both central banks and supervisory authorities, and through its global membership and extensive outreach programme, it is well placed as a forum to help drive through this work and foster ongoing cooperation.

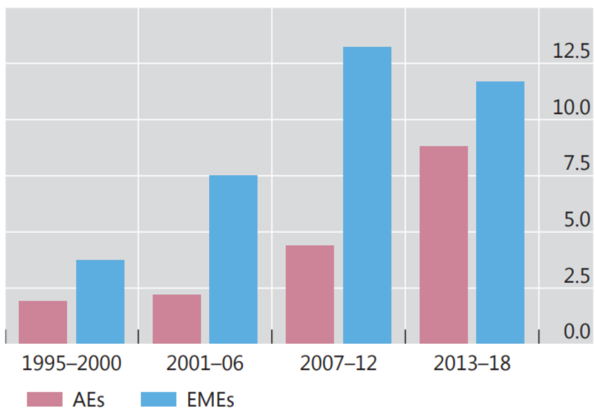
Graphs

Graph 1: Total credit growth to the private non-financial sector[(a)]



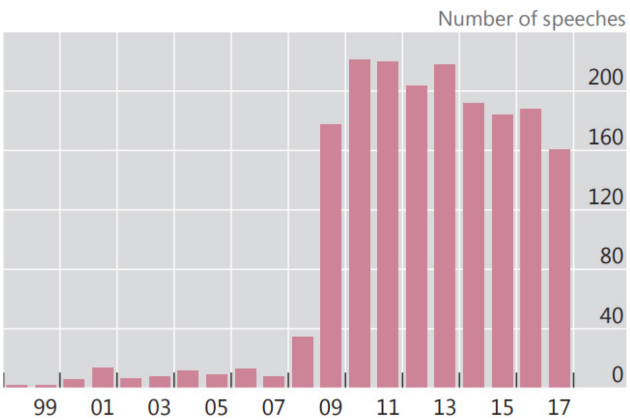
Source: BCBS (2022).
(a) Year-on-year change. EMEs series consists of a weighted average based on the 2005 GDP and PPP exchange rates of 18 EMEs located in Americas, Asia, Africa and Europe

Graph 2: Number of macroprudential measures used over time[(a)]



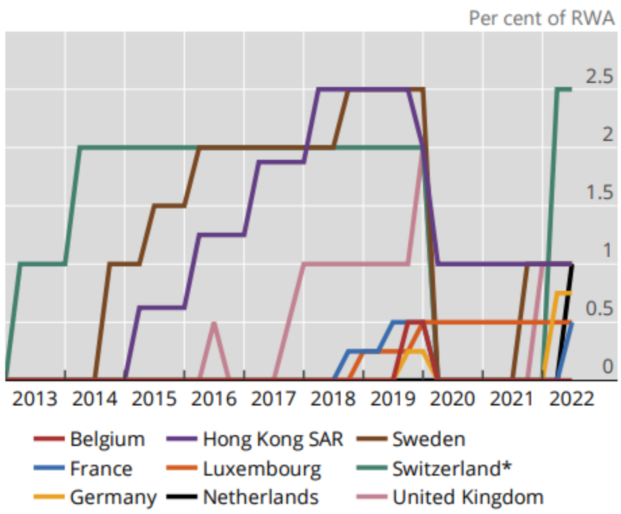
Source: BIS (2018).
(a) The bars show the average number of macroprudential measures per year and per 10 economies in each group of economies.

Graph 3: Number of central bank speeches mentioning the term "macroprudential"



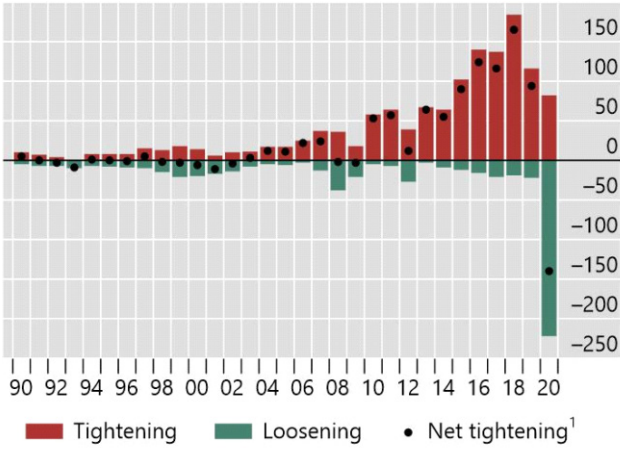
Source: BIS (2018).

Graph 4: Countercyclical capital buffer rates set by Committee members[(a)]



Source: BCBS (2022b).
(a) The rate set by Switzerland relates to its "sectoral" countercyclical capital buffer.

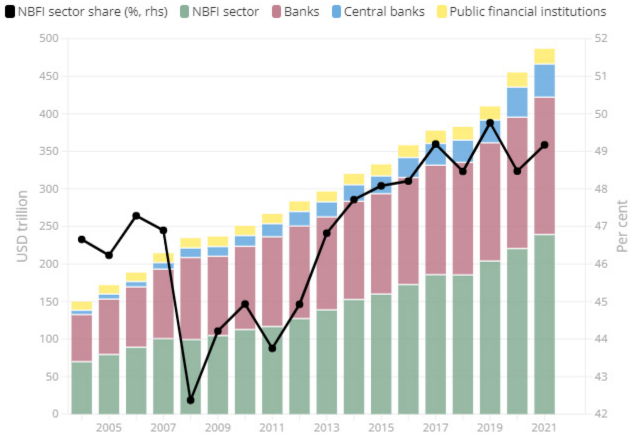
Graph 5: Number of macroprudential measures applied over time



Source: Boissay et al (2023).

[1] Tightening minus loosening

Graph 6: Total global financial assets



Source: FSB (2022)

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