



# RECENT DEVELOPMENTS IN THE AREA OF DIGITALISATION

GROUP OF EXPERTS ON NATIONAL ACCOUNTS:  
MEASURING GLOBAL PRODUCTION  
*GENEVA, 10-12 APRIL 2019*

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# **Digitalisation in SNA research agenda**



# SNA research agenda

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In November, the AEG **reconfirmed the priority areas** for the SNA research agenda:

- **Globalisation**  
economic ownership and recording of IPPs; treatment of MNEs and SPEs; identifying economic presence and residency; ...
- **Digitalisation**  
satellite account on the digital economy; valuation of free assets and services; recording of data in the national accounts; cryptocurrencies; ...
- **Economic wellbeing and sustainability**  
unpaid household work; distribution of household income, consumption and wealth; environmental economic accounting; ...

Specific **research groups** will be created:

- Led by AEG members, consisting of **experts** from various domains
- To **address** specific issues as listed on the SNA research agenda
- To report back to the ISWGNA and prepare **guidance notes** for wider distribution



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# Digital supply-and-use tables



# Where is the digital economy in macroeconomic statistics?

Digital transformation is **largely hidden in the core economic accounts** and challenges our conceptual frameworks and measurement approaches.



- **Production chains** between producer and consumer **are changing**.
- Digitalisation can remove players (direct online booking) or add additional players (intermediary platforms).
- Statistical recording of the production and use of data, including **the ‘participative’ production of consumers**, digitalisation blurs the production boundary.
- The “free” services provided by private companies, **how and what to measure?**
- Confusion over **production versus consumer surplus**

While research has shown that the productivity slowdown cannot be explained by mismeasurement of digitalisation, the main issue remains:

**We just can’t see it!**

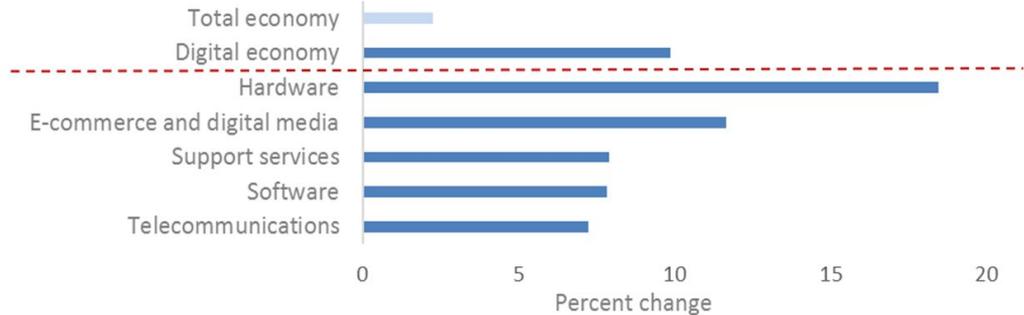


# Responses to lack of quantification: National initiatives

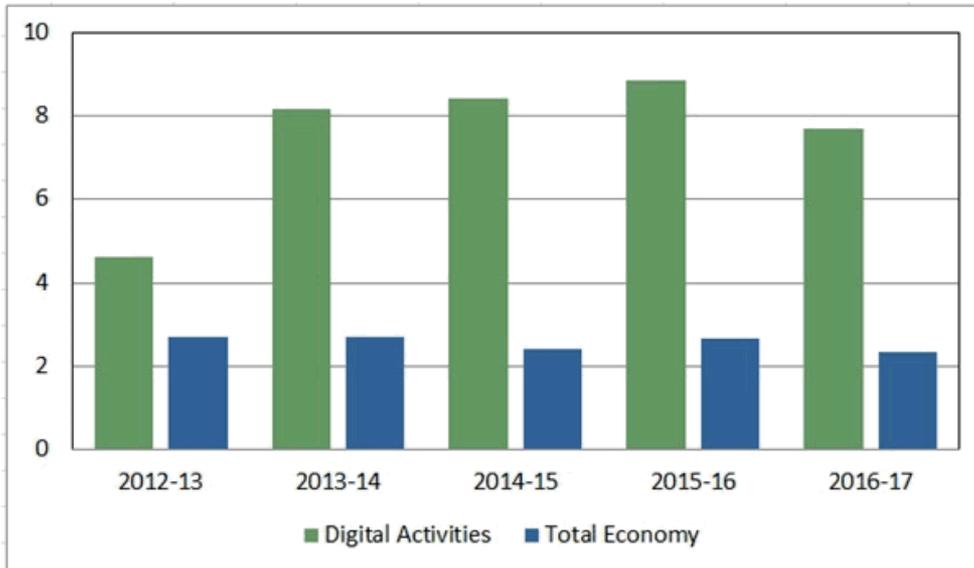
**United States**, Average annual growth 1998–2017.

- “Digital economy” growth at 9.0%
- Total economy at 2.3%

Components of the Digital Economy:  
Real Value-Added Average Annual Growth, 1998–2017



U.S. Bureau of Economic Analysis



**Australia**, average annual growth 2012-13 to 2016-17.

- “Digital Economy” growth at 7.5%
- Total economy at 2.5%



# Responses to lack of quantification: International initiatives

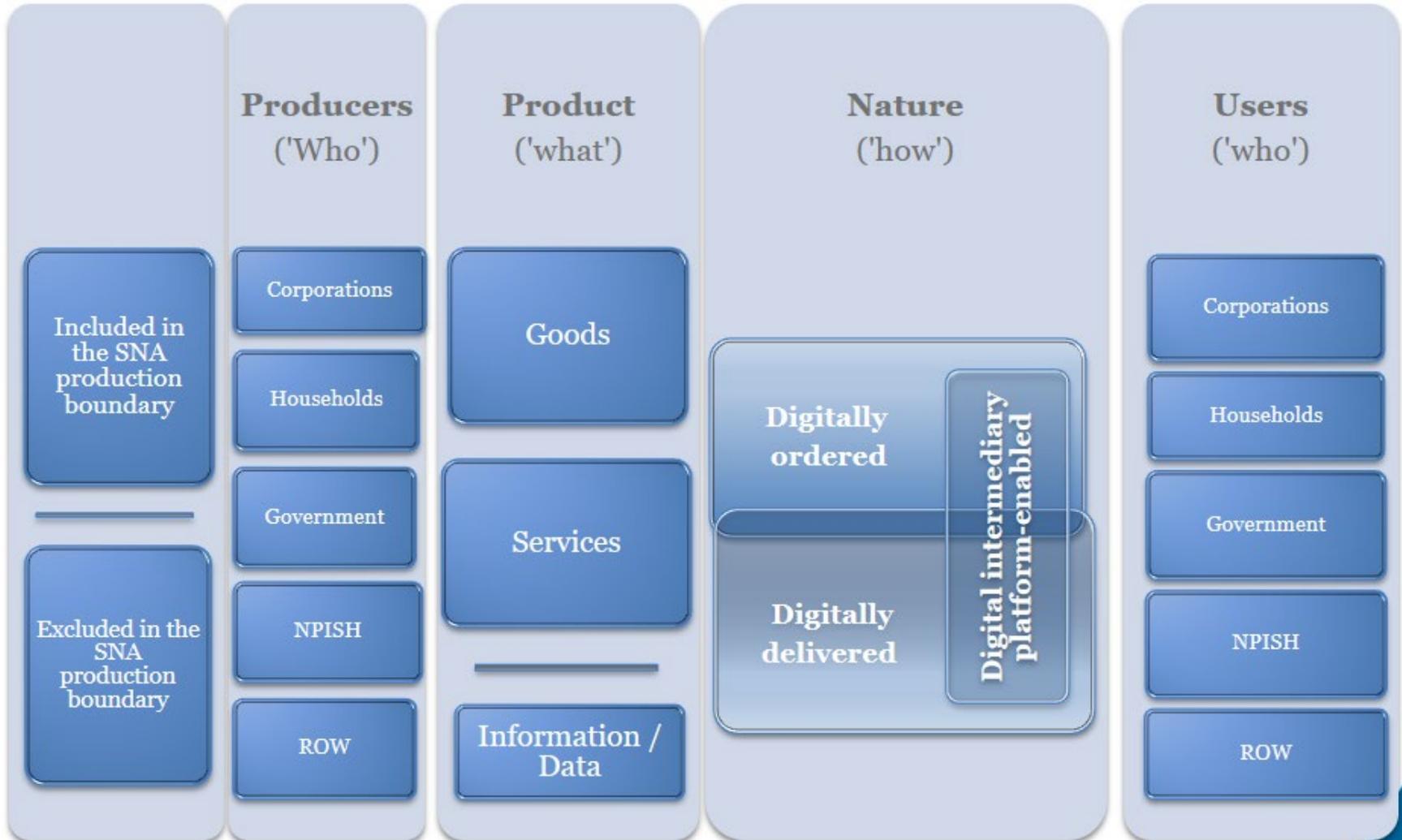
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- Some considerations regarding national initiatives:
  - “Digitalisation” is often **limited by being split by product or industry**
  - **Lack of agreed definitions and terminology** impacts ability to compare outputs internationally
  - At this stage, estimates often only focus on the **production approach**
  - Current estimates usually do not refer to any of the **‘new’ digital issues**
- Therefore, an **Informal Advisory Group** on Measuring GDP in a Digitalised Economy was created to develop a satellite account on the digital economy:

## Digital Supply-and-Use Tables



# Underlying typology for digital SUTs





# What do the digital SUTs look like?

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- The digital SUTs do not define the digital economy but highlight transactions and transactors
- They delineate digital activity **based on nature of the transaction** rather than by product, producer or consumer
- Supply-and-use tables have been extended by:
  - **Additional rows** under each product, separating **transaction types**, i.e. digitally ordered (direct from counterpart or via digital intermediary platform) and non-digitally ordered
  - **Additional product aggregations** focusing on ICT goods and digital services
  - Explicitly distinguishing **‘digital intermediation services’** and **‘cloud computing’**
  - **Additional columns** to represent the **new digital industries**
  - **Additional rows** for **products currently outside the core SNA**
- Countries are **not expected to immediately complete entire table**
- Exchange of compilation practices may help countries in populating parts of the table
- Next meeting of informal advisory group on **1-2 July**



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# Handbook on digital trade



# What is digital trade?

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- Digital trade cannot be defined by using traditional toolkit of products, producers and consumers
- But neither can it be defined solely around ‘digital’ concepts such as e-commerce (i.e. **digitally ordered**): This would exclude **digitally delivered** services that are not digitally ordered
- Digital trade: **All trade that is either digitally ordered and/or digitally delivered**
- This is **consistent with** the framework as used for the **digital SUTs**, but now also explicitly targeting information on type of delivery
- Specific **reporting template** to collect relevant information on digital trade
- **Handbook** with guidance to calculate relevant information



# Proposed reporting template

		Total	By Exporter/Importer		
			Corporations (by industry)	Government	Households/ NPISH
(i)	<b>Digital Trade</b> (ii+iv+vi+ix)				
(ii)	Digitally ordered ICT goods				
(iii)	<i>of which via DIPs</i>				
(iv)	Digitally ordered goods (other)				
(v)	<i>of which via DIPs</i>				
(vi)	Digitally delivered Services				
(vii)	<i>of which via DIPs</i>				
(viii)	<i>of which digitally ordered (including via DIPs)</i>				
(ix)	Digitally ordered services (not delivered digitally)				
(x)	<i>of which via DIPs</i>				
<i>Addendum items</i>					
(xi)	Digitally ordered total (ii+iv+viii+ix)				
(xii)	ICT goods total (digitally and non-digitally ordered)				
(xiii)	Potentially ICT enabled services				
(xiv)	Non-monetary transactions in information/data (imputed)				
(xv)	Broad Digital Trade (i+xv)				



# Current status of the Handbook - 'living document'

**Chapter 1. Introduction**

**Chapter 2. Conceptual framework for digital trade**

**Chapter 3. Compiling digitally ordered goods and services**

**Chapter 4. Compiling digitally delivered transactions**

**Chapter 5. Compiling transactions facilitated by digital intermediary platforms**

**Chapter 6. Complementary measures**

**Chapter 7. Conclusions and next steps**

## **Appendices:**

1: Extract from OECD "Measuring the Digital Transformation": The digital transformation and economic statistics

2: Recommendations from the OECD Informal Reflection Group on the Impact of Globalisation on the Measurement of GDP

3: Extract from OECD "Measuring the Digital Transformation": Measuring Cloud Computing Services

4: A Toolkit for Measuring the Digital Economy: Extract from the 2018 G20 Ministerial Declaration

5: Recommendations from the US Department of Commerce report: Measuring the Value of Cross-Border Data Flows (2016)

6: OECD-IMF Stocktaking Survey on Measuring Digital Trade

7: Product and Industry Classifications



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# Recording of data



# Data and free services

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- Discussion ongoing on **data**:
  - Is it an asset, and if so, is it **produced or non-produced**?
  - If produced, **when** does it become produced?
  - **How should it be valued?**
- Question how to deal with **‘free’ consumer products**, such as free apps, Wikipedia, Social network capabilities, etc.
- Typology of the different types of data and free services is required:
  - Digital SUTs split free assets and services into **those provided for profit by an organisation** and those **“genuinely” free, provided by a community**
  - Distinction between **different types of data** under development
- Several papers on the topic, e.g.:
  - *‘Recording and measuring data in the System of National Accounts’*, Ahmad and Van de Ven, 2018
  - *‘The role and treatment of data in national accounts’*, Statistics Canada and BEA, 2018
- Further discussion at next meeting of informal advisory group



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# Recording of cryptocurrencies



# Cryptocurrencies

- Increasing importance of cryptocurrencies raised the questions how they should be dealt with in the national accounts
- **Two papers** presented at AEG:
  - *Treatment of Crypto Assets in Macroeconomic Statistics* (IMF)  
Bitcoins are produced non-financial assets except for those issued by central banks which are a financial asset.
  - *How to deal with Bitcoin and other cryptocurrencies in the System of National Accounts?* (OECD)  
Bitcoins are assets; paper outlined pros and cons of the various treatments that could be applied.
- Survey to AEG participants on the two papers was sent following the meeting.
- Feedback from this will come shortly from the UNSD.
- AEG suggested that “any recording **guidance** currently developed for crypto-assets should be considered as **interim**.”
- Impact on trade estimates are included in discussions.





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# Thank you for your attention

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