United Nations Statistics Division

Towards an integrated framework for measuring the digital economy

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

Beijing, China
15-17 November 2018

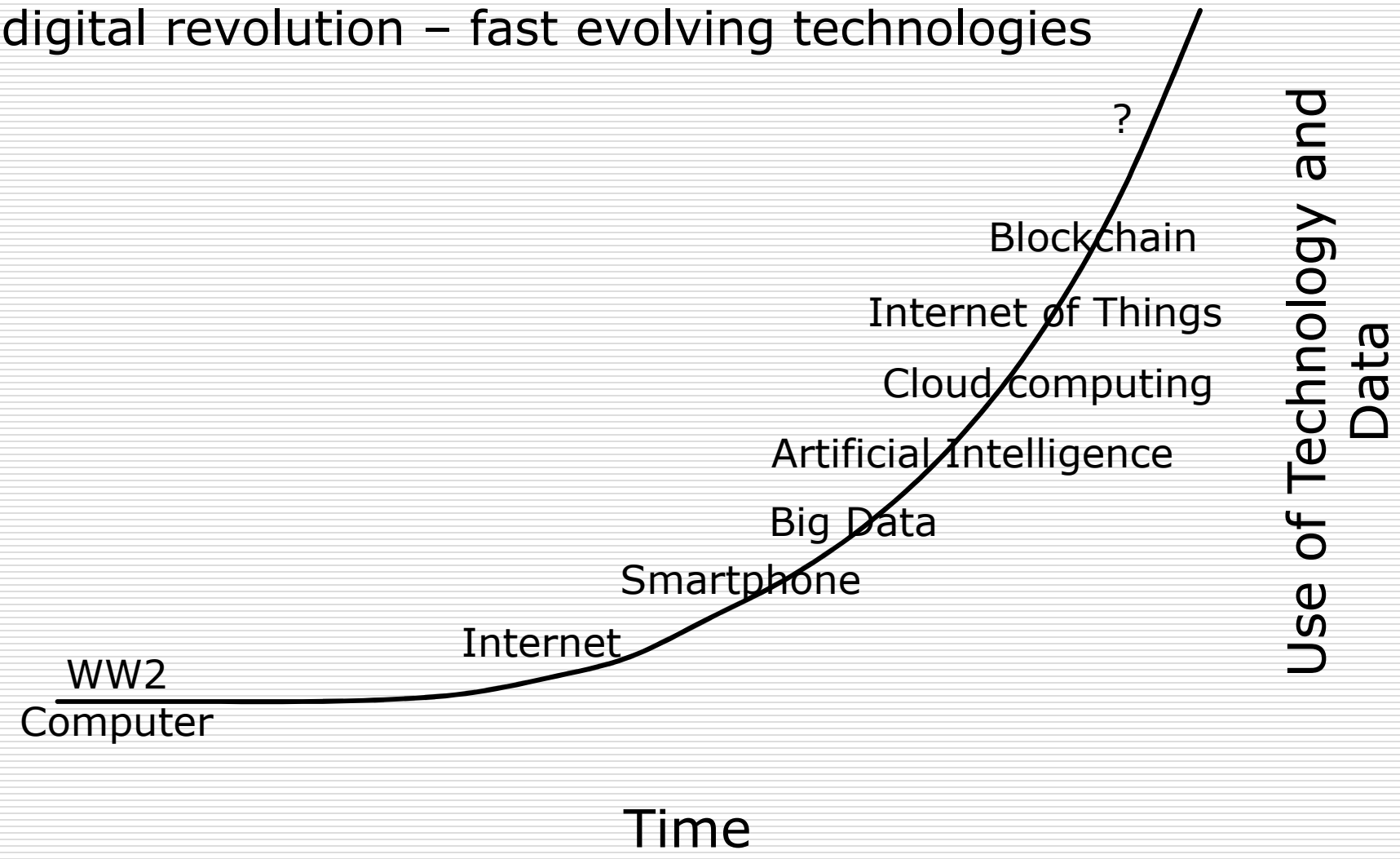
United Nations Statistics Division

Outline of presentation

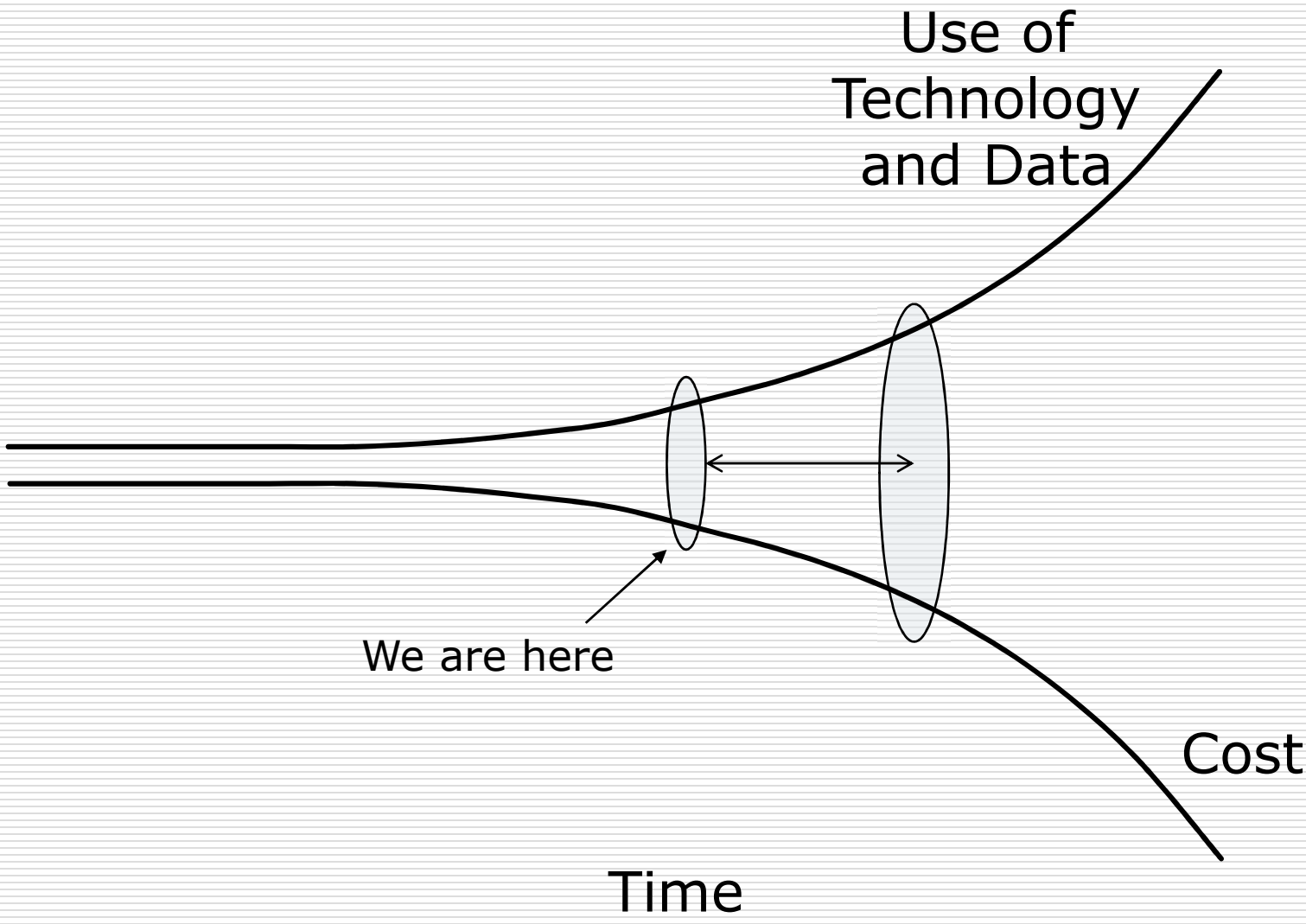
- Background
- What benefits have the digital economy brought?
- What costs have the digital economy brought?
- What are the outcomes?
- Components of policy framework for the digital economy
- Components of statistical framework for the digital economy
- Conclusions

Background

- Many economies around the world are undergoing a digital revolution – fast evolving technologies



Available timeframe to create a framework



What benefits have the digital economy brought?

What benefits have the digital economy brought?

- Digital economy can make a significant contribution to the realization of the 2030 Agenda for Sustainable Development

What benefits have the digital economy brought?

- Wide variety of goods and services

What benefits have the digital economy brought?

- Innovations in financial markets and new methods of payment

What benefits have the digital economy brought?

- Rising automation

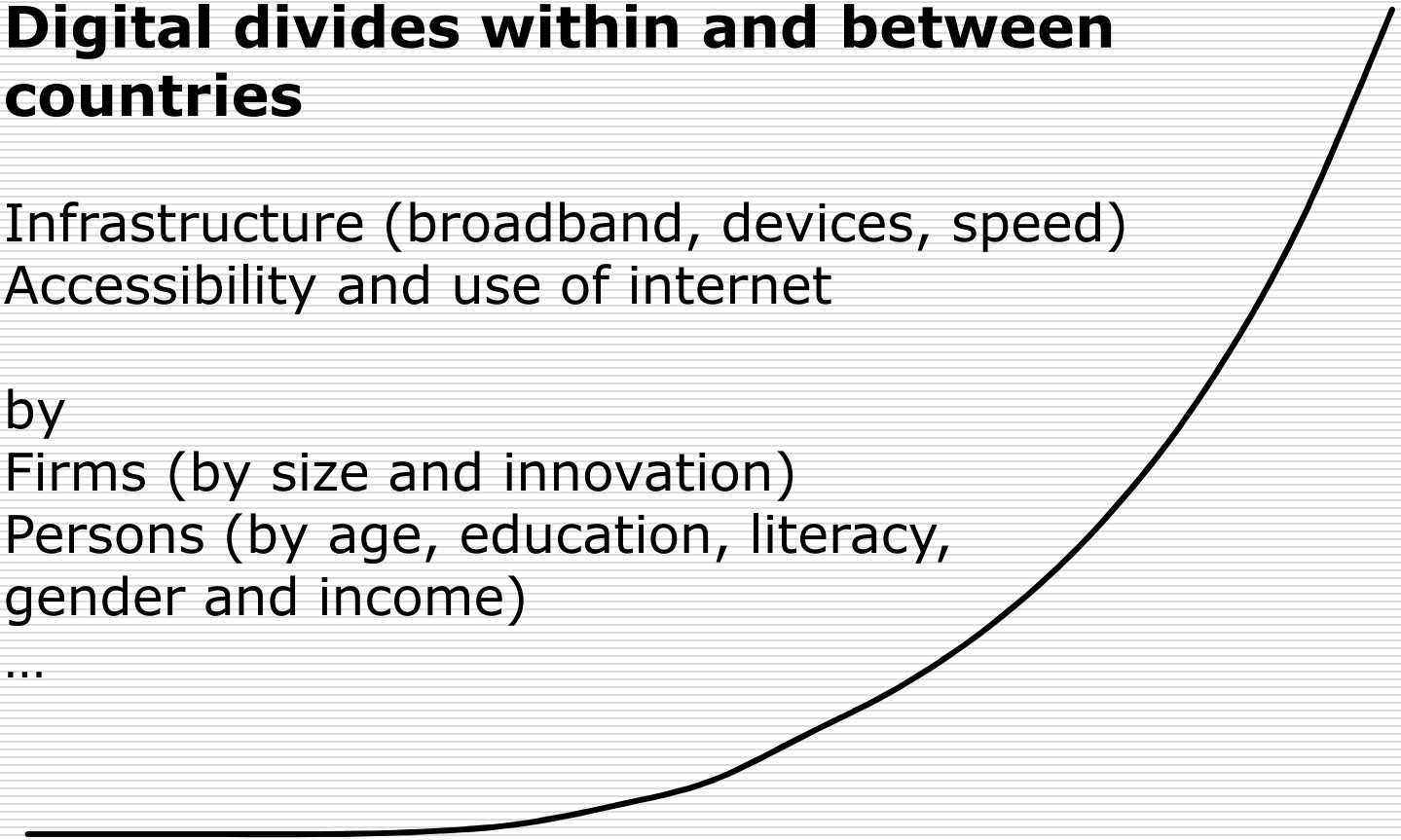
What costs have the digital economy brought?

What costs have the digital economy brought?

Digital divides within and between countries

Infrastructure (broadband, devices, speed)
Accessibility and use of internet

by
Firms (by size and innovation)
Persons (by age, education, literacy, gender and income)
…

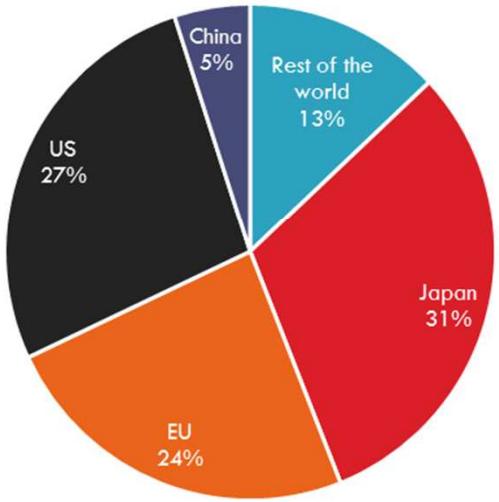


Source: United Nations E-Government Survey 2018

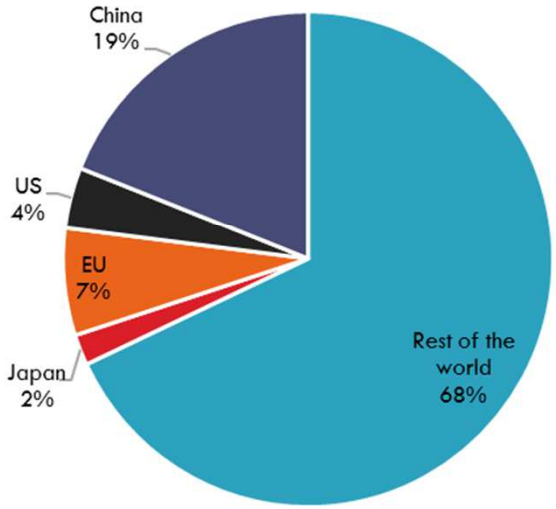
What costs have the digital economy brought?

- A few firms and countries dominate innovation in many frontier technologies

Share of triadic patent applications



Share of global population



Source: World Economic and Social Survey 2018

What costs have the digital economy brought?

- Erosion of privacy

Canada Data Agency Faces Blowback Over Plan to Collect Bank Records

WSJ wsj.com/articles/canada-data-agency-faces-blowback-over-plan-to-collect-bank-records-1541716675

November 8, 2018

Anil Arora, chief statistician for Statistics Canada, speaking last year in Montreal. Photo: Christinne Muschi/Bloomberg News

By
Nov. 8, 2018 5:37 p.m. ET
OTTAWA—Canada's national statistics agency is under attack from lawmakers, privacy advocates and the public over a plan to collect citizens' detailed banking information to help it generate better data.

Statistics Canada proposes accessing banking records for 500,000 randomly selected Canadian households and stripping out identifying information. The agency says it needs the records to improve the accuracy and timeliness of its data on spending patterns as more transactions move online and fewer people respond to traditional household surveys.

Lawmakers have expressed concern the data could be accessed by hackers or handed over to other government agencies, a practice Statistics Canada said it doesn't allow. Jean-Guy Dagenais, a Conservative Party senator, called the initiative a "useless intrusion into Canadians' private lives."

Estimates of household spending are used to determine the relative weight of the goods included in Canada's consumer-price index, which measures changes in inflation. The index's readings guide rate policy at Canada's central bank and are instrumental in determining wage increases at public- and private-sector organizations.

"What we are facing is huge gaps in our understanding of the extent to which Canadians are using digital services" such as Airbnb and Netflix, Canada's chief statistician, Anil Arora, told a Senate committee on Thursday. "The traditional methods [of data collection] aren't working." He said 60% of people asked by Statistics Canada to complete diaries about their household spending habits don't respond.

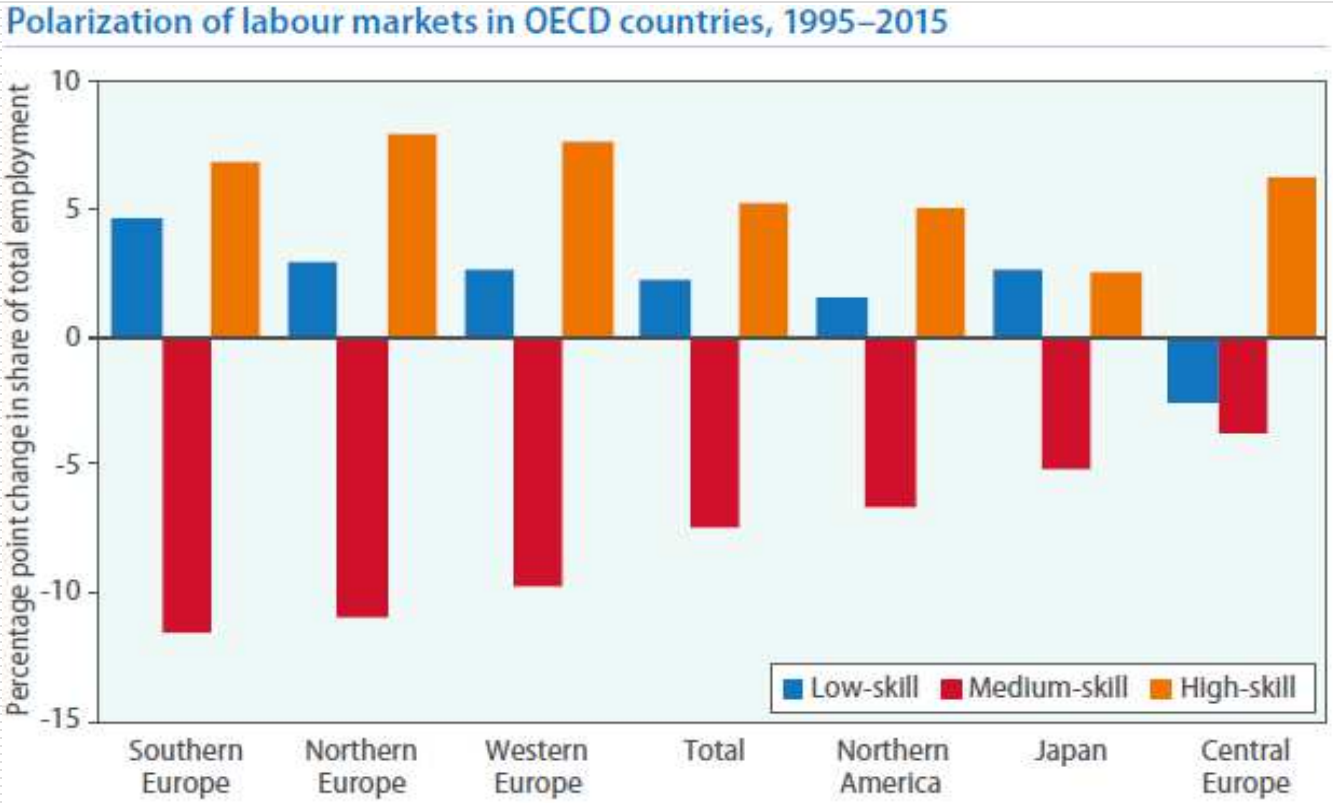
The controversy demonstrates the distrust many statistical agencies face as they pursue top-quality economic data, which governments take into account when crafting policy and investors use to make split-second decisions on fixed-

Source: Wall Street Journal, 8 Nov 2018

What are the outcomes?

What are the outcomes?

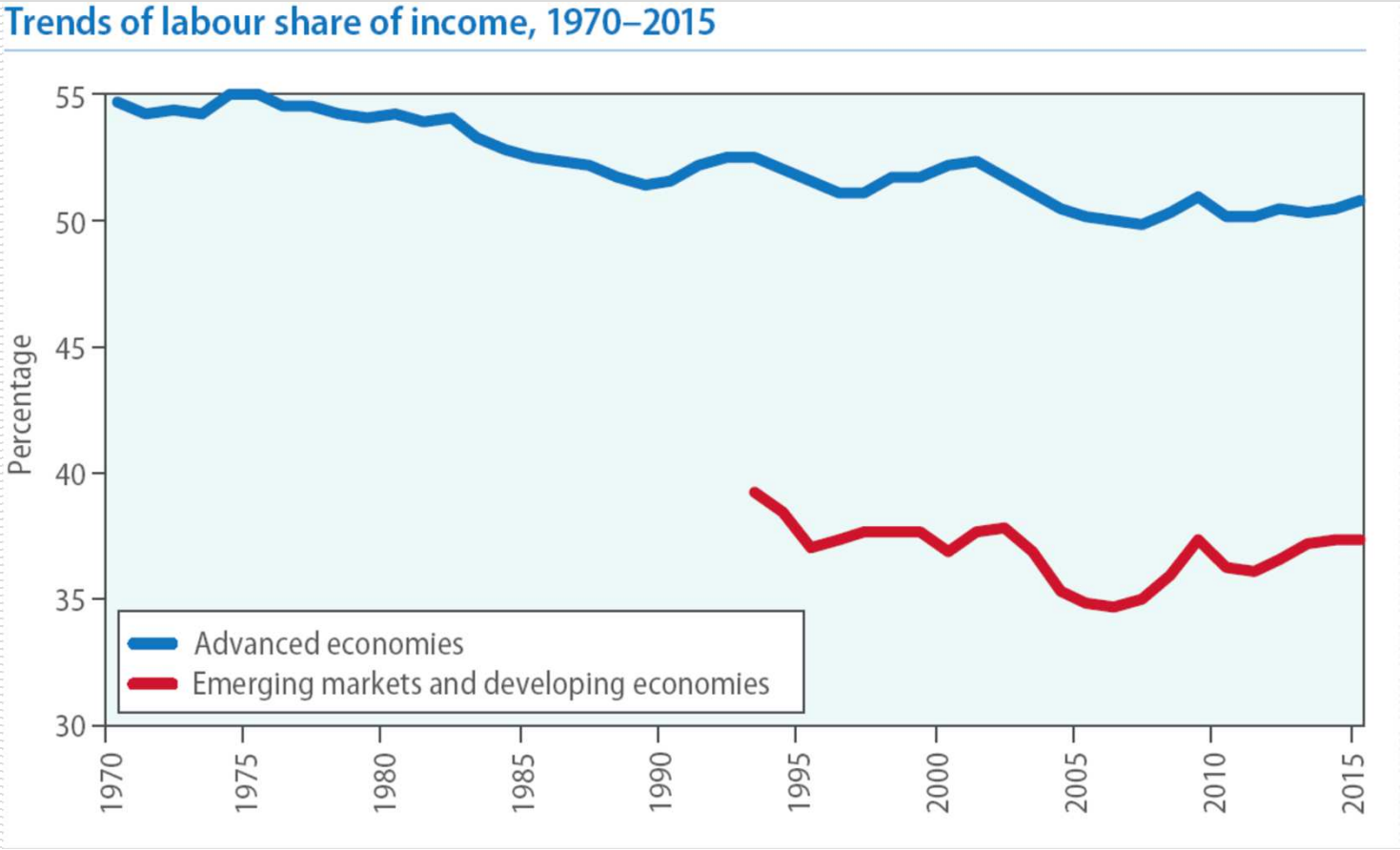
- Polarized labour markets



Source: World Economic and Social Survey 2018

What are the outcomes?

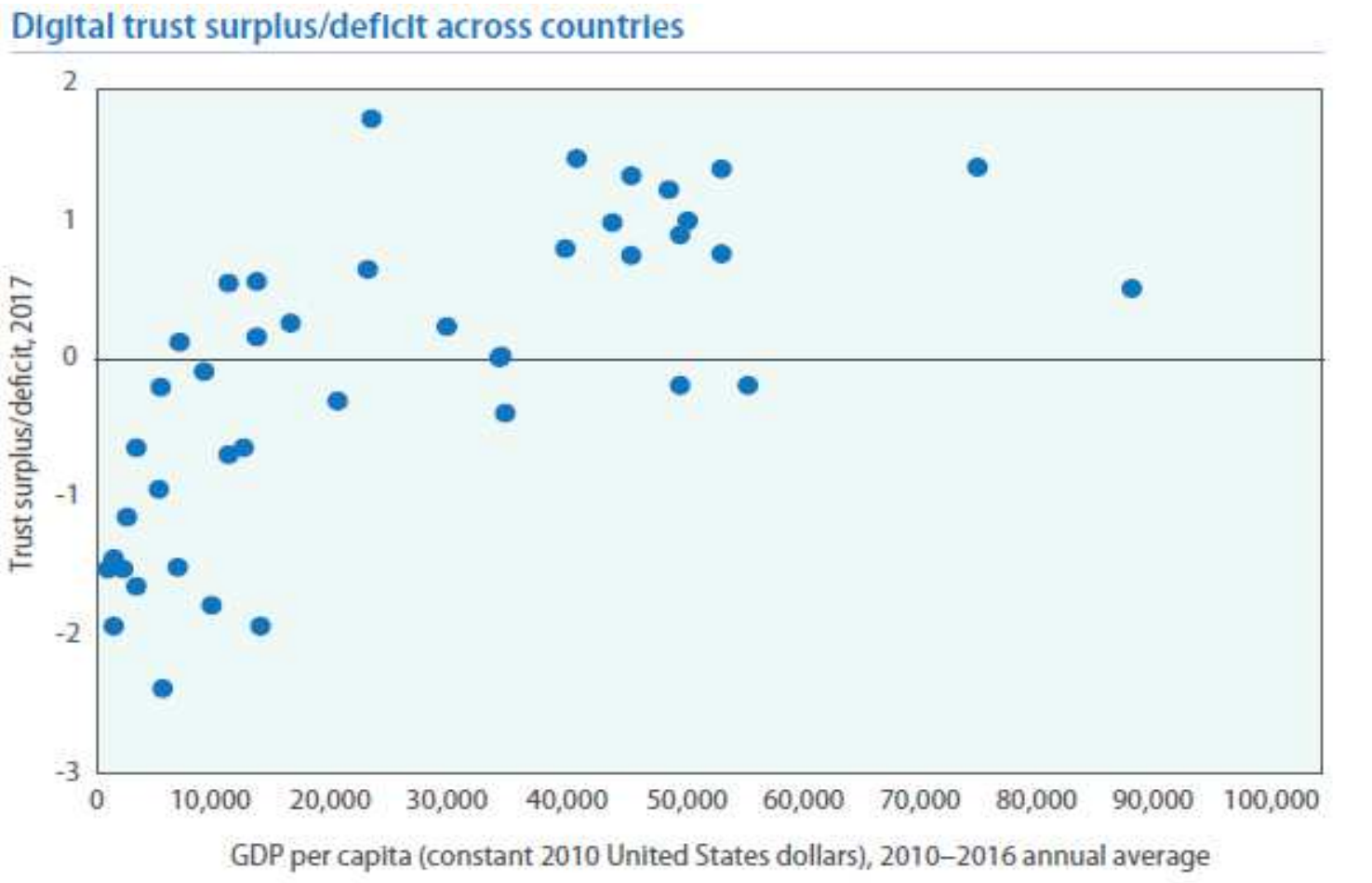
- Rising share of capital income and falling sharing of labour income resulting in income and wealth inequality



Source: World Economic and Social Survey 2018

What are the outcomes?

- Digital trust deficit



Note: Trust surplus/deficit is defined as the gap between users' digital trust environment experience and their tolerance for friction of digital commerce engagement. A higher trust surplus level suggests that users are more patient online and willing to engage with new technologies.

Source: World Economic and Social Survey 2018

Components of policy framework for the digital economy

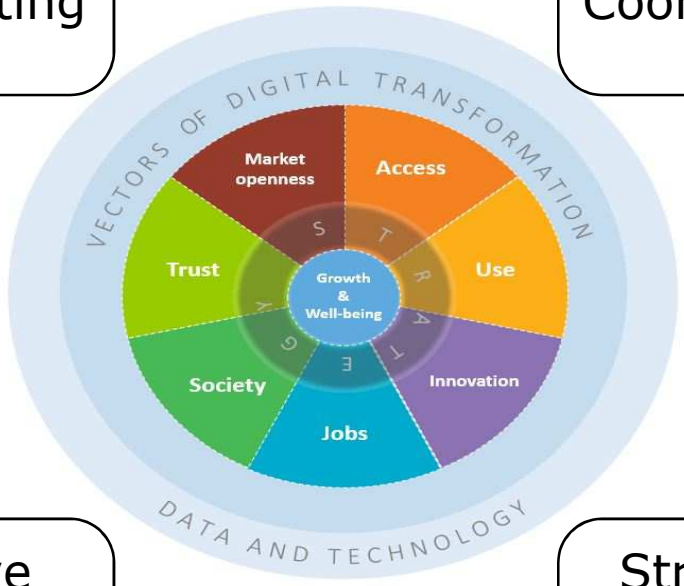
Components of policy framework for the digital economy

- Policy making process has to be integrated
- A flexible, forward-looking and integrated policy framework that cuts across policy silos is needed

Components of policy framework for the digital economy

Measurement and Goal Setting

Leadership and Coordination



Effective Digital Governance

Strategic Choices on Platforms

Source: OECD Going Digital
UNDP Framing Policies for the Digital Economy UNIDO Technology Foresight in Asia

Components of statistical framework for the digital economy

Components of statistical framework for the digital economy

- Consistent, timely and reliable statistics on the digital economy are needed

- An integrated statistics approach can help to ensure harmonization

Components of statistical framework for the digital economy

Building blocks

- **Common conceptual framework**
- **Institutional arrangements** (legislative, organizational, budgetary, managerial and customer relationship arrangements) further support the environment for integration
- **Statistical production process** as an integrated production chain from the collection of basic data to the dissemination of statistics

Components of statistical framework for the digital economy

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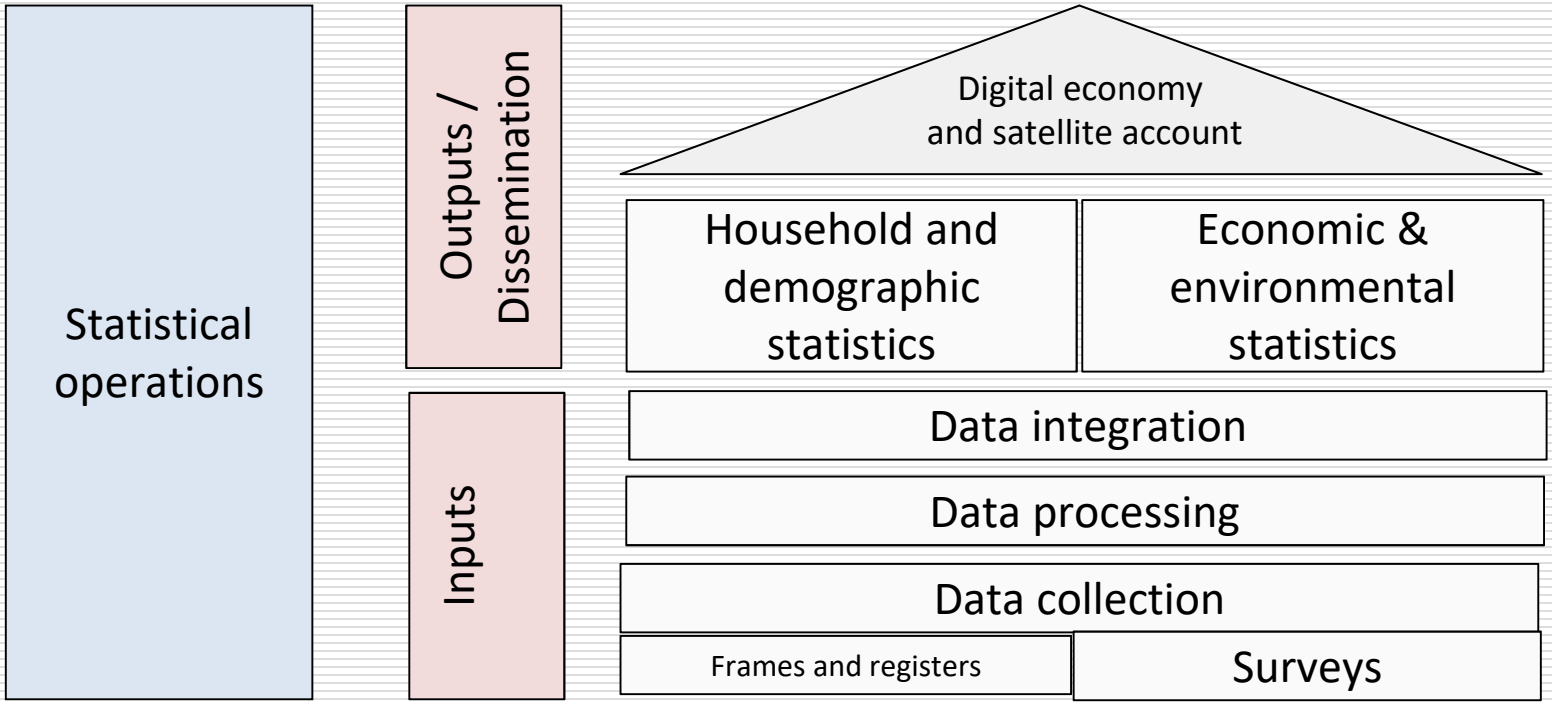

Conceptual framework

Standards and methods

Institutional setting

Information, Communication Technology (ICT)

Management and internal policy

Institutional arrangements

Components of statistical framework for the digital economy

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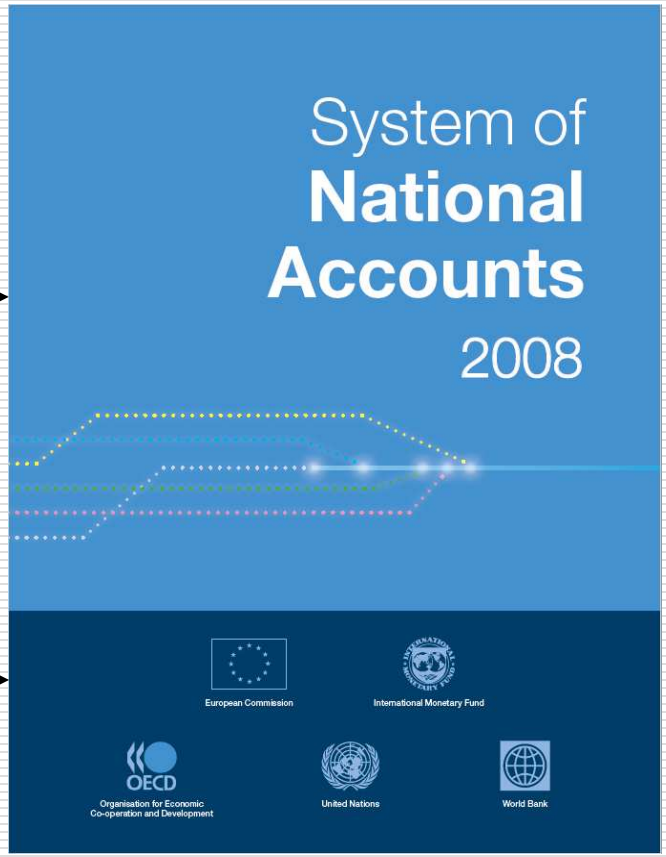
Digital economy
and satellite account

Standards and methods

Conceptual framework



Ensures the consistency of the
concepts, definitions and classifications

Components of statistical framework for the digital economy

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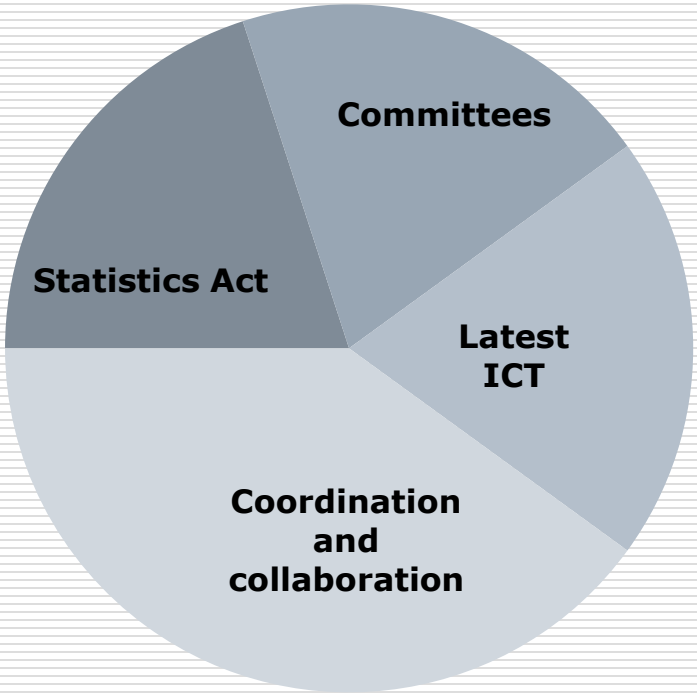
Institutional setting

Information, Communication Technology (ICT)

Management and internal policy

Institutional arrangements



Components of statistical framework for the digital economy

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Statistical operations

Outputs

Household and demographic statistics

Economic & environmental statistics

Inputs

Data integration

Data processing

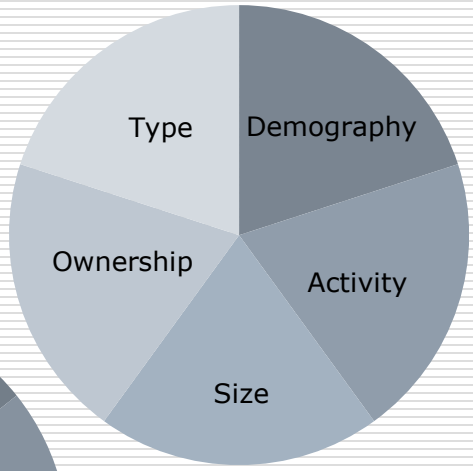
Data collection

Statistical business registers and frames

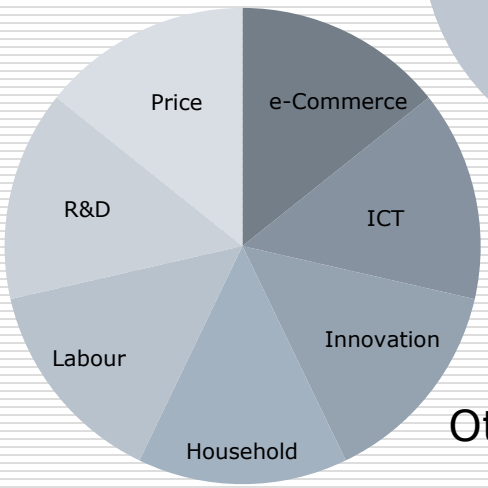
Surveys

Other data sources

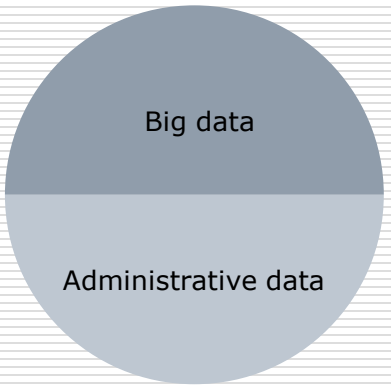
SBR



Surveys



Other data sources



Conclusions

- Benefits, costs and outcomes
  - The digital economy can bring great economic and societal benefits
  - Digital divides within and between economies
  - Polarized labor markets, inequalities, lack of trust
- Policy
  - A flexible policy framework is needed to determine how to maximize the benefits, while mitigating its negative effects
- Statistics
  - An integrated statistical framework for the digital economy is needed to complement the policy framework
- Way forward
  - New global user-centered consultation mechanism complementing domain specific regional and international consultation mechanisms (such as for national accounts, business and trade statistics and prices)

Email **sna@un.org** if you have any questions

Thank you

谢谢