Existing data infrastructure and new information technologies to build sustainable data for sustainable development

The case in Israel

International Seminar on **World Statistics:**

"Sustainable Data for Sustainable Development"

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Existing data infrastructure- administrative data

Israel has **rich administrative records:**

Population register, income register, education register,

Transportation register, Housing register, Business register,

All registers with identifiers which facilitates linkage,

Geographical mapping at fine (very detailed) resolution.

Next population census planned for **2020 (last in 2008),** based on the **population register** with supplementary samples at small statistical regions to estimate over and under counts.

Next Census of Agriculture planned for **2017** (last in **1981!!**). Currently building a framework of all farmers in the country.

Existing data infrastructure- surveys

We run more than **50** surveys:

Household and Person surveys: Labor Force, Family Expenditure, Victimization, Social (with added changing topics), Consumer confidence, Longitudinal, PIAAC,…

Business surveys: CPI, Business tendency and consumer prices, Industrial production, Job vacancies, Construction, Transportation, Tourism, Commerce, Bio-technology, R&D, Innovation in the business sector, Environmental surveys (waste and emission,…), Direct investment,…

Surveys in education, Health Surveys,…

New production: Indices of Quality of Life

Government decisions: 2012, 2015

Creating Wellbeing Indicators for Israel

Goals

To present the **public** with a broad picture for examining and understanding wellbeing and policy outcomes

To present the **government** with a broad picture for retrospection and evidence-based policy planning

Main uses on a national level

Encourage inter-sectorial partnerships

- Joint goals for government, the private sector and the general public

Inspection tool

- Assess progress relative to targets
- Feedback for examining effectiveness of various processes

Central component in policy planning

- Serve as framework for gov't and other sectors
- Basis for setting measurable targets

Wellbeing Indicator Set

9 Domains

8 indicators per domain

Headline indicator per domain

Domains & team leaders

Domain	Leading Ministry	
Material Standard of Living	Finance Ministry	
Civic Engagement and Government	Prime Minister's Office	
Employment and Work-Life Balance	Ministry of Economy	
Personal and Social Well-Being	Ministry of Welfare	
Personal Safety	Ministry of Public Security	
Infrastructure and Housing	Ministry of the Interior	
Health	Ministry of Health	
Environment	Ministry of Environmental Protection	
Education	Ministry of Education	

Small Area Estimation (SAE)

➢ Information required not only at the global (national) level but for small statistical regions.

➢ Israel is divided into ≈3,000 statistical region of approximately equal size (≈ 3,000 persons).

➢ Sample sizes in statistical regions **too small** to allow direct accurate estimates based on data collected for the region. Many regions have **no samples**.

➢ Requires the use of SAE **models** that use **administrative data** and borrow information from **neighbouring regions** and **past surveys**.

Examples: **poverty mapping, disease incidence, education achievements, employment rates, environment quality and protection,…**

New information technologies- Big data

We are in the process of obtaining sale prices from all big supermarket chains in Israel (will be used for **CPI**).

We are looking into ways of obtaining data from cellular phone companies. (Potentially used to replace **survey of traveling custom**.)

Caution: Big Data $\rightarrow$ Big Problems (Pfeffermann, *JSSAM*, 2015)

- Coverage/selection bias (we are talking of **official statistics**)

- Data accessibility, new legislation**?**

- Privacy (data protection), disclosure control

- Data storage, new sampling algorithms

- Computation and Analysis, new measures of error

- Linkage (integration) of different files.

Big data for official statistics- summary remarks

New expensive computing facilities, **new** data processing techniques, **new** linkage methods, **new** visualization methods, **new** sampling methods, **new** analytic methods, **new** measures of error, **new** disclosure control procedures, **new** legislation,**…**

Big **potential advantages**: timeliness, much broader coverage (possible **coverage bias**), no sampling frames, no questionnaire, no interviewers,**…**

- Constant decline in response rates in traditional surveys,

    ⟹**use of big data inevitable**.

 Good news: Big data will just grow bigger and bigger.

National Statistical System (NSS)

➢ The last slide is an example of **cooperation** between the Israel Central Bureau of Statistics (**ICBS**) and other Government offices.

➢ We are working hard in setting up more **general cooperation** in the production of official statistics by all members of the NSS.

GOALS:

● Set up a long term cooperation between the **ICBS** and other offices producing official statistics,

● Establish **Statistical code of practice** for the production of official statistics following **international standards**, including **training**,

● Develop methods for **quality control** at the **ICBS** and **NSS**

● Establish assistance and consultation of the ICBS to other offices.

➢ **By law**, the **ICBS** supervises **all** offices producing official statistics.