International cooperation in a world of digitalisation

Speech by Pablo Hernández de Cos
Chair of the Basel Committee and Governor of the Bank of Spain

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Introduction

Good morning, good afternoon and good evening. Welcome to the 22nd International Conference of Banking Supervisors (ICBS). This is the second ICBS that we have held in virtual format, following the outbreak of Covid-19 in 2020. I am pleased to see that over 450 participants from about 90 jurisdictions are taking part in this year's event.

We have seen profound changes over just the past few years, and many more since the first ICBS in July 1979. The banking system is now much bigger and more interconnected. By one measure, total banking assets have grown by almost 4,000%.[1] Foreign bank claims have more than doubled, now totalling almost $34 trillion, which is equivalent to more than a third of world GDP.[2] Cross-border links between banks and other financial institutions now stand at $7.5 trillion.[3] We have also endured more than 50 systemic banking crises during this period, a stark reminder of the critical importance of prudent regulation and robust supervision.[4]

Despite these changes, the ICBS – which exists to promote supervisory cooperation within the international banking supervisory community – has stood the test of time. A common thread throughout the previous 21 conferences has been the commitment by central banks and supervisory authorities to collaborate and cooperate with the aim of strengthening the resilience of the global banking system and safeguarding financial stability.

Looking ahead, the need for global cooperation is perhaps more important than ever. We face a highly uncertain outlook, with no shortage of risks facing the global banking system. Stagflationary forces, rising interest rates, and high levels of public and private debt are keeping central banks and supervisors busy. Geopolitical developments continue to shape the economic trajectory. Major structural changes are shaping the future of banking system, including climate-

[1] Based on data from the Federal Reserve Board.

[2] Based on BIS data and McCauley et al (2021).

[3] Aldasoro et al (2020).

[4] Laeven and Valencia (2018).

related financial risks; the growth of non-bank financial intermediation; and perhaps one of the most significant – and the theme of this year's ICBS – the digitalisation of finance.

Indeed, we are seeing profound technological advancement and innovation. Since the first ICBS, the speed of the fastest supercomputer has risen exponentially from roughly 1 million to over 400 quadrillion computations per second today.[5] Moore's Law is still delivering impressive improvements, with the number of transistors on microchips now exceeding 100 billion, a percentage increase of almost 4 million from 1979.[6]

So it is fitting that we will be spending the next three days discussing financial technology and its implications for banks and banking supervision. What are the opportunities and challenges posed by new technologies for banks and supervisors? How should supervision adapt to digital innovation and the emergence of new services and business models? And, perhaps most existentially, what does it mean to be a "bank" in 2022?

I will not try to provide a definitive answer these all of these questions – we will benefit from the views of a wide and diverse range of speakers over the coming days. But let me provide a first approach to our debate during the next few days, I will focus my remarks on three broad financial stability implications resulting from the current wave of financial digitalisation, namely the impact on banks' business models, the risks from an ever-more pervasive use of digital services, and the emergence of new interconnections in the global financial system. All three observations, underline the critical importance of cooperation among central banks and supervisory authorities in overseeing the structural changes brought about by technological innovations, reaping their benefits, and mitigating the risks they pose to global financial stability.

Digitalisation and financial stability: benefits and challenges

Finance and technology have a long and symbiotic relationship.[7] Bankers have been applying technology for more than 150 years. Finance started to shift from analogue to digital as soon as the transatlantic telegraph cable was completed in 1866. A second wave of technological innovations in financial services began with the advent of the automated teller machine in 1967. Yet the most recent technological breakthroughs in payment systems, digital banking services and data analytics stand out for their pace and scale.

So what does the current digitalisation of finance mean for global financial stability? What opportunities does it present for consumers and banks? What are the risks? And what does it mean for supervisors? The Committee is conducting a series of thematic studies on the impact of various technological innovations for banks and supervisors to help answer these questions. This work is ongoing, but let me offer a few personal observations.

[5] Roser et al (2022).

[6] Idem.

[7] See Hernández de Cos (2022b, 2019).

Digitalisation holds potential benefits for all users of financial services. These include expanding greater access to financial services and reaching underserved consumers, reducing transaction costs, in some cases providing greater transparency with simpler products and clear cost disclosures, providing greater convenience and efficiency, and enabling tighter controls over spending and budgeting. Enhanced analytics and the use of big data can also help improve risk management practices and supervisory oversight.

But technological change can also create new vulnerabilities and amplify existing risks. These dangers are accentuated by the breakneck pace at which new technologies are being developed and rolled out, when compared with previous episodes of innovation in banking.

My first observation on the implications for global financial stability relates to the potential impact of digitalisation on banks' business models. The very definitions of "banking" and what a "bank" is are being put to the test because of these technological innovations. Indeed, the banking system is witnessing profound structural changes, including:

- Greater competition from outside the banking sector, as new competitors have access to extensive customer data, technological infrastructure, and the capabilities needed to link an unbundled set of financial services with non-financial services. This creates opportunities to implement new or alternative business models, potentially without becoming subject to bank regulation.

- The emergence of niche providers with digital-native systems that are able to develop and deploy products quickly and fragment markets.

- The prevalence of online services which allow customers to access financial services independent of physical location, reducing the importance of bank branches that have traditionally played an important role in serving retail customers.

- A growing tech-savvy customer base that is willing to rapidly adopt new technologies and change providers to access better and more convenient services.

Against that backdrop, it is perhaps not surprising to see that banks are responding by investing in technology. For example, between 2008 and 2018, bank investments in fintech grew at an annual compounded rate of almost 43% and totalled more than $23 billion.[8] In just the first quarter of this year, 52 banks invested in 77 fintech startups across six continents.[9] But this adaptation process creates significant execution and strategic risks as banks make decisions under great uncertainty.

Similar challenges arise for supervisors and regulators. Supervisors must be able to assess the potential impact of new technologies along with the complex processes underpinning the

[8] Bellardini et al (2022).

[9] Medici (2022).

provision of products and services. This requires supervisors to ramp up their own knowledge and capabilities. In some cases, supervisors are essentially competing with banks, who in turn are competing with technological companies, for the same and relatively small set of qualified experts. When faced with such constraints, and in order to ensure that technological innovation in banking is being used in a responsible manner, erring on the side of caution and prudence may be necessary as a first approximation. But let us not forget that this is a long-distance race and we would need to adapt our supervisory approaches to this new digital world.

My second observation is that the use of ever-more digitalised banking services presents its own set of risks to banks. In some cases the proliferation of innovative products and services may increase the complexity of financial service delivery, making it more difficult for banks to manage and control operational risk. Legacy bank IT systems may not be sufficiently adaptable, and banks' change management may be inadequate. The greater use of third and fourth parties, either through outsourcing or other fintech partnerships, increases the risks surrounding data security, privacy, money laundering and customer protection.

A concrete example is banks' use of artificial intelligence (AI) and machine learning (ML). AI/ML technology is expected to increase banks' operational efficiency and also to facilitate improvements in risk management. While significant opportunities are emerging from the increasing use of AI/ML in many areas of banking, there are also risks and challenges associated with these techniques.

In some cases, AI/ML models may be more difficult to manage than traditional models as they can be more complex and the "explainability" and governance of these models should continue to be a key responsibility of the banks. Similar challenges exist when AI/ML model development is outsourced, as banks still maintain the responsibility and accountability for appropriate due diligence and oversight. As AI/ML deployment often involves the use of large data sets, interconnectivity with third parties, and the use of cloud technologies, it can also create multiple possible points of cyber risk. In addition, given the volume and complexity of data sources commonly used to support AI/ML models, they may present greater data governance challenges in ensuring data quality, relevance, security and confidentiality. Furthermore, AI/ML models (as with traditional models) can reflect biases and inaccuracies in the data they are trained on, and may potentially result in unethical outcomes if not properly managed.

To help banks and supervisors in managing such risks, the Committee published a series of newsletters earlier this year covering its work to date on AI/ML and third- and fourth-party risk management and concentration risk.

At the system-wide level, the rise of technology in finance could lead to more technological interdependencies among market players and infrastructures, which could cause an IT risk event to escalate into a systemic crisis, particularly where services are concentrated in one or a few dominant players.

And cyber risk is only likely to grow in magnitude. New technologies and business models can increase cyber risk if controls do not keep pace with change. Heavier reliance on application programming interfaces, cloud computing and other new technologies are facilitating increased interconnectivity with actors or sectors not subject to equivalent regulatory expectations. And this

could potentially make the banking system more vulnerable to cyber threats and expose large volumes of sensitive data to potential breaches. To help mitigate these risks, the Committee has published a set of principles to increase banks' operational resilience and their capacity to withstand operational disruptions.[10]

Another topical example is banks' use of distributed ledger technology (DLT). DLT could, in principle, allow for cheaper, faster and more customised financial intermediation. But, here again, such benefits must be weighed against the risks if not properly regulated and managed. These include potential threats to banks' operational resilience, a lack of legal clarity with regard to assets transacted on DLTs, and concerns with regard to anti-money laundering and the financing of terrorism.

My third remark is that digitalisation may increase the interconnections across different sectors and nodes of the global financial system. Consider the example of cryptoassets. Much has been said about cryptoassets already, including their purported benefits and risks for financial stability.[11] Filtering the noise from the signal is often an arduous task.

What we can say with confidence is that such markets have the potential to scale up rapidly and pose risks to individual banks and overall financial stability. The Committee has identified no fewer than 20 potential direct and indirect channels through which banks could be exposed to cryptoassets, in their capacity as lenders, issuers and providers of custody services or as market-makers, among other roles.[12] Opacity and insufficient data make it hard to fully map out the crypto ecosystem, but recent episodes of distress have highlighted a range of interconnections, including those with more "traditional" financial institutions.

While banks' current cryptoasset exposures are relatively low – accounting for less than 0.15% of total exposures at the end of last year – we need to pursue a forward-looking approach to regulating and supervising them. This is why the Committee will be publishing its final prudential standards for banks' exposures to cryptoassets in the coming months.

[10] BCBS (2021).

[11] Hernández de Cos (2022a).

[12] BCBS (2019).

Conclusion: the need for international cooperation

Financial stability is a global public good.[13] The cross-border spillovers of financial distress can result in under-investment in financial stability by individual jurisdictions.[14] So an open global financial system requires global prudential standards.[15]

This principle – that financial stability is a global public good – is what underpins the standards set by the Basel Committee. It is why the global regulatory community has worked collaboratively and constructively in developing Basel III, which is the cornerstone of the global regulatory response to the Great Financial Crisis. And the Governors and Heads of Supervisions of Basel Committee member jurisdictions have reiterated their expectation that these standards should be implemented in full, consistently, and as soon as possible.

Digital innovation will further fuel cross-border and cross-sectoral financial interconnections. In some cases, these interconnections are physical in nature: about 450 submarine cable systems, which together span over 1.35 million kilometres, provide a critical digital infrastructure for countries worldwide.[16] In other cases, these interconnections are visible on banks' digital balance sheets, and sometimes they are not even visible.

Safeguarding financial stability will require ongoing cooperation to ensure that we achieve a baseline regulatory level playing field both across jurisdictions and across the financial system. Global collaboration across a wide range of authorities – going beyond just central banks and bank supervisors – is needed, given the ongoing growth of non-bank players and the blurring of regulatory boundaries, if we are to meet the oft-cited objective of "same activity, same risk, same regulation". This is particularly the case since the longstanding policy debate about entity-based versus activity-based regulation is not necessarily binary; indeed, it can be considerably more subtle than often presented.[17]

In conclusion – and to adapt the words of the English poet John Donne to the theme of this year's ICBS – no bank is an island, entire of itself. Each is a piece of the financial continent.[18] Central banks and supervisory authorities have a critical role in cooperating to reap the benefits from digitalisation while mitigating risks. This year's ICBS will be an important step in this direction.

Thank you.

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[13] See Hernández de Cos (2019a).

[14] Obstfeld and Taylor (1998).

[15] Schoenmaker (2011).

[16] Kim (2022).

[17] Borio et al (2022).

[18] Adapted from Donne (1624).

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