Science, Technology and Patents Statistics

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Analytical Business Enterprise Research and Development

Purpose

To provide a consistent and comparable data set across countries and over time on industrial R&D expenditures broken down by industry.

Objectives and outputs

The ANBERD (Analytical Business Enterprise Research and Development) database is continually revised to enhance the international comparability of time series on business enterprise R&D expenditure (BERD) by industry.

Non-member countries involved in the activity:

China, Chinese Taipei, Romania, Russian Federation, Singapore, South Africa

Databases

Analytical Business Enterprise Research and Development (ANBERD)/ Analytical Researchers, Scientists and Engineers (ANRSE)

Main Developments for 2011

General aspects:

Country coverage was expanded in 2010, along with improved data processing and checking routines. In 2011, the estimation techniques for missing data in each country will be further reviewed.

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Biotechnology

Purpose

To establish international standards for the collection of biotechnology data across OECD member countries.

Objectives and outputs

Under the auspices of the National Experts of Science and Technology Indicators (NESTI) group, six Ad hoc Biotechnology Statistics meetings have been held to date. These meetings have achieved: an internationally agreed upon definition of biotechnology, a model survey for the collection of biotechnology data in member countries, and an inventory of biotechnology data collected in member and selected non-member countries.

OECD Biotechnology Statistics was released in 2009.

Non-member countries involved in the activity:

Brazil, China, India, Indonesia, Russian Federation, South Africa, Thailand

Main Developments for 2011

General aspects:

Additional countries to be added.

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Careers of Doctorate Holders

Purpose

Collect data on the labour market outcome and mobility of doctorate holders

Objectives and outputs

Collect data and update internal database, use data for analysis at the macro level, launch work using micro-data with interested countries, evaluate data collection and revise methodology accordingly

Non-member countries involved in the activity:

Brazil, Bulgaria, Chinese Taipei, Croatia, Cyprus, Latvia, Lithuania, Romania, Russian Federation

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Main Science and Technology Indicators

Purpose

To publish biannually the most commonly used indicators on science and technology on an internationally comparable basis. The database and publication are regularly updated with 76 (paper publication) to 140 (electronic publication) data series presenting resources devoted to R&D and measures of output and the impact of S&T activities.

Objectives and outputs

This biannual publication provides a set of indicators that reflect the level and structure of the efforts undertaken by OECD member countries and 7 non-member economies in the field of science and technology. These data include final and provisional results as well as forecasts established by government authorities. The indicators cover the resources devoted to research and development, patent families, technology balance of payments and international trade in highly R&D intensive industries. Also presented are the underlying economic series used to calculate these indicators. Series are presented for a reference year and the last six years for which data are available (paper publication) and beginning 1981 (electronic editions).

Non-member countries involved in the activity:

Argentina, China, Chinese Taipei, Romania, Russian Federation, Singapore, South Africa

Databases

Main Science and Technology Indicators

Main Developments for 2011

Data management:

MSTI database production system: migration from StatWorks to SAS software (2010-Q4)

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Patent Statistics

Purpose

To develop an international statistical infrastructure for patents (including databases and methodologies), which will provide the conditions for improving the quality and international comparability of patent indicators. Development of policy-relevant indicators from this work. Serves as a basis for policy relevant studies carried out within and outside OECD.

Objectives and outputs

The main objective is to develop patent databases suitable for calculating indicators for statistical and S&T policy purposes, covering patent filings to national and regional patent offices across the world.

Currently, the following patent statistics are collected and processed on a regular basis: indicators based on EPO (European Patent Office) patent; indicators based on USPTO (US Patent and Trademark Office) patents; indicators based on patent applications filed under the PCT (Patent Co-operation Treaty) and "triadic" patent families indicators. EPO and PCT data are also broken at the lowest regional level (NUTS3/TL3) for all OECD countries and selected economies.

Patent statistics are published in various publications: Main Science and Technology Indicators; OECD Science, Technology and Industry Scoreboard; OECD Science, Technology and Industry Outlook and in the Statistical compendium of the Innovation Strategy

"Measuring innovation: a new perspective".

The focus of the methodological work is to provide guidelines for compiling patent statistics and indicators, and to provide users with methodological information in a transparent manner. The following issues have been investigated: criteria for counting patent data; triadic patent families' definition; patent data for specific technology area; patent data by industry, patents by region and patent citations. The OECD Patent Statistics Manual 2009 provides further guidelines for analysing and building patent statistics in the framework of S&T indicators.

A matching exercise is currently being performed at the micro-data level, linking the patent data to the firm level databases (e.g. ORBIS database of Bureau van Dijk) using the patent applicant name. A database on harmonised patent applicant's names (HAN) was first made available to researchers in October 2009. It is currently being improved and expanded. Preliminary indicators at the firm level were presented and discussed at several meetings.

Similar work is also conducted for other intellectual property assets such as Trademarks.

Regular workshops on patent statistics are jointly organised by OECD, EPO, USPTO, JPO, WIPO and Eurostat.

Non-member countries involved in the activity:

World

Main Developments for 2011

General aspects:

Updating the existing patent database; extending the data coverage (i.e. to include information from more national patent offices); expand the exercise of harmonising patent applicant's names and matching with firm-level databases, development of further patent indicators (reflecting globalisation, specific technologies); development of citations indicators, development of further analytical applications of patent data, patents by industry.

Increased use by other directorates (e.g. ENV, GOV) expected in 2011.

Further work to develop Trademark data are also expected.

Another matching exercise will be conducted in order to link patent data (with the citations of non-patent literature) to scientific publication data (using Elsevier's SCOPUS database).

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Research and Development (R&D) Statistics

Purpose

To provide internal and external users with statistics on R&D expenditures and personnel and to ensure, through appropriate methodological work, the international comparability of corresponding national statistics.

Objectives and outputs

Management and/or development of internationally comparable statistics on resources devoted to R&D in member countries and in seven non-member economies based on the OECD international methodology for R&D survey, the "Frascati Manual". Diffusion of S&T statistics and corresponding metadata via the annual “R&D Statistics” and the biannual “Main S&T Indicators” publications and the on-line "R&D Sources and Methods database". The country coverage of OECD S&T databases and publications is being expanded to include comparable S&T indicators and statistics for non-member economies such as Argentina, China, Romania, Russia, Singapore, South Africa and Chinese Taipei.

Non-member countries involved in the activity:

Argentina, China, Chinese Taipei, Romania, Russian Federation, Singapore, South Africa

Databases

Research and Development Statistics (RDS)

Main Developments for 2011

General aspects:

Plan to publish ISIC Rev. 4

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Sources and Methods for Research and Development (R&D) Statistics

Purpose

To meet demand for country-specific and item-specific methodology, this database relates principally to R&D as reported by the units performing the R&D in line with the standard methodology for R&D statistics recommended by OECD in the Proposed Standard Practice for Surveys of Research and Experimental Development - Frascati Manual (OECD).

Objectives and outputs

The database provides detail on methods used in the member countries and seven non-member economies when compiling the R&D data reported to OECD in the framework of the International Survey of the Resources devoted to R&D by OECD countries, underlining both current and historical national specificities of the data stored in the OECD STI/EAS R&D database. The sources and methods are regularly updated as part of the International Survey of the Resources devoted to R&D by OECD countries. The Secretariat has made this database available on line either through the NESTI-NET: http://webdomino1.oecd.org/COMNET/STI/NESTI-NET.nsf/Welcome?openframeset, or via http://webnet.oecd.org/rd_gbaord_metadata/default.aspx where delegates and the public are able to consult.

Selected metadata are regularly published in "Research and Development Statistics" (annual electronic publication) as well as in "Main Science and Technology Indicators" (paper and electronic publication appearing twice yearly). This information was also used as input to the revision of the "Frascati Manual", the international standard methodology for the measurement of resources devoted to R&D.

Non-member countries involved in the activity:

Argentina, China, Chinese Taipei, Romania, Russian Federation, Singapore, South Africa

Databases

R&D_SM database