

Digital Economy and Consumer Prices

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Statistics



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STATISTICS CANADA
ONE HUNDRED YEARS AND COUNTING



Agenda



Overview of Digital Economy



Opportunities presented by digitalization



Analysis initiatives



The Bottom Line

 In a few words



Digitalization

Digital Economy

Sharing economy Big Data Internet of things

E-commerce

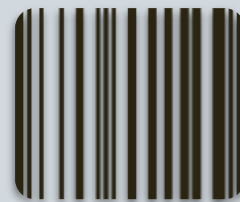
Data Sources



Source	Retailers	Data availability
Scanner Data	Food retailers	Prices, characteristics and quantity
Web-scraping	Canadian retailers: miscellaneous categories	Prices and characteristics
Application Programming Interface (API)	Aggregators for hotels, flights, car rentals, package holidays, etc.	Prices and characteristics
Other Data	3rd party providers	Prices and some characteristics



Prices from digital sources



Web Scraping data for:

- Clothing stores
- General Merchandisers
- Home improvement
- Electronics and Appliances

API data for:

- Airlines
- Hotels
- Car Rentals

Scanner data for:

- Food
- Personal Care
- Household operations

In-house Internet collection of:

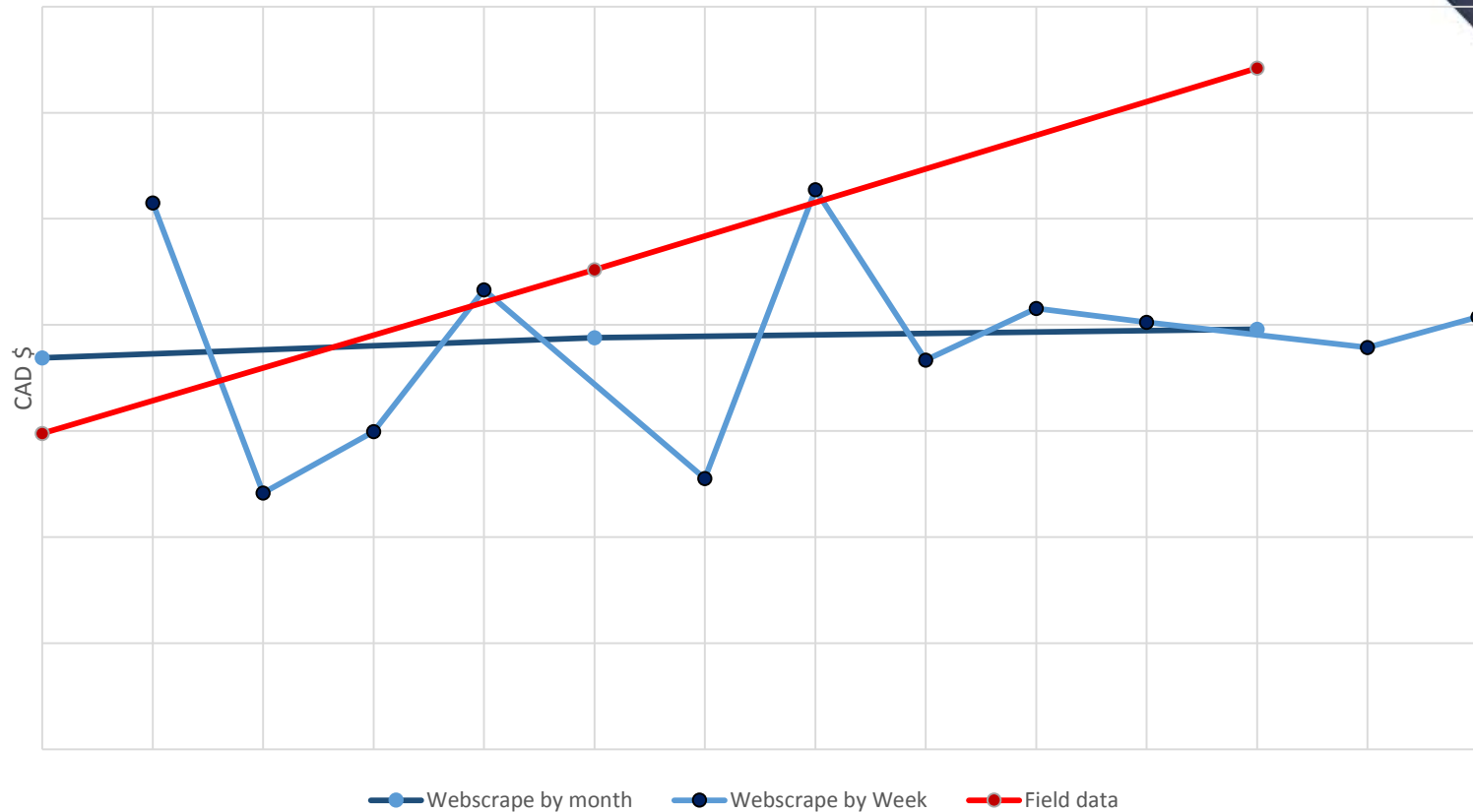
- Travel
- Transportation
- Communications
- Furniture
- Services



Comparing instore vs online data



Average Price of Web Scraped vs In-store, same product



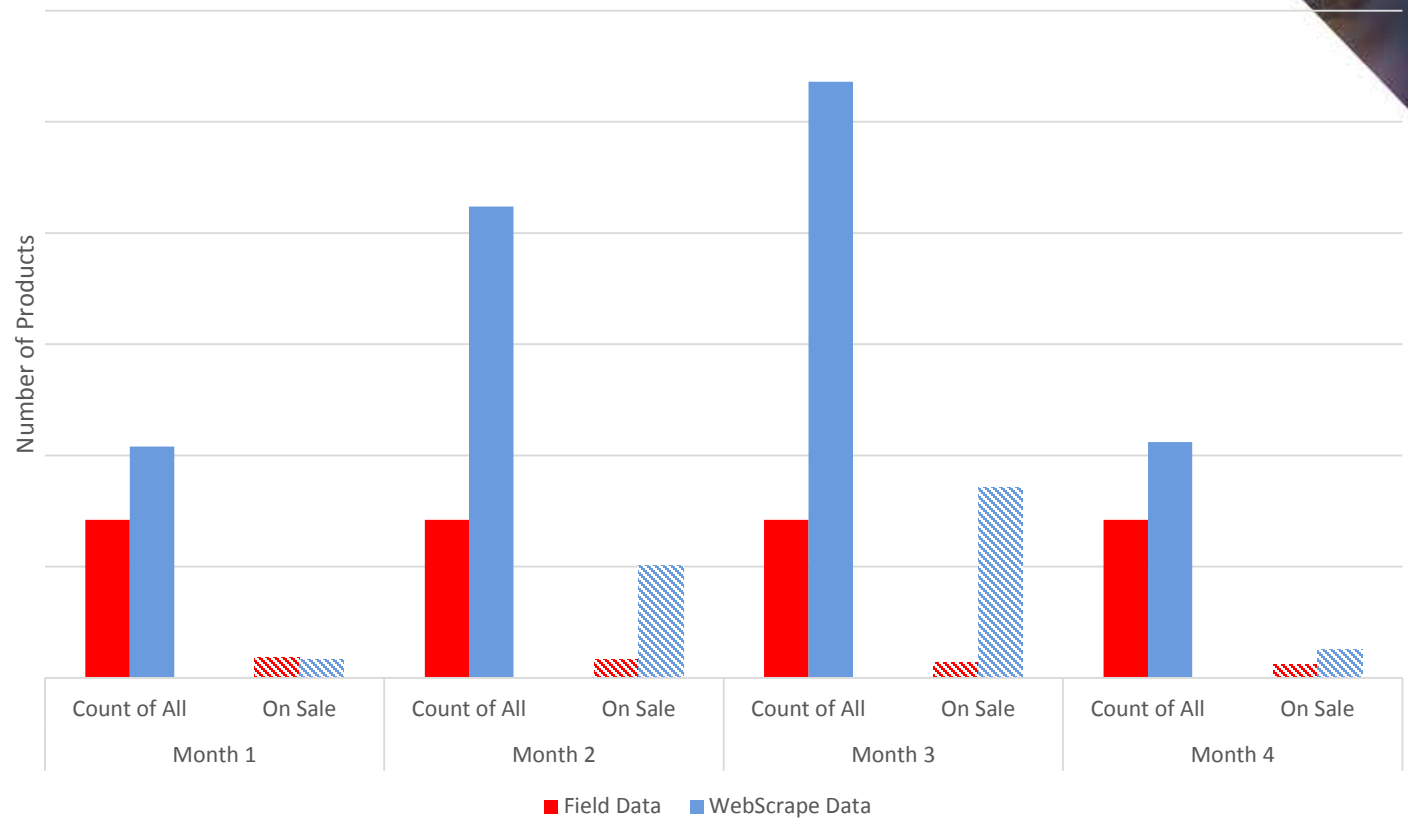
VS

onlinestore.ca

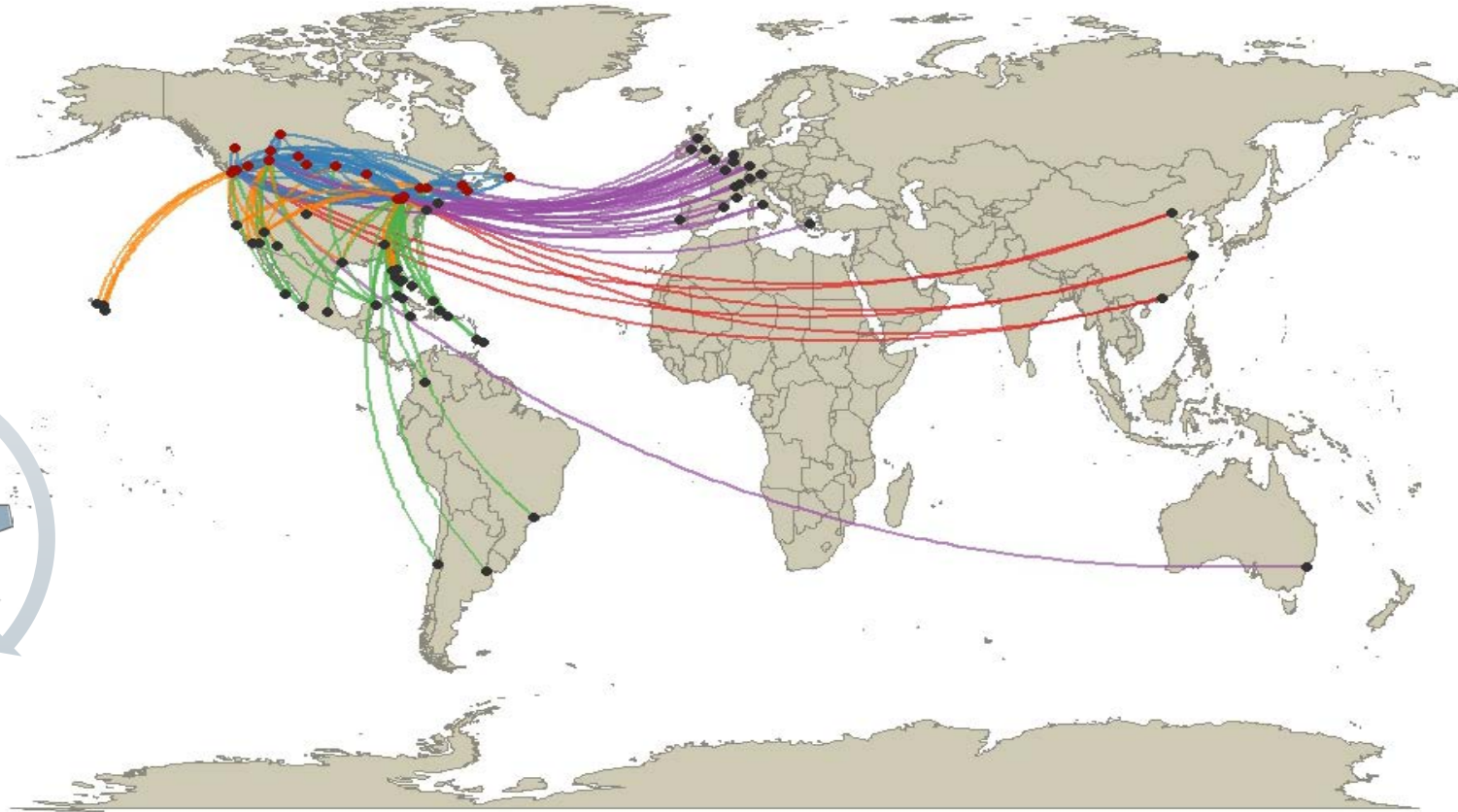
Increased product coverage



Availability (Web Scraped vs Field Data)



API data for Air Transportation



sector ■ Asia ■ Domestic ■ South ■ Trans-Atlantic ■ Transborder

Integration of online pricing



- Some CPI aggregates are fully or partially priced online
- Necessitates close monitoring of evolving consumer shopping habits

CPI aggregates fully priced online

- Hotel accommodations
- Air fares
- Rental cars
- Telephone services (local and cellular)
- Internet access services
- Inter-city trains and buses
- Local transit
- Driver's licenses
- Passports
- Passenger vehicle registration fees
- Retail club memberships
- School books
- Cars

CPI aggregates partially priced online

- Travel tour packages
- Furniture
- Mattresses
- Household textiles (sheets, towels, window coverings)
- Toys, games and hobby supplies
- Household appliances
- Cookware
- Tableware
- Tablets
- Photographic equipment and supplies
- Audio equipment

Source: MRTS 2017-04 to current

Implementing more online data in the future



Web Scraped

- Online vs instore
 - Clothing
 - Electronics



Application Programming Interfaces (APIs)

- Travel



Sharing Economy

- Netflix & Spotify
- Uber & Lyft
- Airbnb



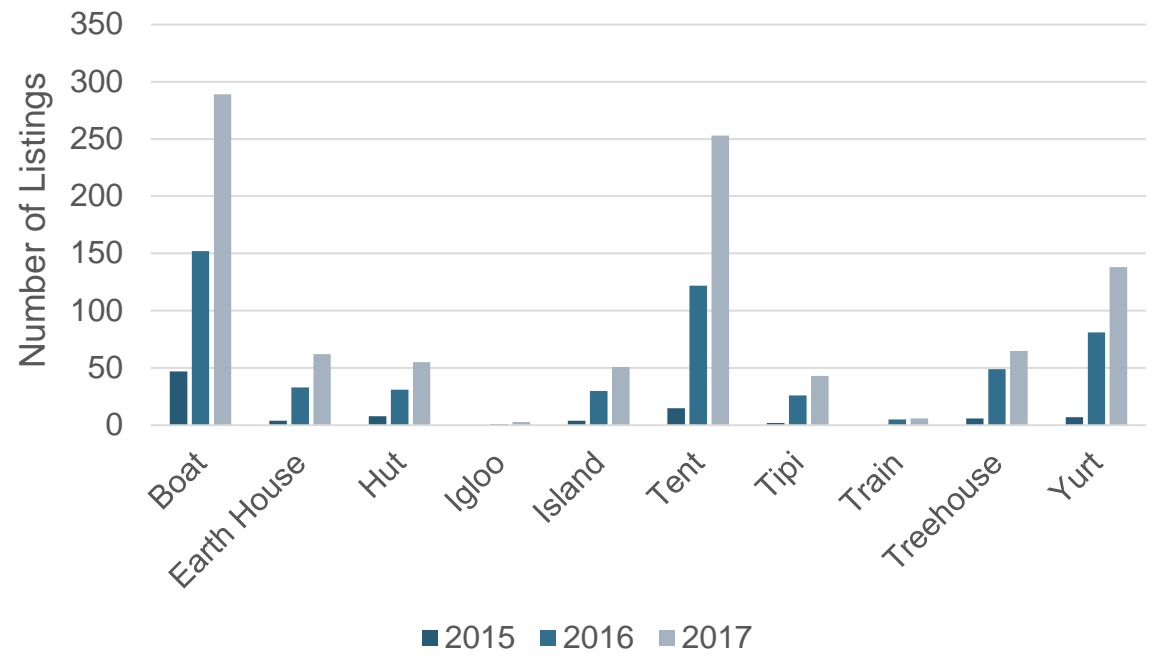
Future Trends

- Scope definition could extend beyond country
- Growth online marketplace
- New product offers: Internet Of Things

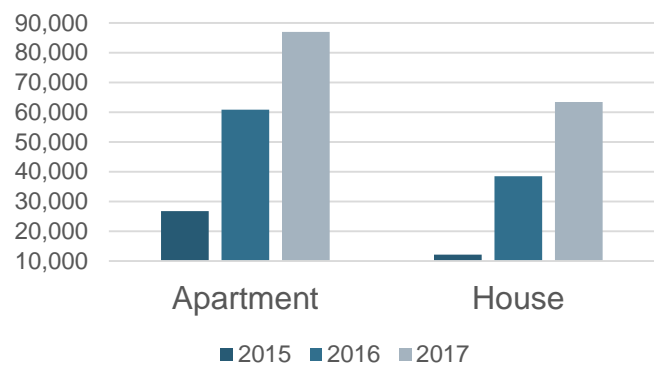


Growing supply

Unique Property Types



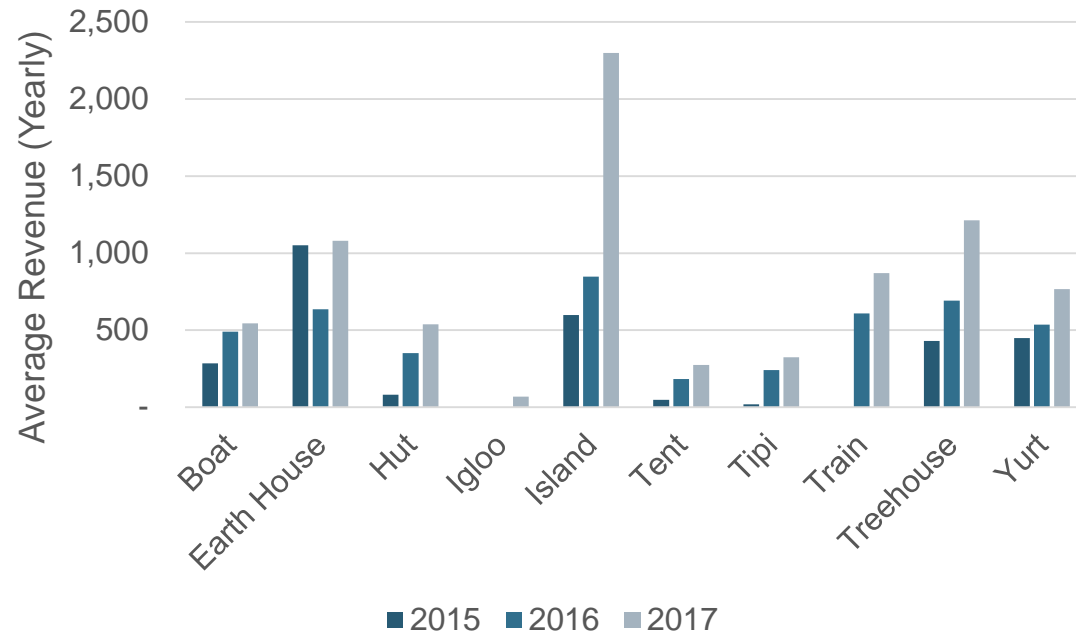
Apartment and Houses



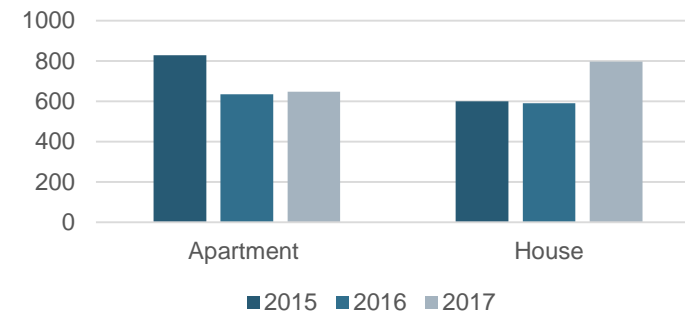
And growing demand



Unique Property Types



Apartment and houses



Prices Investigation areas



Driver	Analytical Questions
Assessing exchange rate pass-through	Should the scope of the Canadian CPI be broadened to US or international online retailers? Are Canadian and US prices moving in tandem for the same good?
Pricing dynamics	Is the price collection frequency affecting the measured inflation?
Price differentials	Are prices moving differently for online vs brick-and mortar stores for the same good? Are online prices uniform across all Canadian regions? Does it depend on retail sectors?

Conceptual challenges



- Bundling of services – Communications / Cable / Internet
- Shipping charges - Variable depending on purchase amount
- Quality adjustment - Service level and shipping speed
- Scope of Canadian CPI – Geographical boundary definition to reflect changing consumer shopping habits

The Bottom Line

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Prices are less static. A dynamic approach needed for the CPI measurement.



Digital Economy presents an opportunity to improve the quality and coverage of price statistics



The growing impact of the digital economy will continue to be analyzed and monitored.



THANK YOU!

For more information
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