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www.statcan.gc.ca

Access to Statistics Canada Business Data for Academic Research: Canadian Centre for Data Development and Economic Research

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Outline

- What is CDER?
- Purpose
- Background
- Application processes
- Procedures in place to ensure the confidentiality and privacy of the data
- Project costs
- Overview of some available data



What is CDER?

Key information

- CDER provides approved analysts with secure access to business micro data for *research-oriented projects* that serve the mandate of Statistics Canada
- Access is provided in a secure environment at Statistics Canada's Ottawa headquarters
- Researchers cover the full cost of their project
- For more information see: www.statcan.gc.ca/cder

Purpose

- Statcan is mandated to produce statistics that help Canadians better understand their country
- Under Section 5, Statcan can use deemed employees to carry out work under the *Act*
- In the area of social data, Statcan created RDCs to address need for professional assistance
- For the same reason, CDER was created to allow Statcan to make better use of its business data holdings without compromising security



Background

- Funding from PRDG to set up CDER at HQ for federal government researchers in June 2011
- Facilities and staff in place by December 2011
- Access to CDER extended to non-federal government researchers on October 31, 2012 on a cost-recovery basis
- Researchers from the federal government, BC Ministry of Finance, CD Howe Institute, University of Calgary, Ivey Business School, Kellogg School of Management, and University of Washington

Background

Some of the broads research themes thus far:

- exchange rate pass through
- effect of monetary shocks on consumer prices
- determinants of firm performance
- determinants of R&D spending and innovation
- effectiveness of government programs and initiatives
- development of data and models to study the importance and impact of oil and gas sector, energy sector and energy-intensive sectors

Many of the projects involved data development

- Unlike social data, the production of business data has not been organized with the expectation that they would be widely used outside of Statistics Canada
- Core data sets need to be developed, data documented and user guides written
- Until then researchers will need to work closely with Statistics Canada staff to make appropriate use of the data

Application processes

- There are two processes:
 - Researchers unaffiliated with a federal government department
 - Researchers affiliated with a federal government department
- Each process ensures that, if their project is accepted, the project falls under the mandate of Statistics Canada



Process for non-federal government researchers

Step 1: Draft a proposal and contact CDER

- a) The justification for the research:
 - context;
 - the research question;
 - contribution to the literature.
- b) The analytical framework and the data requirements:
 - detailed data requirements;
 - proposed methodology;
 - justification for using micro data;
 - expected outputs;
 - software requirements;
 - expected length of project.

Process for non-federal government researchers

Step 2: Submit project proposal

a) Application for accreditation:

- CV that demonstrates experience and technical competence;
- For graduate students, a letter of support from thesis supervisor;

b) A letter from lead researcher indicating:

- how project costs will be covered;
- how the peer review of the project will be handled;
- their ability to abide all the terms and conditions of becoming a deemed employee and the conditions in the research contract;
- that they have no conflicts of interest to declare;
- that they can commit to producing an output for Statistics Canada.



Process for non-federal government researchers

Step 3: Evaluation of proposal

a) Project is being funded by SSHRC:

- Statistics Canada will take this a recommendation that the project has been peer reviewed and that researchers are qualified
- an internal Statistics Canada committee will review to ensure projects falls under the mandate of Statistics Canada

b) Researchers require Statistics Canada to conduct a peer review:

- Statistics Canada will solicit two reviews from an external panel of experts at a cost of \$200 that will be paid by applicants
- an internal Statistics Canada committee will review to ensure projects falls under the mandate of Statistics Canada



Process for non-federal government researchers

Step 4: Complete the security screening process

Step 5: Sworn in as deemed employees of Statistics Canada and sign a micro data research contract



Protecting confidentiality and privacy

- Safe projects
- Safe people
- Safe workplace
- Safe data
- Safe outputs

Safe people

- Researchers need to become deemed employees of Statistics Canada
- Researchers must be accredited
- Application must include how project costs will be covered and researchers have no conflict of interest to declare
- Orientation session on confidentiality



Safe workplace

- CDER is located at HQ on the 18th floor of RH Coats building
- Access to data on a dedicated server is through computers with disabled external media devices and with no links outside of Statistics Canada
- No printer privileges
- Project-person specific logins

Safe data

- Researcher databases are stripped of identifying information and scrambled ids are used
- Only variables necessary for the completion of the project are given to the researcher
- Two-stage access system
 - First stage – researchers are given a shuffled database to learn the structure of the data and to develop programs
 - Second stage – researchers use the actual data non-interactively, submitting their programs to run in batch mode

Safe output

- An analyst is assigned to follow each project
- A generalized tool developed at Statistics Canada is used to review outputs for confidentiality
- Results are shared with subject matter divisions to guard against residual disclosure
- A record of outputs are kept to help protect against residual disclosure

Project costs

- The cost of a project is determined on a project-by-project basis
- A simple project will cost \$6,000
 - Project makes use of an existing database
 - 3 months (66 days) of access to CDER over a one-year period
 - It takes no more than 2 days for a Statistics Canada analyst to review the outputs of the project for confidentiality issues



Breakdown of Costs for a Simple Project

| Type | Cost | Percent of total |
|-------------------------------|----------------|------------------|
| Facilities | \$3,486 | 58% |
| Disclosure review | \$1,438 | 24% |
| Data preparation | \$178 | 3% |
| Administration and management | \$898 | 15% |
| Total | \$6,000 | 100% |



Development of databases for analysis

- Longitudinal Employment Analysis Program (LEAP)
- T2-LEAP
- T2-LEAP-Export/Import Registries
- Annual Survey of Manufacturers (ASM)
- ASM-Export/Import Registries
- ASM-Workplace and Employee Survey (WES)
- National Accounts Longitudinal File
- Capital and Investment Program
- Longitudinal Worker File (LWF)
- Occasional special surveys (Survey of Innovation and Business Strategy, Survey on Financing and Growth of Small and Medium Enterprises)
- National Accounts (Productivity statistics, Input-Output Tables at a detailed industry and commodity level, Matched Canada-U.S. price data)
- Trucking Commodity Origin and Destination Survey
- Canadian Employer-Employee Database



Available documentation of CDER databases

- A brief (two-page) summary of the databases, including a description of the target population and the data acquisition methods.
- Record layout
- Data dictionary
- Control cards and control totals (in progress)
- User's guide (in progress)



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