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Consumer Price Index Collection in Canada: Today and Tomorrow

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Introduction

- The Consumer Price Index measures changes in the prices of goods and services that households consume (International Labour Organization, 2004)
- Used for many purposes; for example in Canada, the CPI is used as:
 1. Escalator for different types of payment (pensions, wages, rent, various social programs, etc.)
 2. Key statistic for the Bank of Canada and its monetary policy (inflation target)
 3. General indicator of inflation
 4. Deflator used by the National Accounts



CPI Enhancement Initiative

- a 5-year project – to be completed in March 2015
- Focused on 4 major areas:
 - More frequent Basket updates
 - Quality improvement
 - IT renewal/enablers
 - **Improved Sample** (*the focus of our presentation*)
- Outcome: a better measure of consumer price change



CPI Collection Today

- On average, about 100,000 prices are collected each month in the field.
 - ~1500 different products
- Most of the data are collected by about 100 interviewers in various cities across Canada.
- Collection primarily done on a unique handheld device called CAPS (Computer Assisted Pricing System).
- In some cases, paper questionnaires/forms are carried and filled on site to collect quality characteristics.
 - Transitioning to electronic forms
- Some data are collected by Internet and from other STC surveys. Other data sources are used as input to frame improvements.



CPI-EI 2010 (year 1)

- Relatively modest changes
- 200+ amended representative products
- Increased number of outlets for food products



CPI-EI 2011 (year 2)

- A few new products introduced
- ~200 representative products amended
- increased sample for pharmacy outlets
 - methodology reviewed
 - introduced paper questionnaire



CPI-EI 2012 (year 3)

- New methodology for travel related services
- New methodologies introduced for some transportation commodities
- Several new representative products created
- Amended ~275 Representative Products
- Increased clothing outlet sample



CPI-EI 2013 (year 4)

- 2 new geographies added
- Introduction of electronic pricing forms (EPF)
- Addressed market banner gaps
- More amendments and new Representative Products introduced

CPI-EI 2014 (year 5)

- Largest amount of change in terms of sheer volume of additional quotes
- 3 new geographies added
- Addressed clothing industry banner gaps
 - Hundreds of outlets introduced across the country
- More amended and new Representative Products
- Introduced efficiencies such as scanning of documents



After 5 years of sample changes

- Better geographic coverage
- Better representative product coverage
- Better representation of outlets
- Improved methodologies
- 23% increase in number of outlets
- 34% increase in the number of price quotes



Post CPI-EI (2015+)

- Sample maintenance
- Sample optimization
- Internet price collection
- Scanner data and other alternative data sources
- Continue with development of electronic forms
- New collection infrastructure



Current Consumer Price Index (CPI) Collection system

- Customized solution
- Limited resources to maintain it
- Never fit perfectly into common solutions
- Hardware dependent



Collection systems at Statistics Canada

- Re-engineering project of a unique platform for collection, the Integrated Collection Operations Systems (ICOS)
- Goal to integrate all surveys, an average of 250 questionnaires per year
- Based on Electronic questionnaires (for interviewers and respondents)



Collection systems at Statistics Canada

- Will support collection of the Census of population in 2016
- Plan to integrate CPI to ICOS by 2017
- By 2020, majority of paper questionnaires should be converted to e-questionnaires

Main components of ICOS

The ICOS infrastructure is constituted of three main components:

- Case Management Portal (CMP)
- Management Information System (MIS)
- Electronic questionnaire (EQ)

Project to upgrade CPI collection systems

- Why?
 - Aging hardware
 - Software limits the potential to improve the application
- Options
 - Keep a highly customized application
 - Try to integrate the new corporate collection platform, especially the electronic questionnaire component

CPI collection and E-Questionnaire

- Before starting the development, an options analysis has been completed to determine if the e-questionnaire tool was able to support the collection of the CPI.
- Some functionalities were identified as missing in the current version of EQ to be able to keep the capabilities that the CPI current collection application provides.

CPI collection and E-Questionnaire

Examples of missing functionalities:

- help attached to technical terms,
 - electronic messages to interviewers about changes on metadata,
 - a tool to sort our long lists of products (up to 300) to reflect the layout of the store...
- The analysis has proven that CPI constitutes a good candidate to be integrated with the different components of ICOS.



Benefits for CPI to move to ICOS

- Same platform as other surveys
- No longer hardware dependent
- Better technical support
- Electronic questionnaires and multi-modal collection
- Better sample management
- Improved communications
- New metrics

Moving forward

- Adapt CPI system to interface with the new infrastructure
- Adapt sample and metadata generation, including new sample
- Modify data model to support sample management more efficiently
- Adopt more sophisticated outcome codes
- Design electronic questionnaire



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Thank you!

Questions?