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.

Objectives and outputs

Through the use of established estimation techniques, the OECD has created a database for 19 of the largest R&D performing countries. The ANBERD (Analytical Business Enterprise Research and Development) database was developed to provide a consistent data set that overcomes the problems of international comparability and breaks in the time series of the official business enterprise R&D provided to the OECD by its member countries through the OECD's R&D survey.

Databases

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

Main Developments for 2005

General aspects:

Further effort will be directed towards improving the quality of the data, in particular addressing comparability issues relating to the classification of firms by industry.

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Biotechnology statistics

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, five 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.

Non-member countries involved in the activity:

China, India, Israel, South Africa

Main Developments for 2005

General aspects:

Finalising the statistical framework for biotechnology statistics and establishing a list of patent codes in order to capture biotechnology patents.

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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 70 (paper publication) to 110 (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 8 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 the last seven years for which data are available.

Non-member countries involved in the activity:

Argentina, China, Israel, Romania, Russian Federation, Singapore, Slovenia

Databases

Main Science and Technology Indicators (MSTI)

Main Developments for 2005

General aspects:

No major changes.

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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.

Objectives and outputs

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; and "triadic" patent families indicators.

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 a freely available Compendium of Patent Statistics.

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 and patent citations.

Regular workshops on patent statistics are jointly organised by the WIPO and the OECD.

Main Developments for 2005

General aspects:

Updating the existing patent database; extending the data coverage (i.e. to include information from national patent offices); methodological work on now casting triadic patent family data; development of citations indicators, development of further analytical applications of patent data, development of further patent indicators.

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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 eight 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, Israel, Romania, Russia, Singapore, Slovenia and Chinese Taipei .

Non-member countries involved in the activity:

Argentina, China, Israel, Other, Romania, Russian Federation, Singapore, Slovenia

Databases

S&T Databases: GERD, DEFENSE-GERD, PERS, BERD, DIRDE, BEMP, PRDE, HERD, HEMP, OBJBUD, PE-INST-GE, HCPERS.

Main Developments for 2005

General aspects:

Improved coordination with Eurostat and development of a joint questionnaire to reduce duplication of data collection efforts.

Data collection:

The questionnaire form (not the content) is being revised and improved as part of the migration of the database from a PC Express environment to StatWorks and OECD.Stat.

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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 eight 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, where delegates are able to consult, or on the OECD intranet, under Author Directorates, STI-information resources.

Selected metadata are regularly published in "Research and Development Statistics" (annual electronic publication and paper edition every two years) 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, Israel, Romania, Russian Federation, Singapore, Slovenia

Databases

R&D_SM database

Main Developments for 2005

General aspects:

If an additional non-member economy is included in the "Main Science and Technology Indicators" publication, it will also be included in the R&D Sources and Methods database.