ECONOMIC STATISTICS

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Economic Statistics

Where does the information come from to compile these statistics?

Data collection is one of the main activities of the Italian National Institute of Statistics (ISTAT).

Here we outline how the ISTAT collects this information and discuss some related issues.

A comprehensive **list of ISTAT surveys** is available on the ISTAT website (link).

ISTAT operates completely independently, while maintaining close links with the academic and scientific community.

What are “Official statistics”?

- They are a **public good**.
- They are **free of charge** to users.
- They are organized within the framework of the **National Statistical Programme**(**PSN**)

What are “Official statistics”?

- They are characterized by a high degree of **impartiality and reliability**
- They are an instrument of **democracy**
- They support public administrations, economic operators, social partners, and citizens.

Bank of Italy

- Produces statistics on banking and finance, the balance of payments, and government debt.
- Publishes a wide set of data (its own and that of other institutions) on which it bases its analyses.
- conducts sample surveys on the economic conditions of households and firms.

It operates consistently as an active member of the **European System of Central Banks (**ESCB).

European coordination

Through the **European Statistical System (ESS)**and the **ESCB,** official statistics are coordinate to ensure the completeness, integration, and comparability of EU statistics.

Data collection

Official statisticians mainly use two ways to collect information:

Surveys. Questionnaires sent to relevant economic agents (e.g., companies or households) to collect information about their activities.

Non-survey sources.

Increasingly used sources include:

- **administrative data** collected by government or other bodies during regular operations.
- **Big data** such as internet data, satellite observations, or traffic sensors.

Evolving user needs

Statistics are only useful if they meet users’needs.

In economic statistics, many key decision-makers are within the public sector.

Resource constraints (SISTAN)

- Not every information need can be met within available resources.

- User needs evolve due to policy changes or external events

- the next step is to consider which data sources might be available to compile the statistics to fulfil those needs.

We need to consider:

- **the concept** to be measured
- **the timeliness** of the indicator: does it have to be available quickly to be useful, or would publications months or even a year after the event do?
- **how frequent** does the published measure need to be: monthly, quarterly or annually, for example?

Trading off the costs and benefits of data collection

1- Surveys are often expensive to run and maintain (including "compliance costs")

2- Non-survey sources are often cheaper than traditional surveys, since the information may already exist, but they often require adjustments.

We must make a judgement, balancing costs and benefits.

Survey

Surveys come in different forms:

- *Non-probability sampling.* Relatively quick and cheap to conduct; These suffer from not being guaranteed to represent the wider population.
- *Probability (random) sampling.* More challenging and time-consuming to carry out, but it offers outputs that are theoretically more representative of the population. This is currently the backbone of official statistics.

Random Sampling

There are three main issues:

- survey and sample design
- Data collection and processing
- Using data to compile the statistics of interest (called “estimation”).

Administrative Data

Surveys have been used as the main sources of economic data for many decades, but they are labour-intensive and time-consuming

Administrative sources are characterised as being those collected for some administrative purpose, not for the primary purpose of statistical production

Uses of administrative data

Can be used directly (e.g., public finance, public spending, taxes and borrowing).

Cause data already exist, there is no need to collect them.

However, they must be acquired, transmitted, stored and processed – often in much larger volumes than survey data.

Big Data

Big Data are large and often unstructured data sets that cannot usually be handled by traditional statistical processing and techniques

The techniques of using big data to measure economic statistics are also new.

Examples include mobile phone tracking data, scanner data from supermarkets, social media posts, and information scraped from websites.

The ability to handle, make sense of
and extract useful information from big data
has only recently become possible thanks to:

-Advances in **data storage and access**
-computing **processing power**
-new data science analysis techniques, such as **machine learning**