Irving Fisher Committee on
Central Bank Statistics

BANK FOR INTERNATIONAL SETTLEMENTS

63rd ISI World Statistics Congress (WSC) / IFC-sponsored Invited Paper Sessions (IPS) related to new developments in central bank statistics

July 2021, The Hague, Netherlands, virtual format

Enhancing the global architecture supporting economic and financial statistics: a post Covid-19 perspective[1]

Barend de Beer, South African Reserve Bank, and
Bruno Tissot, Bank for International Settlements (BIS)

[1] This presentation was prepared for the WSC. The views expressed are those of the authors and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the event.

Enhancing the global architecture supporting economic and financial statistics: a post Covid-19 perspective

Barend De Beer (SARB) & Bruno Tissot (BIS / IFC)

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SOUTH AFRICAN RESERVE BANK

SARB 100 YEARS 1921–2021 A purposeful journey

Overview

1. **Covid-19 (CV19) impact on central banks as producers & users of official statistics**

2. **Implications for central banks' statistical function**

3. **A new global framework for official statistics?**
   - ➢ Enhancing existing core official statistics
   - ➢ Addressing newly-emerging data needs
   - ➢ Strengthening the global statistical infrastructure

1. CV19 impact on central banks as producers & users of statistics

- **Proactive response of central bank statisticians**
  - ➢Facing production disruptions
  - ➢Dealing with distorted economic indicators
  - ➢Addressing a key CV19 dilemma:
  - → *need for more data / relaxation in compilation obligations*
- **Challenges for central banks' data users**
  - ➢Limited accuracy/availability of indicators
  - ➢Compilation difficulties & delays
  - ➢Larger uncertainty and data revisions

2. Implications for central banks' statistical function

- **General review triggered by CV19**
  - More, not less information: timeliness, frequency, new needs
  - Alternative data sources as a complement
- **Reorganise the statistical production chain to**
  - Get a comprehensive overview of the economy
  - Have flexible frameworks to address evolving users' needs
  - Incorporate complementary sources in main frameworks
- **A wake up call for official statistics**
  - Make better use of existing data
  - Revamp statistical frameworks by leveraging on innovation
  - Enhance users' experience with statistics

3. A new global framework for official statistics?

- **Build on the G-20 DGI & its 3 success factors**
  - Structured collaboration IOs / statistical systems
  - Connection/reporting to policymakers
  - Effective peer pressure mechanism
- **Way forward after the DGI (post 2021)**
  - Support global production and use of official statistics
  - Focus on the actual reporting of relevant data
  - Parallel to other international statistical work streams (eg revision of SNA/BPM standards)
  - Non-G20 outreach
- **3 main focus:** existing statistics / new needs / global statistical infrastructure

3(i) Enhancing existing core official statistics

- **Pursuing post-GFC statistical exercises**
  - Urgency underscored by the pandemic
  - To compile better economic aggregates eg FA, debt
  - To collect more granular financial information
  - International progress monitoring (by the IAG?)
- **4 main financial areas for central banks, as highlighted by CV19 market turmoil in 2020**
  - Credit flows
  - Repos / Securities Financing Transactions (SFT)
  - FX funding needs
  - Derivatives

3(ii) Addressing newly-emerging data needs

- **Alternative data**
  - ➢Private data sources, administrative registers
  - ➢Complement to improve official statistics
  - ➢Information buffer in crisis times
  - ➢Leveraging on IT innovation / AI techniques
- **New topics not covered by traditional statistics**
  - ➢Environmental, social & governance (ESG) issues
  - ➢Key factors supporting economic resilience/sustainability
  - ➢Flexible review of policy needs
  - ➢Close related (and certainly global!) data gaps

3(iii) Stronger global statistical infrastructure

- **Further the work undertaken after the GFC**
  - Global identifiers eg LEI
  - Data standards eg SDMX 3.0
  - Data sharing / access / cooperation
  - Macro / micro integration eg Regtech, distributional issues
- **International cooperation is essential**
  - Address economic & financial globalisation
  - Knowledge sharing and pilot projects eg AI tools
  - Best practices eg data access principles
  - Prioritisation of data needs for policy
  - Outreach to non-G20

THANK YOU

barend.debeer@resbank.co.za

bruno.tissot@bis.org

IFC.secretariat@bis.org

See also

De Beer, B and B Tissot (2020): "Implications of Covid-19 for official statistics: a central banking perspective", IFC WP no 20

IAG website

South African Reserve Bank

SARB 100 YEARS 1921-2021 A purposeful journey

Enhancing the global architecture supporting economic and financial statistics: a post Covid-19 perspective

Bruno Tissot[1]; Barend de Beer[2]

[1] Head, of Statistics & Research Support, Bank for International Settlements (BIS) and Head of the Secretariat of the Irving Fisher Committee on Central Bank Statistics (IFC) (bruno.tissot@bis.org)

[2] Lead economist and head of methodology and special projects, Economic Statistics Department, South African Reserve Bank (barend.debeer@resbank.co.za)

Abstract:

The impact of the Covid-19 pandemic (CV19) on official statistics has been large and multiform. As regards central banks, their statisticians responded proactively to the related data disruptions, and new ways were found to address policy information needs. But the pandemic also triggered a general review of their statistical functions with the view of reorganising statistical production chains. In that sense, the pandemic proved to be a wakeup call for official statistics, underscoring the need for a new, enhanced global framework to improve existing core statistics and address new data needs. The completion of the G20 Data Gaps Initiative at the end of 2021 will provide a key opportunity to enhance the global statistical infrastructure.

Keywords:
Covid19; official statistics; pandemic; global statistical infrastructure

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I. Introduction

As argued in De Beer and Tissot (2020), the impact of the Covid-19 pandemic (CV19) on official statistics has been a particularly relevant issue for central banks. These have been confronted with significant data gaps and methodological challenges as producers of official statistics, while at the same time they needed information themselves to pursue their policy objectives. Their experience has highlighted three main lessons. First is the importance of efforts made since the Great Financial Crisis (GFC) to develop higher-quality statistics, especially under the G-20 Data Gaps Initiative (DGI) (FSB and IMF (2009)). Second, official statistics still present significant shortcomings and gaps, as was particularly evident in 2020 with the CV19-induced stress in the financial markets (FSB (2020)). Third, the pandemic underscored the need to go beyond the "standard" statistical offering and cover broader environmental, social and governance (ESG) issues.

These lessons call for further enhancing the international cooperative framework to both enhance existing core official statistics and address emerging data needs. This paper is organised in three parts. It first briefly recalls the impact of CV19 on the compilation and use of official statistics in the light of the experience of central banks. Second, it reviews the main implications of these developments for the design of their statistical functions. Third, it concludes with some thoughts on new global framework to support official statistics looking forward.

II. The impact of Covid-19 on central banks as producers and users of statistics

A. Proactive response of central bank statisticians to CV19-related data disruptions

The occurrence of the pandemic highlighted the need for reliable and relevant information. Yet producers of official statistics were confronted with a sudden disruption in the data available as CV19 escalated. This is because many activities just stopped, or because the statistical apparatus was unable to measure adequately the new activities that had quickly replaced others. Moreover, a number of key economic indicators became more difficult to assemble properly, for instance because of the discontinuation of normal statistical exercises like surveys or face-to-face interviews, esp. due to social distancing rules and office closures (cf ISWGNA (2020)). Furthermore, the measurement of certain economic variables proved more difficult because of the impact of the outright policy response to the crisis. All these disruptions have led to an important dilemma for authorities in charge of public policy like central banks. On the one hand, the speed and specificity of the crisis called for having more, and more varied types of, data at hand to monitor what was going on. On the other hand, compilation difficulties and other priorities reflecting the intensity of the crisis (including new ad hoc data requests) warranted some relaxation in compilation practices and postponing non-urgent data obligations in a pragmatic way. As highlighted in Box 1 (refer to Bruno and de Beer ***"Enhancing the global architecture supporting economic and financial statistics: a post Covid-19 perspective***"[1], central banks' statisticians around the world worked actively on finding concrete solutions to address this dilemma.

B. Challenges for data users

The pandemic also led to important challenges for central bank users of official statistics, with three key issues. First, there were increased concerns about the disposal and/or accuracy of the indicators being generated by statisticians. Cases in point were consumer price inflation indices in the face of the sudden closure of shops and restaurants (BLS 2020)). Second, significant delays emerged in the availability of official statistics, caused by the pandemic and related compilation difficulties. To try to avoid making "decisions in the dark", users had therefore been leading the call to generate alternative statistics in response to the pandemic (Ducharme et al (2020)). But one challenge was the high volatility of such sources, with the difficulty to get informative but not too noisy data and their potential estimation bias. Thirdly, by impacting both the quality and the timeliness of statistics, the pandemic further complicated users' life because of increased data revisions. CV19 brought a high level of uncertainty to the statistical world, and an important consequence of this uncertainty has been that official statistics have become more likely to be revised significantly as time evolves.

III. Implications for the statistical function in central banks

A. General review triggered by the pandemic

By making statistical compilation work more difficult and bringing various challenges to data users, the pandemic triggered a general review of the statistical function in central banks. Two areas of interest were, first, the identification of the new data needs brought about by the crisis and, second, the adaptation of existing statistical frameworks to ensure the continuous provision of reliable statistics to support policy-making. First, in view of the impact of CV19 on official statistics, most central banks felt the need to have more, not less information. Compared to the situation prevailing before the crisis, attention focused on three major points: timeliness, frequency, and the need to address new topics highlighted by the pandemic. Firstly, the need for timely data reflected the fact that the speed of the pandemic and the size of the economic disruptions had called for having more rapid statistics at hand to quickly assess the economic situation. Another and related focus point was frequency: the dynamics of the crisis put a premium on having data on what was going on more frequently, say on a weekly or even daily basis. A further

[1] ECE/CES/GE.20/2021/11

focus point was to get information on the new topics raised by the crisis that were not properly covered by the "traditional" statistical apparatus. The second key consequence was to spur interest in alternative data sources to complement official statistics. This had been already on the radar screen of statisticians for many years (Tissot (2019)), but the pandemic reinforced two main points. One was to take benefit from the new digital information provided by the "data revolution", namely web-ased indicators and other "organic" available as a by-product of the services provided by the wide range of sensors, devices, satellites etc.– in particular by enhancing the access to and use of (non-official) private data sources for national statistics and public policy (G20 Italian Presidency (2021a)). A second focus area was to make better use of the information contained in large administrative datasets that have been collected by authorities for many years without being duly exploited for statistical purposes. While there had been already a gradual recognition of the value of such administrative data since the GFC (Bean (2016)), the pandemic clearly reinforced this trend.

B. Need to reorganise the statistical production chain

Faced with increased uncertainty, central banks as producers of statistics had to reassess their production functions and reorganise themselves where needed and appropriate. In general terms, they focussed on three areas. First, the importance of the economic shock and its uncertain repercussions throughout the economy reinforced the need for developing a comprehensive overview of the entire economy, its components and the way they interact. In particular, the CV19-related disruptions in financial markets clearly highlighted the importance of having an encompassing view of the financial system, e.g. by types of market segments, financial instruments, and investors[2]. They were also a stark reminder of the important data gaps that remain despite the progress achieved under the DGI, in particular as regards the functioning of the repo market, the balance sheets of non-bank financial entities such as hedge funds, and the interconnections between the various players in terms of liquidity provision. Second, there was general recognition that statistical frameworks have to become more flexible to address evolving users' needs and the sheer uncertainty created by the crisis. This called statisticians to re-assess the relevance and agility of their tools and methods to deliver required statistics. It also put a premium on developing new and more sophisticated techniques to extract useful information from data. Third, statisticians had to figure out how complementary data sources and information could be brought into their mainstream statistical frameworks. One way was to integrate alternative input sources within the conventional methodological process to generate official statistics. Another was to use these additional sources to get supporting and benchmarking data that can act as an "information buffer" in times when conventional official statistics dry up or are lagged significantly. In any case, a key concern is that the new data sources being considered – such as private web-based data, additional regulatory input data, etc – do not present the same guarantees as official statistics in terms of uniform definition consistency, time consistency, etc.

C. A wakeup call for official statistics?

The effects of the CV19 pandemic on economic statistics have been far-reaching and necessitated statistical agencies including central banks to adapt to these challenges in an effort to continue to best inform policy makers under difficult circumstances. But it was also a wakeup call to deal with issues that had been neglected for too long. A first one was to make better use of existing data. From this perspective, the outbreak of CV19 shed light on the existence of various datasets that may not be known widely, partly reflecting the fact that significant and rapid progress had been made by numerous economies in developing their statistical frameworks since the GFC. Case in point is the micro-level information already collected by public authorities, financial institutions etc, which would facilitate the identification of vulnerabilities to potential shocks and support the calibration of policy tools to mitigate these risks (IFC (2021b)). Another example was the wealth of information that international organisations were quickly able to publish as the pandemic occurred (CCSA (2020)). A second lesson was to revamp macroeconomic statistical frameworks by leveraging in particular on technology innovation and realise the full benefit of supplementary data to support official statistics. However, such a fundamental review may take time and energy. One solution would be to start by enriching the financial accounts (FA) framework that is already available in several jurisdictions. Another way is to build on recent technological developments to develop datasets that reflect the entire target population or at least a much larger sample thereof. Lastly, digital innovation could more generally help to accelerate the production of official statistics. Third, the crisis has forced statisticians to revisit the services they provide to their stakeholders, for instance to increase the frequency and/or timelines of their estimates to better support policy decision. It was also an opportunity to revisit general user experience with official statistics. The starting point is that thinking the unthinkable has become a key priority, not least because of the structural shifts in the economy triggered by CV19 (e.g. destabilisation of existing relationships and unprecedented policy decisions). One of the foundational pillars in the quest to address this revolves around cooperation and data sharing. The pandemic highlighted the importance of ex ante coordination among public authorities so that adequate processes were already in place to allow for an effective exchange of information when the crisis occurred. This also requires the development of data sharing within and between agencies producing statistics so that databases can be linked in a coherent way, also helping to limit the reporting burden for the economy (IFC (2015)). At the international level, the sudden data needs highlighted by CV19 underlined the merit of having a good exchange of economic information between countries. Another avenue is to develop a "central marketplace" to increase accessibility to official statistics.

[2] A number of these issues are indeed being actively considered in the context of the ongoing international process of updating the System of National Accounts

IV. A new global framework for official statistics?

Obviously, a key question posed by the pandemic looking forward is how to best address policy needs, specifically in the monetary and financial sectors. One solution is 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 self-commitments 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 (e.g. for those BIS member central banks involved in the DGI-related compilation of international banking and financial statistics). The way forward would thus be to enhance and expand the current DGI initiative that is due to be completed at end 2021 so as to set up a more permanent and comprehensive framework to support the global production and use of official statistics. The focus should be on the actual reporting of relevant data, complementing other existing international statistical work streams that are more devoted to methodological issues, such as the updates of the 2008 System of National Accounts (2008 SNA) and the Balance of Payments and International Investment Position Manual, sixth edition (BPM6), both launched in 2020. Such a revised international framework for cooperation could be instrumental to both (i) enhancing existing core official statistics, especially as regards timeliness, frequency and international comparability, (ii) addressing newly emerging data needs, and (iii) strengthening the global statistical infrastructure needs, and (iii) strengthening the global statistical infrastructure.

A. Enhancing existing core official statistics

The Covid-19 pandemic has highlighted the urgency of pursuing the statistical exercises started after the GFC to compile better macroeconomic statistical aggregates – 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; (Çakmak et al (2020)) as well as of fintech statistics (IFC (2020a)), as argued above. It also underlines the need for 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. From this perspective, important financial data collections initiated since the GFC, especially in the context of the DGI, should be finalised, especially for the following four main areas that are closely inter-related and of key interest for central banks. One relates to the measurement of credit flows. The economic disruptions caused by CV19 highlighted the need for having more granular information on firms' funding needs, especially on the size of their cash shortfalls, the ability to finance them, and the way to do so e.g. through credit lines (Banerjee et al (2020)). Certainly, a limited number of countries have set up large micro data collections exercises that can be of help, in particular in the context of their efforts to compile comprehensive FA. However, there is no global infrastructure to address these issues in a comprehensive and global way, esp. in real time. As a result, many analytical needs were addressed during CV19 by working on the information collected by commercial vendors (cf Goel and Serena (2020)).

A second area should cover Securities financing transactions (SFTs). SFTs such as securities lending and repurchase agreements (repos) are instrumental in supporting price discovery and secondary market liquidity for various market segments and can contribute importantly to an increase in leverage and maturity / liquidity mismatches (FSB (2013)). Third, more data should be collected to assess FX funding needs. The structural demand for dollar funding appears to have grown in the recent past, reflecting the currency hedging needs of corporates and portfolio investors outside the United States and reduced capacity among commercial banks to address this demand. This has led to a widening in the (negative) FX swap basis, which should be close to zero assuming perfect arbitrage (Borio et al (2016)). Yet, with the start of the CV19 pandemic, it widened again vis-à-vis the US dollar across major currencies, and central banks had to expand their operations in terms of swap lines and temporary US dollar liquidity arrangements to mitigate market stress (Avdjiev, Eren and McGuire (2020)). These developments clearly underscored the need to improve the measurement of financial balance sheets' currency composition for important sectors. A last and related area of key interest is derivatives. Certainly, many initiatives have been in train since the GFC to address the information gaps related to derivatives, not least the decision to collect granular transaction data through trade repositories (TRs). Yet challenges remain, especially for smaller jurisdictions where data are scarcer and access for central banks is more difficult. There is therefore a clear need for greater coordination at both the domestic and international levels to enhance the quality of TR data, develop their global aggregation, and foster their use for policymaking (IFC (2018)). Moreover, particular attention should be paid to FX derivatives, which generally require the actual payment of the notional amount at maturity – which make them a form of debt, unlike many other derivatives; cf Borio et al (2017). One issue is that the amounts involved are recorded off balance sheet, while they can have significant implications for on-balance sheet cash positions. Moreover, they can be used as hedging tools to close on-balance sheet currency mismatches (see Aldasoro et al (2020) for an analysis of these issues and related dollar funding needs from commercial banks). Hence, more data should be collected to be able to monitor conditions in global funding markets, in particular data to assess the direction and amounts of FX trades crossed by currency, maturity, instrument type and counterparty

sector/region[3]. This would greatly complement existing information on countries' total (ie on- and off-) balance sheets, and would significantly enhance existing measures of both external debt and foreign currency debt (Avdjiev, McGuire and von Peter (2020)).

B. Addressing newly emerging data needs

A new framework for global statistical statistics should also address the lessons underlined by the pandemic. A first one relates to 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. In particular, better cooperation among the different operators of administrative, statistical and commercial business registers would help to have a more agile statistical system (Lane (2021)). Another important issue is to understand better the potential of emerging trends in data science, data engineering and information technologies. Central banks are in particular increasingly interested in adopting data analytics and business intelligence techniques along with data transformation and big data ecosystems in their organisations − especially in finding appropriate sources, developing new methodological concepts and techniques, compiling policy-relevant indicators and making use of them, and taking advantage of rapid improvements in technology (the "big data revolution") (IFC (2020b, 2021a)). Progress looking forward will depend on the fostering of exchange, collaboration and understanding on the related interdisciplinary practices, use cases, and technologies, including to cover important issues such as data governance and data protection. Regional specificities, especially between advanced and developing economies, are also important factors to be carefully considered[4].

A second focus area is to better measure the new topics underscored by CV19 that are not properly covered by the "traditional" statistical apparatus, especially on environmental topics and socioeconomic factors (e.g. distributional aspects, inequalities). In particular, financial authorities have an increasing interest in developing proper statistics on sustainable finance and address the related analytical needs. Key is to draw the relevant lessons from the impact of the pandemic as regards future developments in greenhouse gas emissions, investments in sustainable technologies, and ways to strengthen the sustainability and resilience of today's economies[5]. This requires taking stock of the related statistical data needs of users in policy-making financial institutions, especially as regards the use of sustainable finance data in areas such as microprudential supervision, financial stability and macroeconomic analysis, risk and reserve management etc. Another objective is to review existing indicators, ad-hoc surveys, and analytical datasets developed or under development at national, regional, or industry levels, as well as the operational ways for bringing together data supply and demand (e.g. development of statistical hubs). Lastly, ways should be found to close potential data gaps, both in the official and the private sector.

C. Enhancing the global statistical infrastructure

At the global level, the underlying financial statistical infrastructure is still incomplete, reflecting the slow development of global identifiers, standards for exchanging information, and data sharing arrangements. Certainly, there has been notable progress since the GFC as regards the Legal Entity Identifier (LEI; see LEIROC (2016)), the Statistical Data and Metadata eXchange standard (SDMX; see IFC (2016)), and the actual nternational sharing of granular information on global financial institutions (see Bese Goksu and Tissot (2018)). Moreover, public authorities and the private industry[6] have been working to promote a "regtech approach" to the reporting of financial data, which basically refers to the provision of methodology, technology and processes to financial institutions to support regulatory monitoring, reporting and compliance (IFC (2021b)). More progress is in particular needed as regards more effective data-sharing possibilities and increased use of the global identifiers being developed. Promoting global initiatives and the international exchange of national experiences could be also instrumental to enhance the timely production of official statistics, by leveraging information technology to support data collection, compilation and dissemination processes It would also provide an opportunity to highlight existing best practices and potential opportunities, especially to support policymaking, as well as to take stock of the challenges to be addressed as a priority. 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

[3] These elements are not currently captured by the global derivatives statistics published by the BIS that encompass the trading of foreign exchange instruments in spot and OTC derivatives markets as well as of OTC interest rate derivatives (cf Wooldridge (2019) as well as BIS data on https://www.bis.org/statistics/about_derivatives_stats.htm?m=6%7C32). They are under consideration not least in the context of the recommendations of the second phase of the DGI related to cross-border exposures (FSB and IMF (2015)).

[4] As regards the challenges for accessing alternative private data in developing countries, a key one is that these jurisdictions often have particularly tight resources and rarely possess the expertise to extract information from raw unofficial data (Robin et al (2015)). Yet, on the other hand, the big data revolution offers an opportunity to avoid the organisation of costly data collection exercises for underdeveloped official statistical systems. For instance, quick inflation estimates can be made by directly scraping prices displayed on the web, instead of setting up specific surveys that can be quite time- and resource-intensive – see for instance the Billion Prices Project (Cavallo and Rigobon (2016)).

[5] Policy makers have indeed underlined the importance of these issues to address the challenges associated with the Covid-19 pandemic. In particular, the G20 Finance Ministers and Central Bank Governors have stressed "that improving data availability and provision, including on environmental issues, and harnessing the wealth of data produced by digitalisation, while ensuring compliance with legal frameworks on data protection and privacy, will be critical to better inform our decisions" and invited the main international financial organisations to reflect on a possible new Data Gaps Initiative (G20 Italian Presidency (2021b)).

[6] See the activities supported by the Business Reporting Advisory Group (BRAG), a consulting organisation collaborating with a number of European regulatory and supervisory authorities, or the Eurofiling Foundation, a forum initiative started in 2005 to improve collaboration on and awareness of European regulatory reporting among regulators, supervisors and entities from both the public and private sectors.

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.

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