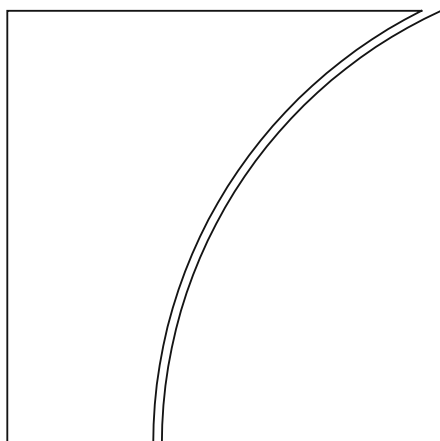


Irving Fisher Committee on Central Bank Statistics



2019 IFC Annual Report

January 2020



BANK FOR INTERNATIONAL SETTLEMENTS

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2019 Annual Report of the Irving Fisher Committee on Central Bank Statistics

On 13 January 2020 the BIS All Governors' meeting approved the publication of the 2019 Annual Report of the Irving Fisher Committee on Central Bank Statistics (IFC). It provides a brief update on the IFC's governance, a review of its activities over the past year, and an outline of its future plans.

Executive summary

As a global network that discusses and develops statistical issues of interest to central banks, the IFC now has 91 members and is an affiliated member of the International Statistical Institute (ISI). It is chaired by Rashad Cassim, Deputy Governor of the South African Reserve Bank (SARB). The term of Claudia Buch, former Chair of the IFC and Vice-President of the Deutsche Bundesbank, ended on 11 September 2019.

A key event for the Committee last year was the ISI's 62nd biennial World Statistics Congress (WSC) held in Malaysia. The IFC sponsored several sessions on various topics on this occasion.

The Committee's work agenda covered the following main areas in 2019:

- **Big data information and analytics.** The Committee continued its work on the use of big data analytics and artificial intelligence, with a focus on two areas: (i) the organisation of computing platforms for big data and machine learning, which was discussed at a workshop organised with the Bank of Italy; and (ii) the use of Business Intelligence (BI) systems by central banks, which was covered by a specific survey organised with the Central Bank of the Russian Federation (CBRF).
- **Fintech.** Following the set-up of a dedicated working group in 2018 to analyse the statistical issues raised by the development of fintech, the Committee conducted a survey on central banks and fintech data. This survey takes stock on user needs, refers to ongoing statistical activities, and sheds light on initiatives that could be developed to address fintech-related data gaps. The IFC also organised a dedicated seminar on these issues with the Central Bank of Malaysia.
- **Data governance.** The IFC organised with the ISI a high-level meeting in Tunisia to review the importance of proper data governance frameworks for central banks and public authorities more generally, especially as regards the collection, management, dissemination and use of official statistics. This event, supported by the African Union Commission (AUC), provided a welcome opportunity to expand the Committee's outreach to African countries.
- **Micro-macro data integration.** The IFC organised with the ECB and the Central Bank of Malaysia a seminar that reviewed the expansion in the micro (granular) data sets made available since the Great Financial Crisis (GFC) of 2007–09 and their contribution to macro compilation exercises.

- **Financial accounts.** The IFC organised with the Central Bank of the Republic of Turkey (CBRT) a workshop on financial accounts, a topic of increasing interest to central banks both as data producers and as data users.
- **Other international statistical initiatives.** The IFC has continued to support global statistical initiatives in 2019, specifically in relation to the implementation of the second phase of the G20-endorsed Data Gaps Initiative (DGI) to be completed in 2021.

In 2020, the Committee will further its work in the various areas outlined above, with a primary focus on completing its fintech agenda and updating the 2015 survey on central banks' use and interest in big data. The IFC's 2020 Biennial Conference, entitled "**The future of finance and implications for central banking statistics**", will provide an important medium for the statistical community to both take stock of important work conducted in this area as well as shape the agenda and priorities for central banks looking forward. Lastly, the Committee will support the joint workshop on external statistics organised with the Bank of Portugal and the ECB as well as the conference envisaged by the Bundesbank and Bank of France on statistics for sustainable finance.

Governance and organisation

The IFC is a global network of central bank statisticians, economists and policymakers that discuss and develop statistical issues of interest to central banks. Its institutional members comprise central banks and international and regional organisations formally involved in central banking issues. The Committee has 91 members – including all BIS shareholder central banks.

The IFC is an affiliated member of the ISI under a memorandum of understanding with the BIS. In addition, a significant number of IFC central banks (around one third as at the end of 2019) have become ISI corporate members in recent years. The IFC continued its involvement in the initiatives of the ISI in 2019, by participating actively in its 62nd biennial World Statistics Congress in Malaysia and co-organising with it a High-Level Meeting on Data Governance in Tunisia.

On 13 May 2019, in accordance with the IFC statutes, and following consultations with central banks, the BIS All Governors' Meeting formally endorsed the proposal to elect Rashad Cassim, Deputy Governor of the SARB, as the new IFC Chair for a three-year period, starting on 12 September 2019 (see Annex 1 for the composition of the IFC Executive as of 1 January 2020). The term of Claudia Buch, former Chair of the IFC and Vice-President of the Deutsche Bundesbank, ended on 11 September 2019.

The Committee held its annual meeting on 18 August 2019 to discuss its activities, examine future work and review the composition of its executive body.

Main activities in 2019

The IFC organised several activities in 2019 with the support of its member central banks, the ISI and a number of international organisations. These activities centred on the analysis of big data; fintech; the integration of micro- and macro-level statistics; the use of financial accounts; and other aspects supporting international statistical initiatives. The documents published in this context are listed in Annex 2.

Big data information and analytics

The Committee published in the *IFC Bulletin*, no 50, a review on “**the use of big data analytics and artificial intelligence within central banks**”, drawing, in particular, on the insights gained during the workshop on “Big data for central bank policies” and the high-level policy oriented seminar on “Building pathways for policymaking with big data” organised with Bank Indonesia in 2018. This review illustrated the potential of big data analytics – with the development of artificial intelligence (AI) and machine learning (ML) techniques – to provide new, complementary statistical information. Yet the question remains: how should central banks organise themselves to benefit the most from these opportunities? Two areas appear particularly important. The first is how central banks organise their statistical information in relation to their IT infrastructure. The second is to think strategically as to how central banks can use appropriate techniques for further processing and analysing the new information collected.

As regards the first area, the IFC supported Bank of Italy's workshop on “**Computing platforms for big data and machine learning**” in Rome on 15 January 2019. This event provided an opportunity to analyse various public initiatives

undertaken in this domain – including at the BIS with its new *Innovation 2025* medium-term strategy. Many central banks, statistical offices and international organisations are currently setting up, or envisaging the implementation of, big data platforms to facilitate the storage and processing of very large data sets. They are also developing high performance computing (HPC) infrastructure that enables faster processing, in-depth statistical analysis and complex data simulations. However, these initiatives face important organisational challenges as central banks trade-off factors such as technology trends, system complexity, cost, performance, reliability, operating model and security.

Turning to the second area, the CBRF and the BIS organised in 2019 a survey on the **use of BI systems by central banks**. The concept of BI is usually understood as encompassing technology-driven methods and techniques mobilised to manage data in order to perform analysis and inform business decisions. The range of BI tools central banks use is quite large, and the degree of satisfaction with their use is reported to be high. The survey also showed that BI has become an integral element supporting their statistical production tasks and decision-making processes in a variety of areas such as collecting, storing, integrating, searching and querying, reporting, analysing, presenting, publishing and visualising data. Data visualisation, in particular, has become a key element of central banks' communication strategy. A significant number of central banks have developed an internet-based dissemination platform that offer users the possibility of interfacing with external publications in a dynamic/interactive way.

Fintech data issues

The IFC **working group** set up in 2018 was tasked to analyse statistical issues raised by the development of fintech, broadly defined as digital financial innovation used to support or provide financial services. The objectives were to take stock of existing data sources and actual uses; assess central banks' additional information needs; identify key data gaps; assess the costs and benefits of initiatives to address these gaps; clarify the roles and responsibilities of the various parties that could be tasked to design, collect and maintain statistics on fintech; and provide guidance for developing adequate statistical definitions for collecting comprehensive information from a global perspective.

In response to these challenges, the IFC conducted a **survey in 2019 on central banks and fintech data issues**. One key finding of this survey is the confirmation that fintech is developing rapidly in the majority of the jurisdictions, with varying intensity across countries and financial sub-sectors. Many entities are leveraging on technology to supply financial services, particularly for the provision of payments, clearing and settlement services, credit and investment management. Traditional financial institutions have modified in parallel their business models to deal with digital financial innovation.

A second main lesson from the survey is that central banks have an increasing demand for data to better assess these developments – for instance to maintain a list of those entities involved in fintech and to collect information on their activities, such as the type of credit they may supply to what kind of entities. In general, the area of digital financial innovation has presented various challenges to statisticians.

One such challenge is that rapid innovation has led to the entrance of new firms, which are often small, diverse, and not easy to identify through traditional statistical methods and processes. Moreover, there is not enough granularity in current data

collections to identify these specific providers. Cases in point relate to those affiliates offering new types of financial services (eg peer-to-peer lending, crowdfunding) which can, to some extent, be controlled by traditional financial intermediaries – implying that their activities are blurred in consolidated groups' reports. Another example refers to the new types of entities such as internet banks offering mobile/web-based banking services (ie neobanks), which are merged together in the general group of credit institutions. Furthermore, a number of fintech entities are developing outside the traditional boundaries of financial services monitored by central banks. Some of them are classified outside the financial sector – for instance the case where robo-advisors are treated as IT software providers.

The survey provides useful insights on **how these data gaps can be addressed**. At the level of central banks, there are successful initiatives to enhance the data collection system through updating of the lists of financial entities based on publicly available sources, industry associations, business registers and regulatory reports. In addition, while initiatives to collect fintech data from the demand side (eg through the conduct of household financial surveys) have been limited so far, their development could potentially bring useful insights to the understanding of the fintech landscape.

At the country level, cooperation between central banks and other authorities (eg national statistical agencies) could be strengthened to adequately identify and monitor fintech firms in a more structured way – for instance, by maintaining a common list of business entities classified by sector. And at the international level, the collection of harmonised country statistics and greater data sharing would facilitate the measurement of both cross-border fintech activities and the services provided by the domestic affiliates of multinational groups, thereby enhancing the worldwide monitoring of digital financial innovation. In addition, there is scope for revisiting internationally agreed business classifications, first to enhance their granularity, and, second, to ensure that statistical reporting is truly activity-based. The key principle is that financial service providers shall be classified according to the economic activities they perform, independently of the embedded technological intensity that characterises that method of operation.

These survey results were discussed in greater detail during the **IFC Satellite Seminar** on "Statistics on fintech – bringing together demand and supply to measure its impact", organised with the Central Bank of Malaysia on the occasion of the 62nd WSC of the ISI on 17 August 2019. They are also a useful input for the preparation of the working group recommendations to be finalised in 2020.

Another important spin-off from this work was the driving global consultations on the International Standard Classification of All Economic Activities (ISIC) launched under the aegis of the United Nations: the IFC has proposed to adapt this current classification and to develop new subcategories in the so-called group K of "Financial and insurance activities". The objective is to ensure that rapidly developing fintech firms such as neobanks, entities engaged in crowdfunding, robo-advisors or payment service providers are adequately monitored and correctly classified as a type of financial service provider. This will ensure that fintech activities are integrated with the core of statistics that cover the entire economy.

Data governance

The IFC organised with the ISI a **High-Level Meeting on Data Governance** in Tunisia on 22 November 2019, open to the heads of the statistical function in national statistical offices (NSOs) and central banks as well as to international organisations. The event, hosted by the National Institute of Statistics of Tunisia, also benefited from the support of the AUC. It proved a useful opportunity to show how statistics can play a decisive role in measuring, monitoring and evaluating the implementation of the key international initiatives supporting development – particularly the Agenda 2063 for the development of Africa and the United Nations 2030 international agenda for the Sustainable Development Goals (SDGs) – and also to further the IFC outreach to the African region.

A key lesson of the meeting was the importance of **proper data governance frameworks for central banks** and public authorities more generally, especially as regards the collection, management, dissemination and use of official statistics. As regards data collection, traditional statistical surveys and censuses can be complemented with new information sources, especially big data and administrative records. This can be a great opportunity for those less developed statistical systems in African states, not least considering the high costs associated with setting up and maintaining standard data collections. Yet what is unclear is how to deal with these new, “organic” information sources, whether private commercial data sets or public registers that were not initially set up for a statistical purpose. While digitalisation techniques allow for an easier, almost cost-free access to information, the increasing complexity of economic and financial activities puts a premium on statistical education and financial literacy. Lastly, there has been a growing interest globally for a better use of data for policy purposes, especially when designing, calibrating, assessing and modifying policy actions. But the development of such indicator-based frameworks is facing important obstacles, reflecting existing limitations to the data access and sharing of official statistics – for instance, when trying to make use of information collected from supervisory reports.

Integration of micro data in macroeconomic statistics

The IFC organised with the ECB and the Central Bank of Malaysia the **Satellite Seminar** on “Post-crisis data landscape: micro data for the macro world” on the occasion of the ISI’s 62nd WSC on 16 August 2019. The objective was to review the broadening of statistical frameworks observed since the GFC as well as the growing availability of granular data to support the compilation of macroeconomic aggregates and/or facilitate the linkage between micro and macro statistics.

Country experiences discussed at the meeting confirm that the “micro data revolution” can bring **important analytical benefits**, with the greater ability to “zoom in” into particular areas of interest as well as to assess the distribution of macroeconomic aggregates (eg repartition of wealth and income across population deciles) within the reporting population. However, there are also important challenges associated with dealing with these new data sets, for instance as regards their quality, confidentiality protection, and the way to access them. Moreover, there is growing interest in using granular information from private sources that are not part of the official statistical system. But what is unclear is how the data producers located outside the national statistical system should feature vis-à-vis the Fundamental Principles that govern the production of appropriate and reliable official

statistics and adhere to certain professional and scientific standards.¹ Lastly, the meeting emphasised the specific communication challenges for policymaking institutions like central banks when (potentially confidential) granular analytical insights are used as the foundation for their decisions.

The use of financial accounts

The IFC organised with the CBRT a workshop on the “**Use of financial accounts**” on 18–20 March 2019 in Istanbul, Turkey. These accounts have become an essential element of the System of National Accounts (SNA) framework, drawing from the traditional description of real economic aggregates and augmented with information on financial flows and positions. In view of the ever-growing importance of the financial sector in most economies, several steps have been taken in recent years to refine this framework, with the ultimate goal of building integrated sectoral financial accounts. However, human, IT and financial constraints in many countries mean that a great deal of work still lies ahead in this area.

To make progress, it is important to focus on **two main issues**. One relates to the completion of the various initiatives undertaken since the GFC to have better quality, more comprehensive and flexible granular data sets. A second issue is to highlight how these statistics can be useful in supporting policy in multiple areas. These issues are of particular relevance for central banks, which are both data producers and data users.

Other work supporting international statistical initiatives

In addition to organising two satellite seminars on fintech data issues and on micro-macro data integration, the IFC sponsored several sessions on various topics at the **ISI’s 62nd biennial World Statistics Congress** in Kuala Lumpur, Malaysia in August 2019, such as:

- *Measurement of multinational enterprise (MNE) activities;*
- *Commercial property markets;*
- *Data sharing between institutions;*
- *Communication between data users and compilers;*
- *Communicating central banks’ statistics in the digital age;*
- *Financial accounts and macroeconomic balance sheets;*
- *Using and linking micro data sets;*
- *Data standardisation and semantic harmonisation; and*
- *Official statistics: challenges and opportunities in national statistical organisations and central banks.*

In addition, one specific session on *Short-term surveys, big data and inflation* was organised in coordination with the Centre for International Research on Economic Tendency Surveys (CIRET). Lastly, the IFC organised with the ISI a specific session on *Official statistics: challenges and opportunities in NSOs and central banks*, which

¹ See <https://unstats.un.org/unsd/dnss/gp/FP-Rev2013-E.pdf>.

proved a useful opportunity to further deepen the dialogue between central bank statisticians and their counterparts in NSOs. These sessions allowed participants from central banks, international organisations, academia and the private sector to present their work and exchange views on a variety of statistical issues.

A significant part of the Committee's work last year continued to be pursued in liaison with international initiatives, especially through the BIS's involvement in the Inter-Agency Group on Economic and Financial Statistics (IAG), which comprises the BIS, the ECB, Eurostat, the IMF (Chair), the OECD, the United Nations and the World Bank. The IAG was established in 2008 to coordinate statistical issues and data gaps highlighted by the GFC and to strengthen data collection. With the support of the FSB Secretariat, IAG members were tasked with monitoring progress in the implementation of the action plans related to **the second phase of the DGI** (2016–21). In this context, the IFC published last year a dedicated *IFC Bulletin*, no 49 that took stock of these various post-crisis statistical initiatives and discussed further potential data needs.

Of key relevance for the IFC are the DGI recommendations related to data sharing, sectoral accounts, banking and debt securities statistics, cross-border exposures and international data cooperation and communication – especially by supporting the Statistical Data and Metadata eXchange (SDMX) standard developed by international organisations as well as the group of central banks involved in the International Network for Exchanging Experience on Statistical Handling of Granular Data (INEXDA).

In addition, central banks are actively involved in the compilation and dissemination of both residential and **commercial property prices**. From this perspective, the IFC published a report in 2019, entitled *Mind the data gap: commercial property prices for policy*. This report emphasised the importance of monitoring commercial real estate markets for policy makers, reviewed the statistical sources that could be used for this purpose, and discussed the way forward for setting up related data collections – noting that the BIS has been tasked in the context of the DGI to collect and publish these data from its member central banks on a best-efforts basis.

2019 survey of IFC membership

In addition to a specific section on fintech data (see above), the 2019 IFC membership survey also gathered feedback from members on IFC activities, governance issues, and suggestions for future work.

Which topic would be of interest to your institution?

Proportion of respondents

Graph 1



¹ eg HR issues, governance framework and organisation.

Source: IFC membership survey, 2019.

The results showed that central bank participation in IFC events remains strong and suggested that the Committee is fulfilling its mandate appropriately. As regards the **IFC work programme** (Graph 1), the survey underlined that Committee members are most interested in (i) fintech data issues; (ii) statistical issues related to IT innovation – eg communication and dissemination, technology in statistics; (iii) external sector statistics; (iv) big data – with the confirmation that interest for internet-based data sets is relatively limited compared with the other types of big data sources eg administrative records and public registers; (v) traditional BIS statistics – ie debt securities, international banking statistics and property prices; and (vi) data for macroprudential policies. Interest was less strong in a number of topics recently explored by the Committee, such as derivatives statistics, financial inclusion and composite indicators. This feedback will help in the preparation of the Committee’s future activities.

Looking ahead

In 2020, the IFC will further its work in the areas of big data, fintech, external sector statistics and sustainable finance, as well as on the various aspects of the DGI that are relevant to the central banking statistical community.

As usual, a key event will be the **IFC 2020 Biennial Conference**, which will be held at the BIS in Basel on 27–28 August 2020. The main theme of the programme will be *The future of finance: implications for central banking statistics*, covering, amongst others, issues such as the impact of innovation and fintech on the measurement and classification of new types of financial intermediation, financial inclusion and literacy issues. In addition, the conference will look at various data management issues faced by central banks, taking note of their dual role as compilers of financial statistics as well as users of this information.

The Committee will also organise with **the Bank of Portugal and the ECB a workshop** on “Bridging measurement challenges and analytical needs of external statistics: evolution or revolution?” on 17–18 February 2020. This conference will bring together users and producers of balance of payments (BoP) statistics and the rest-of-the-world account to discuss outstanding data needs and challenges faced by compilers and users of external statistics. This interaction will support the ongoing review of international statistical standards to address current measurement issues and to reconcile the development of external statistics with overall macroeconomic statistics as a multi-purpose analytical tool.

In addition, the IFC will support the conference jointly organised by the **Bundesbank and the Bank of France on statistics for sustainable finance** in Paris on 21–22 October 2020. The objectives of this event will be to take stock of the related data needs of public financial authorities, analyse the international statistics available in the area of sustainable finance from both a supply- and a demand-side perspective, identify data gaps, and develop ideas on the way forward.

Lastly, the IFC will conduct its **regular membership survey** to gather feedback from its members on the Committee’s activities and suggestions for further work. In addition, a specific section will be added to update the IFC survey on central banks’ use of and interest in big data in 2015. One particular objective will be to assess the various projects conducted by central banks in this area over the past five years.

Annex 1

Members of the IFC Executive as of January 2020

Executive member	Institution	Term
Mr Rashad CASSIM (Chair)	South African Reserve Bank	2019–21 ²
Ms Carol BERTAUT	Board of Governors of the Federal Reserve System	2018–21
Mr Robert KIRCHNER	Deutsche Bundesbank	2020–22
Ms MOON So Sang	Bank of Korea	2019–21
Mr MORI Naruki	Bank of Japan	2018–21
Mr Nor Rafidz NAZRI	Central Bank of Malaysia	2019–20
Mr Olorunsola Emmanuel OLOWOFESO	Central Bank of Nigeria	2014–22
Ms Gloria PENA	Central Bank of Chile	2019–21
Mr Fernando Alberto ROCHA	Central Bank of Brazil	2018–21
Ms Gülbin SAHINBEYOGLU	Central Bank of the Republic of Turkey	2017–22
Ms Silke STAPEL-WEBER	European Central Bank	2019–21

² Three-year period starting 12 September 2019.

Annex 2

IFC publications in 2019

January	<i>IFC Bulletin</i> , no 49: Proceedings of the Ninth IFC Conference on “Are post-crisis statistical initiatives completed?” in Basel, Switzerland, 30–31 August 2018.
March	<i>IFC 2018 Annual Report</i> .
March	<i>IFC Report</i> : “Mind the data gap: commercial property prices for policy”, Proceedings of the International Workshop on Commercial Property Price Indices (CPPIs), organised by the Central Bank of the Republic of Turkey (CBRT) in Cappadocia, Turkey, 7–8 May 2018.
May	<i>IFC Bulletin</i> , no 50: Proceedings of the IFC - Bank Indonesia International Workshop and Seminar on “The use of big data analytics and artificial intelligence in central banking” in Bali, Indonesia, 23–26 July 2018.
October	<i>IFC Report</i> : “Business intelligence systems and central bank statistics” (based on the results of a survey conducted by the IFC and Central Bank of the Russian Federation).
December	<i>IFC Working Paper</i> , no 19: “Using mirror data to track international banking” by Swapankumar Pradhan (BIS) and João-Falcão Silva (Bank of Portugal).