Annex A. Glossary

Applied R&D: Original investigation undertaken in order to acquire new knowledge. It is directed primarily towards a specific, practical aim or objective.

Application for a patent: To obtain a patent, an application must be filed with the authorised body (patent office) with all the necessary documents and fees. The patent office will conduct an examination to decide whether to grant or reject the application.

Baseline: The baseline is the set of market projections used as a benchmark for the analysis of the impact of different economic and policy scenarios.

Basic research: Experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.

Bibliometrics: Study of the quantitative data of the publication patterns of individual articles, journals, and books in order to analyse trends and make comparisons within a body of literature.

Business enterprise expenditure on R&D (BERD): Represents the component of GERD incurred by units belonging to the Business enterprise sector. It is the measure of intramural R&D expenditures within the Business enterprise sector during a specific reference period.

Counterfactual: In impact evaluation, the counterfactual refers to what would have happened to potential beneficiaries in the absence of an intervention. Impacts can thus be estimated as the difference between potential outcomes under observed and unobserved counterfactual treatments. An example is estimating the causal impacts of a policy “treatment” to support innovation activities. The researcher cannot directly observe the counterfactuals: For supported firms, what would have been their performance if they had not been supported, and similarly with non-supported firms.

Cost-benefit analysis: The quantification of the total social costs and benefits of a policy or a project, usually in monetary terms. The costs and benefits concerned include not only direct pecuniary costs and benefits, but also externalities, meaning external effects not traded in markets. These include external costs, for example pollution, noise, and disturbance to wildlife, and external benefits such as reductions in travelling time or traffic accidents.

Costs avoidances: They are actual or imputed costs for preventing environmental deterioration by alternative production and consumption processes, or by the reduction of or abstention from economic activities. Costs can also be averted in times of natural and technological disasters by mitigation processes and systems, to which satellites increasingly contribute.

Damage cost: Damage cost is the cost incurred by repercussions (effects) of direct environmental impacts (for example, from the emission of pollutants) such as the degradation of land or human-made structures and health effects. In environmental accounting, it is part of the costs borne by economic agents.

Evaluation: The systematic and objective assessment of an on-going or completed project, programme or policy, its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, efficiency, effectiveness, impact and sustainability.

Externalities: Externalities refers to situations when the effect of production or consumption of goods and services imposes costs or benefits on others that are not reflected in the prices charged for the goods and services being provided.

Full-time equivalent (FTE): The ratio of working hours during a specific reference period (usually a calendar year) divided by the total number of hours conventionally worked in the same period by an individual or by a group.

Gross domestic product (GDP): Gross domestic product is an aggregate measure of production equal to the sum of the gross values added of all resident institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs). The sum of the final uses of goods and services (all uses except intermediate consumption) measured in purchasers' prices, minus the value of imports of goods and services, or the sum of primary incomes distributed by resident producer units.

Government budget allocations for R&D (GBARD): Government budget allocations for R&D encompasses all spending allocations met from sources of government revenue foreseen within the budget such as taxation. Spending allocations by extra-budgetary government entities are only within the scope to the extent that their funds are allocated through the budgetary process. Likewise, R&D financing by public corporations is outside the scope of GBARD statistics as it is based on funds raised within the market and outside the budgetary process. Only in the exceptional case of budgetary provisions for R&D to be carried out or distributed from public corporations should this be counted as part of GBARD.

Gross domestic expenditure on R&D (GERD): Total intramural expenditure on R&D performed in the national territory during a specific reference period.

Gross domestic product (GDP) deflator: Volume of gross domestic product (GDP) calculated by recalculating the values of the various components of GDP at the constant prices of the previous year or of some fixed base year, frequently referred to as "GDP at constant prices", divided by GDP at current prices.

Headcount: The headcount of personnel is defined as the total number of individuals at the level of a statistical unit or at an aggregate level, during a specific reference period (usually a calendar year).

Innovation: An innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process).

Innovation activities: Institutional units can undertake a series of actions with the intention to develop innovations. This can require dedicated resources and engagement in specific activities, including policies, processes and procedures.

International Patent Classification (IPC): The International Patent Classification, which is commonly referred to as the IPC, is based on an international multilateral treaty administered by WIPO. The IPC is an internationally recognised patent classification system, which provides a common classification for patents according to technology groups. IPC is periodically revised in order to improve the system and to take account of technical development. The current (eighth) edition of the IPC entered into force on 1 January 2006.

Intellectual property rights (IPR): IPR allows people to assert ownership rights on the outcomes of their creativity and innovative activity in the same way that they can own physical property. The four main types of intellectual property rights are patents, trademarks, designs and copyrights.

Input-output table: An input-output table is a means of presenting a detailed analysis of the process of production and the use of goods and services (products) and the income generated in that production; they can be either in the form of (a) supply and use tables or (b) symmetric input-output tables.

Intermediate inputs: Goods and services, other than fixed assets, used as inputs into the production process of an establishment that are produced elsewhere in the economy or are imported. They may be either transformed or used up by the production process. Land, labour, and capital are primary inputs and are not included among intermediate inputs. Also called: “intermediate products”.

Market failure: General term describing situations in which market outcomes are not Pareto efficient. Market failures provide a rationale for government intervention. Context: There are a number of sources of market failure. For the purposes of competition policy, the most relevant of these is the existence of market power, or the absence of perfect competition. However, there are other types of market failures that may justify regulation or public ownership. When individuals or firms impose costs or benefits on others for which the market assigns no price, then an externality exists. Negative externalities arise when an individual or firm does not bear the costs of the harm it imposes (pollution, for example). Positive externalities arise when an individual or firm provides benefits for which it is not compensated. Finally, there are cases in which goods or services are not supplied by markets (or are supplied in insufficient quantities). This may arise because of the nature of the product, such as goods which have zero or low marginal costs and which it is difficult to exclude people from using (called public goods; for example, a lighthouse or national defence). It may also arise because of the nature of some markets, where risk is present (called incomplete markets; for example, certain types of medical insurance).

Multinational enterprise (MNE): Refers to a parent company resident in the country and its majority-owned affiliates located abroad, which are labelled controlled affiliates abroad (CAA). MNEs are also referred to as global enterprise groups.

Multiplier: A formula relating an initial change in spending to the total change in activity that will result. The multiplier was central to the argument for demand management in Keynesian economics. It is based on the argument that an increase in government spending becomes income for consumers. Some of this income is saved but some is spent. The cycle is then repeated, resulting in the initial increase in expenditure being multiplied.

North American Industry Classification System (NAICS): An industry classification system used by statistical agencies to facilitate the collection, tabulation, presentation, and analysis of data relating to establishments. NAICS is erected on a production-oriented conceptual framework that groups establishments into industries according to similarity in the process used to produce goods or services. Under NAICS, an establishment is classified to one industry based on its primary activity. NAICS was developed jointly by Canada, Mexico, and the United States to provide comparability in economic statistics. It replaced the Standard Industrial Classification (SIC) system in 1997.

North American Product Classification System (NAPCS): A multi-phase effort by Canada, Mexico, and the United States to develop a comprehensive list of products, product definitions, and product codes that will be organized into an integrated demand-based classification framework that classifies both goods and services according to how they are principally used. It is intended that NAPCS will be used throughout the statistical community to coordinate the collection, tabulation, and analysis of data on the value of products produced by both goods- and services-producing industries and on the prices charged for those products. The focus in the initial phases of NAPCS will be directed at identifying and defining the products of services-producing industries. NAPCS will be a complementary but independent classification system to NAICS.

Open innovation: Open innovation denotes the flow of innovation-relevant knowledge across the boundaries of individual organisations. This notion of “openness” does not necessarily imply that knowledge is free of charge or exempt from use restrictions.

Output: Output consists of those goods or services that are produced within an establishment that become available for use outside that establishment, plus any goods and services produced for own final use. In performance assessment in government, outputs are defined as the goods or services produced by government agencies (e.g. teaching hours delivered, welfare benefits assessed and paid).

Outcome: An outcome is defined as the impact on social, economic, or other indicators arising from the delivery of outputs (e.g., student learning, social equity).

Product: A product is a good or service (including knowledge-capturing products as well as combinations of goods and services) that results from a process of production.

Public sector: The public sector includes all institutions controlled by government, including public business enterprises. The latter should not be confused with publicly listed (and traded) corporations. The public sector is a broader concept than the General government sector.

Research and experimental development (R&D): Comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge.

Revenues: Revenues (or total revenue) refer to the value of output sold, that is the number of units times the price per unit. Average revenue is revenue per unit, which is total revenue divided by the amount of output sold. Average revenue is therefore equal to price per unit. The term "revenue" is often used interchangeably with "sales" and "turnover".

R&D grants: R&D grants, often also described as R&D subsidies, are funding flows from one statistical unit to another statistical unit to perform R&D that does not require any good or service in return and where the funder is not entitled to any significant rights on the outcome of the R&D it has funded.

R&D procurement: R&D procurements are funding flows from one statistical unit to another statistical unit in return for the performance of R&D and the delivery of relevant R&D outcomes.

Sales: Sales measures gross operating revenues minus rebates, discounts, and returns. Sales should be measured exclusive of consumption and sales taxes on consumers, as well as value added taxes. See also Turnover and Revenues.

Satellite account: Satellite accounts provide a framework linked to the central accounts and which enables attention to be focused on a certain field or aspect of economic and social life in the context of national accounts. Common examples are satellite accounts for the environment, or tourism, or unpaid household work.

Small and medium-sized enterprises (SMEs): Small and medium-sized enterprises (SMEs) are non-subsidiary, independent firms which employ less than a given number of employees. This number varies across countries. The most frequent upper limit designating an SME is 250 employees, as in the European Union. However, some countries set the limit at 200 employees, while the United States considers SMEs to include firms with fewer than 500 employees. Small firms are generally those with fewer than 50 employees, while micro-enterprises have at most 10, or in some cases 5, workers.

Socio-economic objective (SEO): Classification used to distribute GBARD. The criteria for classification should be the purpose of the R&D programme or project, i.e. its primary objective. The allocation of R&D budgets to socio-economic objectives should be at the level that most accurately reflects the funder's objective(s). The recommended distribution list is based on the European Union classification adopted by Eurostat for the Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets (NA BS) at the one-digit level.

System of National Accounts (SNA): The international standard for the compilation of national accounts statistics. It consists of a coherent, consistent and integrated set of macroeconomic accounts, balance sheets and tables based on a set of internationally agreed concepts, definitions, classifications and accounting rules. The System of National Accounts 2008 (SNA) has been prepared under the joint responsibility of the United Nations, the International Monetary Fund, the Commission of the European Communities, the OECD and the World Bank.

Turnover: The totals invoiced by the observation unit during the reference period, and this corresponds to the market sales of goods or services supplied to third parties. Reductions in prices, rebates and discounts as well as the value of returned packaging must be deducted. Price reductions, rebates and bonuses conceded later to clients (e.g. at the end of the year) are not taken into account. See also Sales and Revenues.

Value added: The total sales of a firm minus purchases of inputs from other firms. What is left is available for the wages of its employees and the profits of its owners. National income is the sum of value added in all enterprises in the economy.

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