

Research and Development

R&D surveys in enterprises

In the period between 1963-1967 the biannual survey on spending for scientific research in Italy included a survey on R&D in enterprises along with public institutions. This aspect of the survey was progressively extended and modified until 1990.

In the first phase, some economic subjects - among which some ex-independent companies: *Ferrovie dello Stato* (Italian State Railways), *Poste* (Post Office), State Monopolies and the *Ente Nazionale Energia Elettrica – Enel* (National Electric Energy Institution) - which were later classified as enterprises, were included under public institutions. Partially State-owned companies and those belonging to *Istituto per la ricostruzione industriale - Iri* (Institution for Industrial Reconstruction), *Ente Nazionale Idrocarburi - Eni* (National Hydrocarbon Institution) and *Ente partecipazioni e finanziamento industrie manifatturiere - Efim* (Manufacturing Industry Shareholdings and Financing Institution), in addition to some minor enterprises, were also included.

Since 1968, public production enterprises were more fittingly classed as enterprises and assimilated with partially State-owned companies. The distinction between public and private enterprises continued to be applied by Istat in R&D statistics until 1994.

An important role was played in the development of the survey by the evolution of methods for correctly identifying the reference population, i.e. the range of enterprises capable of performing R&D activities.

From 1979 onwards OECD and Unesco strongly recommended dividing the R&D classifications by institutional sector. This led to the introduction of specific classifications which, although they had a limited impact on R&S statistics for public institutions, which continued to be collected and disseminated in terms of scientific subject and socio-economic purpose, did have a considerable influence on R&D statistics for enterprises, which began to be recorded on the basis of the progresses made in the classification of Ateco (Italian version of NACE) economic activities, both regarding the products and services which were the object of the R&D activities.

The data were therefore made available in terms of:

- economic activity (according to the Ateco classification in force in the reference year);
- the end product of R&D activities in the respondent enterprises;
- scientific subject (only in the case of basic research laboratories).

In 1991, a specific survey on enterprises was conducted for the first time: *Indagine statistica sulla ricerca scientifica e lo sviluppo sperimentale nelle imprese* (Statistical survey on scientific research and experimental development in enterprises).¹ A specific questionnaire was drawn up, further highlighting the division with public institutions and showing a strong break with the past, especially regarding enterprises, in its focus on information regarding the whole range of R&D activities rather than just quantitative data.

At the same time, enterprises and public institutions both saw the introduction of a division between *intra-muros* and *extra-muros* R&D spending; since 1992, only the former was used as reference in order to ensure harmonised results at European and international level.

In order to further improve the definition of the reference population, the survey was linked to the information in the *Archivio Statistico delle imprese Attive - ASIA* (Statistical Register of Active Enterprises) database and other Istat surveys on enterprises² through a systematic *matching*

¹ The survey was renamed *Indagine statistica sulla ricerca e sviluppo nelle imprese* (Statistical survey on research and development in enterprises) in 1998 and *Rilevazione statistica sulla R&S nelle imprese* (Statistical survey on R&D in enterprises) in 2001.

² In particular the Survey on Business Innovation, first launched in 1985, which later became the Community Innovation Survey in 1992.

approach between statistical and administrative sources.to.

The administrative sources used by Istat to identify enterprises with R&D potential include: the *Anagrafe Nazionale delle Ricerche* (National Research Registry), managed by the *Ministero dell'Istruzione, dell'Università e della Ricerca* (Ministry of Education, University and Research); the European Patent Office, which lists Italian enterprises applying for patents; the list of Italian enterprises participating in research projects funded by the European Commission framework programs and, since 2007, the list of enterprises presenting the Italian Tax Authority with applications to use tax credits for R&D expenses.

It should be finally highlighted that since 2006 the Survey on R&D in enterprises has been conducted in collaboration with some Regional Statistics Offices acting as intermediaries, including Valle d'Aosta/Vallée d'Aoste, Veneto, Friuli-Venezia Giulia, Umbria and Sicilia, in addition to the independent provinces of Trento and Bolzano/Bozen.

Warnings for time series comparisons

- Until 1991, figures on R&D spending include both intra-muros and extra-muros expenses. Since 1992, the total only includes intra-muros spending; this results in a clear decrease of spending, especially until 1994.
- Since 1995 the distinction between private and partly State-owned enterprises became obsolete.
- The growing trend in R&D spending is due to the gradual rise in the scope of statistics in this field, with a clear acceleration in the years 2000 and 2007.