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For discussion and
recommendations

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Agenda

MEASURING THE DIGITAL ECONOMY:
RECENT WORK AND CURRENT PLANS

Prepared by the IMF Statistics Department

This short note provides an overview of recent work and future objectives on measuring the digital economy in macroeconomic and financial statistics at the IMF Statistics Department. This mainly concerns output produced in the context of the system of national accounts; Balance of Payments and International Investment Position and more specifically the measurement of digital trade; and monetary and financial statistics.

The note is prepared to provide input to the CES Bureau forthcoming discussion on work done on measurement of the digital transformation.

I.   INTRODUCTION

1.   Measurement of the digital economy in macroeconomic and financial statistics is one of the focuses of research and of work on developing compilation recommendations and training materials at the IMF Statistics Department. To accelerate this work, IMF made *Measuring the Digital Economy* the theme of the November 2017 Statistical Forum, a conference that brought together thought-leaders from official statistics and academic research to discuss cutting-edge statistical issues. The IMF Statistics Department has also collaborated with the OECD Statistics Directorate in work on a variety of topics in measuring the digital economy and digital trade.

2.   The 2018 IMF Statistical Forum turned to the theme of *Measuring Economic Welfare in the Digital Age: What and How?* Many of the papers presented at this conference considered aspects of measuring the digital economy, including the welfare gains from free digital services, from enhancements in household nonmarket production enabled by digital products and information, and from e-commerce. This Forum and the one that preceded it form the backdrop to papers on measuring the digital economy and measuring welfare in the digital age.

II.   RESEARCH PAPERS

3.   IMF has collaborated with OECD on two papers on measuring the digital economy that have been added to the OECD Statistics Working Paper series. One considers the potential size of the measurement error in GDP and productivity growth from challenges in measuring the digital economy (Ahmad, Ribarsky and Reinsdorf, 2017). The other (which grew out of research presented at the 2017 IMF Statistical Forum) estimates upper bounds

for the potential measurement error in the deflator for household consumption caused by improved, free and inexpensive digital products (Reinsdorf and Schreyer, 2019). The paper will be published in late 2019 by Elsevier in a book on *Measuring Economic Growth and Productivity.*

4.   IMF is also researching the measurement of data assets in GDP statistics. Data have always had a central role in business. Businesses use data to understand their customers, to improve products and processes, and to inform strategic decision making. As data has gone digital, falling costs of data acquisition, storage and processing have led to an explosion in their accumulation and use. Macroeconomic statisticians are therefore reviewing how well their treatment of data reflects its role in fostering new kinds of investment in intellectual property assets and as another factor of production analogous to physical and intangible capital. A paper on "Measuring the Digital Economy in Macroeconomic Statistics: the Role of Data" was presented at the April 2019 meeting of the Group of Experts on National Accounts and at a meeting of an OECD Informal Advisory Group. An update of this research will be presented in a session on *Big Data: Value, National Accounts, and Public Policy* at the Allied Social Science Association (ASSA) meetings in January 2020.

III.   GUIDELINES AND RECOMMENDATIONS

5.   In early 2018 a Policy Paper on *Measuring the Digital Economy* was discussed at an informal briefing to the IMF Executive Board. The 2018 board paper defines a digital sector, and reviews measurement challenges and new data needs in macroeconomic and financial statistics linked to the digital economy. It also discusses the state of play on measuring the digital economy, assesses the policy implications, and recommends practical steps to improve measurement. Compilation recommendations and guidelines on measuring the digital economy are provided for national accounts, price statistics, external sector statistics and monetary and financial statistics.

6.   A paper on *Measuring Welfare in the Digital Age: What and How?* is being prepared and is expected to be widely discussed within IMF, and subsequently a paper will be published. Its section on measuring welfare from the emergence of the digital economy contains compilation recommendations for price and growth statistics and for complementary welfare indicators. It also makes recommendations concerning conceptual issues in the debate over the framework for measuring welfare gains from free digital services, e-commerce, and effects of digitalization on households' time use.

7.   In response to growing demand for compilation guidance on crypto assets in external sector statistics, the IMF Statistics Department prepared a methodological note on the treatment of crypto assets in macroeconomic statistics. Following endorsement by the IMF Committee on Balance of Payments Statistics (BOPCOM), IMF issued a Clarification Note providing methodological guidance on the treatment of crypto assets.

8.   In response to growing demand for coherent and comparable data on digital trade, in 2017 the Inter-Agency Task Force on International Trade Statistics created an Expert Group, to draw from international organisations, national statistics agencies and central banks to develop an *OECD-WTO-IMF Handbook on Measuring Digital Trade.* The Handbook, led by OECD, provides: (1) a conceptual framework to define digital trade, around which national efforts could be targeted; and (2) a mechanism to bring together and share existing national and international efforts on measuring digital trade to identify best practices. To assist with Expert Group's work on preparing the Handbook, stocktaking surveys of views

and measurement practices were conducted jointly by IMF and OECD, in 2017, 2018 and 2019, among their respective members.

9.   In 2019, IMF staff made several presentations on aspects of measuring the digital economy at conferences and workshops. Among these was an assessment of the debate over measuring productivity, growth and inflation in a digital economy presented to at a high-level conference of central bank governors from a number of European countries hosted by the Bank of Belgium. Recommendations on measurement of inflation in a digitalized economy were presented at the ISI World Statistics Conference in Kuala Lumpur. An IMF presentation an international conference on "Measuring the Economy in the Digital Age" hosted by the Central Bank of Chile provided an overview of conceptual and compilation issues in measuring the digital economy.

10.   IMF is participating in an OECD Informal Advisory Group on Measuring GDP in a Digitalised Economy that has developed guidelines for digital supply and use tables and for dissemination of granular data on digital transactions and activity to make the digital economy more visible in macroeconomic statistics.

III.   WORKSHOPS AND COURSES

11.   In September 2019, the IMF Statistics Department gave a series of lectures on the digital economy and its measurement in national accounts, price statistics and monetary and financial statistics at a workshop for central bank and national statistics office staff hosted by the Bank of Indonesia for the countries in the region. (The OECD Statistics Directorate prepared lectures on other topics for the workshop.) Material for a course on measuring the digital economy planned for early 2020 is also being prepared.

IV.   STATISTICS ON FINTECH AND FINANCIAL ACCESS

12.   As part of its Financial Access Survey (FAS), the IMF Statistics Department collects data on mobile money accounts and internet banking. Mobile money accounts improve financial access by providing a convenient, accessible saving and payment services to underserved and unbanked populations in developing and emerging market economies. The Statistics Department has enhanced its data collection on digital finance to include value and volume of mobile and internet banking in the 2019 round of the Financial Access Survey (FAS) while continuing to improve country coverage for data on mobile money.

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