





121 economists, 60 specialised career streams. 48% female staff, underrepresented regions 28%.

weaknesses

"GLOBAL DATA
COMMONS"

MARKETS

IMF DESKS

THE
WORLD



Delivered 700 CD missions in 2019 (30% on Fragile States) to help countries produce better statistics.



Leads the work on emerging methodology issues: digital economy, economic welfare in the Digital Age and informal economy.



Bhile Coamanacha Guide

dentifying for veillance

use of Big Data

Overarching Strategy

Ensure secure and seamless access and sharing of high quality data Helped 87 countries join the Global Data Commons since 2015. 46% increase in the number of countries publishing key economic indicators under the IMF's data standards initiative

April 83

March 2019



Helps mainstream Big Data in the Fund with the launch of the BigData@Fund.



Collects, processes, and disseminates member countries' data and maintains the IMF data ecosystem (200+ databases).

Supports IMF Data and Statistics Governance Bodies (Standing Committee and Data Governance Groups). Leadership role on iData (Big 5 capital project).

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Prepared by Alexandre Chailloux, Wesley Young, and Janice Irving.

Production assistance was provided by Wesley Young.

# A MESSAGE FROM THE DIRECTOR

It is with great pleasure that I present to you the overview of the activities of the IMF's Statistics Department (STA) in 2019.

STA had a strong year. About 18 months after its Board adoption, we are continuing to implement, together with other IMF departments, the Data and Statistics Strategy. Although much has been done, completing its six strategic objectives within the five-year implementation window remains a tall order. It will require focus and stamina. Some important deliverables of the Strategy have been completed. STA's data function restructuring has proceeded steadfastly. The reform of the Fund's data governance bodies is adding to the Strategy implementation momentum. The successful launching and roll-out of the Data for Decisions (D4D) Fund and its new innovative capacity development (CD) modules, such as online learning, will help us address member countries' data needs and improve the availability of economic data for policy making. The Strategy implementation will also benefit from partnerships with important institutional initiatives in the Fund. For instance, synergies with the Integrated Digital Workplace initiative to leverage technological advances to facilitate IMF economists' work, and the Knowledge Management projects aimed at improving data and knowledge sharing across the Fund, are substantial.

Our overarching objective is to make sure that economic data flow seamlessly across the institution while meeting the highest quality standards. The IMF Data Governance bodies will keep working towards this end, and my role as Chief Data Officer is to make sure that STA lends them the most effective support.

Our activities in the field of methodology, CD, and data dissemination are also placing us at the forefront of statiscal innovation. STA colleagues are breaking new methodological grounds on topics like the <u>digital economy</u> or <u>crypto-assets</u>, for which the IMF is developing an accounting framework endorsed by the <u>BOPCOM</u>. Taking up these challenging topics will help us maintain intellectual leadership in the runup to the upcoming review of statiscal manuals.

Lastly, I want to stress the importance of advancing towards the <u>Global Data Commons</u>. STA teams are active on all five continents to help countries adopt the <u>SDMX</u> data exchange protocol and implement cloud-based data dissemination repositories. The Global Data Commons is an important objective of the Fund and thanks to our efforts about one half of member countries are using SDMX and hence already working towards it.

In this year's edition of STA at a Glance, we will take stock of the implementation of the Data and Statistics Strategy. We will also review key developments in surveillance, data standards, methodology, and CD with a focus on innovation.

I would like to seize this opportunity to recognize the dedication and commitment of all our HQ-based colleagues and of all short and long-term experts. Our colleagues Johannes Mueller, Deputy Director, and He Qi and Claudia Dziobek, Advisors in the Front Office, retired this fall. I would like to thank Johannes Mueller for developing the CD function of STA, an impressive legacy that culminated with the launching and roll-out of a new innovative multi-donor Trust Fund, D4D, He Qi for her dedication and for leading the production of STA at a Glance over all these years, and Claudia for her remarkable professional journey in the Fund and across many STA divisions. We wish them all the best for the future and a happy and well-deserved retirement. I am also pleased to welcome Andrea Richter Hume, Jim Tebrake, Marco Marini, and Linda Kaltani who joined our Senior Staff in 2019. Working together, we will further advance our agenda to provide better statistics for better policies.

Louis Marc Ducharme
Chief Statistician and Data Officer, and Director
Statistics Department
International Monetary Fund
December 2019





# DATA STRATEGY IMPLEMENTATION AND DATA FUNCTION

## AGILITY IN IDENTIFYING DATA NEEDS

Agility in identifying data needs for surveillance is one of the key objectives of our Strategy. To this end STA staff has worked towards the 2020 Review of Data Provision to the Fund, in close collaboration with the Strategy Policy and Review and Legal departments. The framework review will focus on meeting emerging data needs in key areas for surveillance along the lines of the Comprehensive Surveillance Review conclusions. STA staff has in parallel rolled out a pilot exercise on the new data adequacy assessment framework for surveillance covering 20 countries broadly representative of the membership.

### Building the global data commons

Progress towards the Global Data Commons, a cloud-based network of national data dissemination platforms, has continued in 2019. STA staff have assisted 26 new countries in launching machine-readable National Summary Data Pages through the Fund Data Standards Initiatives to build the Global Data Commons, collaborating closely with area departments. Saudi Arabia subscribed to the Special Data Dissemination Standard (SDDS) in September 2019, thus becoming the first SDDS subscriber among the G20 SDDS countries to adopt the SDMX technology in the National Summary Data Page. Work towards the 10th Review of the IMF Data Standards Initiatives was also initiated in 2019.

## BETTER DATA SHARING: ESTABLISHING STA'S NEW DATA FUNCTION

The Overarching Strategy on Data and Statistics envisaged a new role for STA: integrating data management workstreams to enhance collaboration and improve outcomes. To achieve this, STA initiated in 2019 a reorganization of its internal data functions. As part of this reorganization, the data operation functions of the Statistical Information Management Division (SI) have been

shifted to the new Data Operations Division (DO), and the database design and data management service functions have been assigned to a newly-created Data Governance and Services Division (DS).

In a nutshell, DO's role is to implement the data collection, processing and dissemination for STA data products, while DS' responsibility is to support the Fund's data governance bodies and implement the Fund's priorities on data management design and policies. With this new governance structure, STA will work with departments to develop IMF data management standards and foster their implementation to facilitate data sharing and improve accessibility.

This reorganization called for an upskilling of STA's staff in the data area in order to support the implementation of one of the six pillars of the Strategy to foster the usage of Big Data. After helping create a data science job family, STA hired in 2019 two data analytics officers and a data architect to help build skills in the field of Big Data, data visualization, and other relevant data science techniques. STA is also taking the role of business leader and program manager for the i-Data project. i-Data is one of the five business transformation programs the Fund has embarked upon to improve and integrate business processes and upgrade technological platforms. The program aims to upgrade and modernize the Fund's data lifecycle platform to facilitate better data management in the Fund.

In addition to this internal reorganization, two governing bodies have been created. The Standing Committee on Data and Statistics, chaired by Management, shepherds the implementation of the Strategy, while the Data Governance Group develops and monitors the implementation of good management policies, practices, and guidelines.

Lastly data divisions have embarked into an important journey to document data management work processes. The creation of a common repository of business processes documented according to a single taxonomy and using industry process notation standards will help STA's data function to improve data management outcomes and data quality and will facilitate innovation and new product design.

### SUPPORTING BIG DATA IN THE FUND

Working towards mainstreaming Big Data techniques in the Fund is another aspect of the Strategy. With help from newly-recruited staff, STA has spearheaded the launch of a new Community of Practice (CoP) on Big Data which aims to foster knowledge sharing and collaboration across departments. The CoP meets on a regular basis to showcase ongoing projects and share knowledge about resources available to staff when working with Big Data. The CoP has already created a repository of about 50 ongoing Big Data projects. The CoP hosted Fund-wide presentations using a variety of alternative data sources, including satellite images, text analytics, etc. It also supported other Fund-wide initiatives like the iLab's Big Data for Surveillance Challenge and Big Data workshops at 2019 Annual Meetings.

STA also worked on setting-up partnerships with member countries on Big Data projects. For instance, STA staff have provided technical assistance to Indonesia on the use of scanner data to compile high-frequency economic activity indicators, in collaboration with Statistics Netherlands. A cross-divisional team is designing a big data pilot project using mobile money transfers to measure remittances, financial inclusion, and other high-frequency indicators in the East African Community. Research using alternative data sources like geolocational data on vessel positions to compile faster trade data for small open economies was conducted and tested for Malta.

Lastly STA has joined an interagency initiative to facilitate the procurement of Big Data from large private sector players in the digital economy, the <u>Data Collaboratives</u> <u>Consortium</u>. This partnerships with other international organizations (World Bank, Inter-American Development Bank) will facilitate access to private data (e.g. Facebook, Google) to be used for better policy design.

At the Annual Meetings, STA with other departments, partnered with Carnegie Mellon University to host "Big Data, Big Stories," a data visualization exercise that brought together policymakers and Fund staff to showcase policy issues overlaying data on Google Earth images.

### DATA PRODUCTS DEVELOPMENTS IN 2019

While restructuring its data function, the department continued innovating and improving its data products, starting in 2019 with the shift to an "all-digital" dissemination policy, marked by the discontinuation of print publications. STA also contributed to new databases like the Government Revenue and Fiscal Decentralization databases with FAD, and the macrostructural data portal created with SPR. More countries than ever now report their data to STA. For instance, close to 140 countries report government finance data to populate our fiscal flagship GFSY; and 171 countries have reported data to the Financial Access Survey (FAS) in 2019 for its 10th anniversary, of which 49 report gender disaggregated data on access and uses to financial services.

## CROSS-COUNTRY COMPARABILITY AND AGILITY IN IDENTIFYING DATA NEEDS FOR SURVEILLANCE: KEY DEVELOPMENTS IN STATISTICAL METHODOLOGY IN 2019

## PREPARATIONS FOR THE UPDATE OF INTERNATIONAL STATISTICAL STANDARDS

It has been ten years since the adoption of the 2008 System of National Accounts (2008 SNA) and the IMF's Balance of Payments and International Investment Position Manual, sixth edition (BPM6). While the current conceptual frameworks of national accounts (2008 SNA) and international accounts (BPM6) are harmonized, robust, resilient and still relevant, it is also clear that the world is more digitized and globalized. In this context the Fund will continue providing cutting-edge analysis and policy advice in line with its global leadership role. Consequently, STA has launched internal discussions to scope out the key conceptual, methodological, and measurement issues, especially those issues that cut across statistical domains. The Balance Of Payment Committee (BOPCOM) has published a paper outlining the key elements of its strategy to update BPM6. These initiatives will provide a solid basis for identifying STA's vision for the next generation of international statistical standards.

#### INFORMAL ECONOMY

STA has intensified work on measuring the informal economy, in response to requests from member countries and in support of IMF priorities to reinforce analytical work on fragile countries and Low-Income Countries (LICs). Measuring the informal economy was the theme of the Seventh IMF Statistical Forum in November 2019. A key issue in measuring the informal economy is the definition of the term "informal", that is used broadly to describe the part of the economy that may not be covered in official statistics, production taking place outside the regulated economy, or the production of households. The term has also been used interchangeably with others (such as underground, shadow, or hidden) so STA will review

concepts, practices, and data sources used to estimate the informal economy to work towards an operational definition and more effective guidance to countries.

In addition, to support the membership and peer learning STA has launched a <u>web platform</u> on member countries' methods to measure the Informal Economy. The information covers collection and compilation techniques used by selected economies to estimate informal, underground and/ or illegal cross-border transactions.

#### CRYPTO ASSETS

A cross divisional team has prepared, in close consultation with other Fund departments, a guidance note on crypto assets. The "Treatment of Crypto Assets in Macroeconomic Statistics" clarification paper was endorsed by BOPCOM and the Inter Secretariat Working Group on National Accounts (ISWGNA)—includes an overview of the characteristics of crypto assets and provides guidance on their statistical treatment.

## FOREIGN DIRECT INVESTMENT SURVEY (FDIS)

Following BOPCOM's recommendations STA staff designed a new data collection solution to provide separate information on Special Purpose Entities (SPEs) for selected Balance of Payments and International Investment Position Items. The new data collection will be launched in 2021. To ensure cross-country comparability, international consensus was reached on an international definition of SPEs, an SPE typology and a decision tree to identify SPEs.

## MEASURING THE GLOBAL VALUE CHAIN AND THE DIGITAL ECONOMY

In cooperation with the OECD, STA led an international working group which identified a set of key components in the current balance of payments framework that are of relevance for developing indicators on the Global Value Chains (GVCs). The group also recommended a set of items to be included in an annual GVC reporting exercise to be developed by the IMF and the OECD and proposed a framework to highlight the role of multinational enterprises in the current account, covering trade in goods and services and (FDI) income. In this context STA staff developed with the OECD and the World Trade Organization (WTO) a Handbook on Measuring Digital Trade, that included guidelines for developing a digital economy satellite account.

## UPDATING THE FINANCIAL SOUNDNESS INDICATORS COMPILATION GUIDE

STA assembled and released the pre-publication version of the revised *Financial Soundness Indicators:* Compilation Guide (FSI) in April 2019. The Guide updates the methodological guidance for the compilation of FSIs, reflecting changes in regulatory and accounting standards, as well as expanding the scope of FSIs to cover insurance corporations, pension and money market funds. It also includes concentration and distribution measures for selected FSIs.

# G NEW FORMAT OF THE IMF GOVERNMENT FINANCE STATISTICS ADVISORY COMMITTEE (GFSAC)

The format and composition of the GFSAC have been modified to better reflect the diversity of the membership and to benefit from the perspective of private sector-parties and academics on public finance statiscal issues and GFSM2014 implementation. The September meeting centered on the need to strengthen capacity for statistics in emerging and low-income countries, delineate better the perimeter of government and promote a wider use of balance sheet analysis for fiscal policy making.

## DATA GAPS INITIATIVE SECOND PHASE

STA chaired jointly with the Financial Stability Board the Fourth Global Conference on Phase II of the G-20 Data Gaps Initiative (DGI-II) during June 12–13, 2019. The Conference took note of the additional progress made by participating economies in closing data gaps and promoting the flow of timely and reliable statistics for policy use. Continued efforts are still needed to overcome remaining challenges and conclude the DGI agenda in 2021.

### RESEARCH AND ANALYTICAL WORK

STA economists have contributed actively to the research agenda of the Department. In the context of the work on the digital economy STA staff published a research paper on the potential inclusion of data as an asset in National Accounts (Measuring the Digital Economy in Macroeconomic Statistics: The Role of Data) and presented a paper on the "Next Generation of Statistical Manuals" at the International Statistical Institute congress meeting in Malaysia in August. Staff published a note presenting technical tools to implement algorithm balancing supply and use tables, on price statistics compilation and on the role of FinTechs in the Financing of the Global Value Chain. A Working Paper aiming to distinguish "real FDIs" from SPE-related FDIs was published in December ("What is real and What is Not in the Global FDI Network"). Another paper focused on analyzing the correlation between international financial connection and stock return co-movement. In addition, a paper presented indicators measuring the three dimensions of Human Development Index (HDI)—standard of living, education and health, and their relationship with public social spending for achieving the 2030 Agenda for SDGs. STA staff contributed also a chapter of the collective book edited by Ken Rogoff and Ali Abbas, "Sovereign Debt: A Guide for Economists and Practitioners." on sovereign debt Definitions and composition. A working paper on guilt, gender, and work-life balance in Japan measured individuals' willingness to trade wages against job characteristics, such as overtime, job security, the possibility of work transfer and relocation. A working paper on big data on vessel traffic showed how existing data sources on trade can be complemented by introducing new statistics that are more timely and facilitate faster detection of turning points in economic activity.

## ADDRESSING DATA WEAKNESSES: CAPACITY DEVELOPMENT AND TRAINING

### A TECHNICAL ASSISTANCE AND WORKSHOPS

Capacity development activities have continued apace, helping countries to provide better and more timely economic data for evidence-based policy-making. This work also supports monitoring of the SDG agenda as over one third of the <u>SDG indicators</u> include economic data.

Over 700 missions have been conducted in 2019 with a strong focus on low and lower-middle income countries, in particular, fragile states. Real sector statistics represented almost half of the technical assistance provided, government finance statistics one quarter and external sector sectors statistics fifteen percent. The rest consisted of monetary and financial statistics and data management missions. Advancements in methodological work and statistics research have been translated into cutting edge capacity development activities.

In the context of Financial Sector Stability Fund, STA organized a regional workshop on the Balance Sheet Approach (BSA) to support the analysis of cross-sector financial vulnerabilities. This was supplemented by a series of technical assistance missions to develop the underlying data for the BSA as well as Financial Soundness Indicators (FSIs). STA also offered regional workshops to support FAS database compilation and facilitate peer learning among country authorities, including on gender-disaggregated data on financial inclusion. STA contributed to a regional workshop on measuring the digital economy hosted by the Bank of Indonesia and developed a course to help countries compile high frequency indicators. This course was geared towards helping low income and developing countries where data products are generally compiled at an annual frequency with a significant time lag. The development of a high frequency indicators should help to ensure that social and economic policies are more responsive and effective. STA also assisted LLMICs to develop country-owned work plans to enhance reporting of Public Sector Debt Statistics (PSDS) and GFS data for surveillance under the D4D in response to calls in the global policy dialogue to enhance debt transparency. An innovative approach to use Big

Data in collecting source data allowed several low-income countries to advance preparation of a residential price index to risks from real estate developments.

## B INNOVATION IN CAPACITY BUILDING DELIVERY MODES: ONLINE LEARNING TOOLS

STA broke new grounds in 2019 by launching two online courses offered for free to government officials as well as the general public. Online learning will help IMF capacity building to reach out to a larger audience while diversifying the delivery modes of CD. The online course on Compilation Basics for Macroeconomic Statistics (CBMSx) teaches the basic skills, concepts, and principles required to compile and disseminate macroeconomic and financial statistics. The <u>CBMSx</u> registered a record number of participants for an IMF online course. The Public Sector Debt Statistics online course (PSDSx) teaches how to compile and disseminate comprehensive public sector debt statistics. It responds to the urgent call by the G20 and the April 2019 IMFC communiqué to enhance debt transparency in the global policy dialogue, given, growing concerns about rising debt levels.

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# MEASURING THE INFORMAL ECONOMY



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#### **KEY TOPICS**

- The informal, underground, shadow, non-observed economy, etc. Multiple terms to describe the same concept?
- Significantly important but weak data sources and hence limited knowledge. Can measurement practices be improved?
- How do we account for illicit activities, both domestic and cross-border?
- What are the working conditions and social implications from informality?
- Can new technologies, new data sources, big data, assist in Measuring the Informal Economy?

