

# Measuring the Digital Economy: Challenges and Solutions

UN Committee of Experts on Business Statistics

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STATISTICS CANADA

ONE HUNDRED YEARS AND COUNTING



Statistics  
Canada

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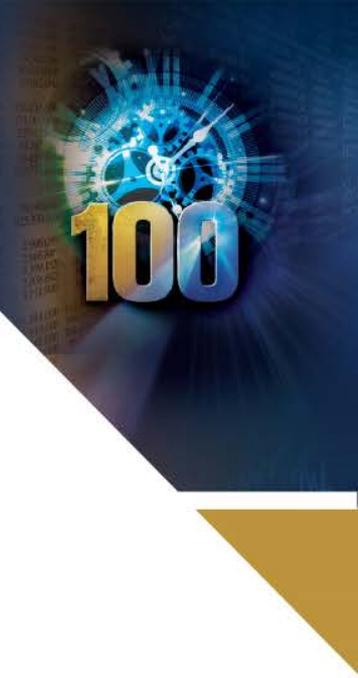
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# Outline

- What is the digital economy?
- What has changed?
- What does this mean from a national accounting perspective?
- Filling the data gaps



# The “nature” of transactions has changed



- Digitally ordered (e-commerce)
- Digitally delivered
  - Online streaming
  - Subscriptions vs. purchased
- Platform enabled
  - Digital intermediaries
  - Household production

# Impact on Macroeconomic Accounts



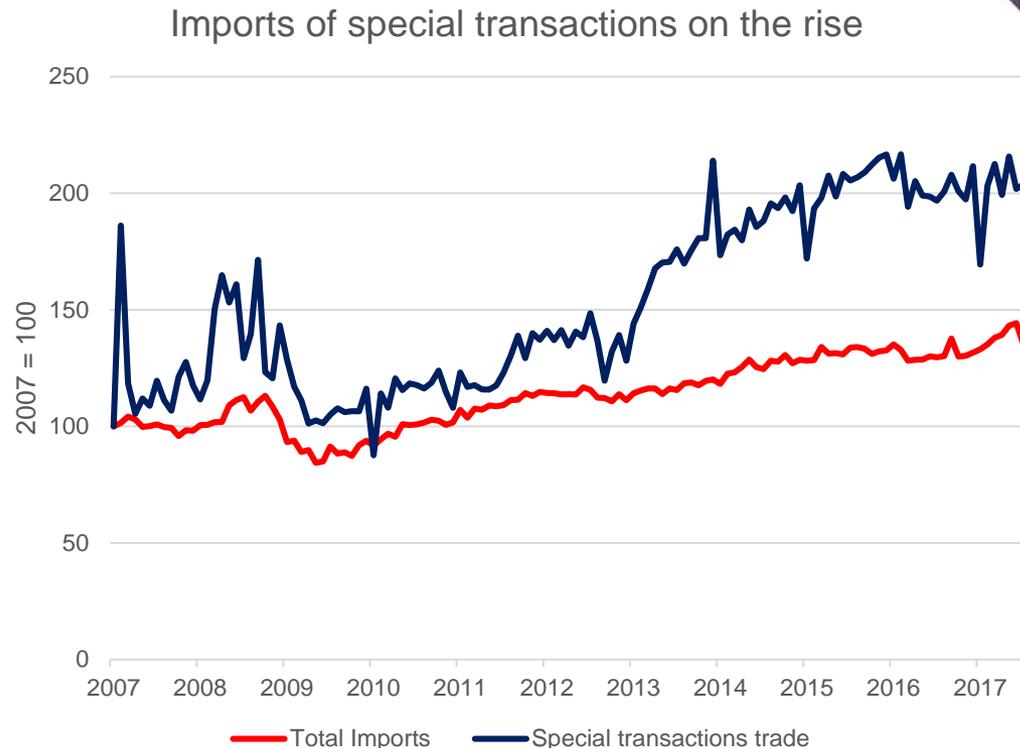
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- From the perspective of the Canadian Macroeconomic Accounts these changes can be grouped into the following broad categories:
  - ✓ Global consumers
  - ✓ Household production
  - ✓ Digital exchanges / Digital markets / Digital intermediaries
  - ✓ Investment / Digital leasing / Data assets



# What has changed? - Global consumer

- Households are becoming direct importers
- Households are importing more and more digital services (e.g. music and video streaming, online gaming, digital storage)
- Local retailers now need to compete internationally





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## What has changed? – Household production

- Households are increasingly providing market output
  - Transportation services
  - Private accommodation services
  - Cultural content
- **0.5% of adults living in Canada offered a service in the sharing economy** from November 2015 to October 2016
  - 72,000 (0.3%) offered ride services
  - 69,000 (0.2%) offered private accommodation services

# What has changed? – Digital Exchange Markets / Digital Intermediation / Digital margins



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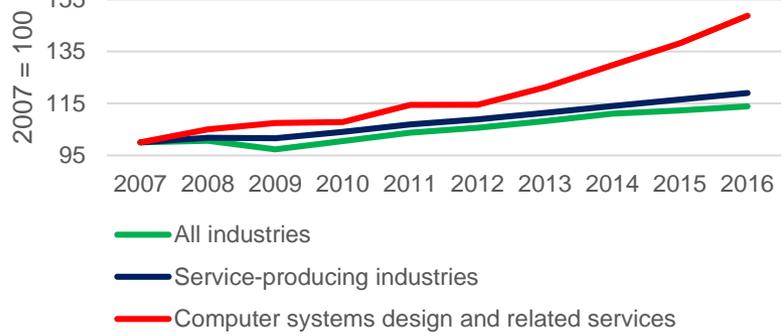
- Digital margins, digital intermediation services indirectly measured, digital explicit charges
  - Implicit digital charges such as Uber – takes a proportion of the transaction value, as service charge both to driver and rider
  - Explicit digital charges such as Kijiji – charges a fee to place certain types of ads
- It is uncertain whether mainstream classification systems properly reflect these products.



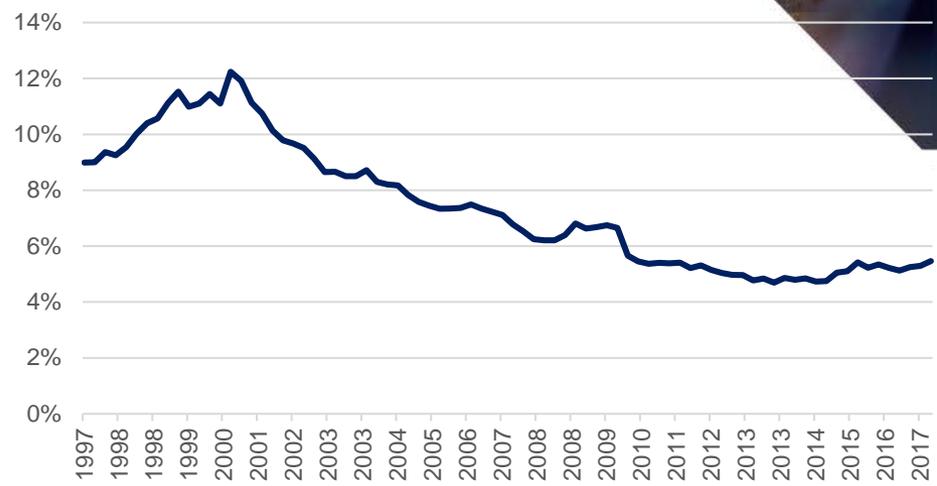


# What has changed? – Investment

Value added of computer systems design and related services outpaces other industries



ICT share of GFCF in Canada is declining



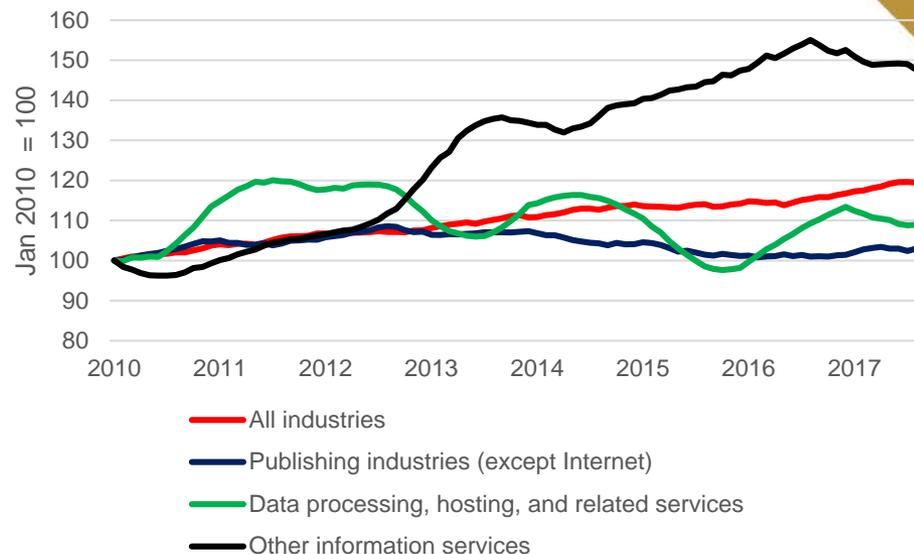
- Digital Leasing / Cloud computing?
  - The SNA distinguishes between legal ownership and economic ownership. An asset should be assigned based on economic ownership rather than legal ownership.
  - How does this apply to a company that is purchasing IT services from a foreign firm. Who owns the IT? Should we treat this as a financial lease and assign the asset to the ‘purchaser’ or ‘lessee’

# What has changed? –Data Assets

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- Databases or Data – what should we be capitalizing?
  - “Databases consist of files of data organized in such a way as to permit resource-effective access and use of the data. Databases may be developed exclusively for own use or for sale as an entity or for sale by means of a licence to access the information contained. The standard conditions apply for when an own-use database, a purchased database or the licence to access a database constitutes an asset.” 2008 SNA 10.112

Value added for selected 'Data' Publishing industries



# Next steps for the Canadian macroeconomic accounts



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- Updating the Business Register to ensure providers of digital services, including multinational corporations, are properly identified
- Examine product and industry classification systems to determine where digital intermediation should be captured
- Expanding the household production account to include a larger set of industries such as accommodation, transportation and cultural services
  - Imports and exports of household producers will need to be recorded
- Updating certain household expenditure deflators to include import prices
- Expanding the asset boundary to include ‘**databases**’
- Filling data gaps through new sources of information including surveys and alternative data



# 2018 Canadian Internet Use Survey: Content

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Access and Internet Use

2

Activities Online

3

Use of Social Network and mobile apps

4

E-commerce

5

ICT Skills

6

Security, privacy and trust

7

Use of online platforms



# Survey of Innovation and Business Strategy

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## This survey collects data on:

- Innovation
- Advanced technology use
- Business strategies and practices
- Global value chains

## Coverage

- 13,000 enterprises data available for:
  - 94 NAICS groupings
  - 4 geographic regions
  - 3 employment size groups

Collection  
Started  
Jan 23, 2018



Data to be released in  
Fall 2018 – Spring 2019  
for reference year 2017



# Canadian Survey of Cyber Security and Cybercrime

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## This survey collects data on:

- Implementation of cyber security practices
- Cost to prevent or detect cyber security incidents
- Volume and type of cyber security incidents
- Reporting of cyber security incidents
- Costs of recovering from cyber security incidents

### Coverage

- 12,500 enterprises of 10+ employees across all industries

**Collection ends  
March 26, 2018**

**Data to be released in Fall 2018  
for reference year 2017**



## Ad-hoc Surveys and Other Work

- Labour Force Module on internet non-adopters
- Digital Economy Survey
- Work with the International Expert Group on ICT Household Indicators
  - Adopt and ICT/Internet Skills Framework
  - Modernize survey questions related to ICT



## Contact

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