BANK FOR INTERNATIONAL SETTLEMENTS

# Are post-crisis statistical initiatives completed? Taking stock

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Good morning, ladies and gentlemen, and welcome to the ninth biennial conference of the Irving Fisher Committee on Central Bank Statistics (IFC). The IFC is a forum for central bank economists, statisticians and others wishing to discuss statistical issues of interest to central banks. It is one of the five committees established and governed by the international central banking community and operating under the auspices of the BIS.

First, let me thank the IFC executives, members, authors and presenters for their contribution to this meeting. I would also like to take this opportunity to extend my special thanks and welcome to Claudia Buch, Vice President of the Deutsche Bundesbank and Chair of the IFC. Claudia will address you in just a few minutes. But before handing over to her, I propose to take a moment to reflect on why we are here today, and what we hope to achieve.

The theme of this conference poses a pertinent question: are the post-crisis statistical initiatives completed? Every financial crisis leads to calls for new data to be collected, and it is natural for policymakers to focus first on filling the data gaps for those aspects of the crisis that were not on their radar before. Not surprisingly, the Great Financial Crisis of 2007–09 set in train a broad-based expansion of financial statistics. Now, one decade on, we ask ourselves: have we achieved all we set out to accomplish in the wake of the crisis? And if the answer is yes, can we hope that the newly available data will help policymakers anticipate and manage the next crisis?

I shall argue that we have come a very long way towards achieving many post-crisis statistical objectives and have removed many of the known blind spots in our data collection. However, it is the lens through which we view the data that matters: it takes purposeful analysis to turn data into information. Today, we have access to more data than ever before, but having more data does little to promote financial stability if there is not an appropriate focus and perspective. So while we should congratulate ourselves on our statistical achievements to date, we must recognise that they will not be sufficient to prevent future crises or to manage them. To make the most of the data at their disposal, policymakers need to gear their institutional knowledge towards greater awareness of the build-up and manifestations of risks.

What's more, as our environment and policy needs constantly evolve, so too do our data requirements. Therefore, the challenge that we face is not only to collect information to fill known data gaps, but also to constantly assess our data collection against our needs, and develop it to reflect the changing environment. This approach requires that we remain cognisant of both the cyclical variations in our information needs and the fundamental developments in the financial environment, which will have a long-term impact on our data requirements and data collection capabilities. In order to prepare for future events, statisticians and policymakers alike must constantly survey the horizon and adapt flexibly to changes in the financial environment.

## The G20 Data Gaps Initiative

The global nature of the Great Financial Crisis has spawned a coordinated data collection effort, centred on the G20 Data Gaps Initiative.[1] The BIS and IMF play key roles alongside other international organisations, central banks and supervisory authorities. The effort addresses major gaps in the international coverage of statistics concerning individual institutions and international financial markets.

Thanks to this joint effort, some aspects of costly boom-bust cycles no longer remain in a blind spot. Specifically, the BIS has overseen the expansion of statistics covering international banking and credit default swap markets, and it now publishes internationally comparable data on residential and commercial property prices – an asset class that plays a central role in financial cycles. Furthermore, most global systemically important banks (G-SIBs) now report their bilateral risk exposures to, and funding dependencies on, their largest individual counterparties to the BIS International Data Hub. They also report data on their maturity and currency mismatches, both on- and off-balance sheet. At the IMF, more than 100 countries now submit financial soundness indicators, and 35 report additional details on concentration and tail risk. The coverage of international portfolio holdings has been extended to major financial centres and has become more timely. The World Bank launched a public sector debt database, and the OECD links national accounts with detailed sectoral data.

But with this wealth of data, where do we look for the next source of vulnerabilities?

## Information requirements over the cycle

As my deputy Luiz Pereira da Silva argued in his recent panel remarks at the Ninth ECB Statistics Conference,[2] it takes the right lens to see the relevant developments in statistics. Closing the data gaps identified in the last cycle is certainly important, but every boom and bust comes in a new guise. Generally, rough aggregates suffice to indicate that imbalances are building. Once a crisis breaks out, however, more granular data are needed for taking decisions. What constitutes useful information to policymakers thus depends on the circumstances and varies over the financial cycle. It is not always immediately obvious where policymakers should focus their attention.

On the one hand, BIS work suggests that aggregate data are most useful for identifying the build-up of emerging risks. One thing we have learned is that simple credit-to-GDP gaps can help to identify credit booms that often end in a crisis, even if the approach is agnostic about the mechanisms at work.[3]

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1 The 20 data gap recommendations are set out in IMF and FSB, *The financial crisis and information gaps: report to the G20 Finance Ministers and central bank Governors*, October 2009. The completion of the first phase and the work plan for the second are described in FSB and IMF, *Sixth progress report on the implementation of the G-20 Data Gaps Initiative*, September 2015.

2 See L Pereira da Silva, "Data for financial stability: collecting and connecting the dots", remarks at the Ninth European Central Bank Statistics Conference "20 years of ESCB statistics: what's next?", July 2018.

3 See C Borio, "The Great Financial Crisis: setting priorities for new statistics", *Journal of Banking Regulation,* vol 14, no 3–4, July 2013; and M Drehmann and M Juselius, "Evaluating early warning indicators of banking crises: satisfying policy requirements", *International Journal of Forecasting*, vol 30, no 3, July 2014. Using imperfect data available in 2002, the first paper in this line of research underlines the importance of choosing the right lens: see C Borio and P Lowe, "Asset prices, financial and monetary stability: exploring the nexus", *BIS Working Papers*, no 114, July 2002.

In addition, when looking for financial vulnerabilities, gross stocks are often more informative than net flows.[4]

Another lesson is that financial strains are best measured in consolidated statistics, with data that group institutions by their nationality, not by residence.[5] The common theme is that balance sheet aggregates expand procyclically, reflecting the risk-taking of financial intermediaries. Moreover, it is important to consider the full scope of a firm's financial activity, including its full derivatives exposure as well as its offshore funding.[6] At the BIS, we have been leading the way in collecting such statistics, which can usefully complement the traditional framework of national accounts and balance of payments.[7]

On the other hand, the management and resolution of failed institutions requires much more timely and granular supervisory data. On the verge of the Lehman bankruptcy in September 2008, the major banks could not measure their consolidated exposures to the collapsing investment bank. The uncertainty surrounding exposures to failing banks and toxic assets induced market panic and complicated the policy response.

From this perspective, we have made much progress. In sharp contrast to 10 years ago, the interconnections between G-SIBs are now known to supervisors, and a growing share of OTC derivatives and repo trades are centrally cleared and recorded. The availability of such data does not replace asking hard questions in daily supervisory practice. But it certainly facilitates decision-making in a crisis. And with enhanced data, better measurability of risk exposures should in turn improve risk management and market discipline, eg in setting initial margin or pricing credit default swaps.

Of course, granular data must be collected, structured and analysed before they are relied upon for critical policy decisions. International sharing of data and analytical results has also improved with the establishment of supervisory colleges, the European Single Supervisory Mechanism and the International Data Hub. And the data coming out of the data gaps initiative are increasingly used to support financial stability analysis and macroprudential policy at the national and international level.[8]

## An ongoing quest: responding flexibly to evolving policy needs

Despite our considerable progress, challenges remain for statisticians and policymakers. While we have been busy filling the data gaps identified in the last crisis, the financial world has moved on. To illustrate, consider two recent developments.

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[4] See the BIS Global Liquidity Indicators (www.bis.org/statistics/gli.htm); and N Tarashev, S Avdjiev and B Cohen, "International capital flows and financial vulnerabilities in emerging market economies: analysis and data gaps", note submitted to the G20 International Financial Architecture Working Group, August 2016.

[5] See P McGuire and G von Peter, "The US dollar shortage in global banking and the international policy response", *International Finance*, vol 15, no 2, 2012; and S Avdjiev, R McCauley and H Shin, "Breaking free of the triple coincidence in international finance", *Economic Policy*, vol 31, no 87, July 2016.

[6] Despite recent progress, various aspects of international funding remain to be better analysed. For instance, non-banks outside the United States owe trillions of dollars through the use of FX swaps and forwards; see C Borio, R McCauley and P McGuire, "FX swaps and forwards: missing global debt?", *BIS Quarterly Review*, September 2017. And non-financial corporations from emerging market economies have increased their external borrowing significantly through the offshore issuance of debt securities; see S Avdjiev, M Chui and H S Shin, "Non-financial corporations from emerging market economies and capital flows", *BIS Quarterly Review*, December 2014.

[7] See B Tissot, "Globalisation and financial stability risks: is the residency-based approach of the national accounts old-fashioned?", *BIS Working Papers*, no 587, October 2016.

[8] See FSB and IMF, op cit; and BIS, *Annual Economic Report 2018*, June 2018, Chapter IV.

First, the post-crisis shift to financing via bond markets and non-bank intermediaries has forced policymakers and supervisors to think beyond banking. Do asset managers or central counterparties pose systemic risk? To what extent do they rely on banks for committed lines of credit in extreme circumstances? The fragmented and inconstant nature of liquidity poses major informational challenges.

Second, rapid innovation has taken the financial system into uncharted waters. Identifying financial stability risks in this environment of next-generation fintech, cyber-security threats and cryptoassets will require new efforts. Policymakers should seek to imagine the many ways in which technological change may disrupt core financial system functions and collect the corresponding data. One area is the potential erosion of credit standards as new underwriting procedures and mechanisms of certification take hold. Another is the uncertain liquidity implications of algorithmic trading and other technologies. Yet another area is the possible threat to the integrity of payment systems as the use of digital currencies expands.

To stay abreast of new developments, it will be necessary to collect and share novel types of data, such as a register of cyber-attacks, or data on external cloud service providers. And expanded data collection needs to go hand in hand with scenario analysis. Integrated risk assessments should focus on multiple sources of threats. In the supervisory context, that would entail running a broad range of scenarios for stress tests, knowing that any single scenario represents but one small part of an infinite range of possible futures.

While rapid developments in fintech have led to a series of new challenges, new technologies also present us with promising opportunities. Suptech and regtech – terms to describe digital innovations for financial regulation – are fast becoming incorporated into our regulatory vocabulary. Similarly, the term "datatech" might be used to refer to the range of innovations applying artificial intelligence, machine learning and other automated processes to collect, process, analyse and disseminate official statistics. With the aid of these technologies, we should focus not only on closing known data gaps, but also on expanding information frontiers – extending our knowledge base so as to better prepare ourselves for future developments.

## Conclusion

To conclude, we have come a very long way towards completing the key statistical initiatives undertaken a decade ago. Certainly, some significant efforts are still required, and these data collections are likely to occupy us for many years to come. But our task is not a finite one – it is an ongoing quest to provide data to meet our evolving needs. Our work consists of a continuous cycle of identifying data requirements, collecting new data and applying a suitable lens.

Thanks to the international efforts in regulatory reform and the associated statistical initiatives, the core financial system is now more resilient than a decade ago. So I am convinced that the combination of enhanced regulation, supervision and information-sharing will help better prepare us for the next financial crisis.

That being said, despite best efforts to have better data at our disposal, attempts to identify risks in real time will invariably fall short. Financial booms and busts have been with us for centuries. Their commonalities notwithstanding, future booms and busts will come in new guises. Central banks should thus continue to remain alert and to probe areas that have the potential to undermine the stability of the financial system. Ultimately, we need to cultivate our ability to better match our data collection to our information needs, and to make better sense of the data we collect.