

Panel session on price indices during the epidemic:

The Canadian CPI experience

Presentation to ESWG and Cemmap Conference on Prices and Welfare
April 29, 2021

heidi.ertl@canada.ca



Delivering insight through data for a better Canada



Statistics
Canada

Statistique
Canada

Canada

Outline

- Business continuity and preparedness: role of alternative data sources
- Methods and special imputations
- New data products and policy questions addressed
- Communication and engagement with users/stakeholders
- Navigating weight updates and lessons learned

Business continuity and preparedness

- Business continuity plans did not include pandemic scenario!
- Discussed preparedness and plans internally a week prior to pandemic being declared
- Employees asked to prepare for remote work
- Worked with collection, IT and dissemination partners to identify contingency plans and risk mitigation
- Collection for MARCH 2020 CPI was only mildly affected

- Focus on APRIL 2020 CPI



Some background: CPI Modernization plan

Years 1 – 3 : Phase 1 Replace Existing Prices

Commodity Class	% of quotes replaced
Food	83%
Household Operations	50%
Health and Personal Care	50%
Transportation	25%
Recreation, education, reading	25%
Alcoholic Beverages and Tobacco	18%
Shelter	10%
Clothing and Footwear	10%
Total Sample	50%

By March 2020, 45% of collected prices were from alternative data sources, representing just over 18% of the CPI Basket Weight.

Years 4 – 6 : Phase 2 Use ALL the Data

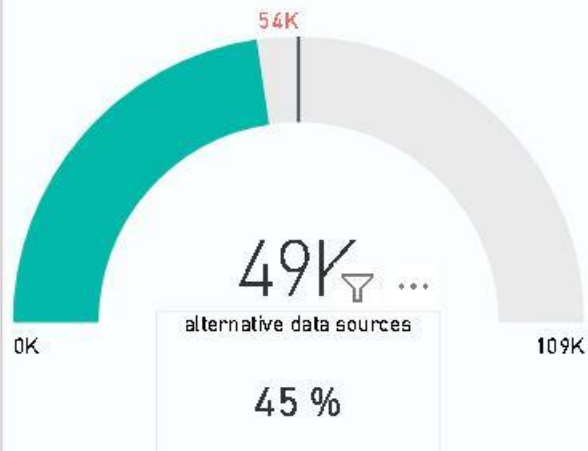
- Research done in parallel to implementing Phase 1 will provide direction for methods and processes for Phase 2
- By **March 2024**, 75% of collected prices from alternative data sources, representing about 50% of basket weight.
- Using ADS, the CPI sample will be augmented through:
 - More products and outlets
 - Use of quantities sold/revenues

What types of Alternative Data Sources are in use?

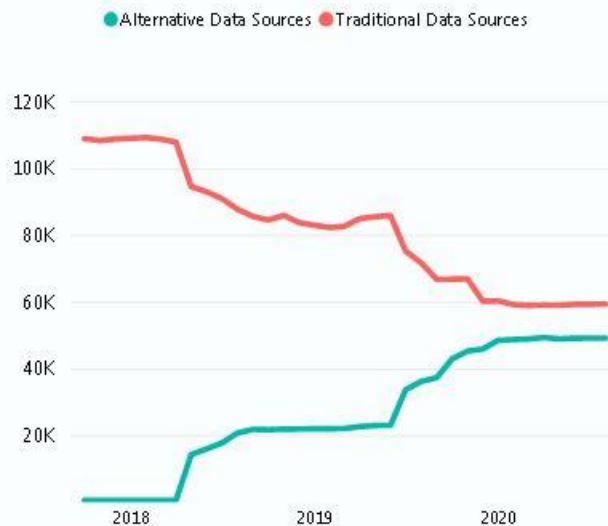
Source	Retailers	Data availability
Scanner Data	Food retailers	Prices, characteristics and quantity
Web-scraping	Canadian clothing retailers	Prices and characteristics
Application Programming Interface (API)	2 aggregators for hotels, flights, car rentals, package holidays, etc.	Prices and characteristics
Other Data	3rd party providers	Prices and some characteristics

CPD Data Source Progress Dashboard

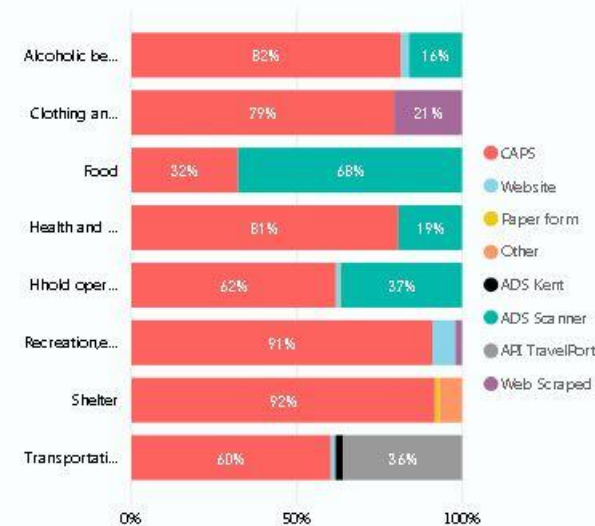
Progress to 50% Alternative Data Sources



Change in Data Sources Over Time



Data Sources by Commodity Groups This Month



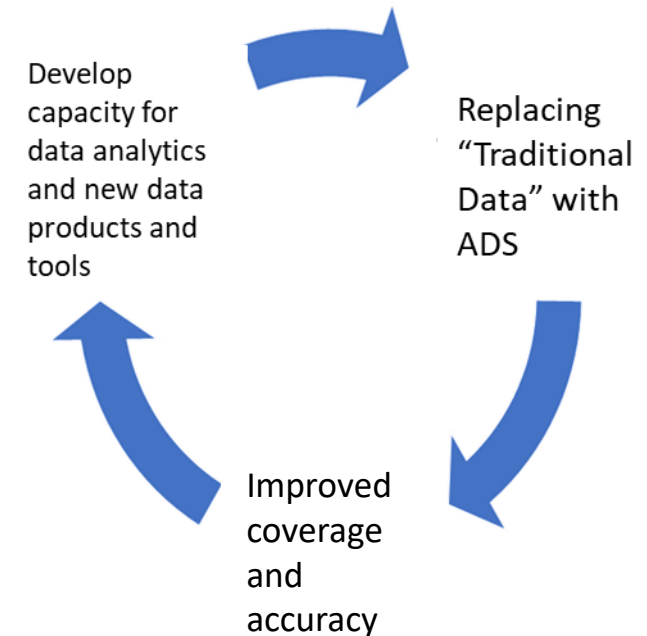
Alternative Data Sources have been defined as the following Phoenix collection method flags: Web Scraped, ADS scanner, ADS Kent, API TravelPort, Website and Other. Traditional data sources have been defined as CAPS and Paper Form. The figures in this report include both in and out of season products and reflect only active TPOs (TPOs collected within the last 4 years). Figures reflect MPS Feed = 1 only.

CPI measurement during the pandemic

- Suspension of field collection – complete reliance on alternative data sources, online Internet collection, and in some cases telephone/store flyers
- Application of special imputations and treatments for missing prices (out of stock or items not available for consumption)
- Ongoing tracking of restrictions and stay at home measures to ensure correct application of special imputations on a regional basis
- Additional communications material and outreach to ensure transparency to users

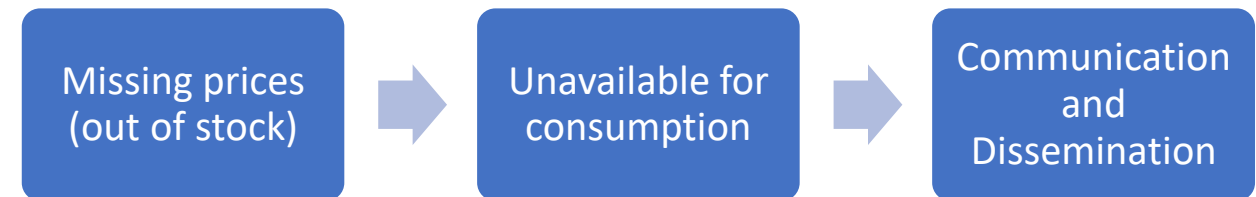
The pandemic highlighted:

- Importance and increased reliance on alternative data and alternative collection methods, particularly for more difficult to measure products/services
- How scanner data could be leveraged in new ways to address specific data/policy questions
- Will not be returning to field collection in most cases except:
 - The North (Iqaluit)
 - Minimal online presence
 - Exploring alternative data for food
 - Niche markets, small retailers
 - Auto parts and auto maintenance



Methods and special treatments

- Restrictions and re-openings varied across regions, adding an extra layer of complexity for imputation strategies
- Sub-indexes imputed from the monthly change in the all-items index:
 - travel tours, components of spectator entertainment, recreational services, personal care services, and some components of use of recreational facilities and services in some areas
- Price indexes for beer, wine and liquor served in licensed establishments were imputed in several regions, using the indexes to which consumers likely redirected their expenditures: beer, wine and liquor purchased from stores
- March 2021 CPI
 - Imputations to account for services not on offer represented 1.9% of the basket
 - Rate of temporary closed outlets similar to previous months (1.1%)
 - Out of stock rate was 9.0% (5.1% in March 2020)
 - Final received rate was 90.0% (94.8% in March 2020)



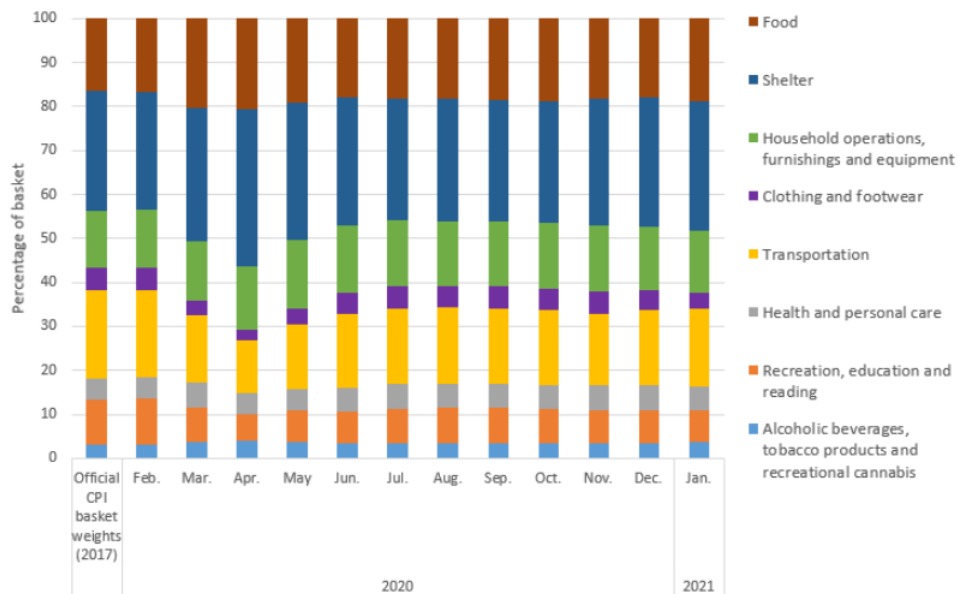
New data products, policy questions addressed

- Technical briefings, monthly [technical supplements](#)
- Consumer demand during the COVID-19 pandemic
 - [Canadian consumers adapt to COVID-19: A look at Canadian grocery sales up to April 11](#)
 - [Canadian Consumers Prepare for COVID-19](#)
- [Adjusted price index](#) to account for shifting consumer spending patterns
- [Personal Inflation Calculator](#), Reddit 'Ask me Anything', [infographic on quality adjustment](#) and [CPI annual review for 2020](#)
- [Monthly average retail prices for selected products, by province](#)
- Grocery scanner data to respond to policy questions on food insecurity, PPE

Adjusted Price Index – Results

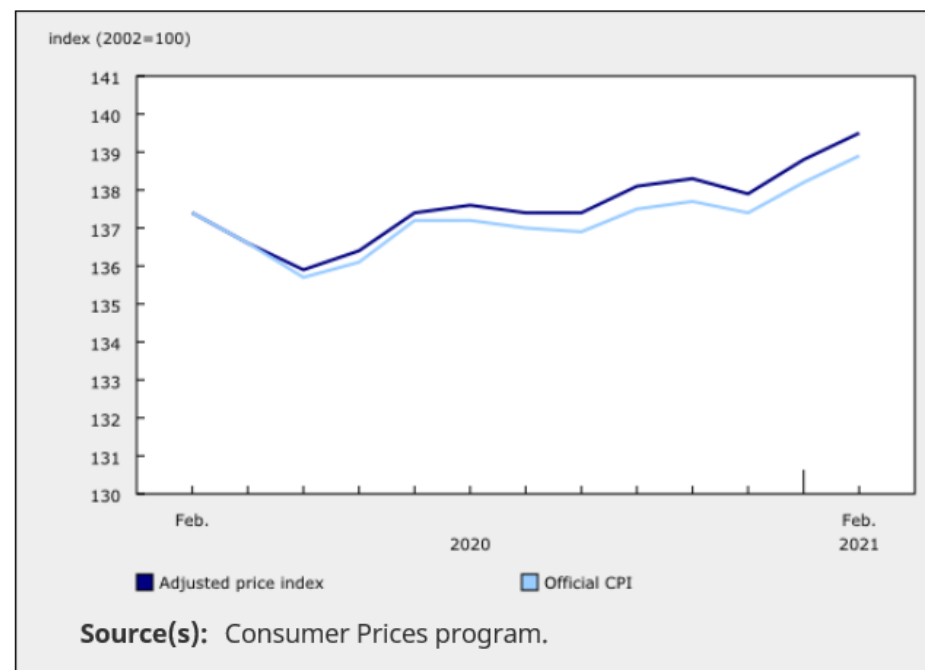
- Canadians direct more of their spending to shelter and food; and less to clothing, footwear and transportation
- The gap between the adjusted price index and the official CPI is about half a percentage point

Basket weights of major components in the official Consumer Price Index and the adjusted price index, Canada, February 2020 to January 2021



Source: Consumer Prices program.

Official Consumer Price Index (CPI) and adjusted price index, Canada, February 2020 to February 2021



Source(s): Consumer Prices program.

User communication and engagement

- Worked closely with central bank and other stakeholders to ensure clear and consistent messaging
- Technical briefings, monthly [technical supplements](#)
- Additional Notes to readers in monthly releases
- Additional footnotes in data tables
- [CPI Portal](#)
- Advance notice to media (i.e. to inform on base-year effects)

Navigating weight updates and lessons learned

- Planned basket update in February 2021 delayed
 - Shifting consumer spending patterns during COVID-19 pandemic
 - 2019 expenditures no longer considered relevant at that time
 - Delay allowed for continued monitoring and option to use 2020 expenditure data
- Next basket update is July 2021 (June CPI)
 - Data for 2019 (SHS and SNA) and 2020 (SNA and alternative sources) are available
 - Pandemic continues to evolve amid vaccine roll-out
 - Choice of method and communications plan will be critical – to be finalized May 2021
- Going back to ‘business as usual’ is not an option!
- Pandemic has accelerated thinking around use of alternative data sources, approach to basket updates, and development of supplementary CPI products