



**Asia-Pacific  
Economic Cooperation**

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## **Measurement of the Digital Economy - Integrative Trade and Economics**

Submitted by: OECD



**Workshop on the Digital Economy:  
Measurement, Regulation and Inclusion  
Santiago, Chile  
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# **OVERVIEW OF PRESENTATION**

## **I. Introduction**

- a. Current estimates of the digital economy**
- b. Distinct nomenclatures and “silos”**

## **II. The “Framework Deliberations” on the Treatment of Digital Trade in Economic Measures:**

- a. Disruptive technologies disrupt our ability to measure the disruption**
- b. The “Framework deliberations”: Limitations**

## **III. Base Erosion and Profit Shifting (BEPS) Debate:**

- a. BEPS impact on economy and measurement**
- b. Customs-based measurement and digital economy**

## **IV. Conclusions and Recommendations**

# **I.A. CURRENT ESTIMATES OF THE DIGITAL ECONOMY**

## **WHAT OFFICIAL US DATA TELLS US**

**U.S. BEA estimates that from 2006 to 2016 the Digital Economy real value-added rose average of 5.6% annually, outpacing growth of overall U.S. economy of 1.5%.**

**In 2016, digital economy accounted for;**

- 6.5% of current-dollar GDP;**
- 6.2% of current-dollar gross output;**
- 3.9% of employment;**
- 6.7% of employee compensation.**

Barefoot, Kevin, Jolliff, William, Nicholson, Jessica R., Omohundro, Robert and Curtis, David , “Defining and Measuring the Digital Economy” Working Paper, US Bureau of Economic Analysis, March 15, 2018

<https://www.bea.gov/system/files/papers/wp2018-4.pdf>

## **I.A. CURRENT ESTIMATES OF THE DIGITAL ECONOMY WHAT OFFICIAL UK DATA TELLS US**

**A U.K. House of Commons study found size of Digital Economy “grossly understated” in official data based on Standard Industrialization Codes**

- The codes captured 167,000 digital sector companies in 2012
- ....but “direct investigation” found 270,000 digital economy companies that should have been considered.

***Could we be underestimating the size of the digital economy?***

Bukht, Rumana and Heeks, Richard. “Defining, Conceptualizing and Measuring the Digital Economy” 2017, UK ESRC  
<https://diodeweb.files.wordpress.com/2017/08/diwkppr68-diode.pdf>

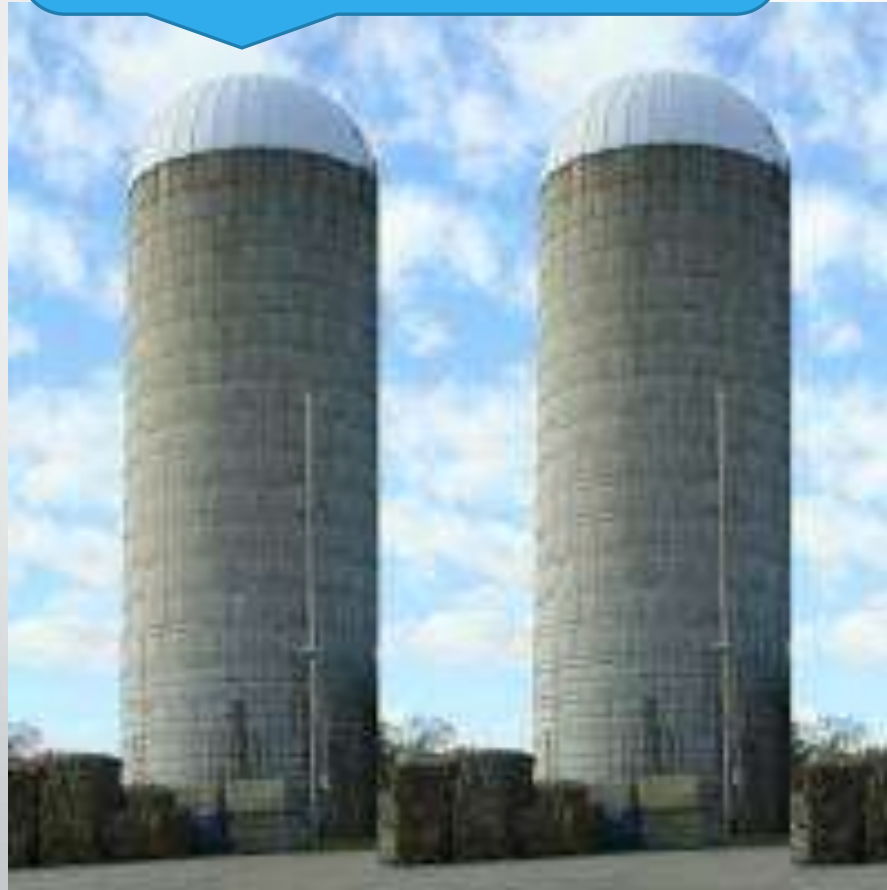
## **I.B. A Tale of Two Silos**

**To aid in evaluating the impact on digital measures of each silo, data providers must address with greater transparency;**

- The veracity of economic measures in time of digitalization,**
- How methodological changes/reforms may impact data coverage,**
- Determining which changes in data findings arise from methodological changes,**
- Estimating with consistency and transparency, gaps remaining in data coverage.**

## I.B. A Tale of Two Silos

Hi neighbour. I'm trying to measure the digital economy but I don't have the whole picture



The two silos need to talk to one another

## **I.B. A Tale of Two Silos**

- **Framework debate addresses measurement of economic accounts of APEC economies given changes in business models and how transactions are made - including international transactions.**
- **BEPS debate is about non-arms length transactions and valuations that shift value out of jurisdictions that generates it.**
- **Both debates are led by OECD, their technical work is appreciated and is invaluable to our efforts.**

## **I.B. A Tale of Two Silos**

- **BEPS spurred academic work in transfer pricing implication on tax/government revenues. Only recently examined trade and output impact on output measures.**
- **Transfer pricing predates digital economy but digitalization enables the practice. Prevalent among global digital companies which are also fastest growing MNEs.**



## **II. The “Framework Deliberations” On the Treatment of Digital Trade in Economic Measures**

### **II.A. Disruptive technologies disrupt our ability to measure the disruption**

- **New business models – Uber, AirBnB**
- **Micro-service providers**
- **Data privacy concerns**
- **Many actors less willing to share with government**

## **II.B. Other Limitation of the “Framework Deliberations”**

- **Also need new definitions and categories for non-digital economic sectors**
- **Can use indirect methods/intermediaries, but there are implementation challenges**
- **Impact on common economic indicators –GDP and productivity**
- **Profit shifting to other jurisdictions not captured (BEPS – next section)**

# **III. “BEPS Debate” - Impact of the Digital Economy**

**Those sectors that are most disrupted by the digital economy include:**

- **retail trade**
- **wholesale trade**
- **advertising**
- **media**
- **publishing**
- **business and transportation services (engineering, architecture)**
- **communication and related equipment services (software/IT support)**
- **financial services**
- **tourism and dwelling services**
- **home and office security services**
- **laboratory services**
- **manufacturing (especially with the incorporation of robotics and emergence of 3D printing – also products of digitalization)**

**“Measuring the Digital Economy, Staff Report”, February 28, 2018, IMF, and various OECD**  
**<http://www.imf.org/external//pp/ppindex.aspx>**

### **III.A. BEPS Debate: The Impact of the Digital Economy**

**Value-added trade metrics works to bring clarity to trade flows, GDP, and productivity measures *if***

- the value-added measured is attributed to the jurisdiction that generates that value-added

***rather than***

- the jurisdiction to which the company or MNE transferred “value” in order to reduce taxes.

**Note: Value transferred could include IP or marketing, management or HQ services**

## **III.A. BEPS impact on economy and measurement**

**Profit shifting elements which are an outgrowth of the digital economy include:**

- **exports of intellectual property rights (patents and trademarks)**
- **headquarter services (administration, management and advertising)**
- **information and communication technology services, and**
- **(Digitally driven) financial services.**

(Hebous, Shafik, Johannsen, Niels "At your Service! The Role of Tax Havens in International Trade with Services", March 2016, OECD, p15, and Integrative Trade and Economics unpublished.)

[http://nielsjohannesen.net/wp-content/uploads/AtYourService\\_March2016\\_FullPaper.pdf](http://nielsjohannesen.net/wp-content/uploads/AtYourService_March2016_FullPaper.pdf)

**The U.N System of National Accounts (SNA-2008) called for measures of production activity to reflect the economic ownership of intangible assets rather than the legal ownership**

**However, U.S. BEA and other domestic statistical agencies have yet to change their official methods to follow this guideline.**

**"...the treatment of consumer durables in the (economic) accounts is a source of mismeasurement."**

***How do we measure value-added in economic accounts if MNEs are not required by tax authorities to measure it?***

**Moulton, Brent H, van de Ven, Peter "Addressing the Challenges of Globalization in National Accounts" February 2018. Presented at "The Challenges of Globalization in the Measurement of National Accounts" Conference, organized by OECD, in Washington, DC on March 9-10, 2018.**

**<https://papers.nber.org/books/ahma-1>**

**[http://papers.nber.org/conf\\_papers/f100570.pdf](http://papers.nber.org/conf_papers/f100570.pdf)**

## **III.B. Customs-Based Measurement and the Digital Economy**

### **Challenge of Measuring Trade in Digital Services**

- **Digital service trade is derived from surveys.**
- **Due to different approaches, the gap between the way that the digital economy is measured in different economies and jurisdictions is widening**

### **How do we classify “software”?**

- **A good?**
- **A service?**
- **When is it “digital”?**

**If definitions differ, users need transparency about how different definitions impact data and explicit caveats about exclusions and limitations.**

## **IV. Conclusions and Recommendations**

- **More research, transparency, and cross referencing of “gaps” and “satellite accounts” needed from domestic and multilateral statistical agencies;**
- **BEPS deliberations crucial to accompany Framework discussions, and to understand digital economy measurement challenges;**
  - i) to apply comparative benchmarks, and**
  - ii) aid to policymakers seeking a coherent policy response on digital economy issues**
- **How can SNA attribute location of economic ownership or value creation comprehensive tax reforms?**
- **Only through tax accounting will corporate accounts attribute values accordingly.**



## **IV: Recommendations for APEC**

- **BEPS deliberations and corporate tax reporting should be considered and accounted for transparently in APEC deliberations on the digital economy**
- **APEC economies should consider digital trade data from various sources**
- **To aid policy makers, APEC should continue to seek best practices in measurement of the digital economy, and full disclosure of methods and caveats in data**
  - **(including through capacity building and workshops such as this one 😊)**

# Thank you!

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