

Annex 2: Glossary

Brownfield investment

Investment in an existing site used for commercial purposes, such as a factory, airport, power plant or steel mill, in order to expand the business or upgrade the facilities and thereby improve the return on investment; see also greenfield investment

Business accelerator

A model which provides start-ups with training, facilities, mentorship and partners; accelerators invest in their start-ups, unlike business incubators (see next entry)

Business incubator

A model which provides start-ups with training, facilities, mentorship and partners; incubators do not invest in their start-ups, unlike business accelerators (see previous entry)

Business sector (for R&D data)

All public and private firms, organizations and institutions whose primary activity is the market production of goods or services (other than higher education) for sale to the general public at an economically significant price; includes the private non-profit institutions mainly serving them

Capital expenditure (for R&D data)

Annual gross expenditure on fixed assets used in the R&D programmes of statistical units, which should be reported in full for the period when the expenditure occurred and should not be registered as an element of depreciation

Current costs (for R&D data)

Composed of labour costs and other current costs; labour costs of R&D personnel consist of annual wages, salaries and all associated costs or fringe benefits; other current costs comprise non-capital purchases of materials, supplies and equipment to support R&D

Disruptive innovation

Dynamic start-ups which may be working on innovation with potential to create new markets and disrupt the business model of their more established competitors, including large corporations; increasingly, corporations are opting to support these start-ups through business accelerators and business incubators (see above), as this approach can be more cost-effective than the acquisition of the new technology; they also stand to gain insights into the future of their market and defuse disruptive innovation; examples of corporations that have invested in disruptive innovation incubators and accelerators are Allianz, Google, LinkedIn, Microsoft, Samsung, Starbucks, Telefonica and Turner

Dutch Disease

Economic term describing the cause and effect relationship between a resource boom and a decline in manufacturing; the term was coined in 1977 by *The Economist* to describe the decline of the manufacturing sector in the Netherlands after the discovery of a large natural gas field in 1959; a resource boom fuels demand for labour, causing production to shift towards the booming sector, such as hydrocarbons or minerals, to the detriment of manufacturing; a secondary effect is the appreciation of the national currency, which causes export-oriented manufacturing to suffer

Ex post evaluation

Assesses the relevance, effectiveness, impact and sustainability of a completed project on the basis of international criteria

Fields of education

According to the International Standard Classification of Education 1997: *Science*: life sciences, physical sciences, mathematics and statistics; computer sciences; *Engineering, Manufacturing and Construction*: engineering and engineering trades; manufacturing and processing; architecture and building; *Agriculture*: agriculture, forestry and fishery; veterinary science. *Health and Welfare*: medicine; medical services; nursing; dental services; social care; social work

Fields of science and technology

According to the OECD's Revised Fields of Science and Technology Classification (2007), these are: natural sciences; engineering and technology; medical and health sciences; agricultural sciences; social sciences and humanities; **natural sciences** include: mathematics; computer and information sciences; physical sciences; chemical sciences; earth and related environmental sciences; and biological sciences; **engineering and technology** include: civil engineering; electrical, electronic, information engineering; mechanical engineering; chemical engineering; materials engineering; medical engineering; environmental engineering; environmental biotechnology; industrial biotechnology; and nanotechnology; **medical and health sciences** include: basic medicine; clinical medicine; health sciences; health biotechnology; and other medical sciences; **agricultural sciences** include: agriculture, forestry and fisheries; animal and dairy science; veterinary sciences; and agricultural biotechnology; **social sciences** include: psychology; economics and business; educational sciences; sociology; law; political science; social and economic geography; media and communications; **humanities** include: history and archaeology; languages and literature; philosophy, ethics and religion; and art

Firms with abandoned or ongoing innovation activities

Firms that did not necessarily implement innovations but had abandoned or ongoing innovation activities to develop them. Unless otherwise specified, the term covers product or process innovation, regardless of organizational or marketing innovation

Full-time equivalence (for R&D data)

A measure of the actual volume of human resources devoted to R&D that is especially useful for international comparisons; one full-time equivalent (FTE) may be thought of as a one person-year; a person who normally spends 30% of their time on R&D and the rest on other activities (such as teaching, university administration and student counselling) should be considered as a 0.3 FTE; similarly, if a full-time R&D worker is employed at an R&D unit for only six months, this results in an FTE of 0.5 for that year

Gender parity

Purely a numerical concept; for R&D statistics, gender parity is reached when women represent between 45% and 55% of the total number of researchers

Reaching gender parity in education implies that the same proportion of boys and girls – relative to their respective age groups – would enter the education system and participate in its different cycles

GERD as a percentage of GDP

The total intramural expenditure on R&D performed in the national territory or region during a given year, expressed as a percentage of GDP of the national territory or region.

Gini index

Measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of zero represents perfect equality and 100 perfect inequality. Relatively equal societies typically have an index close to 30, very unequal ones in the upper 40s and above

Global Competitive Index

A tool developed by the World Economic Forum that ranks countries according to three types of attribute: *'basic requirements'* encompass institutions, infrastructure, macro-economic stability, health and primary education; *'efficiency enhancers'* include higher education and training, labour market efficiency, financial market

sophistication, market size and technological readiness; *'innovation and sophistication'* factors cover business sophistication and innovation

Government expenditure on tertiary education as a percentage of GDP

Total general (local, regional and central) government expenditure on tertiary education (current, capital, and transfers), expressed as a percentage of GDP; includes expenditure funded by transfers from international sources to government

Government sector (for R&D data)

All departments, offices and other bodies which furnish, but normally do not sell to the community, those common services (other than higher education) that cannot otherwise be conveniently and economically provided, as well as those that administer the state and the community's socio-economic policy; and the non-profit institutions controlled and mainly financed by government but not administered by the higher education sector; public enterprises are included in the business enterprise sector

Greenfield investment

Investment in a factory, airport, power plant, steel mill or other physical commerce-related structure where no facilities existed previously. A parent company may construct new facilities in the same country or a foreign country; governments may offer prospective companies incentives to set up a greenfield investment (tax breaks, subsidies, etc.), as most parent companies tend to create jobs in the foreign country, in addition to infrastructure; see also brownfield investment

Gross domestic expenditure on R&D (GERD)

All expenditure on R&D performed within a statistical unit or sector of the national economy during a specific period, whatever the source of funds

Gross domestic product

The sum of gross value added by all resident producers in the economy, including distributive trades and transport, plus any product taxes and minus any subsidies not included in the value of the products

Gross enrolment ratio

Number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education; for the tertiary level, the population used is the

five-year age group starting from the official secondary school graduation age

Gross fixed capital formation

Consists of investment in land improvements (fences, ditches, drains, etc.); plant, machinery and equipment purchases; and the construction of roads, railways and the like, including commercial and industrial buildings, offices, schools, hospitals and private residences, without taking into account the depreciation of assets.

Head count (for R&D data)

Data on the total number of persons who are mainly or partially employed in R&D; this includes staff employed both 'full-time' and 'part-time'; these data allow links to be made with other data series, such as education and employment data, or the results of population censuses; they are also the basis for calculating indicators analysing the characteristics of the R&D labour force with respect to age, gender or national origin

Higher education sector (for R&D data)

All universities, colleges of technology and other institutions of post-secondary education, whatever their source of finance or legal status; and all research institutes, experimental stations and clinics operating under the direct control of or administered by or associated with higher education institutions

Innovation

The implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations

Innovation-active firms

Firms that had innovation activities during the observation period, regardless of whether the activity resulted in the implementation of an innovation; unless otherwise specified, the term covers product or process innovation, regardless of organizational or marketing innovation

Innovation activities

All scientific, technological, organizational, financial and commercial steps which actually lead, or are intended to lead, to the implementation of innovation; Some innovation activities are themselves innovative, others are not novel activities but are necessary for the implementation of innovation; also includes R&D that is not directly related to the development of a specific innovation

Innovative firms

Firms that have implemented an innovation; unless otherwise specified, the term is used to refer to product or process innovative firms, which are also known as product or process innovators

Innovation Union Scoreboard

Tool used by the European Union (EU) to monitor each year the performance of Member States and European countries with pre-accession status, via 25 indicators; countries are classified into four categories: innovation leaders (well above the EU average); innovation followers (above or close to the EU average); moderate innovators (below the EU average) and modest innovators (well below the EU average)

Knowledge Economy Index

A composite set of indicators reflecting: the incentives offered by the economic and institutional sectors to make efficient use of existing and new knowledge and nurture entrepreneurship; the population's level of education and skills; an efficient innovation ecosystem comprised of firms, research centres, universities and other organizations; information and communication technologies

Knowledge Index

A composite of indicators reflecting the population's level of education and skills; an efficient innovation ecosystem comprised of firms, research centres, universities and other organizations; information and communication technologies

Marketing innovation

The implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion, or pricing

Organizational innovation

The implementation of a new organizational method in the firm's business practices, workplace organization or external relations

Patent and non-patent citations

The references provided in the search report that are used to assess an invention's patentability and help to define the legitimacy of the claims of a new patent application; as they refer to the prior art, they indicate the knowledge that preceded the invention and may also be cited to show the lack of novelty of the citing invention; however, citations also indicate the legal boundaries of the claims of the patent in question; they therefore serve an important legal function,

since they delimit the scope of the property rights awarded by the patent

Patent family

A set of patents taken in various countries for protecting a single invention; an inventor seeking protection files a first application (priority) generally in their country of residence; the inventor then has a 12-month legal delay for applying or not for protection for the original invention in other countries; patent families, as opposed to patents, are provided with the intention of improving international comparability: the home advantage is suppressed; the values of the patents are homogeneous

Private non-profit sector (for R&D data)

Non-market, private non-profit institutions serving households (i.e. the general public); and private individuals or households

Product innovation

The implementation of a good or service that is new or significantly improved with respect to its characteristics or intended uses; includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics

Process innovation

The implementation of a new or significantly improved production or delivery method, including significant changes to a technique, equipment and/or software

Purchasing power parities

A given sum of money, when converted into US dollars at the purchasing power parity rate (PPP\$), will buy the same basket of goods and services in all countries; this conversion is used to facilitate international comparisons

Research and experimental development (R&D)

Covers basic research, applied research and experimental development, both formal R&D in R&D units and informal or occasional R&D

R&D personnel

All persons employed directly in R&D, as well as those providing direct services such as R&D managers, administrators and clerical staff; persons providing an indirect service, such as canteen and security staff, are excluded; R&D personnel may be classified by occupation (preferred for international comparisons) or by level of formal qualification

Researchers

Professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, as well as in the management of the projects concerned

Rule of law

The legal principle that law should govern a nation, as opposed to being governed by arbitrary decisions of individual government officials

Scientific and technological services

Activities concerned with research and experimental development (see earlier entry) that contribute to the generation, dissemination and application of scientific and technical knowledge

Sources of information for innovation

Sources that provide information for new projects involving innovation or contribute to the completion of existing projects; they provide access to knowledge without the need to pay for the knowledge itself, although there may be marginal fees for access, such as membership of trade associations, attendance at conferences, subscriptions to journals

Triadic patent family

A set of patents registered at the European Patent Office, and the Japan Patent Office and granted by the US Patent and Trademark Office which share one or more priorities; triadic patent families are consolidated to eliminate double counting of patents filed at different offices by the same inventor for the same invention