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# Measuring the sharing economy

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Telling Canada's  
story in numbers

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# Outline

- Context
- Strategies for assessing potential gaps for the “sharing economy”
  - Results of LFS Fast Track Module
- Measurement strategy for the broader digital economy in Canada



# Context

- Digitization is transforming the ways in which economic agents produce and consume goods and services
  - Traditional production models challenged
  - *Global consumption* i.e. buying goods or services from anywhere and anyone
  - Income earned from user generated media and information
- Need for indicators and data
  - Growing concern that Canadian statistical system may not accurately capture new phenomena
  - Are they covered in existing frameworks, classifications and collection systems?



# Measuring the sharing economy

- Evaluate potential gaps in macroeconomic measures
  - *Measuring the sharing economy in the Canadian Macroeconomic Accounts*  
<http://www.statcan.gc.ca/pub/13-605-x/2017001/article/14771-eng.htm>
- Labour Force Survey fast track module
  - Survey Canadian households for baseline information on nature and scale of activity  
<http://www.statcan.gc.ca/daily-quotidien/170228/dq170228b-eng.htm>

# Evaluating gaps

## Example: Uber taxi and other ride sharing programs

- Identify transactors
  - Uber (facilitator), drivers, riders
  - Resident or non-resident?
  
- Identify activity
  - Production/consumption of services
  - Imports/exports
  
- **Classification in Canadian macroeconomic accounts?**
- **Captured in existing measures?**



## Uber (1)

Unit	Classification in CMEA	Activity	Classification in CMEA	Captured in CMEA
Uber	Non-resident	Market output - commercial services	Out of scope for CMEA	Out of scope for CMEA
Uber B.V	Non-resident	Market output - commercial services	Imports	Not fully because: <ul style="list-style-type: none"><li>- Non-residents not surveyed reliant on reporting by resident agents</li><li>- Unincorporated business may not report</li></ul>



## Uber (2)

Unit	Classification in CMEA	Activity	Classification in CMEA	Captured in CMEA
Drivers – Unincorporated	Unincorporated business in the household sector	1) Market output of transportation services  2) Consumption of commercial services	1) Mixed income 2) Intermediate consumption - import	Not fully because: <ul style="list-style-type: none"> <li>- Unincorporated business may not report</li> <li>- Could be disconnect between stock of assets and services provided by unincorporated businesses. CFC for unincorporated businesses reliant on reporting.</li> </ul>
Drivers - Incorporated	Non-financial corporations in the business sector	1) Market output of transportation services  2) Consumption of commercial services	1) Production 2) Intermediate consumption - import	Yes



## Uber (3)

Unit	Classification in CMEA	Activity	Classification in CMEA	Captured in CMEA
Riders – Individuals or Businesses	Households or Businesses (both unincorporated or incorporated)	Consumption of transportation services in Canada	Final consumption / intermediate consumption	Yes
		Consumption of transportation services outside Canada	Import of travel services	Yes. May be overestimated because based on taxi prices.
	Non-residents	Consumption of transportation services in Canada	Export of travel services	Yes. May be overestimated because based on taxi prices.
		Consumption of transportation services outside Canada	Out of scope for CMEA	Out of scope for CMEA

# Labour Force Survey Fast Track Module

- **Monthly Labour Force Survey**
  - Approximately 56,000 households
  - All civilian household members aged 15 and over
  - “Proxy” reporting - information about household members can be obtained from one knowledgeable household member
  - Response rate 90%
  
- **Labour Force Survey Fast Track Module**
  - All civilian household members who are aged 18 and over
  - Response rate 88%



# LFS Fast Track Module Questions

In the past 12 months,

- **did you use ride services** such as Uber, Lyft, etc.?
- **how much did you spend** on these ride services?
  
- **did you use private accommodation services** such as Airbnb, Flipkey, etc.?
- **how much did you spend** on these services in Canada?
- **how much did you spend** on these services outside of Canada?
  
- **did you offer ride services** such as Uber, Lyft, etc.?
  
- **did you offer private accommodation services** such as Airbnb, Flipkey, etc.?

# Use of services in the sharing economy

From November 2015 to October 2016 **9.5% of adults living in Canada consumed services in the sharing economy**

## Peer-to-peer ride services

- 7.0% reported using ride services
- Total spending of \$241 million (or \$122 per user)

## Private accommodation services

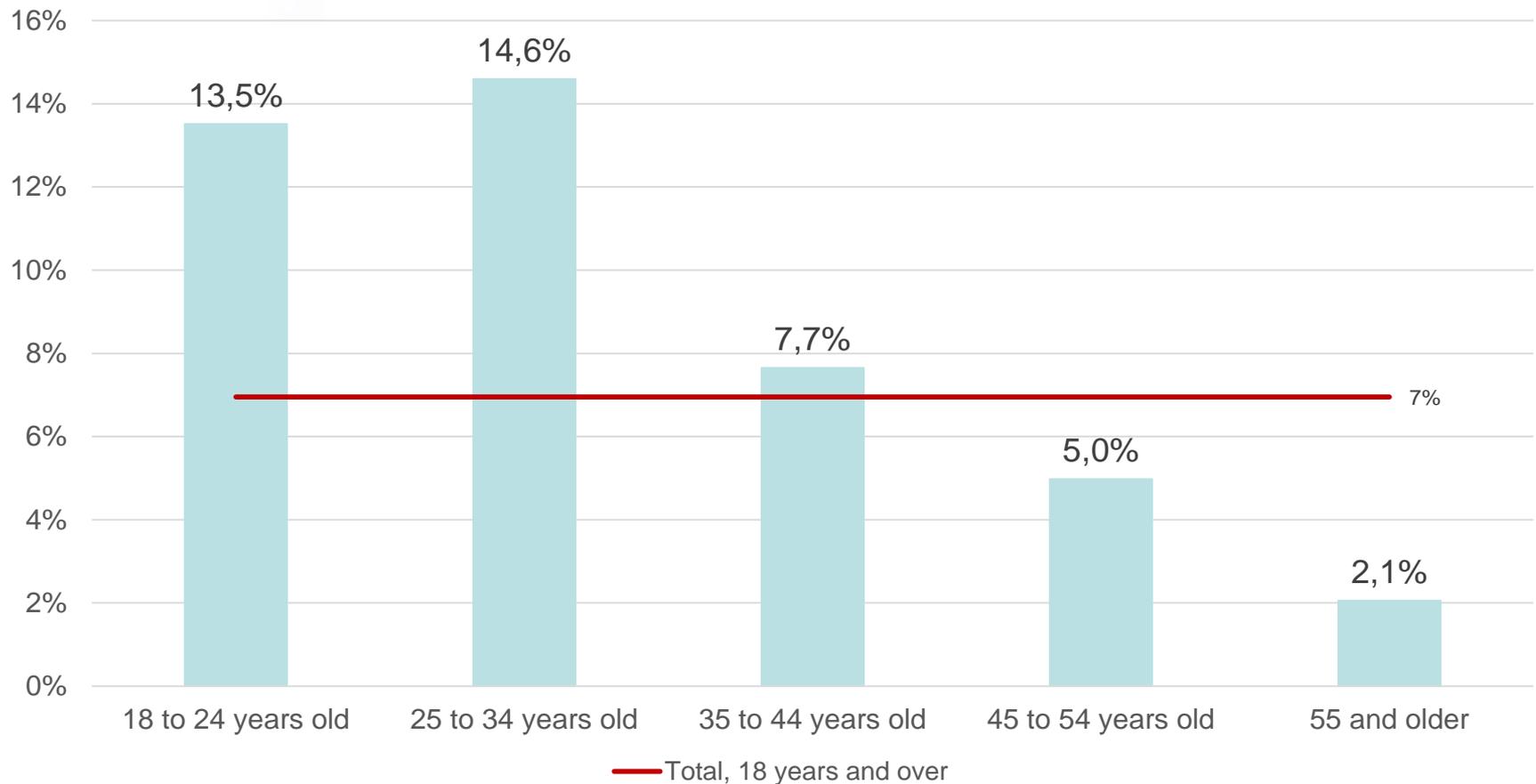
- 4.2% reported using private accommodation services
- Total spending of \$1.1 billion
  - \$367 million spent in Canada (\$307 per user of private accommodation services)
  - \$698 million spent outside of Canada (\$584 per user of private accommodation services)

# Supply of services in the sharing economy

From November 2015 to October 2016 **0.5% of adults living in Canada offered a service in the sharing economy**

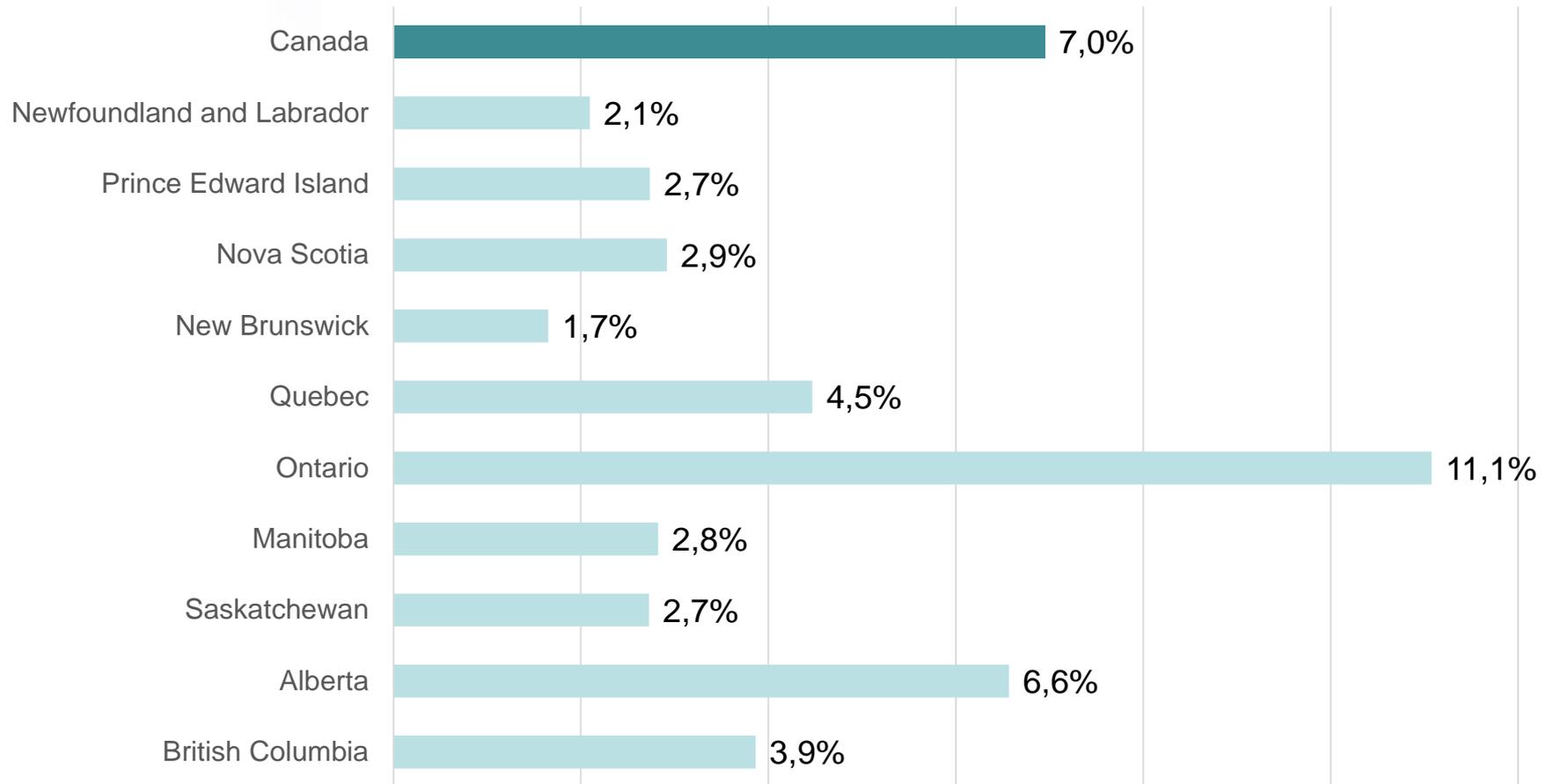
- 72,000 (0.3%) offered ride services
- 69,000 (0.2%) offered private accommodation services

# Proportion of the adult population who used peer-to-peer ride services, Canada





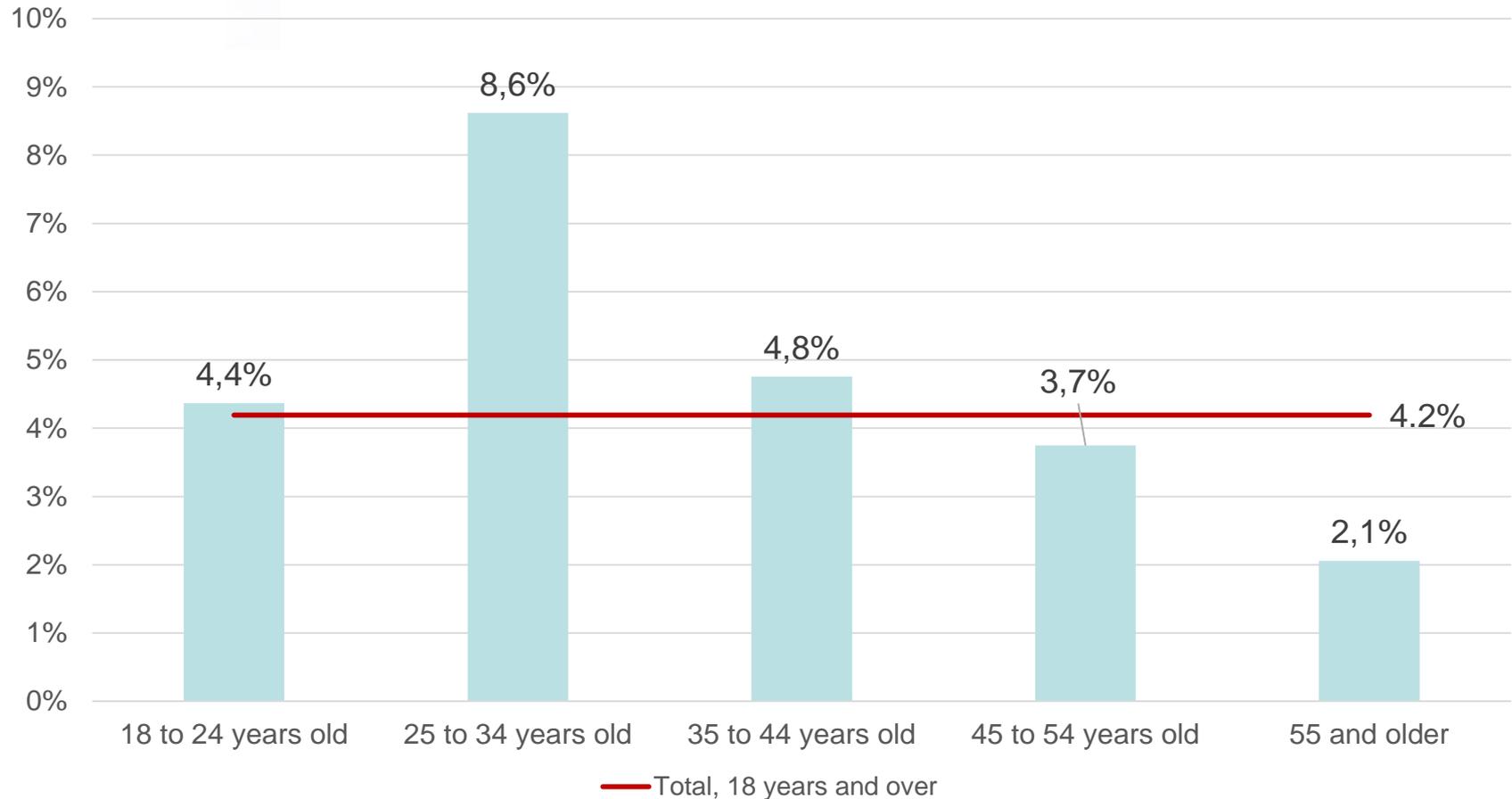
## Proportion of the adult population who used peer-to-peer ride services



## Proportion of the adult population who used peer-to-peer ride services

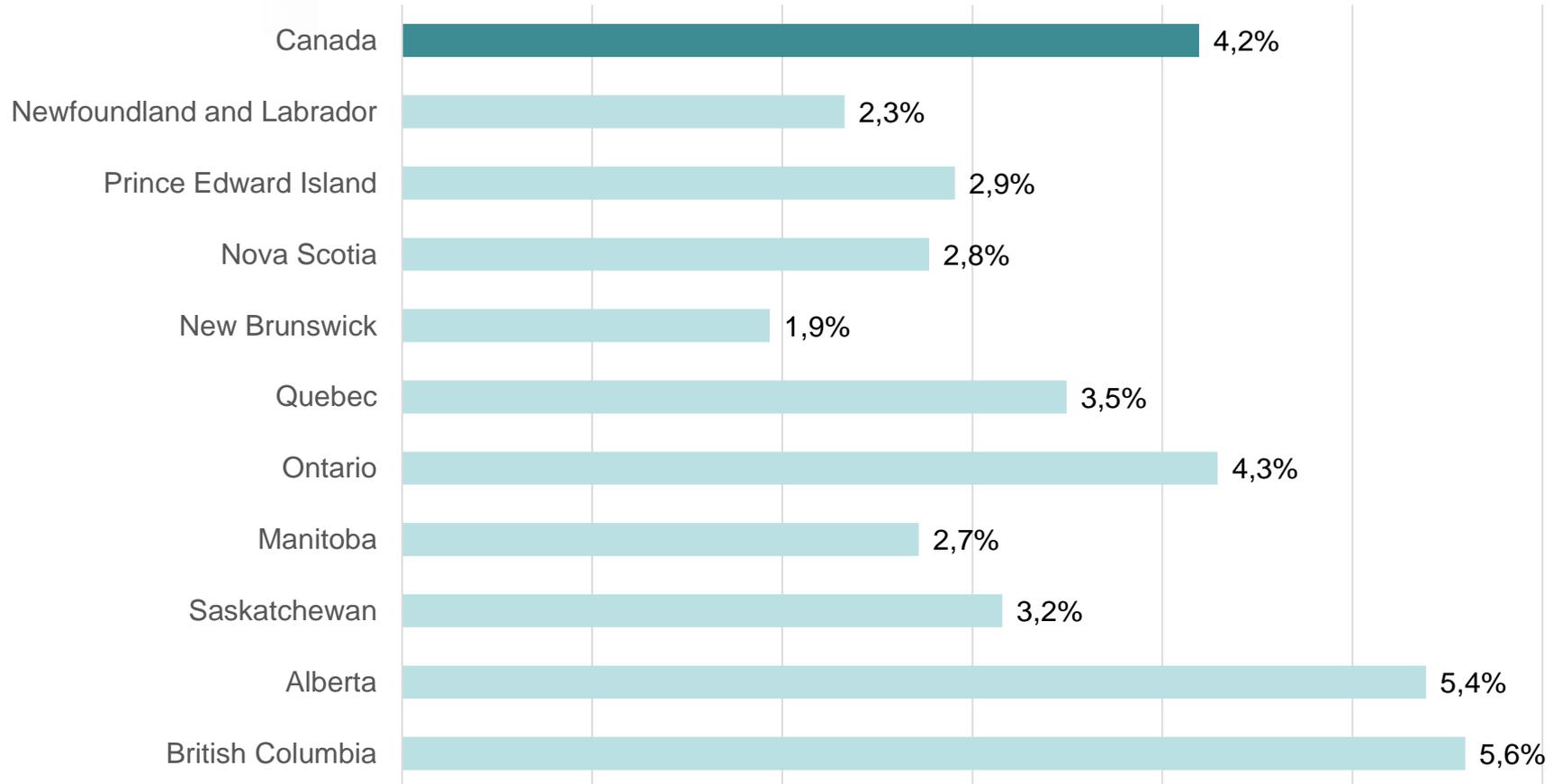
<b>Census Metropolitan Area</b>	<b>Proportion who used</b>
Quebec	4.3%
Montreal	7.0%
Ottawa-Gatineau	17.6%
Toronto	14.8%
Winnipeg	3.6%
Edmonton	9.8%
Calgary	7.7%
Vancouver	5.0%

## Proportion of the adult population who used private accommodation services, Canada

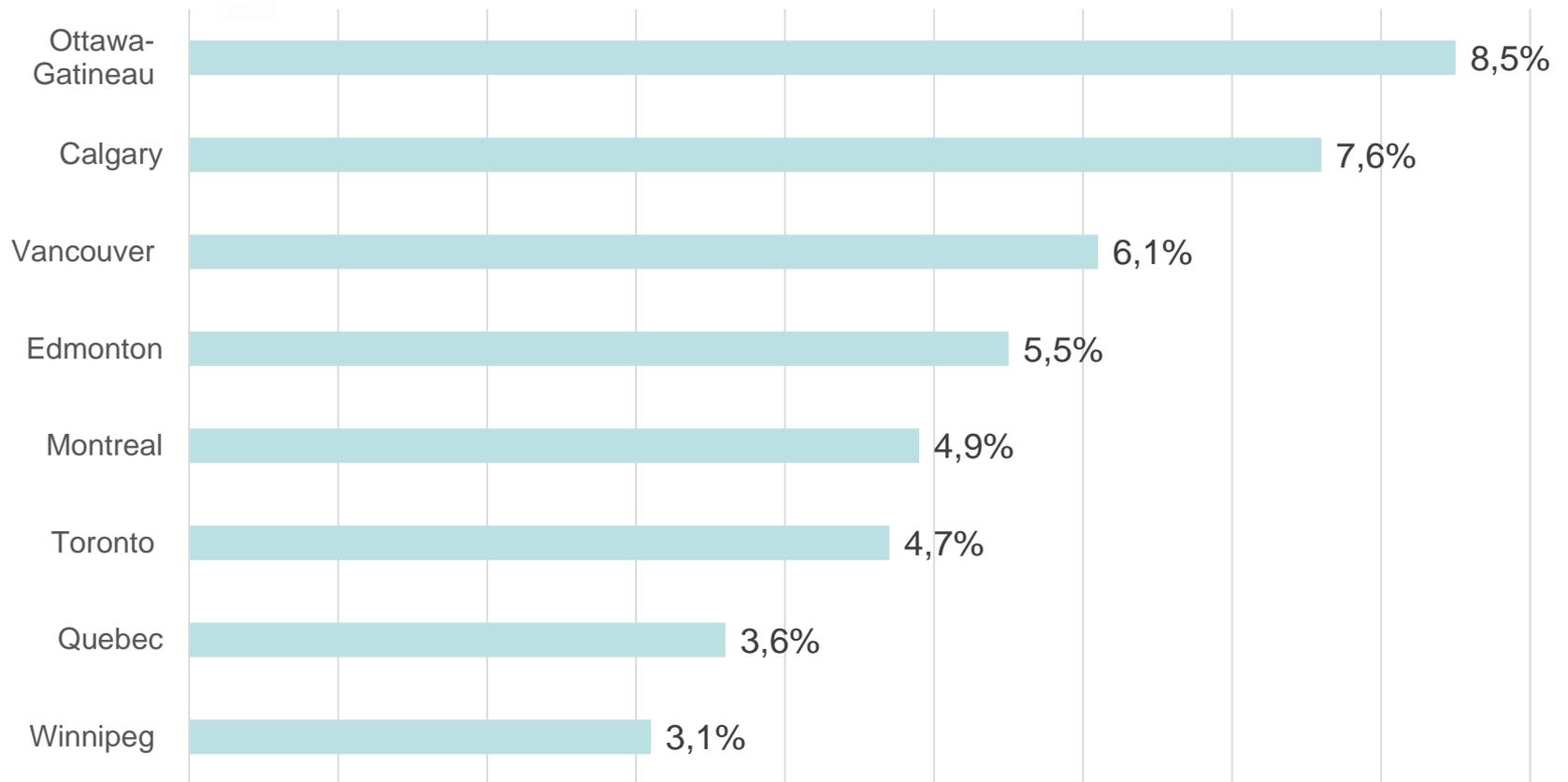




## Proportion of the adult population who used private accommodation services



## Proportion of the adult population who used private accommodation services, by Census Metropolitan Area





# Next steps

## Short term:

- Determine needed adjustments to core accounts for peer-to-peer ride sharing and private accommodation
- Experiment with supply-side sources and further demand-side collection from households

## Longer term:

- White paper outlining measurement issues for the broader digital economy
  - Systematic classification and evaluation of digital transactions
  - First step to identify true gaps or misallocations and develop strategies to address them



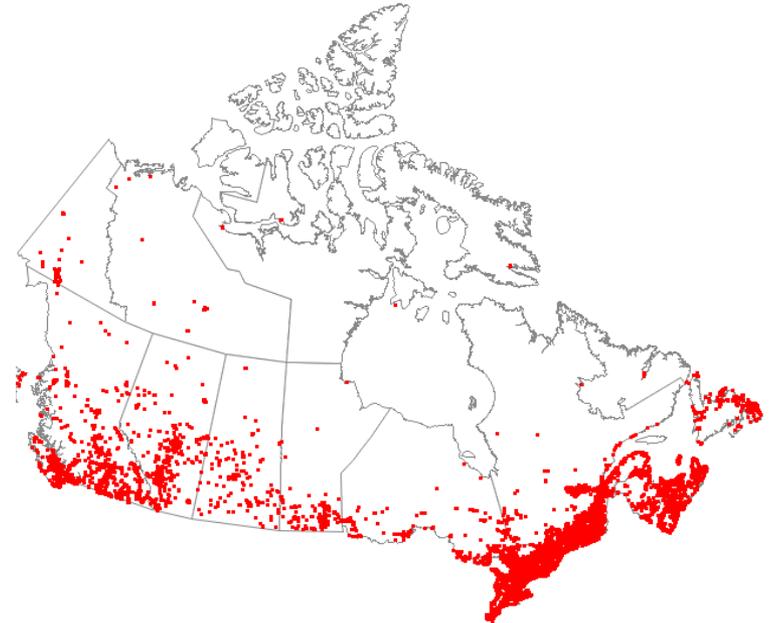
# Experimentation: supply side strategies

- Work with Federal partners (Finance Canada, Bank of Canada, Global Affairs etc.) to coordinate data acquisition
- Platforms as respondents
- Example: AirDNA

Listing in 2014



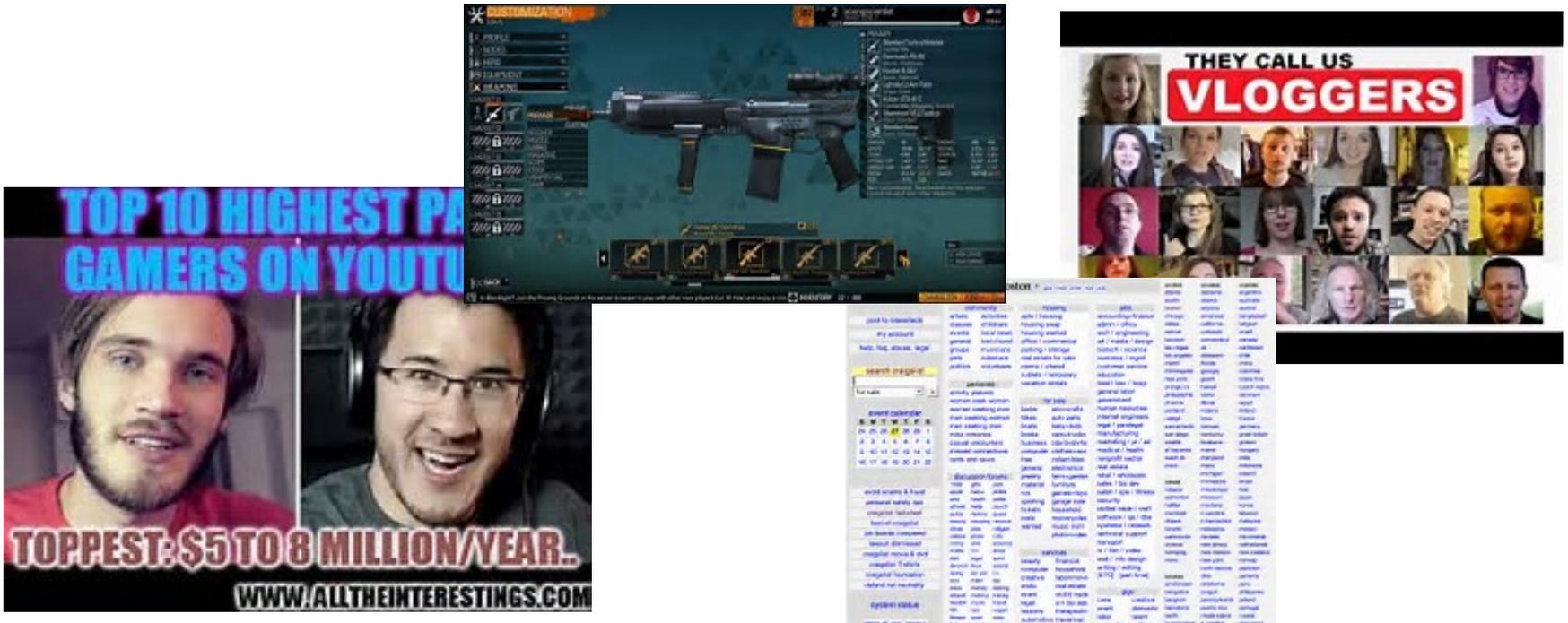
Listing in 2016





# Experimentation: demand side strategies

- Use household survey options for direct digital product/service purchases and revenue generated from the provision of digital content.



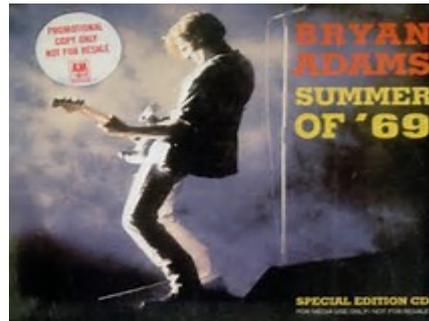


# Testing more household survey questions

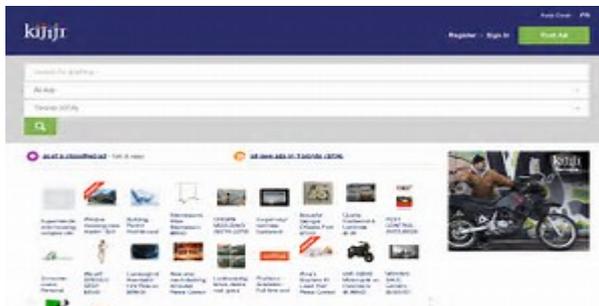
- 1) **In the past 12 months, how much did you personally spend on the following digital products, which were purchased and delivered online?**
  - a. Online music downloads or streaming subscription, for example Spotify, iTunes, etc.
  - b. Online video downloads or streaming subscription for example Netflix, Tou.tv Extra, CraveTv, Twitch, online streaming of sporting events, etc. Exclude any bundles including other services such as cable.
  - c. Online gaming and gaming applications, for example Angry Birds, Fruit Ninja, World of Warcraft, virtual products used in games, extra level or game expansion package, etc.
  - d. E-books, audio books, online newspapers, magazines and podcast, for example La Presse Plus, Texture.ca, Kindle, etc. Exclude any online purchase of physical books or any bundles including a paper version
  - e. Cloud computing, web hosting, VPN services or online storage, for example iCloud, GoDaddy, Dropbox, Google Drive, etc.
  - f. Any other applications, software or online subscriptions not included in the other categories. This includes tax software, online dating services, online pool manager services, antivirus, etc. Exclude any bundles including a physical version of the software or the purchase of a physical version of a software.
- 2) **What proportion of your total spending reported in the previous questions was with the following merchants: Tout.tv Extra, Apple App store, Crave TV, Texture.ca, La Presse Plus?**
- 3) **In the past 12 months, did you earn any income from producing digital content for public video streaming websites or social media, for example uploading a video on your personal channel on YouTube, posting on your personal account on Instagram, etc.?**
- 4) **In past 12 months, how much income did you earn from producing that content?**

# The Broader Digital Economy in the Canadian National Accounts

➤ The products are the same



➤ The way they are delivered is rapidly changing



# Defining and capturing the digital economy





# Are current measures still appropriate?

## Develop new typology of digital transactions to account for:

- **Transactors and relationships among them**
  - Business, household, non-resident?
- **Nature of activity**
  - On-line information platforms (Facebook, Google, Instagram)
  - On-line marketplace (Kijiji, Craigslist)
  - E-commerce (Walmart.ca)
  - Intermediary platform (Ebay, Uber, AirBnB)

## Challenges:

- Establishing ownership of final goods and services/commitment to purchase
- Establishing residency in complex business models
- Digital goods vs services?
- Rapid evolution (official classifications slow to change....)



# Early indications/emerging priorities

## Potential gaps

- International trade – are we under-representing imports of services
- Output – is the household sector increasingly earning market income via digital transactions (AirBnB, Youtube)?

## Misallocation/mis-measurement

- Prices – do deflators for household expenditure reflect direct imports via on-line purchases by consumers?
- Classification of Household assets (e.g. vehicles used for Uber)

## Interpreting trends

- Investment – are businesses investing less in IT infrastructure and instead leasing cloud/online services?