GLOBALISATION AND DIGITALISATION

9th Biennial IFC Conference “Are post-crisis statistical initiatives completed?”

BIS, Basel, August 30 – 31, 2018

Peter van de Ven (OECD)
Introduction

- Currently two most prominent topics on the agenda of the System of National Accounts:
  - Globalisation
  - Digitalisation
- A combination of measurement issues and conceptual challenges
Globalisation: What Are the Main Problems?
Have They Gone Mad?

Irish GDP up by **26.3%** in 2015!

“Ireland’s Economists Left Speechless by 26% Growth Figure” (Bloomberg)

“Why GDP growth of 26% a year is mad” (Economist)

“It’s complete bullshit, it’s Alice in Wonderland economics” Colm McCarthy, University College Dublin)
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 recognised** and discussed:
  – Goods for processing/merchanting
  – Transfer pricing
  – Special Purpose Entities
  – Relocations/reorganisations
  – Asymmetries in trade data
• **Clear friction between national statistics based on residency and global behavior of MNEs** (also in the area of monitoring risks and vulnerabilities)

www.oecd.org/trade/valueadded
Adding IPPs and digitalisation

- Challenges exacerbated when globalisation meets IPPs and digitalisation
- 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?
## Ratio of Profit-type Return to Compensation of Employees

<table>
<thead>
<tr>
<th>Region</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>All countries</td>
<td>0.840</td>
</tr>
<tr>
<td>Canada</td>
<td>0.848</td>
</tr>
<tr>
<td>Europe</td>
<td>0.579</td>
</tr>
<tr>
<td>Ireland</td>
<td>6.639</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.878</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1.614</td>
</tr>
<tr>
<td>Latin America and Other Western Hemisphere</td>
<td>1.555</td>
</tr>
<tr>
<td>Central &amp; South America</td>
<td>0.978</td>
</tr>
<tr>
<td>Other Western Hemisphere</td>
<td>11.709</td>
</tr>
<tr>
<td>Barbados</td>
<td>34.967</td>
</tr>
<tr>
<td>Bermuda</td>
<td>36.062</td>
</tr>
<tr>
<td>United Kingdom Islands, Caribbean(^1)</td>
<td>8.833</td>
</tr>
<tr>
<td>Western Hemisphere, n.e.c.(^2)</td>
<td>6.347</td>
</tr>
<tr>
<td>Middle East</td>
<td>1.837</td>
</tr>
<tr>
<td>Other Middle East(^3)</td>
<td>9.403</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>1.178</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>0.953</td>
</tr>
<tr>
<td>Singapore</td>
<td>2.978</td>
</tr>
</tbody>
</table>

Special Purpose Entities in the Netherlands

% of GDP

Source: De Nederlandsche Bank (2018)
Globalisation:
Solutions within the Current International Standards
Improved accounting

• Better accounting for global production arrangements

• Improving consistency at national level (e.g. by establishing Large Case Units)

• Improving international consistency of recording MNE-activities (EuroGroups Register, Early Warning System, etc.)
Emphasising existing complementary indicators, …

- National Accounts ≠ GDP
- The System of National Accounts is a framework from which a **variety of indicators** can be derived
- **Some indicators** such as NNI and Household Disposable Income **hardly/not affected** by e.g. relocations
- Better use and communication needed
• **Proposed additional breakdowns** in supply and use tables and/or in institutional sector accounts:
  - **By type of ownership:**
    • Public corporations
    • National private corporations, not part of domestic MNE
    • **National private corporations, part of domestic MNEs**
    • Foreign-controlled corporations
      – **Of which: Special Purpose Entities (SPEs)** (Note: may only be relevant for some countries)
  - **By type of firm:**
    • Factoryless producers, merchancers, contract manufacturers, processors
    • By business function?
..., and possibly defining additional indicators and datasets

**Additional indicators:**

- **GNI** = GNI minus retained earnings of re-domiciled firms minus depreciation of categories of foreign-owned domestic capital assets (such as IP capital assets))

- **Contributions of inputs to (growth of) GDP** (e.g. separating value added from IPPs and other movable assets, from labour and other assets)

**Creating global datasets on multinational enterprises**, to better monitor and understand economic behaviour
Globalisation: Challenges with and Implication for the Current International Standards
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?

- 2008 SNA makes **distinction between economic (risks and rewards) and legal ownership**
- But, despite best efforts, guidance on identifying economic ownership arguably falls short

| 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. |
Way Forward?

- More prescriptive guidance on economic ownership
- As a default option, to always consider, conceptually, the parent as the economic owner, …
- … meaning that 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
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.
- **Consolidate SPEs with the ultimate owner?**
A panacea or a sticking 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 centre of economic decisions
“In between dream and act there are hindering laws and practical issues” *

• 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)

• But … we already have **major problems in arriving at consistency at the national and international level**

• **Need for enhancing (the possibilities for) international co-operation and co-ordination**

* Quote from the poem “The Marriage” by Willem Elsschot
Digitalisation: What Are the Main Problems?
Increased prevalence of ‘new’ transformative (digital) technologies

But …

… declining productivity
Very present in the public debate

Charles Hulten: “Valuing the Net and the wide range of applications... is challenging.... and their omission or undervaluation surely affects GDP.”

Charles Bean: “statistics have failed to keep pace with the impact of digital technology”

Diane Coyle: The pace of change in OECD countries is making the existing statistical framework decreasingly appropriate for measuring the economy.

Why we’re measuring the digital economy in the wrong way

Some optimists argue instead that the problem is one of measurement. Technological progress often raises productivity in ways that statistical agencies struggle to detect.
There is often confusion between:

- **Conceptual** vs. **Empirical** issues
- **Production** vs. **Consumer Surplus** vs. **Welfare**
- **Volumes** vs. **prices**

Recent OECD paper reviews these issues more systematically
Digitalisation:
Some examples of new products and services
New forms of intermediation

• **Digital platforms** provide intermediation services for supply and demand

• **Not new**, but more **pervasive** and **provided differently**:
  – Taxi reservation service => *Uber*
  – Travel agent => *Booking.com*
  – Hilton online reservations => *Airbnb*
  – Banks => *Peer-to-peer lending and crowdfunding*
  – Payment services => *PayPal, Adyen*

• **No conceptual issues, but possible measurement issues** (e.g., occasional self-employed, intermediary may be located in the rest of world)
Consumers as producers

- Internet access by households has led to blurring between household production for market purposes, own account production, consumption, leisure:
  - Own booking of hotels, or flights by households
  - Self-service at supermarkets
  - On-line banking
- In common: movement from dedicated market producers out of market
- Furthermore, households generate free assets: Wikipedia, Linux
- Not captured in GDP
- Old problem of dealing with unpaid household activities => Further elaboration in satellite account
Free and subsidised consumer products

- Free apps, search capacity by Google, etc., social networking through Facebook, Tencent, etc.
- Financing via advertisements or data
- Frequently cited as output that goes unnoticed despite contribution to consumer welfare
- Some debate about imputation of additional output and value added of “information services”
- Again old problem (e.g. broadcast television and radio) =>
  Further elaboration in a satellite account
Impact of free media activities on GDP growth, 2009-2013

Average 2009-2013, percentage points

Notes: Data for BEL, KOR and POL refer to 2012-2013, for FRA, GRC to 2010-2013 and for the USA to 2011-2013.
Source: OECD calculations based on data from OECD SDBS database, OECD Annual National Accounts database and US Census Bureau data. The GDP deflator was used for deflation purposes.
Average annual growth rate in percentage, 2010-2015 (or latest available year)

Notes: Data reported for Spain for ICT equipment and Computer software and database correspond to the period 2010-2014. Data reported for Austria for Communication services correspond to the period 2011-2015.

## Potential impact on GDP growth

### Average annual growth rate in percentage, 2010-2015 (or latest available year)

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP growth, unadjusted</th>
<th>Adjusted GDP growth minus Unadjusted GDP growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Scenario I: M=0</td>
</tr>
<tr>
<td>Australia</td>
<td>2.761%</td>
<td>0.023%</td>
</tr>
<tr>
<td>Austria</td>
<td>1.047%</td>
<td>0.294%</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.996%</td>
<td>0.400%</td>
</tr>
<tr>
<td>Canada</td>
<td>2.148%</td>
<td>0.286%</td>
</tr>
<tr>
<td>France</td>
<td>0.943%</td>
<td>0.157%</td>
</tr>
<tr>
<td>Germany</td>
<td>1.572%</td>
<td>0.122%</td>
</tr>
<tr>
<td>Italy</td>
<td>-0.641%</td>
<td>0.200%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.748%</td>
<td>0.367%</td>
</tr>
<tr>
<td>Spain</td>
<td>-0.235%</td>
<td>0.176%</td>
</tr>
<tr>
<td>UK</td>
<td>1.978%</td>
<td>0.365%</td>
</tr>
<tr>
<td>US</td>
<td>2.072%</td>
<td>0.208%</td>
</tr>
</tbody>
</table>

Notes: Using lower bound price indices; Data reported for Austria (communications) correspond to 2011-2015 and Spain (ICT goods and software) correspond to 2010-2014.
Digitalisation: Main conclusions and way forward
Conclusions

• **Good measurement is key in a digital economy**, but mismeasurement unlikely to explain productivity and growth slowdown

• **Conceptually, national accounts appear up to the task, but …**

• … measurement in some areas may require improvement, especially in the area of volumes and prices

• GDP is a measure of (market) production, not an indicator of welfare
Way forward

- **OECD’s project “Going Digital”**
  - **Planned work** of the Advisory Group on Measuring GDP in a Digitalised Economy:
    - Further work on assessing the *effects of possible bias in price indices* on measured productivity and growth
    - Further work on assessing the impact of “*free goods and services*”
    - Further work on *the role of data, including its recording*
    - Developing and compiling a satellite account for the digital economy
    - Developing indicators to monitor the digital economy
Final considerations
• Lots of critique and renewed debate on the adequacy of the core framework of national accounts

• **Challenging issues** on the table, in addition to issues like the measurement of well-being, sustainability, (financial) risks and vulnerabilities, etc.

• Lots of fun!

• No time to retire soon!

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**Final considerations**
Thank you for your attention!