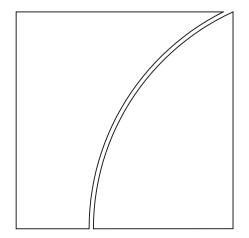
# Irving Fisher Committee on Central Bank Statistics



### 2020 IFC Annual Report

January 2021



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# 2020 Annual Report of the Irving Fisher Committee on Central Bank Statistics

On 14 January 2021 the BIS All Governors' meeting approved the publication of the 2020 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 statistical issues of interest to central banks, the IFC now has 92 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 impact of Covid-19 posed significant challenges for IFC's activities. A number of physical events had to be postponed or even cancelled, as in the case of the IFC's 2020 Biennial Conference. However, the Committee adapted to evolving circumstances by increasing its focus on relevant and topical statistical surveys and publications. In addition, a specific Covid-19 web page was created to present relevant work by and experiences of central banks dealing with the pandemic's impact on official statistics. This stocktaking exercise also shed light on how to prioritise statistical needs in the coming years.

The Committee's work agenda also covered the following main areas in 2020:

- Big data information and analytics. The Committee continued its work on big
  data by conducting a dedicated survey on central banks' use of and interest in
  big data, which updated a previous survey that was conducted in 2015. It also
  assessed ongoing initiatives to develop computing platforms for big data
  analytics and artificial intelligence.
- **Fintech.** The Committee published the results of a survey on fintech data issues at central banks that took stock of user needs, referred to ongoing statistical activities and shed light on initiatives that could be developed to address fintechrelated data gaps. The IFC also published a report with a targeted roadmap for compiling fintech statistics. Various case studies illustrated the steps on this roadmap, emphasising the feasibility of compiling fintech statistics. This *IFC Report* also provided selected key recommendations.
- **Sustainable finance.** The IFC began taking stock of central banks' data needs/ the availability of data in the area of sustainable finance. This work would cover environmental, social and governance (ESG) issues, with a specific focus on climate change. The aim is to complement ongoing work in other international forums, including the United Nations (UN), the Financial Stability Board (FSB) and the Network of Central Banks and Supervisors for Greening the Financial System (NGFS).
- External statistics. Along with Banco de Portugal and the ECB, the IFC organised
  a joint conference on "Bridging measurement challenges and analytical needs of
  external statistics: evolution or revolution?". The event proved to be another
  important milestone in the IFC's ongoing work to explore the issues that external
  statistics pose to central bank statisticians and economists, especially in finding

appropriate sources, developing new methodological concepts and techniques, compiling policy-relevant indicators and making use of the same.

- **Financial accounts.** The IFC continued its work on financial accounts (FA), a topic of increasing interest to central banks both as data producers and as data users. A dedicated *IFC Bulletin* took stock of the initiatives carried out by the central bank community and other parties to enhance the actual use of FA information in conducting financial stability policy and monetary policy. Together with a number of central banks and international organisations, the Committee also actively supported the development of an online course on macroeconomic financial accounts.
- Other international statistical initiatives. The IFC continued to support global statistical initiatives in 2020, specifically those related to implementing the second phase of the G20-endorsed Data Gaps Initiative (DGI) to be completed in 2021.

In 2021, the Committee will further its work in the various areas outlined above with a primary focus on data management issues, including the impact of big data and technology innovation, fintech and sustainable finance. A number of events will be organised in this context, with the active support of the central banks of France, Germany, Italy and South Africa as well as the ECB. Lastly, the IFC will participate in the 63rd biennial World Statistics Congress (WSC), organised virtually by the ISI in close collaboration with the Netherlands Bank. In addition to sponsoring several sessions in the main congress, the IFC will also organise two satellite webinars on ESG issues.

#### Governance and organisation

The IFC is a global network of central bank statisticians, economists and policymakers who discuss statistical issues of interest to central banks and develop related methodological work. Its institutional members comprise central banks and international and regional organisations formally involved in central banking issues. The Central Bank of Sri Lanka joined the IFC as a new member in 2020. The Committee now has 92 members, including almost 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 (almost one third as of the end of 2020) have become ISI corporate members in recent years. The IFC continued its involvement in ISI initiatives in 2020 by actively preparing its 63rd biennial WSC.

The Committee held its annual meeting virtually on 27 November 2020 to discuss its activities, examine future work and review the composition of its executive body (see Annex 1 for the composition of the IFC Executive as of January 2021).

#### Main activities in 2020

IFC activities were significantly impacted by the consequences of Covid-19 during the period under review. Despite this challenging context, the Committee continued to work on several initiatives with the support of its member central banks, the ISI and a number of international organisations. These activities centred on big data information and analytics; fintech data issues; external statistics; financial accounts; sustainable finance and other aspects supporting international statistical initiatives. The documents published in this context are listed in Annex 2.

#### Impact of Covid-19

The impact of Covid-19 posed significant challenges for IFC's activities. A number of physical events had to be postponed or even cancelled, as in the case of the IFC's 2020 Biennial Conference, which was originally planned to discuss "The future of finance and implications for central banking statistics" in Basel. However, the Committee adapted to evolving circumstances by increasing its focus on relevant and topical statistical surveys and publications, noting that public readership of IFC products has steadily increased over recent years (Annex 3). In addition, the Committee supported the joint initiative of the international organisations federated in the inter-agency Committee for the Coordination of Statistical Activities (CCSA) to present a dedicated publication containing a snapshot of the latest information available on the pandemic's impact ("How Covid-19 is changing the world: a statistical perspective"). Lastly, a specific Covid-19 statistical resources IFC web page highlighting relevant official initiatives, with a focus on the experience of central banks, was developed and could be shared with IFC members as well as with the global statistical community in general.

This stocktaking exercise, documented in <u>IFC Working Paper no 20</u>, underscored the importance of the Covid-19 pandemic's impact on official statistics for central banks. As data producers, they have been confronted with the statistical gaps that have arisen, as well as involved in methodological interventions to address related challenges. As statistics users, they needed information to pursue their monetary and

financial stability policy objectives in the face of major disruptions caused by the pandemic. The experience of statisticians at various central banks weathering this storm highlighted three main lessons. A first and somewhat reassuring one is the importance of international efforts made since the Great Financial Crisis of 2007–09 (GFC) to develop higher-quality statistics that are more comprehensive, granular, flexible and integrated. A second lesson is that, despite recent progress, official statistics still present significant shortcomings. In particular, the pandemic highlighted a number of data gaps that have yet to be addressed, as became clear for instance on the occasion of the market turmoil in March 2020. Third, the pandemic also underscored the need to go beyond the "standard" offering of official statistics, especially in times of crisis. Having more timely, frequent and well documented indicators to guide policy is key. Addressing these needs calls for fully exploiting available data sources, promoting greater data sharing among official statistics producers and considering alternative, big data sources as a complement to official statistics.

#### Big data information and analytics

Last year, the IFC organised a specific survey on central banks' use of and interest in big data, updating a previous one conducted in 2015. Around 80% of the responding central banks now use big data more than routinely, especially among advanced economies (in contrast, only one third of 2015 respondents had indicated they were using any big data sources). Moreover, interest in the topic of big data at the senior policy level is currently rated "very important" in more than 60% of cases, compared with less than 10% in 2015.

Central banks' big data-related work covers a variety of areas, including monetary policy and financial stability. To that end, there is a growing reliance on big data information and techniques to support economic analyses and nowcasting exercises, construct real-time market signals and develop sentiment indicators derived from semi-structured data. This has proved particularly useful in times of heightened uncertainty or economic upheaval, as observed in the Covid-19 crisis. A majority of central banks also report using big data for supervision and regulation (suptech and regtech) increasingly focused on consumer protection – for instance, to assess misconduct, detect fraudulent transactions or combat money laundering.

The survey also underscored the numerous challenges faced by central banks. A first key difficulty is the need for adequate IT infrastructure and human capital. To analyse this, a dedicated *IFC Report* on "Computing platforms for big data analytics and artificial intelligence" reviewed how central banks can organise themselves. One lesson is that many central banks 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 infrastructure that enables faster processing, in-depth statistical analysis and complex data simulations. In pursuing these initiatives, they have to trade off various factors such as technology trends, system complexity, cost, performance, reliability, operating model and security. Another key lesson is the importance of carefully assessing the available options before selecting a technology and architecture. Attention should be given primarily to the selection of hardware, the choice between proprietary and open-source technology, the decision to develop the solution in-house or in the cloud, and the type of information to be handled. Lastly, once the main options are selected, actually implementing them is usually a long and multiform journey; success

often depends on developing a comprehensive information strategy for adopting continuously maturing technologies and responding to the evolving needs of users.

Apart from IT aspects, there are many other challenges faced by central banks using big data, including the legal underpinnings for the use of private information and its protection, ethics and privacy concerns, the "fairness" and accuracy of algorithms trained on preclassified and/or unrepresentative data sets, and quality issues. This is especially the case for unstructured data, which are often a by-product of economic or social activity and are not curated for the purpose of conducting further analysis. In addition, a key issue for public institutions that carry out evidence-based policy, like central banks, is how to ensure that predictions based on big data are not only accurate but also representative and "interpretable" – that is, they can allow for specific explanatory causes or factors to be identified and communicated for policy use. Moreover, transparency regarding the information produced by big data providers is essential to ensuring that its quality can be checked and that public decisions can be made on a sound, clearly communicated basis.

#### Fintech data issues

Fintech, or technological innovation used to support or provide financial services, has developed rapidly in recent years, transforming the financial landscape and creating a number of challenges for central bank statisticians. In particular, official statistics lack internationally comparable information on fintech, and tracking rapidly changing financial structures has proved difficult. To shed light on those issues, in 2020 the IFC published the results of its members survey, which highlighted users' needs for fintech information and the importance of the data gaps that have emerged. In addition, a dedicated working group reviewed the various initiatives launched to monitor financial innovation in central bank statistics. The IFC published its report with a targeted roadmap for compiling fintech statistics. The case studies of selected countries or institutions illustrated the various steps on this roadmap, emphasising the feasibility of compiling fintech statistics. The IFC Report concludes with a number of key recommendations, including to:

- i. Promote the global adoption of a revised classification of economic activities that takes better account of fintech service providers, in particular by actively supporting the IFC recommendation to revise the ISIC (International Standard Industrial Classification of All Economic Activities) at UN level. The guiding principle is that financial service providers shall be classified according to their main economic activities, independently of the technological intensity embedded in the provision of their services. At a lower level of classification, subcategories focusing on the technology used (defined in a time-independent way) could be useful.
- ii. Ensure that statistical methodologies used to measure fintech activities adhere to sound professional and scientific standards, in line with the Fundamental Principles for the production of appropriate and reliable official statistics.<sup>1</sup>
- iii. Develop a comprehensive process for continuously monitoring the phenomenon and addressing fintech-related data issues that may arise. Specific steps to compile fintech statistics include formulating a classification of activities

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

that encompasses the various financial market segments of fintech; compiling lists of fintech enterprises; linking this information to existing official statistics and other sources (eg balance sheet information); fostering intra- and interinstitutional cooperation; sourcing available data from the internet; and compiling complementary surveys or compulsory reporting requirements on aspects for which data of sufficient quality are not available.

iv. Leverage IT innovation by promoting technological solutions such as artificial intelligence and machine learning that facilitate the compilation of fintech statistics, cooperating with other stakeholders and making resources available internationally – for instance, by sharing IT tools through the BIS Innovation Hub.

#### External statistics

Along with Banco de Portugal and the ECB, the IFC organised a <u>conference on</u> "Bridging measurement challenges and analytical needs of external statistics: <u>evolution or revolution?"</u> in Lisbon in February 2020. This proved to be another important milestone in the IFC's ongoing work to explore issues that external sector statistics pose to central bank statisticians and economists, especially in finding appropriate sources, developing new methodological concepts and techniques, and compiling policy-relevant indicators and making use of the same. One takeaway from the conference is that promoting constant interaction between data compilers and users is key to understanding and addressing the challenges posed by globalisation. Central banks are ideally placed to foster this dialogue and facilitate a mutual understanding of evolving needs in order to support policymaking. A second lesson from central banks' experience is that the multipurpose analytical tool that external statistics offer should be flexibly adapted, noting that:

- The ongoing review of international standards, particularly as regards the balance of payments, represents a key opportunity to facilitate the development and compilation of supplementary data to better measure international flows in goods and services as well as cross-border financial transactions and positions. Particular attention could be given to the type of nationality-based information derived from consolidated accounting frameworks which can be used to complement the residency-based structure underpinning official statistics.
- The infrastructure supporting statistical compilation work needs to be enhanced.
   The search for additional information sources should go hand in hand with new compilation methods. Developing global identifiers, a better interlinking of different data sets and the increased sharing of information between compilers should be encouraged.
- Official statisticians should devote specific attention to the analysis of large and global corporate groups/structures. This calls for the ability to isolate and measure multinational enterprises (MNEs) at national and international levels.
- Compilers of external statistics should present more granular data for the aggregates currently being compiled – for example, by separately identifying special purpose entities (SPEs) as well as foreign-controlled corporations. To facilitate this, the production of macro-level statistics would need to better integrate available micro-level sources, and a better use could be made of "alternative" data.
- The FDI concept should be revisited in order to maintain its relevance as an analytical tool. A better understanding of the (new) role of FDI requires going

beyond standard analysis and encouraging different presentations of data, especially by better identifying ultimate investors and the role of SPEs.

#### Financial accounts

FA have become an essential element of the Systems of National Accounts (SNA), drawing upon the traditional description of real economic aggregates and augmented to present information on financial flows and positions. A key benefit of this FA framework is that it provides systematic links between financial and real transactions. But FA development requires first collecting important statistics that are still missing, and second, highlighting how these accounts can be useful and, in particular, how they can support public policy. Against this backdrop, in 2020 the Committee published a specific *IFC Bulletin* on "Using financial accounts" which highlighted the following points:

- The FA system has become a key building block of economic statistics, reflecting the importance of finance in present-day life and allowing for a systematic understanding of the links between financial and real transactions. Important steps have been taken to refine this framework, including post-GFC initiatives to develop higher-quality granular data sets that are more comprehensive and more flexible.
- Significant progress has been made in major countries, but many jurisdictions
  are still struggling to carry out FA compilation, which requires significant human,
  IT and financial resources. These difficulties can be mitigated by setting up
  carefully defined steps with a plan for prioritisation, especially for the least
  developed statistical systems.
- Once initial compilation efforts have been made, the focus should turn increasingly to the user side. From this perspective, FA may not be sufficiently exploited despite their vast potential to support statistical compilation, macroeconomic analysis and monitoring, forecasting, and monetary policy and financial stability policy. For instance, the FA framework has proved instrumental in assessing the role of non-traditional providers of financial services and analysing the financial positions of economic agents a key step in understanding their behaviour as well as in detecting potential fragilities.
- A major issue is to make sense of the data collected and to ensure that the
  insights gained can support policy effectively. The challenges include, first, to
  guarantee that FA information is consistent with the other types of statistics
  available. The second is to facilitate the combination of micro- and macro-level
  statistics. And a final challenge is to make sure that statistics based on the
  residency concept remain relevant in an increasingly globalised economy.
- To address these challenges, it is important that the interaction between users and compilers be enhanced and that internal and external communication be strengthened. In addition, the increased availability of FA is likely to trigger new demands from users, putting a premium on collecting and combining granular data in a flexible way.

Reflecting the importance of FA for central banks, several IFC members and the BIS contributed to the OECD's "<u>Understanding financial accounts</u>" manual in 2017. The Committee is now supporting a related initiative by the OECD/Sapienza University of Rome to draw on this manual and develop an online course on Macroeconomic Financial Accounts with the US-based massive open online course

(MOOC) provider, Coursera. This project is currently sponsored by the BIS, the ECB, the Bank of Italy and the OECD.

#### Sustainable finance

Around the world, more and more attention has been paid to promoting activities that can contribute to sustainable development from an environmental, social and governance perspective, particularly by addressing the financial risks associated with the transition to a low-carbon economy, the physical consequences of climate change and the need to strengthen the sustainability and resilience of economic development (as underscored by the impact of Covid-19). A key issue for central banks is whether, and to what extent, addressing these analytical needs calls for statistics on sustainable finance to be developed to complement the existing standard offering of official frameworks.

To better understand these issues, and in response to the views expressed by the NGFS, the IFC has set up a task force to analyse central banks' related statistical data needs, with full consideration of international statistical initiatives to address them and close potential gaps in both the official and private sector. The objective is to review operational solutions for bringing together data supply and demand and to pave a way forward for developing a comprehensive framework for sustainable finance statistics, in particular by facilitating the sharing of experience. To that end, the IFC has prepared a membership survey to be published in 2021.

#### Other work supporting international statistical initiatives

A significant part of the Committee's work last year was continued in conjunction with international statistical 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 at the time of the GFC to coordinate statistical issues, identify data gaps and strengthen data collection. With the support of the FSB Secretariat, IAG members have been tasked with monitoring progress in implementing action plans related to the second phase of the DGI to be completed in 2021 (following the agreement to extend its end date by six months due to the impact of Covid-19).

Of key relevance to the IFC are the DGI recommendations related to sectoral accounts, residential and commercial property prices, banking and debt securities statistics, cross-border exposures, data sharing and international data cooperation and communication, especially those 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). Together with a number of member central banks, the IFC also sponsors the postgraduate programme in Statistical Systems with a specialisation in Central Banks' Statistics developed by the NOVA Information Management School (NOVA IMS) of Universidade Nova de Lisboa in close collaboration with Banco de Portugal.

#### Looking ahead

In 2021, the IFC will further its work in various areas, especially on fintech, sustainable finance and big data issues. In particular, a conference on statistics for sustainable finance will be organised jointly with the Deutsche Bundesbank and the Bank of France, to take place in Paris on 14–15 September 2021. 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. The Committee will also hold a workshop on "Data science in central banking – data, technologies and applications" at the BIS on 20–21 October 2021, with the active support of the Bank of Italy, the ECB and the SARB. This will provide a key opportunity to share knowledge on emerging trends in data science, data engineering and information technologies with a broad audience of practitioners and technicians, as well as to review the state of organisations' adoption of data analytics and business intelligence techniques along with data transformation and big data ecosystems.

The IFC will also continue to support the activities of the ISI. A major event will be the 63rd biennial WSC, organised virtually by the ISI in close collaboration with the Netherlands Bank, to take place on 11–16 July 2021. In addition to sponsoring several sessions in the main congress, the IFC will arrange two satellite webinars on ESG issues. These events will provide an opportunity to further deepen the dialogue among central bank statisticians, their counterparts in national statistical offices and international organisations, the private sector, and academia.

Lastly, the IFC will continue to participate in the various international statistical initiatives relevant to the central banking statistical community. A key focus will be on to how best address central banks' policy needs, specifically in the monetary and financial sectors, going well beyond 2021. One proposal would be to build upon the infrastructure already put in place by the G-20 DGI so as to take advantage of its three key success factors. First, its approach of structured collaboration between international organisations and national statistical systems, which ensures effective coordination and helps avoid the risk of duplicating other global statistical initiatives such as those related to updating international statistical standards. Second, its close connection to current authorities' priorities, with effective reporting to policymakers (as was the case with the G20 Finance Ministers and Central Bank Governors under the DGI). And third, an effective peer pressure mechanism for spurring the active involvement of national jurisdictions, comparable to the regular national selfcommitments reporting organised by G20 and FSB jurisdictions under the DGI and complemented by the active participation of other interested economies, depending on the relevant recommendations (eg for those BIS member central banks involved in the DGI-related compilation of international banking and financial statistics).

A revised international framework for cooperation could be instrumental to both enhancing existing core official statistics information, especially as regards timeliness, frequency and international comparability, and addressing newly emerging data needs. The Covid-19 pandemic has highlighted the urgency of:

i. Pursuing the statistical exercises started after the GFC – for instance, the DGI recommendation of publishing general government data consistent with the SNA (an issue that has clearly gained importance in view of the surge in public spending that reflects authorities' response to the pandemic) or of furthering the

- development of FA (including detailed breakdowns of securities issues and holdings) as well as of fintech statistics, as argued above.
- ii. Collecting more granular financial information, especially on firms' financing needs, securities financing transactions (repos), forex funding and derivatives in order to better understand episodes of stress in financial markets.
- iii. Determining how to better tap into big data, eg private data sources as well as administrative registers, so that they can be brought into mainstream statistical frameworks and used to deliver more timely, frequent and comprehensive information to policymakers.
- iv. Enhancing the global statistical infrastructure, including through more effective data-sharing possibilities and increased use of global identifiers such as the Legal Entity Identifier (LEI) and other relevant ISO standards such as SDMX.
- v. Better measuring new issues underscored by Covid-19 that are not properly covered by the "traditional" statistical apparatus, especially on environmental topics and socioeconomic factors (eg distributional aspects, inequalities).
- vi. Promoting global initiatives and the exchange of national experiences to enhance the timely production of official statistics, by leveraging information technology to support data collection, compilation and dissemination processes.

Addressing these issues could help to significantly enhance statistical systems' preparedness in the face of unexpected events and their role as providers of timely and reliable information to central banks as well as to other authorities and the public in general. This will, however, require careful and effective prioritisation of related implications for official statistics, tailored to actual policy needs.

## Annex 1

Members of the IFC Executive as of January 2021

#### Executive member Institution Term South African Reserve Bank 2019-22<sup>2</sup> Mr Rashad CASSIM (Chair) Board of Governors of the Federal Ms Carol BERTAUT 2018-21 Reserve System Mr Robert KIRCHNER Deutsche Bundesbank 2020-22 Bank of Korea 2020-21 Mr Seongho LEE Mr Ko NAKAYAMA Bank of Japan 2020-21 Mr Olorunsola Emmanuel OLOWOFESO Central Bank of Nigeria 2014-22 Ms Li Ming ONG Central Bank of Malaysia 2020-23 Ms Gloria PENA Central Bank of Chile 2019-21 Mr Fernando Alberto ROCHA Central Bank of Brazil 2018-21 Mr Eyal ROZEN Bank of Israel 2021-23 Ms Silke STAPEL-WEBER European Central Bank 2019-21

IFC Annual Report 2020 A–1

Three-year period starting 12 September 2019.

#### Annex 2

### IFC publications in 2020

January IFC 2019 Annual Report.

February IFC Bulletin no 51: "Using financial accounts".

February IFC Report no 10: "Central banks and fintech data issues".

April IFC Report no 11: "Computing platforms for big data analytics and artificial

intelligence".

July IFC Report no 12: "Towards monitoring financial innovation in central bank statistics".

October IFC Bulletin no 52: "Bridging measurement challenges and analytical needs of

external statistics: evolution or revolution?".

November IFC Working Paper no 20: "Implications of Covid-19 for official statistics: a central

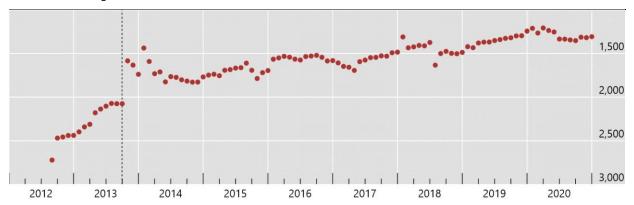
banking perspective".

#### Annex 3

### Readership of IFC publications

#### IFC Bulletins among all series by citations

#### Position in ranking<sup>1</sup>



The dashed vertical line indicates a change of methodology. Since October 2013, the ranking has been based on the last 10 years' publications; prior to October 2013, it had been based on all previous publications.

Source: IDEAS/RePEc rankings. The IDEAS/RePEc rankings database provides various rankings related to research in economics, including top institutions, journals, working paper series and authors. Regarding economic publications among top series by citations, in <u>December 2020</u> the *IFC Bulletins* ranked 1,307th among all series, compared with 2,721st in August 2012.

<sup>1</sup> Aggregate rankings (summary rankings that aggregate the various criteria); not including the 12 IFC Reports published since 2015.