Statistics Canada’s Enterprise Portfolio Management Program

Improving Data Quality for Large Enterprises Through Profiling and Coherence Analysis - Benefits for National Accounts

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Outline: Improving data quality and coherence

- The System of National Accounts (SNA) consists of a coherent, consistent and integrated set of macroeconomic accounts, balance sheets and tables based on a set of internationally agreed concepts, definitions, classifications and accounting rules.

- What can statistical agencies do to improve the quality and coherence of data provided to the SNA?
Statistics Canada’s framework for producing coherent economic statistics

- Economic survey programs are mandated to use a central frame, ‘the Business Register’
  - Applies classification standards for industry and geography coding, contains statistical structures of businesses, includes measures of size and other variables required for sampling and collection activities

- Integrated Business Statistics Program (IBSP)
  - Common survey model that applies a standardized set of concepts, processes, methods and systems to 150 economic surveys including annuals, sub-annuals, economy wide surveys and industry surveys

- Enterprise Portfolio Management Program (EPM)
  - Extensive effort to improve the quality and coherence of data reported by the largest and most complex enterprises
Data coherence by design - implementing the IBSP

- Use of a common frame – the Business Register
- Harmonized content and specifications
  - Thorough content review of economic surveys to identify essential SNA and subject matter information requirements
  - Income statement variables based on Statistics Canada’s Chart of Accounts which bridges tax data concepts with SNA concepts
  - Creation of standardized metadata for developing questionnaires and incorporating specifications into processing systems
    - Standardized cell numbers and harmonized content modules applied to questionnaires
    - Standardized series of metadata tables used to populate processing systems
    - Development of mnemonics to facilitate data analysis
Data coherence by design - implementing the IBSP (continued)

- Common metadata driven processing framework for sampling, edit and imputation, allocation and estimation based on generic statistical services
- Common data-mart for storing, accessing and analysing data - SNA and subject matter use same tool to access data
- Development of standardized reports for intra and inter-industry coherence analysis (industry level and company level)
- Electronic questionnaires with built in edits
- Production of on-going survey estimates, including quality indicators, for analysis and to prioritise collection follow-up with respondents
Designing a system to achieve coherence is beneficial but does not guarantee coherence

- Respondents may not interpret questions correctly or may not maintain books in a manner that meshes well with statistical reporting requirements
- For large and complex companies, especially multi-nationals, keeping track of inter and intra-industry transactions requires significant effort
- “The business of business is business.” Milton Friedman
Largest enterprises have a significant economic impact

Largest 320 Enterprises on Canada’s Business Register

- Revenues: 45%
- Employment: 20%
What do large firms expect?

- They want a coordinated, integrated and unduplicated approach to data collection
- They want statistical information reporting requirements aligned to reporting capabilities
- They prefer a single point of contact within the statistical agency to discuss and resolve issues
Enterprise Portfolio Management Program (EPM)

- Responsible for maintaining the business register for 320 of the largest entities operating in Canada
- Manage collection efforts, including developing customized reporting arrangements
- Ensure reported data are coherent
- Develop a mutually beneficial relationship, through on-going dialogue
Maintaining the survey frame

- EPM staff devote 50% of their time conducting research aimed at determining how complex businesses operate and then update the survey frame accordingly
  - Review administrative data, annual reports, information on the Internet, feedback obtained from survey respondents
  - Determine data reporting capabilities
  - Document research results
  - Update frame to reflect latest available information
  - Validate structures with company representatives
  - Educate survey program staff about the impact of statistical structures on survey programs
Managing collection efforts

- EPM staff devote 25% of their time managing data collection
  - Ensure surveys are directed to the correct respondent
  - Create customised reporting arrangements to minimize response burden
  - Monitor collection including following up with respondents to ensure timely data are reported and to resolve edits
Resolving coherence issues

- EPM staff devote the remaining 25% of their time working with respondents and colleagues to resolve coherence issues and improve relations
  - Some coherence issues were due to changes in accounting systems while others resulted from structural changes associated with mergers and acquisitions or from misconceptions about reporting requirements
  - Meet regularly with SNA and subject matter to identify issues and determine resolution strategies
  - Meet directly with business respondents to validate data and to discuss ramifications of impending changes, e.g., new accounting standards, new regulations, etc.
  - Developed a tool to compare data from various programs and to assign a coherence score
Developing industry intelligence and obtaining additional data

- In the past year:
  - EPM program worked directly with a major player in the energy sector to increase the breadth of reported data
  - Tested businesses capacity to respond to factoryless goods production questions
  - Facilitated dialogue between subject matter staff and businesses to better understand trends in reported data
  - Organized an information session with industry experts to determine how new auto sector trade agreements may impact the economy
  - Organized a senior management presentation for a business to respond to questions about CPI trends
  - Organized training sessions to develop industry expertise
It pays to develop a relationship with large business respondents

- Working directly with large, complex businesses is costly but the benefits are significant
  - better quality data
  - reduced reporting burden
  - increased confidence in data reported through ongoing dialogue with respondents
  - rapidly reacting to data issues
  - creating a mutually beneficial relationship which increases satisfaction levels
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