

High Level Seminar on the Digital Economy: A Policy and Statistical Perspective

15-17 November 2018

Beijing, China

Report of the Seminar

I. Introduction

1. In recent years, macroeconomic, trade and firm-based analyses have become increasingly challenging due to the transformative impacts of digital technologies on economic activity. This new phenomenon is often referred to as the digital economy. The innovations through digital technology have changed the way products are produced, consumed and traded; jobs and income are generated; and investments are financed. A sound statistical measurement of the transformative impact of the digital economy can help in understanding the dynamics and the structural shifts in the economy and ultimately the impact of the digital economy on domestic and global economic activity, the use of the environment and the quality of life of individuals. These insights should allow for improved policy and decision making for sustainable development by government and firms in advancing and distributing the benefits of digital technologies and seizing their opportunities while reducing their risks on the economy, society and environment.
2. The high level seminar was, thus, organized to (a) raise awareness about the transformative impacts of digital technologies across our economies, societies and environment, (b) identify policy, research and information gaps as well as ways to improve interdisciplinary actions on the measurement of digital economy, and (c) present concrete proposals to strengthen cooperation for these actions in an inclusive manner. The event was organized by the United Nations Statistics Division (UNSD) in collaboration with the National Bureau of Statistics (NBS) of China. It was expected that the consultation process through the high level seminar would contribute to stimulating discussions between various stakeholder groups in the public and private sector on how they can work together to maximize the cooperation for mutually agreed priorities for research in statistics and policy needs.
3. The seminar was attended by some 85 participants from the national statistical offices, central banks, policy agencies and academic institutions of Brazil, Canada, China, China, Hong Kong SAR, Indonesia, Japan, Kenya, Malaysia, Mexico, Philippines, Singapore, Thailand and Turkey. Representatives from the Asian Infrastructure Investment Bank, Organisation for Economic Cooperation and Development (OECD) and United Nations also participated in the seminar.

4. The Commissioner of NBS, Under-Secretary-General (USG) for Economic and Social Affairs and Director of UNSD gave the welcome statements. The Commissioner of NBS noted the importance of the digital economy for economic transformation and highlighted the initiatives such as a new classification scheme for digital economy activities and indicators that the NBS has developed to track the digital economy. The USG for Economic and Social Affairs noted that the economic and social transformation brought about by the digital revolution has resulted in widening income and wealth disparities and described initiatives by the UN to tackle these issues. The Director of UNSD called attention to the various challenges confronted by national accountants and economic statisticians in measuring the transformation and dynamics in our economies brought about by digitalization and globalization. He proposed the idea of an institutional arrangement involving a user-centered approach for economic statistics to ensure that the views of the major stakeholders in the production and use of economic statistics are reflected in the advice to the Statistical Commission. This was followed by a keynote speech by a Deputy Commissioner of the NBS on how the digital economy can contribute to sustainable development, particularly in the context of China and a presentation by UNSD on the objectives and work programme of the seminar.
5. The presentations and other documents for the seminar are available on <https://unstats.un.org/unsd/trade/events/2018/Beijing/default.asp>.

II. Discussions and outcomes of the high level seminar

6. This section summarizes the discussions and outcomes of the various sessions and two panel discussions.

High level panel on the role of the digital economy in sustainable economic development

7. The high level panel comprised participants from China, Philippines and the OECD. The panelists shared their views on the definition of the digital economy, scope and the main components of the digital economy, main benefits and costs for the economy and society of the digital economy, main challenges faced by policy makers in maximizing the benefits and minimizing the cost of the digital economy, main measurement challenges related to the digital economy and how policy makers and statisticians can work together in developing an integrated policy-statistical framework for the digital economy for sustainable development.
8. Participants agreed that that it may not be possible to get a single definition or scope of the digital economy. Rather, different policy needs would result in different definitions and scopes of the digital economy which may necessitate a review of existing international classification standards to better describe the activities taking

place in the digital economy and the wide range of goods and services arising from these activities. Consequently, the development of a digital economy macroeconomic statistical framework and satellite account for the digital economy will need to take into account these diverse policy needs. In addition, to cater to these diverse policy needs, consideration should be given to the development of indicators beyond the macroeconomic framework to track access to information and communication technologies (ICT), ICT usage, well being and the costs of the digital economy.

Session 1 - The role of digital economy in sustainable economic development

9. This session saw presentations by the Asian Infrastructure Investment Bank (AIIB), Brazil and Beijing Institute of Internet of Things on the multiple impacts of the digital economy on policy-making, economic activity, well-being and the environment. The AIIB presentation showed how digital technologies such as blockchain can restrict the range of tools available to conduct monetary policy and how digitalized planning can increase tourist arrivals. The presentation by Brazil showed how the different definitions of the digital economy (core, narrow and broad) can influence the type of statistical framework and indicators to be compiled to measure the digital economy and how the level of readiness of an economy for the digital economy can affect perceptions of its competitiveness. The presentation by the Internet of Things showed how innovations in the public sector can foster a smart society and support entrepreneurship.
10. Participants clarified how the ICT sector could be accommodated in the narrow definition of the digital economy. They also noted the need to assess the role of the national statistical agency in coordinating with stakeholders such as policy agencies, private sector, academic and civil society in tracking and monitoring the impact of digital economy policies.

Session 2 - Definition and scope of the digital economy

11. This session featured presentations by countries and international organizations on the emerging definition and scope of the digital economy. The presentation by the Philippines focused on the statistical and legal challenges involved in measuring the digital economy. The presentation by UNSD proposed some components of an integrated policy and statistical framework to measure the digital economy. The presentation by Malaysia described alternative definitions and scopes of the digital economy using existing definitions proposed by the Organisation for Economic Cooperation and Development (OECD) as the starting point and its intention to integrate ICT and e-commerce dimensions into its existing supply and use table (SUT) framework.

12. Participants noted the usefulness of using the SUT as a tool to analyse the digital economy. They also noted the statistical and legal challenges encountered by national statistical agencies in collecting data to measure the digital economy. Moreover, they supported the need for a global mechanism to start a conversation on the development of an integrated policy and statistical framework to track and measure the digital economy and its related policies.

Session 3 - Current international statistical initiatives in measuring the digital economy

13. This session featured five presentations on initiatives to measure the size of the digital economy in the national accounts based on national practices. One presentation by China described the initiatives to measure the digital economy at the sub-national level in Chongqing municipality, while another analysed the contribution of the digital economy to China's economy using a growth accounting framework. Mexico presented the findings of its initiative to estimate the share of e-commerce in GDP through censuses and surveys. The OECD presentation described its Going Digital integrated policy framework that brings together the policies that governments must consider in order to shape a common digital future that improves lives and boosts economic growth and well-being. It also described its measurement initiatives to complement the policy framework. The presentation by the United States described the steps and methodology to develop a digital economy satellite account and posed questions on the scope of data and how data should be treated in the System of National Accounts (SNA).
14. Participants highlighted the need to correctly identify the statistical unit to be included in censuses and surveys to collect data on the digital economy by carefully assessing the nature of its transactions. They also noted the importance of accounting for the value of free services provided by households outside the core SNA. They also noted the need for further work on the treatment of data in economic accounting, including the various methods to value data.

Session 4 - Measuring price changes of digital products

15. This session featured three presentations on the development of price indices to measure changes in the prices of digital products, the issues and challenges involved and how to overcome these challenges. As price indices of digital products are typically used to construct volume measures of GDP, getting an accurate measure of changes in the prices of digital products is essential in order to derive accurate GDP volume measures. The presentation by OECD noted the increasingly challenging task of capturing rapidly changing prices of digital products accurately due to quality change and the possible welfare effects. It also noted that the use of quality-adjusted price indices for digital products in deriving GDP volume measures cannot explain the

observed slowdown in real GDP and productivity growth in advanced economies. The presentation by Canada described its efforts to get price data from emerging data sources such as scanner data, web scraping and application programming interfaces for selected products in its construction of its consumer price index and the conceptual challenges involved. The presentation also noted the need to gain the trust of providers of the scanner data that such data will only be used for statistical purposes. The presentation by Brazil described its efforts to improve the compilation of its consumer price index using web scraping data to adjust for quality changes in selected products using hedonic techniques.

16. Participants supported the need for constructing quality-adjusted price indices for digital products given their rapidly changing quality and the use of emerging data sources for this purpose given their relatively low cost. They also clarified the need to continue the conduct of household surveys to obtain data on the expenditure weights of the various items in the basket of products for the consumer price index.

Session 5 - Data sources for measuring the digital economy

17. The task of developing a sound and robust statistical framework to obtain internationally comparable measures of the size of the digital economy will not be complete without the availability of reliable and robust source data to facilitate its measurement. Traditional sources of data may have to be amended to address the changing nature of production and financing arrangements, employer-employee arrangements and the newly emerging self-employed jobs in e-commerce and digital media. This session featured four presentations on various data sources to measure the digital economy. China, Hong Kong SAR described its survey on information technology usage and penetration in the business sector and thematic household survey on information technology usage and penetration. Thailand presented its national digital economy policy direction and the available data sources to derive indicators to measure the outcomes of the policy. Kenya proposed a number of emerging data sources to compile statistics to measure the digital economy and noted the need for them to be integrated with traditional data sources. It also described how its experience with overcoming legal and confidentiality challenges to accessing emerging data sources for statistical purposes. Indonesia presented its attempts to collect statistics on e-commerce through a quarterly survey.
18. Participants noted the need for the statistics act to be strengthened to overcome trust and confidentiality issues in the use of emerging data sources in the compilation of official statistics. They also noted the need for statistics on the digital economy to include statistics on informal e-commerce, which may extend the scope of the OECD framework on e-commerce. Participants also highlighted the need for emerging and developing economies to provide inputs in the development of international recommendations and guidance to measure the digital economy.

Panel discussion on the main components of a policy and statistical framework for the digital economy

19. The panel comprised participants from Brazil, Canada and the United States. The panelists shared their views on the need for a core, narrow and broad definition of the digital economy that is fit for purpose, the main actors in the digital economy in the production and use of digital products, services, information and data and whether they differ with the broadening of the definition, how the digital economy is measured in terms of products, processes and transactions and whether the measurement change with the broadening of the definition, the need for a broad user centered consultation at national, regional and international level on the integrated measurement framework for the digital economy and which user communities should be invited to work together in developing an integrated policy-statistical framework for the digital economy for sustainable development and the role of the Statistical Commission in the process.
20. Given the dynamic nature of the digital economy, participants noted the need for a flexible definition of the digital economy that is fit for purpose and allows for the compilation of internationally comparable statistics. In addition, given the changing role of households as both consumers, suppliers of labour and producers, especially in the sharing economy, further thought should be given to how to account for the role of households in the statistical measurement of the digital economy. Further, the rapidly changing nature and entry and exit of firms in the digital economy suggests the need to ensure the statistical business registers are updated frequently to capture these movements.

III. Closing and way forward

21. The NBS and UNSD provided the closing remarks summarizing the proceedings of the event.
22. To resolve the issues which were raised at the seminar, a new global user-centered institutional consultation mechanism for economic statistics complementing domain specific regional and international consultation mechanisms (such as those for national accounts, price, business and trade statistics) should be established to provide guidance on the development of a policy and statistical framework to measure the digital economy. Possibly building on the guidelines on integrated economic statistics welcomed by the United Nations Statistical Commission in 2012 and the emerging research on the digital economy by IMF, OECD and other partners, this mechanism could undertake a comprehensive programmatic view on all domains of economic statistics and statistical activities under the umbrella of the conceptual

framework of the SNA. Such a user centered and integrated approach for economic statistics which can be moderated by regular forums on economic statistics and possibly by a high level group on economic statistics can offer a new institutional mechanism for the Statistical Commission. This institutional mechanism can ensure the coherence and analytical value of both basic economic statistics and macroeconomic statistics in the resolution of issues on the SNA research agenda related to globalization, digitalization and well-being and sustainability.

23. In all these initiatives, it is equally important to seek the views of the developed, emerging and developing economies to ensure that no one is left behind in the development of recommendations and guidance.