Data Confidentiality in ICBS Research Rooms

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Presentation Topics

- What is the ICBS?
- Relevant legislation
- Research Service Unit
- Work guidelines in the research rooms
- Confidentiality Committee
- Checking of output
- Plans for the future
What is the ICBS?

- Israel Central Bureau of Statistics
- Unit affiliated with the Prime Minister’s office
- An independent entity
- Headed by the National Statistician
- Source of authority: The Statistics Ordinance [New Version], 1972
Main functions of ICBS
- Publish results of statistical activity
- Publication of aggregates/microdata

Access to data
- Surveys and administrative data
Relevant Legislation

Statistics Ordinance

- Confidentiality of data-
  - ICBS is obligated to keep the information confidential
  - Prohibition to publish in a manner that enables identification
  - Prohibition on access to identifiable data to anyone other than “employee” (employee: any person employed in carrying out any function under the Ordinance)

- Sanction for breach of confidentiality
  - Up to three years in prison
  - Fine of up to ~ $20,000
Relevant Legislation

Protection of Privacy Law 1981

▪ Regulates operation of databases
▪ Public entities can share data subject to limitations:
  ▪ Specific purposes
  ▪ Specific users
  ▪ Computer security
▪ Sanction for breach of confidentiality in database: Up to 5 years in prison, Fine

High commitment:
▪ To respondents
▪ To administrative data suppliers
Research Service unit

An organizational unit that is responsible in all aspects:

- From the initial stage of request to access data.
- Keeping contact with the researcher throughout the duration of the research.
- Dealing with the administrative processes.
- Data processing and file preparation.
- Monitoring outputs, publication and dissemination of research results.
Work in research rooms is done according to defined rules that regulate legally and administratively the possibilities of using de-identified microdata files for research and how to access these files.
Who’s allowed in?

Only researchers from academic and research institutions who have been authorized by the National Statistician.

Research?

Research that is linked to the ICBS role or is of a benefit to the society and the economy in Israel.

Access to microdata files

ICBS research rooms that provide a secure and protected environment.
Data Access for Research

Researchers get access to data files that contain de-identified microdata. The files are defined and designated for specific researchers according to the unique needs of their research and in accordance with the authorization provided by the ICBS's confidentiality committee.
ICBS Confidentiality Committee

✓ Classifies datasets according to disclosure risk (PUF, MUC, RRF)

By measuring the probability of identifying individual

✓ Vets Research Room datasets according to relevance to the research.

The principles are:

✓ The “need to know”
  • Only de-identified data
  • Only records that are necessary
  • Only necessary categories of required variables

✓ Proportionality
Levels of confidentiality

**PUF - Public Use Files**

- Microdata files that are disseminated for general public use.
- The files are anonymized and the identification of individuals is highly unlikely.
- They are sent by mail after signing a usage agreement.
- Current policy states that every survey must have a standard file with a specified confidentiality level of PUF.
Levels of Confidentiality

✓ MUC - Microdata Under Contract
  ▪ Individual record file that has more data than a PUF file and that has a small chance of identifying a unit.
  ▪ Current policy states that every survey must have a standard file with a confidentiality level of MUC.

✓ RRF - Research Room Files
  ▪ Individual record file that is almost unidentifiable. Anonymized but with a possibility of identifying a unit.
Research Rooms

- Today, access to MUC files and RRF is through the ICBS research rooms.
- Research rooms are considered a safe environment - stand alone computers disconnected from any network, printers etc. (Physical Security)
- Files in research rooms are available to authorized researchers only after signing a usage agreement.
- The researchers are defined as volunteer employees of ICBS.
- They are subject to confidentiality requirements under contract and under the Ordinance. (Commitment/Obligation to Confidentiality)
Subject to criminal sanctions

Sanctions against researcher and institution for breach.

Data sets for research are custom made for a fee.

Data sets for research often integrate survey and administrative data.

Use of administrative data is subject to approval by the data supplier.
  • Since there is no legislation to provide data from administrative sources to researchers, the use of this data for the researcher is approved only after the consent of the administering authority.

All data output is vetted for confidentiality.
Researchers may take out aggregated outputs after they are being checked by ICBS.

Guidelines:

- No attempt will be made to identify persons or organizations or any other entity.
- No microdata in any form may be released.
- All tabular and similar output should have at least 5 units (unweighted) underlying any cell or data point presented.
- In all tabular frequency tables and similar output no cell can contain more than 90% (households, persons) or 50% (business data) of the total number of units in its row or column to prevent group disclosure.
Plans for the Future

✓ Changing the legal framework for research
  ▪ Changing the statistics ordinance
  ▪ Government decision- information transfer between public bodies
  ▪ Extraterritorial jurisdiction of Israeli law for breaches of confidentiality outside of Israel’s borders
✓ Remote Access System
  ▪ For MUC datasets
  ▪ Synthetic data for RRF
Equilibrium

Need to know

Need to Protect