



Global Development in Economic Statistics

High Level Seminar on the Future of Economic Statistics

3-5 June 2019

Shanghai, China

National Accounts Section
United Nations Statistics Division



Outline of presentation

United Nations Statistics Division

- Introduction
- Globalization
- Digitalization
- Economic wellbeing and sustainability
- Looking forward



SNA research agenda: Three priority areas

- In November 2018, the Advisory Expert Group (AEG) on National Accounts reconfirmed the three priority areas for the SNA research agenda:
 - **Globalization**
 - **Digitalization**
 - **Economic wellbeing and sustainability**



SNA research agenda: Three priority areas

■ **Globalization**

- Economic ownership and recording of intellectual property products (IPPs)
- Treatment of multinational enterprises (MNEs) and special purpose entities
- Intra MNE flows
- Identification of economic presence and residency



SNA research agenda: Three priority areas

▪ **Digitalization**

- Framework for a satellite account on the digital economy
- Valuation of free assets and free services
- Recording of data in the national accounts
- Cryptocurrencies
- Price and volume measurement of goods and services affected by digitalization



SNA research agenda: Three priority areas

■ **Economic wellbeing and sustainability**

- Unpaid household work
- Distribution of household income, expenditure and wealth
- Defining a broader framework for capturing economic activities, wellbeing and sustainability
- Environmental-economic accounting

Human capital

Natural capital



SNA research agenda: Sub-groups

- Three sub-groups, one for each of three priority areas, have been formed
- AEG members will lead each group
- Each group will comprise experts from various domains
- They will address specific issues, as listed on the SNA research agenda, and draft guidance notes
- Subsequently relevant groups of producers and users will be consulted



SNA research agenda: Other items

- Harmonization of SNA and BOP
- Islamic finance
- Statistical units: enterprise versus establishment
- Asset boundary of intellectual property products
- Relationship between SNA & IASB

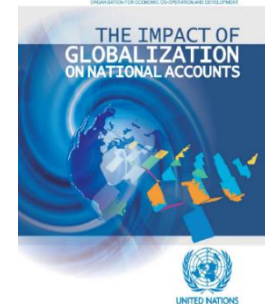
The screenshot displays the 'Research Agenda' page on the United Nations Statistics Division website. The page features a navigation menu with links for Home, SNA, ISWGNA, Knowledge Base, Data, Technical Cooperation, and Publications. The main content area is titled 'Research Agenda' and includes a section 'About the Research Agenda' with text explaining the SNA's purpose and a list of three key questions: 'How urgent and important is the topic...', 'How widespread are the consequences of change...', and 'Is the topic completely new...'. To the right, there are four sidebar links: 'Issues Under Discussion', 'Annex 4: Research Agenda', 'Consultations', and 'AEG and Task Force Meetings'. The footer contains links for 'About', 'Sitemap', and 'Contact Us'.

<https://unstats.un.org/unsd/nationalaccount/research.asp>



Global production versus national statistics

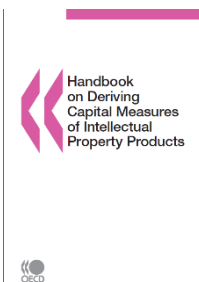
- Global production arrangements between firms and within MNEs
- Quickly evolving, even minor organisational rearrangements can have significant impact
- Statistical complications have long been recognized and discussed
 - Goods for processing, merchanting
 - Transfer pricing
 - Special purpose entities
 - Relocations/reorganisations
 - International consistency (asymmetries)
- Clear friction between national statistics based on residency and global behavior of MNEs





Adding IPPs and digitalization

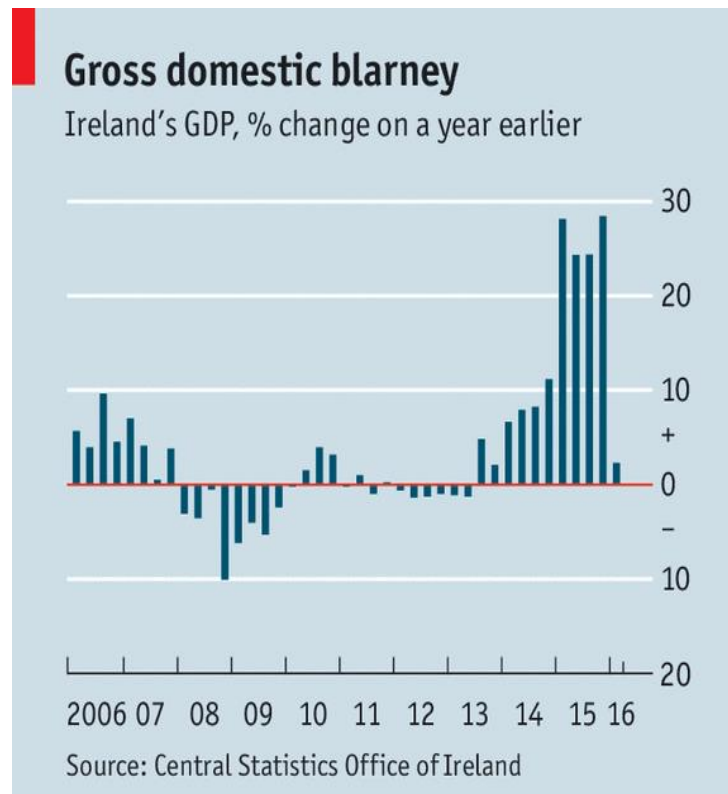
- In the area of production of goods and services, challenges exacerbated when globalization meets IPPs and digitalization
- IPPs have no physical and local constraints => relatively easy to relocate from one country to another
- Impact can be large, especially in small economies
- Is GDP still valid as a measure of domestic production? For designing monetary, fiscal and structural policies?





How do we interpret Ireland's GDP growth?

Irish GDP up by 26.3% in 2015!

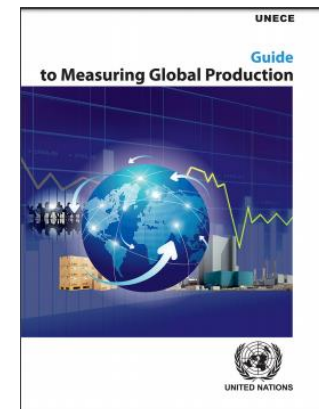


Economist.com



Solutions - Improved accounting

- Better accounting for global production arrangements
- Improving consistency at national level: Large Case Units
- Improving international consistency of recording MNE-activities (EuroGroups Register, Early Warning System, etc.)





Solutions – Additional suggestions within framework of national accounts

- Emphasize more other indicators than GDP, e.g.
 - Net national income
 - Household disposable income
- Develop alternative aggregates specifically designed for measuring indicators impacted by globalization (extension of GNI*)



Solutions – Additional suggestions within framework of national accounts

- Provide additional break-downs, such as
 - Breakdown supply and use tables and institutional sector accounts into transactions and positions of purely domestic private enterprises, affiliates of foreign MNEs (among which SPEs), and affiliates of domestic MNEs
 - Breakdown gross operating surplus into the value of capital services by type of asset
- Develop accounts for multinational enterprises to consistently track the transactions and positions of these groups, to complement conventional national accounts



Solutions beyond SNA – The national allocation of IPPs and related income

▪ **Main characteristics of IPPs**

- No physical or local constraints
- Often no direct link to the production process (e.g. basic research)
- Often no direct link between today's stock of assets and today's production of goods and services
- Often concern the whole value chain, not a particular part of the process (e.g. product and process innovations)
- Once produced, they are usually easily scalable
- ...



Who owns the IPPs?

Figure 4.1
Decision tree for determining economic ownership of an IPP observed in global production (1)

Control/ownership of unit	Production of the IPP	Type of producer	Income and expenditure related to the IPP	Decision about economic ownership of the IPP	Related decisions		
1. The unit is a main producer of other (non IPP) goods and services and is expected to use the IPP in its production process	1.1 The unit produced the IPP	1.1.1 The unit is a main producer of other (non IPP) goods and services and is expected to use the IPP in its production process	1.1.1 The unit may, or may not, receive funding from the parent as compensation for IPP development costs but this aspect is not decisive.	1.1.1 The unit may, or may not, receive funding from the parent as compensation for IPP development costs but this aspect is not decisive.	1.1.1 The unit may, or may not, receive funding from the parent as compensation for IPP development costs but this aspect is not decisive.	The IPP is by convention recorded on the balance sheet of this unit, even when other member units of the MNE may benefit from the IPP.	
		1.1.2 The unit is a main IPP producer.	1.1.2 The unit does not receive income from royalties or licences to use, but either receives compensation for IPP development from the parent or sells the IPP originally to the parent.	1.1.2 The unit does not receive income from royalties or licences to use, but either receives compensation for IPP development from the parent or sells the IPP originally to the parent.	1.1.2 The unit does not receive income from royalties or licences to use, but either receives compensation for IPP development from the parent or sells the IPP originally to the parent.	Do not attribute economic ownership to the unit. This unit serves the developed IPP as IPP producer for the benefit of the MNE as a whole. Do not record the IPP as fixed capital formation of the unit. Instead, record the IPP as an IPP producer for the benefit of the MNE as a whole. Reported sales of IPP originals may show up in international trade in services statistics.	
	1.2 The unit did not produce the IPP	1.2.1 The unit is a main producer of other (non IPP) goods and services and may use the IPP in production	1.2.1 The unit receives income from royalties or licences to use, or does not receive any compensation for IPP development from the parent, so it can be assumed that it is expected to obtain income from royalties and licences to use in the near future.	1.2.1 The unit receives income from royalties or licences to use, or does not receive any compensation for IPP development from the parent, so it can be assumed that it is expected to obtain income from royalties and licences to use in the near future.	1.2.1 The unit receives income from royalties or licences to use, or does not receive any compensation for IPP development from the parent, so it can be assumed that it is expected to obtain income from royalties and licences to use in the near future.	1.2.1 The unit receives income from royalties or licences to use, or does not receive any compensation for IPP development from the parent, so it can be assumed that it is expected to obtain income from royalties and licences to use in the near future.	Attribute economic ownership to the unit. The unit functions as a dedicated IPP producer with income from units outside the MNE from the IPPs produced. The IPP is recorded as fixed capital formation of the unit.
		1.2.2 The unit is not a producer of other (non IPP) goods and services, its main output is IPP related.	1.2.2 The unit purchases the IPP original for use in production	1.2.2 The unit purchases the IPP original for use in production	1.2.2 The unit purchases the IPP original for use in production	1.2.2 The unit purchases the IPP original for use in production	Attribute economic ownership of the IPP to the unit. The IPP is fixed capital formation of the unit. IPP service payments to foreign suppliers are recorded as import of IPP services (or royalties).
1. The unit is part of a multinational enterprise (MNE)	1.2 The unit did not produce the IPP	1.2.1 The unit pays royalties or licences to use.	1.2.1 The unit pays royalties or licences to use.	1.2.1 The unit does not own the IPP	1.2.1 The unit does not own the IPP	Do not record the IPP as fixed capital formation of the unit. IPP service payments to foreign suppliers are recorded as import of IPP services (or royalties).	
		1.2.2 The unit is not a producer of other (non IPP) goods and services, its main output is IPP related.	1.2.2 The unit is not a producer of other (non IPP) goods and services, its main output is IPP related.	1.2.2 The unit is not a producer of other (non IPP) goods and services, its main output is IPP related.	1.2.2 The unit is not a producer of other (non IPP) goods and services, its main output is IPP related.	1.2.2 The unit is not a producer of other (non IPP) goods and services, its main output is IPP related.	Do not record the IPP as fixed capital formation of the unit. IPP service payments to foreign suppliers are recorded as import of IPP services (or royalties).
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- 2008 SNA makes distinction between economic (*risks and rewards*) and legal ownership
- However, guidance on identifying economic ownership is arguably insufficient

1.2.2. The unit is not a producer of other (non IPP) goods and services. Its main output is IPP related.

1.2.2. Purchase of the IPP from the parent and income from royalties and licences to use may, or may not, be observed.

The unit is assumed to have purchased the IPP (original) from the parent and to receive (on behalf of the parent) income from royalties or licences to use the IPP. Attribute economic ownership of the IPP to the unit. The unit is considered an IPP holding SPE providing its services to the MNE parent.

It is recommended to classify the fixed capital formation, income and expenditure related to these IPP holding SPEs separately to allow analysis excluding "brass plate" units, also because the transactions carried by these units are not necessarily at arm's length.



Solutions beyond SNA – The national allocation of IPPs and related income

- More prescriptive guidance on economic ownership
- A default option is to always consider, conceptually, the parent as the economic owner
- However, current measures of (distributed and reinvested) earnings would shift from GNI to GDP in the parent economy
- Note: In current national accounts, payments for services and property income often blurred



A remedy or a plaster? Who is the ultimate parent?

- Centre of economic decisions = location from where decisions are made on
 - Global arrangements of production
 - R&D and other corporate investments
 - Corporate finance
 - Appointment at senior management level
 - etc.
- Location of board of directors
- Corporate inversion by setting up a holding type of SPE to minimise tax burden would thus not affect allocation across countries



Solutions beyond SNA – Consolidating SPEs

- SPEs are typically pass-through types of units, often set up to minimize global tax burden
- No economic substance; often brass plates
- Currently treated as separate institutional units, because associated corporation is located in another country
- If not located in another country, they would not be considered as separate institutional units and would be consolidated
- Assigning e.g. ownership of IPPs to these units is matter of legality or practicality



Solutions beyond SNA – practical considerations

- Solutions require extensive exchange of individual enterprise information at the international level
 - Top-down approach (e.g. BEPS-data, or alternative/additional collection of data on MNEs at the international level)
 - Bottom-up approach (monitoring and analysis of MNEs primarily based on collection of data on the national level)
- However, there are already major problems in arriving at consistency at the national and international level
- Need for enhancing (the possibilities for) international co-operation and co-ordination



Where is the digital economy in macroeconomic statistics?

- Digital transformation is largely invisible in the core economic accounts and challenges our conceptual frameworks and measurement approaches
- Production chains between producer and consumer are changing, while the overall value added may remain the same, the current frameworks struggle to show the “winners” and “losers”



Where is the digital economy in macroeconomic statistics?

- Internet access by households has led to blurring between household production for market purposes, own account production, consumption, leisure:
 - Self-booking of hotels, or flights by households
 - Self-service at supermarkets
 - On-line banking
 - ...



Where is the digital economy in macroeconomic statistics?

- New players (intermediary platforms) have emerged to leverage on digitalization
- Digitalization has led to new “free” services (Internet access, Facebook) and new free assets (Wikipedia, Linux)
- Accounting for the role of data

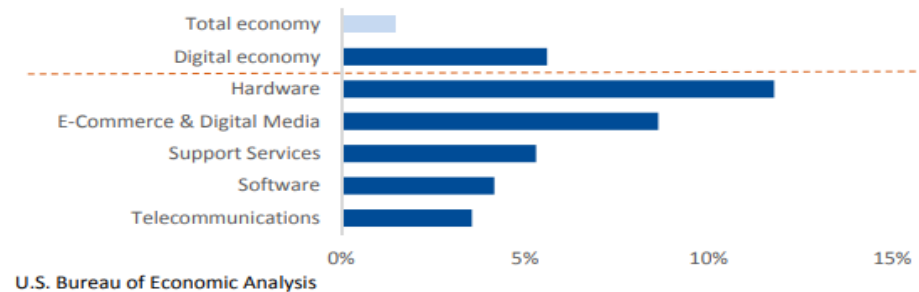


Some countries have done work to measure the digital economy

United States,
Average annual
growth 2006–2016

- **“Digital economy” growth at 5.6%**
- Total economy at 1.5%

Chart 4. Components of the Digital Economy:
Real Value Added Average Annual Growth, 2006–2016





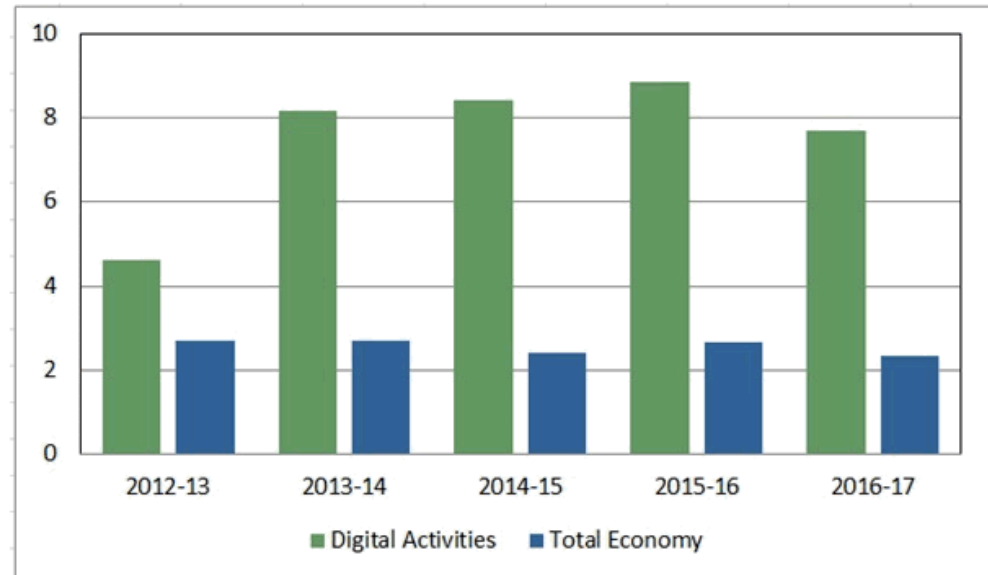
Digitalization

United Nations Statistics Division

Some countries have done work to measure the digital economy

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

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





Digital Supply and Use tables

- Informal OECD Advisory Group on Measuring GDP in a Digitalized Economy, with development of Digital Supply and Use tables as main objective
- Main features of Digital Supply and Use tables:
 - Does not define the digital economy but highlights transactions (and transactors), with “nature of transaction” (digitally ordered and/or digitally delivered) as main guiding principle, and by breaking out certain digital industries and digital products
 - Includes three products currently outside of the production boundary: data, free digital services provided by enterprises, free digital services provided by communities



Digital Supply and Use tables

- Latest proposal sent to members of the Advisory Group in Feb 2019
- Workshop on 1-2 July (OECD Headquarters)



Data and free services

- Discussion ongoing on data:
 - Typology of the different types of data is required
 - Is it a produced or non produced asset?
 - If produced, when does it become produced?
 - How should it be valued?
- Several papers available:
 - *There's No Such Thing As A Free Lunch in the Digital Economy* (Li et al)
 - *Recording and measuring data in the System of National Accounts* (Ahmad and Van de Ven)
 - *The role and treatment of data in national accounts* (Statistics Canada & BEA)



Data and free services

▪ Free services and assets

- Should we account for consumer surplus derived from free services, such as Internet, Facebook, etc.? Should they be valued and how?
- Should we account for the production and use of free assets, such as Wikipedia, R, Linux? How should these be recorded and valued?
- Note: Interlinkage between data and free services



Cryptocurrencies

- Two papers presented at the 2018 meeting of the 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, and paper outlines the pros and cons of the various treatments
- AEG consultation is over
- Conclusions in line with IMF-proposal
- Outcome paper will be drafted shortly
- AEG recommended that “any recording guidance currently developed for crypto assets should be considered as interim”





- GDP has been criticized for providing inadequate guidance for policy:
 - Does not appropriately measure well-being (including its distribution), or progress of society more generally
 - Does not address environmental issues and ecological boundaries
- GDP \neq (sustainable) well-being
- GDP \approx measure of economic activity
- Wellbeing is a multi-dimensional phenomenon
- How can we address this issue?



Solutions within the current system of national accounts

- Put more emphasis on households within the system of national accounts
 - Put people at the centre
 - Emphasize more household-related indicators such as household disposable income, saving, debt, wealth
 - Compile distributional measures of household income, consumption and wealth
 - Compile estimates of unpaid household activities, as a supplement to central framework



A broader framework is needed

- Need to link the current macroeconomic framework and the work on wellbeing and sustainability
- Develop a conceptual framework which includes:
 - National "economic" accounts (= current SNA) } Core
 - Unpaid household activities } Human capital
 - Health satellite accounts } Human capital
 - Satellite accounts for education } Human capital
 - System of Environmental Economic Accounts } Natural capital
- This would provide an improved basis for analysing trade-offs and win-wins between various aspects of well-being and sustainability.
- *Measuring Economic Welfare: A Practical Agenda for the Present and the Future* (van de Ven), paper presented at IMF Statistical Forum



Looking forward

United Nations Statistics Division

- 50th session of the Statistical Commission
 - Welcomed the establishment of dedicated work streams to review the relevance of the 2008 SNA and other standards for economic statistics for measuring new economic and social developments (digitalization, globalization and wellbeing and sustainability)
 - Requested the Intersecretariat Working Group on National Accounts (ISWGNA) to submit, for consideration by the Commission at its 51st session, a way forward in updating the 2008 SNA





Looking forward

United Nations Statistics Division

- 50th session of the Statistical Commission
 - Expressed support for a broad user-centred consultation on the development of SNA
 - Recognized urgent need for an institutional update whereby statistical agencies are transforming from principal producers of statistics to stewards of an evolving and complex data landscape
 - Recognized urgent need to revisit and transform some of our long held practices to meet the needs of policy makers and citizens





Looking forward

United Nations Statistics Division

- 50th session of the Statistical Commission
 - Established a Friends of the Chair Group on economic statistics to undertake
 - An assessment on the efficiency, effectiveness and responsiveness of the governance of the current system
 - A stock-take of existing initiatives and recommendations to take these forward in an update of economic statistics
- Friends of the Chair Group meeting in New York (28-30 May 2019)
- Aim
 - A relevant, responsive and robust system of economic measurement





How can Member States contribute?

- A number of issues on the research agenda are likely to affect Member States in the region
- Your inputs, knowledge and views on these issues are needed to help formulate inclusive global recommendations to resolve these issues



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