

Global Preparatory Seminar for the UN World Data Forum



Partnerships with the private sector: is it possible? Istat experiences

Giorgio Alleva

7 September 2016, Guilin, China

Introduction

- **New sources of non-official data**, like Big Data, might be useful to integrate the information obtained by traditional source like surveys and administrative data.
 - To access these kind of sources NSIs need to establish **partnership with the private sector**.
 - I will present and comment briefly **three initiatives** aimed at exploring the potential of non-official data sources, that Istat carried out in partnerships with:
 - ✓ • the Association of **High Volume Retailers** (HVR) for the Scanner data project finalized to improve the quality of CPI/HICP;
 - ✓ • **Mobile Network Operators** to obtain Call Data Records (CDRs) to produce new indicators on several topics like mobility, commuting, tourism;
 - ✓ • the **National Independent Roads Corporation** and other public and private operators for the use of webcam images to obtain measures and estimates of road traffic flows .
-

Partnership on Scanner data project

Scanner data are strategic to improve the quality of CPI/HICP. This topic is at the center of the debate on consumer price statistics.

- In Italy, the structure of the operators of the High Volume Retailers (HVR) sector is on average quite complex with a wide variety of business formulas (economic groups, cooperatives of consumers or retailers, with relatively autonomous territorial divisions).
 - Greater fragmentation as compared to other European countries: whereas in 2012 the first three groups concentrated more than 50% of the turnover in the UK (61%), Germany (61%), France (54%) and Spain (53%), the figure for Italy is less than 35%.
-

Partnership on Scanner data project

Opening and establishing a relationship with the large scale retail traders

- In view of this fragmentation, Istat needed a **single entrance point** to reach the Italian High Volume Retailer sector.
 - Subscription of **agreements** with:
 - ✓ GS1 Italy (Indicod-ECR) as the “gateway”;
 - ✓ Nielsen, which delivers to Istat the data.
 - The main companies of the modern distribution operating in Italy are represented in GS1 Italy (Indicod-ECR) by **ADM Association** – Association of Modern Distribution (900 Associates, over 32,000 outlets with a turnover of nearly 160 billion euros).
 - **Mutual advantages for the parties.** Istat highlighted the potential benefits for the partners, i.e. accurate information on inflation and the possibility for the HVR to identify its own contribution to the price dynamics of the general index.
-

Partnership on Scanner data project

Scanner data received: main characteristics

- Istat receives regularly the data from Nielsen of six chains (Coop Italia, Conad, Selex, Esselunga, Auchan, Carrefour) covering almost **57% of the turnover** of modern distribution).
 - Data
 - ✓ weekly (turnover and quantity);
 - ✓ referred to food products;
 - ✓ referred to individual outlet;
 - ✓ 37 provinces out of 107, in time series of the last 24 month.
 - In the near future the entire Italian territory will be covered by the provision of scanner data.
-

Partnership on Scanner data project

Key aspects of the partnership

Commitment

- Mutual commitments: ADM will guarantee data provision, Istat will further detail the information about inflation, compiling and disseminating indices by distribution typology.

Risks and possible solutions

- The agreement is informal.
 - ✓ Through the definition of formal agreements, which, above all, guarantee the continuity of data flow to Istat and the define mutual obligations.
- The passage through Nielsen as intermediary.
 - ✓ Direct access to data from the chains.

Timing to deal with risks

- Before scanner data become part of the production process of consumer price indices.

Partnerships with Mobile Network Operators (MNOs)

Use of mobile phone data for official statistics

The purpose

- The aim is **to integrate** the existing population and flow statistics on individual mobility (principally based on administrative sources) with the continuously up-to-date estimates obtained from **mobile phone data provided by Mobile Network Operators (MNOs)**.
- **New information in a variety of areas**, which might be of interest also for developing countries.

The project “Persons and Places” (2013-2015)

- The aim was to produce reliable estimates comparable with those obtained by survey (census) and administrative data.

Partnership

- Public actors :
 - ✓ The National Research Council (CNR)
 - ✓ The University of Pisa
 - MNOs:
 - ✓ **WIND (Telecom provider)**
-

Partnerships with Mobile Network Operators (MNOs)

Key issues

How to obtain access to data on an ongoing basis

- For the time being, Istat has experimented the access by a **trusted third-party partner**: in the pilot project CNR and University of Pisa acted as third-party in processing WIND data;
- Istat is going to experiment for the first time **direct furniture** of the Call Detail Record (CDR) by MNO-WIND for processing and analysis.

A consideration on costs

- Mobile phone data should be considered as a public good, and as such there should be no cost related to their transmission from MNOs to the NSI.
→ This has been the case in the pilot for the project «Persons and places».
-

Legal framework , privacy and security

The need to promote the setting-up of a clear **legal framework** and to address **privacy and security issues**:

- access to and restrictions for the use of mobile phone data are regulated by the Italian Data Protection Authority;
 - nowadays only anonymised CDRs can be transmitted from a MNO to the NSI;
 - the absence of personal identifiers strongly limits the range of feasible analysis, especially because it hinders the integration with other sources;
 - the Data Protection Authority needs to become a partner for the definition of a framework that allows both the overcoming of these limitations and the full protection of privacy.
-

Use of webcams images for traffic flow estimates

Key issues

Aim → Capture data from webcams and images placed in strategic locations to obtain minute level data of traffic flows and produce **new indicators** for the evaluation of the road safety, inter-city mobility, the monitoring of public and private transport, the management of public security

Partnership → With **public and private operators** - ANAS (Italy's state owned national roads and highways construction company), Concessionaires of motorways, AISCAT (Association of Concessionaires of Highways and Tunnels) and the private company Autostrade per l'Italia

Tools → Istat developed a generalized software for the extrapolation of information and a storage system, able to perform real-time analysis of traffic conditions by capturing video and images. Need to test and fine-tune it to integrate it in the production of official statistics

Statistical issues → Accuracy of **metadata**, in order to clearly define requirements to produce new indicators, and definition of appropriate **procedures** (selection of webcam locations, a model to produce data at more aggregate levels, the treatment of missing values, data validation, the delivery of proper quality indicators)

Overall assessment: for a successful partnership

To ensure feasibility:

- Sharing data should be presented as an opportunity for private companies
→ **Creating value for all the partners.**
- Definition of a solid **privacy and security framework** for the use of private sources of data → Cooperation of the Data Protection Authority.
- **Cooperation** with the academia, research centers, and other public institutions is crucial to make best use of new techniques and provide reliable results.

Crucial intangible assets:

• Trust

- ✓ **Of partners toward each other** (also to ensure long term commitments, stability of source and quality of data).
 - ✓ **Of citizens toward data produced by NSIs using non official sources like big data.** Strengthening of **public awareness** on the use of Big Data and to describe the effective improvements for **well-being** of citizens stemming from the use of new sources.
-



Thank you for your attention!
