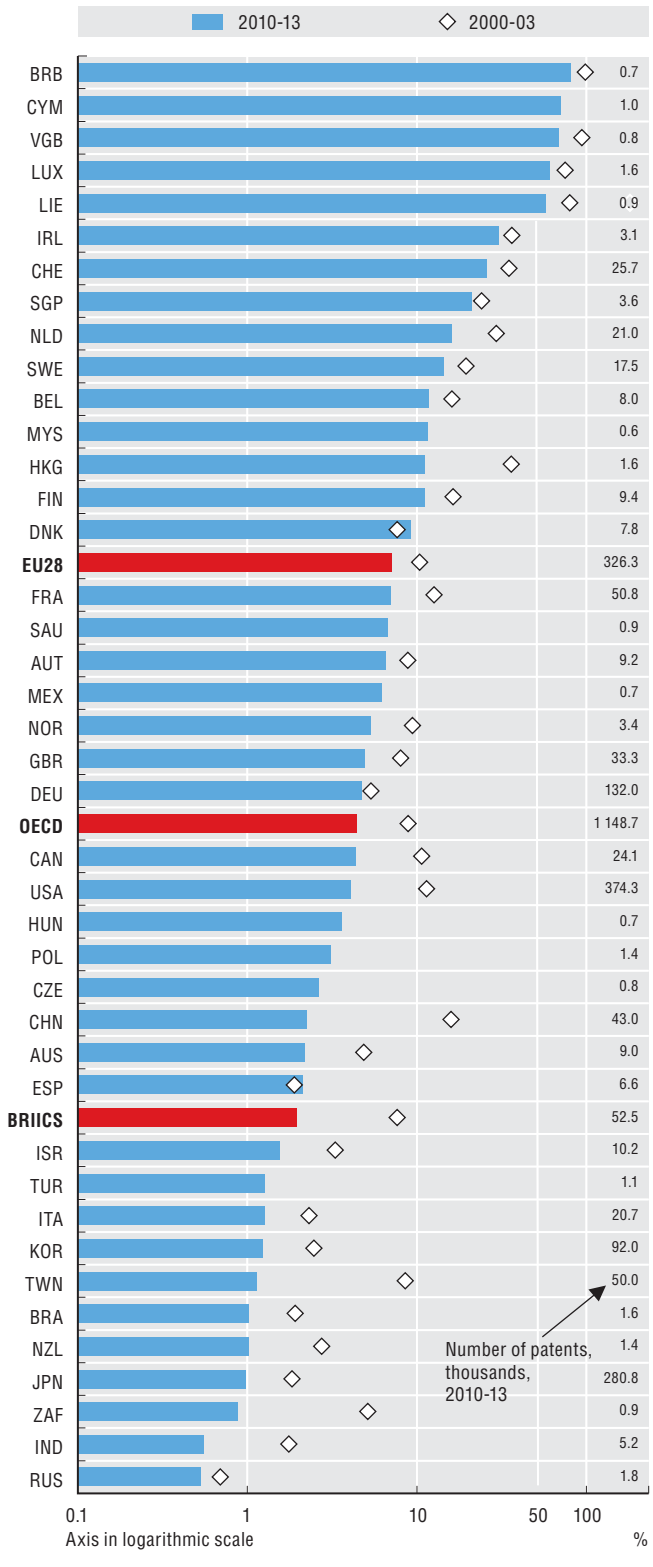
8. International markets for knowledge

Foreign inventions owned by economies, 2000-03 and 2010-13

As a percentage of the economy's total patents



Source: OECD, *STI Micro-data Lab: Intellectual Property Database*, *http://oe.cd/ipstats*, June 2015. See chapter notes.

StatLink http://dx.doi.org/10.1787/888933274012

Firms often tap into foreign repositories of knowledge and skills to acquire the R&D, patents and know-how they need to perform and compete, at home and abroad. The analysis of patent documents, comparing the country of residence of patent owners and the country of residence of inventors, sheds light on the international sourcing of knowledge. While less than 10% of patents owned by G7 economies have been invented abroad, this proportion rises to 30% in the case of small open economies (e.g. Ireland) and economies featuring a relatively high proportion of multinational enterprises (e.g. the Netherlands, Sweden) or a favourable tax regime (Barbados, Cayman Islands, British Virgin Islands).

Tax rules are thought to underpin some observed patterns of cross-country patent ownership and IPR-related trade. In September 2013, the OECD and the G20 countries adopted a 15-point Action Plan to address base erosion and profit shifting (BEPS). Transferring intellectual property to a lower-tax country is one channel facilitating BEPS, and occurs through cross-border royalty payments to low-tax jurisdictions (OECD, 2015b).

International trade in various forms of knowledge assets reflects differences in the location of inventive activity, ownership over its outcomes and final usage. This is particularly notable in the case of Ireland, Luxembourg and the Netherlands. In Ireland, for example, receipts amount to the equivalent of one quarter of GDP. Most OECD countries for which data are available are net exporters of this class of assets. Over the past decade, trade in knowledge assets grew faster than GDP in most countries for which data are available. In Luxembourg, Korea, Switzerland and Belgium, nominal receipts grew at an annualised rate of more than 10%.

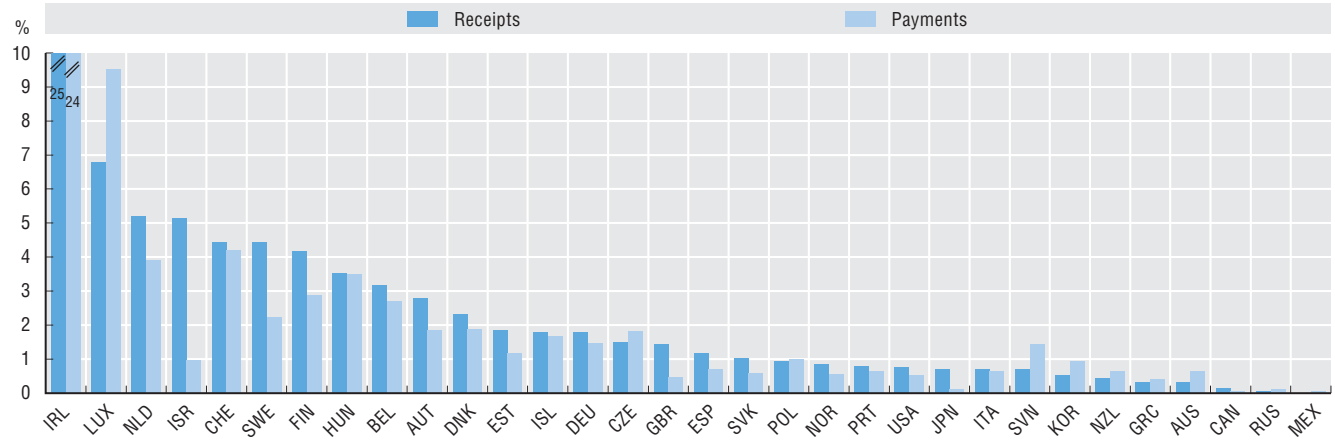
Definitions

Foreign inventions owned by economies relate to the share of patents owned by a resident of an economy for which no inventors reside in the given economy, as a share of total patents owned by that economy. Data refer to patents applications filed at the EPO or the USPTO that belong to IP5 families, by filing date and residence of applicants. Figures rely on fractional counts. Only economies with more than 500 patents in the periods considered are included.

Receipts and payments for knowledge-assets measure cross-border, disembodied trade in technology and related intellectual assets and include: transfer of techniques (through patents and licences, disclosure of know-how); transfer (sale, licensing, franchising) of designs, trademarks and patents; services with a technical content; industrial R&D. Licences to reproduce/distribute computer software and audio-visual products are excluded. This information is captured following the guidelines in the OECD manual on compiling Technology Balance of Payments data.

International trade in knowledge assets, 2013

Receipts and payments, as a percentage of GDP

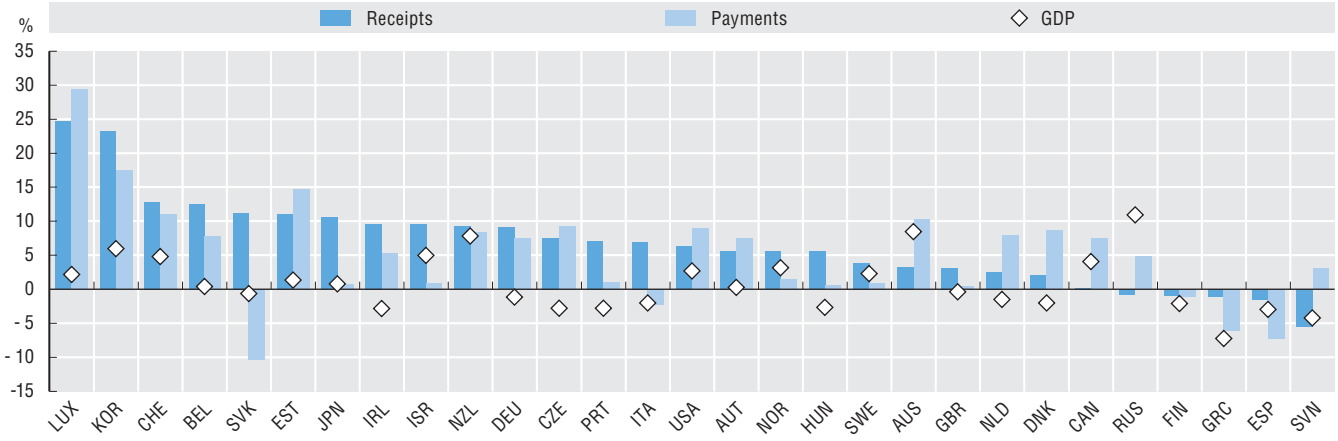


Source: OECD, *Main Science and Technology Indicators Database*, *www.oecd.org/sti/msti.htm*, June 2015. StatLink contains more data. See chapter notes.

StatLink http://dx.doi.org/10.1787/888933274020

Trends in international flows of knowledge assets, 2009-13

Average annual growth rate, based on current USD, percentages



Source: OECD, *Main Science and Technology Indicators Database*, *www.oecd.org/sti/msti.htm*, June 2015. StatLink contains more data. See chapter notes.

StatLink http://dx.doi.org/10.1787/888933274036

Measurability

In the case of patent ownership and inventorship comparisons, using data from different offices may lead to different results. Measuring licensing flows, domestically and internationally, is challenging both on a conceptual and practical basis. Estimates may understate actual flows in the case of cross-licensing agreements if only net payments are reported. Companies may report some flows as property income (e.g. repatriated profits), rather than as payments for the use of knowledge assets. Licensing transactions may not involve the transfer of knowledge and may purely reflect tax planning strategies. The OECD-G20 action plan on BEPS prioritises improving the availability and analysis of data on BEPS. A discussion draft published in 2015 puts forward an assessment of data sources relevant for the analysis of BEPS (OECD, 2015b).

A compilers' guide for the *Manual on Statistics of International Trade in Services 2010* (United Nations et al., 2011) has been recently developed under the guidance from the Inter-agency Task Force on Statistics of International Trade in Services. The guide serves to harmonise and improve the ways in which statisticians at the national level collect, compile and disseminate statistics on trade in services.

Notes and references

Cyprus

The following note is included at the request of Turkey:

"The information in this document with reference to 'Cyprus' relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the 'Cyprus issue'."

The following note is included at the request of all of the European Union Member States of the OECD and the European Union:

"The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus."

Israel

"The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities or third party. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law."

"It should be noted that statistical data on Israeli patents and trademarks are supplied by the patent and trademark offices of the relevant countries."

3.1. International mobility of highly skilled individuals

International and foreign students enrolled in tertiary education, 2012

Data refer to foreign students for the Czech Republic, France, Israel, Italy, Poland, the Slovak Republic and Turkey. Foreign students are defined on the basis of their country of citizenship; these data are not comparable with data on international students and are therefore presented separately in the table and figure.

Total enrolments include all international or foreign students. The distribution is based on the number of students with a known field of education.

For Austria, Finland, Germany and Switzerland, data exclude tertiary-type B programmes.

For Canada, data refer to 2011.

For the Netherlands, data exclude programmes in private education.

Highly educated individuals in immigrant and native-born populations, 2013

Estimates refer to working age individuals (16-65) not in education, with the exception of Canada and New Zealand, where data include people still in education.

For Australia, data refer to 2013.

For Chile and Israel, data refer to 2011.

For Japan, data refer to 2010 and the country is not included in the OECD average.

In Japan and Korea, immigrant status is defined on the basis of nationality, not on the basis of country of birth.

For Mexico, data refer to 2012.

For the United States, data refer to 2012 and include people over 55 who are still in education. The share of highly educated individuals is calculated for the 16-64 age group.

The indicator is computed based on the following data sources: European Labour Force Survey (EULFS) 2012-13; United States Current Population Survey (CPS) 2012; Australian Survey of Education and Work (ASEW) 2013; Labour Force Survey 2012-13 (Canada and New Zealand); Labour Force Survey 2011 (Israel); *Encuesta de Caracterización Socioeconómica Nacional* (CASEN) 2011 (Chile); *Encuesta Nacional de Ocupación y Empleo* (ENOE) 2012 (Mexico); Population Census 2010 (Japan) and Foreign Labour Force Survey 2012-13 (Korea).

3.2. Scientists on the move

International bilateral flows of scientific authors, 1996-2013

Data are based on the main country affiliation for authors captured in at least two documents published and indexed in the Scopus database over the 1986-2013 period. Counts are based on the number of differences in affiliation between first and last recorded publication per author. Flows to and from interim affiliations are not taken into account in this figure.

General notes:

International mobility of scientific authors, 2013 and;
Expected citation impact of scientific authors, by mobility profile in 2013

This is an experimental indicator.

Only authors with two or more publications are considered. A mobility episode is identified when an author affiliated to an institution in a given economy, according to his/her last publication in 2013, was previously affiliated to an institution in another economy. In the case of multiple publications per author in a given year, the last publication in any given year is used as a reference, while others are ignored. Authors are assigned a given status based on their last affiliation in 2013. When the main affiliation for both 2013 and pre-2013 corresponds to the reference economy, the authors are designated "stayers". When authors move affiliation into the reference economy, but were previously affiliated to it for their first recorded publication they are designated "returnees". From the perspective of the previous economy of author affiliation, individuals can be computed as outflows, and the count incorporated into the data presentation.

Additional notes:

International mobility of scientific authors, 2013

Estimates are based on a comparison between the main affiliation of a given author with a Scopus ID publishing in 2013 and the closest available publication in a previous year.

The indicator is represented as the ratio between the number of authors in the relevant category, divided by the (absolute) sum of authors in the reference economy in 2013, plus the outflows from that economy recorded in 2013. The indicator can be adjusted to focus on the profiles of authors from the perspective of the final country of affiliation, as shown in additional variables.

Expected citation impact of scientific authors, by mobility profile in 2013

Estimates are based on a comparison of 2013 *SCImago Journal Rank (SJR)* scores for articles published by scientific authors, based on the journal rank corresponding to an author publishing in 2013. The indicator is represented as the median SJR2013 among authors in the relevant category and economy.

3.3. Excellence in scientific collaboration

International scientific collaboration, 2003 and 2012

International collaboration is defined as the proportion of publications involving institutional affiliations with other countries or economies, as a proportion of publications attributed to authors with an affiliation in the reference economy.

The citation impact of scientific production and the extent of international collaboration, 2003-12

Scientific production/Output/Number of documents is the total number of documents published in scholarly journals indexed in Scopus (all document types are included).

The normalised impact is derived as the ratio between the average number of citations received by documents published by authors affiliated to an institution in a given economy and the world average of citations, over the same time period, by document type and subject area.

The normalisation of citation values is item oriented (i.e. carried out at the level of the individual article). If an article belongs to several subject areas, a mean value of the areas is calculated. The values show the relationship of the unit's average impact to the world average, which is 1 (i.e. a score of 0.8 means the unit cited is 20% below average and 1.3 means the unit cited is 30% above average).

The international institutional collaboration indicator is based on the proportion of documents involving institutional affiliations with other countries or economies, as a proportion of documents attributed to authors with an affiliation in the reference economy. Single-authored documents with multiple affiliations across boundaries can therefore count as institutional international collaboration.

Top 10% most cited documents and scientific leading authorship, 2003-12

This figure indicates the amount (in percentage) of an institution's scientific output that is included in the set of the 10% most-cited papers in their respective scientific fields. It is a measure of the high-quality output of research institutions.

Leading authorship indicates the amount (in percentage) of an institution's output as "leading" contributor, that is, the number of documents for which the corresponding author is affiliated to the relevant institution. In this figure, leading authorship is used to distinguish between highly cited documents that have corresponding authors with foreign affiliations and those with domestic affiliations. In the case of multiple affiliations for a corresponding author, the affiliation for the correspondence address is used as the reference.

3.4. Open access to research

Open access journal (OA) publishing, by affiliation of corresponding author, 2011-13

Documents published between 2011 and 2013 have been entirely attributed to countries on the basis of the main affiliation reported by corresponding authors. The country affiliations of potential contributors are not taken into account in this case.

The open access status of documents is inferred solely on the basis of the journal's description (access from publisher), regardless of whether the document is available through other means. OA comprises DOAJ-registered publications as well as other journal titles marked by Elsevier as being open access.

Journal citation impact measures have been averaged across documents according to the open access status of the journals in which they are published, using the SNIP2013 indicator reported in Elsevier's *Scopus* journal title list file.

Open access to scientific documents by corresponding author's affiliation, selected fields, 2011

This is an experimental indicator, based on a stratified random sample of scientific authors.

Results are based on authors' self-reported measures of access to scientific documents published in 2011 and refer to their access status as of January 2015.

Data are based on scientific documents indexed in Scopus. Fields covered include Arts and Humanities, Business, Chemical Engineering, Immunology and Microbiology, Materials Science, Neuroscience and Physics and Astronomy.

Weighted estimates take into account sampling design and non-response patterns by fields, country affiliation and journal status.

3.5. Research across borders

Business enterprise R&D funded from abroad, by source of funds, 2013

When a breakdown by source of funds is not available, the global share of BERD funded from abroad is used to encompass all sources of funds.

For all countries except Belgium, "Other/not elsewhere classified" also includes the private non-profit (PNP) sector, which accounts at most for 2.26% of all BERD funded from abroad.

For Australia, Austria, Belgium, Germany, Greece, Mexico, Sweden and the United Kingdom, data refer to 2011.

For Denmark, the EU28 zone, France, Ireland, Israel, Italy, the OECD zone, Portugal, South Africa and Switzerland, data refer to 2012.

For Belgium, private non-profit funding is included in "Government and higher education".

For Denmark, BERD funded by international organisations only includes European commission funding.

For Japan and Mexico, information on funding from abroad from "other national government", "PNP" and "International organisations" is not available.

For Israel, defence R&D is partly excluded from available estimates.

R&D expenditures incurred by foreign-controlled affiliates, selected countries, 2011

Financial intermediation and community, social and personal services are excluded for the Czech Republic.

For Finland, Hungary, the Netherlands, Poland, Slovenia and Spain, only Sections B to F of ISIC Rev. 4 are covered.

For the Czech Republic and Hungary, figures refer to 2009.

For France, Italy, the Netherlands, Switzerland and the United States, figures refer to 2012.

For Canada, Sweden and the United Kingdom, figures refer to 2013.

Government R&D funding for international programmes and activities, 2013

Data are based on Eurostat's indicator on "National public funding to transnationally co-ordinated R&D".

2007 data are underestimated for Belgium, the Netherlands and the Slovak Republic.

Data for Switzerland refer to 2012 and are underestimated.

3.6. Science and technology links

Patents citing non-patent literature (NPL), selected technologies, 2007-13

Data refer to citations made in patent applications filed at the European Patent Office (EPO), according to the priority date of the citing patent and the applicant's residence.

Environment-related patents are defined on the basis of their International Patent Classification (IPC) codes or Cooperative Patent Classification (CPC) codes.

Patents in ICT are identified following a new experimental classification based on their International Patent Classification (IPC) codes.

Patents are allocated to health-related fields on the basis of their International Patent Classification (IPC) codes, following the concordance provided by WIPO (2013).

Only economies with more than 200 patents in the selected fields in 2010-13 are included.

The innovation-science link for major enabling technologies, 2003-13

Data refer to citations made in patent families with priority year in 2003-13. To identify whether non-patent literature (NPL) cited in patents corresponds to a scientific document, NPL references were matched to the *Thomson Reuters Web of Science Database*, an index of scientific literature. Counts reflect observations of the number of times a patent family with priority in the relevant office cites a scientific publication in a specific field. Patents are allocated to health-related fields on the basis of their International Patent Classification (IPC) codes, following the concordance provided by WIPO (2013). Biotechnology, ICT and nanotechnology patents are defined on the basis of their International Patent Classification (IPC) codes. Environment-related patents are defined on the basis of their International Patent Classification (IPC) codes or Cooperative Patent Classification (CPC) codes.

Affiliations of scientific authors cited in patents, 2007-13

This is an experimental indicator: international comparability may be limited due to different practices and procedures adopted by the selected patent offices.

Data refer to citations made in patent families with priority year in 2003-13. The analysis is restricted to patents filed at one of the following patent offices: IP Australia (IP AUS), the Canadian Intellectual Property Office (CIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the European Patent Office (EPO), Institut national de la propriété industrielle (INPI), Deutsche Patent- und Markenamt (DPMA), Ufficio Italiano Brevetti e Marchi (UIBM), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), Oficina Española de Patentes y Marcas (OEPM), Institut fédéral de la propriété intellectuelle (IGE), the Intellectual Property Office of the United Kingdom (IPO) and the United States Patent and Trademark Office (USPTO).

To identify whether non-patent literature (NPL) cited in patents corresponds to a scientific document, NPL references were matched to the *Thomson Reuters Web of Science Database*, an index of scientific literature. Counts reflect observations of the number of times a patent family with priority in the relevant office cites a scientific publication with an author affiliated to an institution in a given country.

3.7. Inventions across borders

International co-inventions in patents, 2000-03 and 2010-13

International co-inventions are measured as the share of patent applications with at least one co-inventor located in a different economy out of the total number of patents invented domestically. Data refer to patent applications filed at the EPO or the USPTO that belong to IP5 families, by filing date, according to the inventor's residence using fractional counts. Only economies with more than 500 patents over the reference periods are included. Data for 2013 are partial.

International co-inventions by technology fields, 2000-03 and 2010-13

International co-inventions are measured as the share of patent applications with at least one co-inventor located in a different economy out of the total number of patents invented domestically. Data refer to patent applications filed at the EPO or the USPTO that belong to IP5 families, by filing date. Data for 2013 are partial.

Patents are allocated to technology fields on the basis of their International Patent Classification (IPC) codes, following the concordance provided by WIPO (2013).

Location of inventors by technology field, 2010-13

Data refer to IP5 patent families with members filed at the EPO or the USPTO, by first filing date. Data for 2013 are partial.

Patents are allocated to technology fields on the basis of their International Patent Classification (IPC) codes, following the concordance provided by WIPO (2013).

3.8. International markets for knowledge

Foreign inventions owned by economies, 2000-03 and 2010-13

Foreign inventions owned by economies relate to the number of patents owned by a resident of an economy for which no inventors reside in the given economy, as a share of total patents owned by that economy. Data refer to patent applications filed at the EPO or the USPTO that belong to IP5 families, by filing date, according to the applicant's residence using fractional counts. Only economies with more than 500 patents over the periods are included. Data for 2013 are partial.

International trade in knowledge assets, 2013

Data are based on BPM6 for Australia, Austria, Belgium, the Czech Republic, Denmark, Finland, Germany, Hungary, Italy, Luxembourg, New Zealand, Poland, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States. The categories included are: Licences for the use of outcomes of R&D; Franchises and trademarks licensing fees; Computer services; Architectural, engineering, scientific and other technical services; and Research and development services.

Data are based on BPM5 for Estonia, Greece, Iceland, Ireland, Israel, the Netherlands, Norway, the Russian Federation, the Slovak Republic and Slovenia. The categories included are: Royalties and licence fees; Acquisition/disposal of non-produced, non-financial assets; Computer services; Architectural, engineering, scientific and other technical services; and Research and development services.

Data for Canada, Japan, Korea and Mexico come from R&D surveys. Coverage may be limited by the scope of such surveys (R&D performers).

For Mexico, figures refer to 2011.

For Iceland, Israel, the Slovak Republic and Slovenia, figures refer to 2012.

Trends in international flows of knowledge assets, 2009-13

Data are based on BPM6 for Australia, Austria, Belgium, Hungary, Italy, Luxembourg, New Zealand, Portugal, Spain, Switzerland, the United Kingdom and the United States. The categories included are: Licences for the use of outcomes of R&D; Franchises and trademarks licensing fees; Computer services; Architectural, engineering, scientific and other technical services; and Research and development services.

Data are based on BPM5 for the Czech Republic, Finland, Germany, Estonia, Greece, Ireland, Israel, the Netherlands, Norway, the Russian Federation, the Slovak Republic, Slovenia and Sweden. The categories included are: Royalties and licence fees; Acquisition/disposal of non-produced, non-financial assets; Computer services; Architectural, engineering, scientific and other technical services; and Research and development services.

Data for Canada, Japan, Korea and Mexico come from R&D surveys. Coverage may be limited by the scope of such surveys (R&D performers).

For the Czech Republic, Denmark, Finland, Germany, Israel, the Slovak Republic, Slovenia and Sweden, figures refer to 2009-12.

3.9. Open innovation

General notes for all figures:

International comparability may be limited due to differences in innovation survey methodologies and country-specific response patterns. European countries follow harmonised survey guidelines with the Community Innovation Survey. Please see *www.oecd.org/sti/inno-stats.htm* for more details.

For countries following the Eurostat CIS 2012, Industry core coverage includes ISIC Rev. 4 Sections and Divisions B, C, D, E, G46, H, J, K and M71-72-73. Only enterprises with 10 or more employees are covered.

For Australia, data come from the Business Characteristics Survey (BCS) and refer to financial year 2012/13. The sectoral and size coverage of enterprises matches the CIS scope.

For Brazil, data come from the Brazil Innovation Survey 2011 (PINTEC) and refer to 2009-11. The industries surveyed differ from the CIS core coverage. ISIC Rev. 4 Section E is not included and only a selection of services are covered (Divisions and Groups: 592, 61, 62, 631, 71 and 72).

For Chile, data come from the Chilean Innovation Survey 2013 and refer to 2011-12. The survey covers firms with more than UF 2 400 in annual revenue; no cut-off by size is applied. Sectoral coverage is larger for the industrial sector and in addition to CIS core activities includes: ISIC Rev. 3 Section A, Agriculture, hunting and forestry; B, Fishing; and F, Construction. The services covered are ISIC Rev. 3 (G, I, J and K).

For Colombia, data come from the Survey of Development and Technological Innovation in the Manufacturing Sector, 2011-12 and from the Survey of Development and Technological Innovation in the Service Sector, 2012-13. Data refer to 2011-12 for manufacturing and 2012-13 for services. The size of the enterprise surveyed varies according to the industrial sector. The industries surveyed differ from the CIS core coverage. Data for ISIC Rev. 4: Sections D and E are collected for firms with 20 employees or more. For Division 46, data are collected for firms with 20 employees or more. For Section H, Division 49 is not available and Divisions 51 and 53 are collected for firms with 20 and 40 employees or more, respectively. For Section J, Division 63, only 631 is surveyed. For Divisions 59, 60 and 61, data are collected for firms with 40 employees or more, while for Divisions 62 and 631 data are for firms with 75 employees or more. For Section K, only Groups 6411 and 6412 are available on a census basis. Divisions 71 and 73 are not surveyed. Division 72 is collected on a census basis.

For India, data come from the Indian National Innovation Survey and refer to 2010-11. The sample is drawn from the Indian Annual Survey of Industries 2009-10 database. The data do not include ongoing or abandoned innovative activities. The sectoral coverage is broader than that of the CIS and also includes: ISIC Rev. 4 Sections A, F and all service activities except for Sections T and U.

For Israel, data come from the Israel Innovation Survey, 2010-12. The sectoral and size coverage of enterprises matches the CIS scope.

For Japan, data come from the Japanese National Innovation Survey (J-NIS 2012). Data refer to the financial years 2009/10, 2010/11 and 2011/12. The sectoral and size coverage of enterprises matches the CIS scope.

For Korea, data come from the Korean Innovation Survey. The survey is carried out separately for manufacturing and services, but all data refer to the period 2011-13. The sectoral coverage is smaller than CIS for the industrial sector and includes ISIC Rev. 4 Section C, Manufacturing only. All services are covered except for Section (O) Public administration and defence; compulsory social security.

For the Russian Federation, data refer to 2011-13 and firms with 15 or more employees. The industries surveyed differ from the CIS core coverage. ISIC Rev. 3.1 Sections C, Mining and quarrying; D, Manufacturing; E, Electricity, gas and water supply; and Divisions 64, 72, 73 and 74 for services are covered.

For Switzerland, data come from the Survey of Innovation Activities in the Swiss Economy, 2013. Data refer to 2010-12. The sectoral and size coverage of enterprises matches the CIS scope.

Additional notes:

External sources of knowledge for innovation, by type, 2010-12

For countries following the Eurostat CIS 2012, Brazil, Israel, Japan, Korea, the Russian Federation and Switzerland, the data on sources of knowledge for innovation include product or process innovative firms (including ongoing or abandoned innovation activities).

For Australia and Colombia, data on sources of knowledge for innovation include product, process, marketing or organisational innovative firms (including ongoing or abandoned innovation activities). Marketing and organisational innovators are less likely to be engaged in relations with institutions. The Australian questionnaire asks only whether the relevant source was used, not the importance of the source.

For Chile, data on sources of knowledge for innovation include product, process, marketing or organisational innovative firms (ongoing or abandoned innovative activities are not identified). Marketing and organisational innovators are less likely to be engaged in relations with institutions.

Externally developed goods and services innovation, by size, 2010-12

For Canada, data come from the Survey of Innovation and Business Strategy (SIBS) 2012 and refer to 2010-12. For Canada, the indicator refers to all types of product innovation, as the question on product innovation is not broken down by goods and services innovation. The survey covered firms with 20 or more employees and with at least CAD 250 000 annual revenue in 2009. The industries covered are NAICS (2007) 31-33, 41, 48, 49, 51, 52 and 54.

Firms engaging in collaboration on innovation, by R&D status, 2010-12

For countries following the Eurostat CIS 2012, Brazil, Israel, Japan and Korea, the data on innovation collaboration include product or process innovative firms (including ongoing or abandoned innovation activities).

For Australia and Colombia, data on innovation collaboration include product, process, marketing or organisational innovative firms (including ongoing or abandoned innovation activities). Marketing and organisational innovators are less likely to be involved in collaboration.

For Chile, data on innovation collaboration include product, process, marketing or organisational innovative firms. Ongoing or abandoned innovative activities are not identified. Marketing and organisational innovators are less likely to be involved in collaboration.

For Spain, R&D status corresponds to 2012 only.

3.10. Collaboration on innovation

General notes for all figures:

See under 3.9 in addition to the following:

For countries following the Eurostat CIS 2012, Brazil, Israel, Japan, Korea and Switzerland, the data on innovation collaboration include product or process innovative firms (including ongoing or abandoned innovation activities).

For Australia and Colombia, data on innovation collaboration include product, process, marketing or organisational innovative firms (including ongoing or abandoned innovation activities). Marketing and organisational innovators are less likely to be involved in collaboration.

For Chile, data on innovation collaboration include product, process, marketing or organisational innovative firms. Ongoing or abandoned innovative activities are not identified. Marketing and organisational innovators are less likely to be involved in collaboration.

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