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CHAPTER 3

TRANSACTIONS IN PRODUCTS AND NON-PRODUCED ASSETS

TRANSACTIONS IN PRODUCTS IN GENERAL

3.01 *Definition:* products are all goods and services that are created within the production boundary. Production is defined in paragraph 3.07.

3.02 The following main categories of transactions in products are distinguished in the ESA:

Transaction categories	Code
Output	P.1
Intermediate consumption	P.2
Final consumption expenditure	P.3
Actual final consumption	P.4
Gross capital formation	P.5
Exports of goods and services	P.6
Imports of goods and services	P.7

3.03 Transactions in products are recorded as follows:

- (a) in the goods and services account, output and imports are recorded as resources and the other transactions in products are recorded as uses;
- (b) in the production account, output is recorded as a resource and intermediate consumption is recorded as a use; gross value added is the balancing item of these two transactions in products;
- (c) in the use of disposable income account, final consumption expenditure is recorded as a use;
- (d) in the use of adjusted disposable income account, actual final consumption is recorded as a use;
- (e) in the capital account, gross capital formation is recorded as a use (a change in non-financial assets);
- (f) in the external account of goods and services, imports of goods and services are recorded as a resource, and exports of goods and services are registered as uses.

Many major balancing items in the accounts, like value added, gross domestic product, national income and disposable income, are defined in terms of transactions in products. The definition of transactions in products defines those balancing items.

3.04 In the supply table (see paragraph 1.136), output and imports are recorded as supplies. In the use table, intermediate consumption, gross capital formation, final consumption expenditure and exports are registered as uses. In the symmetric input-output table, output and imports are recorded as supplies and the other transactions in products as uses.

3.05 Supplies of products are valued at basic prices (see paragraph 3.44). Uses of products are valued at purchasers' prices (see paragraph 3.06). For some types of supplies and uses, e.g. for imports and exports of goods, more specific valuation principles are used.

3.06 *Definition:*

The purchaser's price is the price the purchaser pays for the products. The purchaser's price includes the following:

- (a) taxes less subsidies on the products (but excluding deductible taxes like VAT on the products);
- (b) transport charges paid separately by the purchaser to take delivery at the required time and place;
- (c) deductions for any discounts for bulk or off-peak-purchases from standard prices or charges.

The purchaser's price excludes the following:

- (a) interest or services charges added under credit arrangements;
- (b) extra charges incurred as a result of late payment, where late payment means failing to pay within the period stated at the time the purchases were made.

If the time of use does not coincide with the time of purchase, adjustments are made to the value to take account of the changes in price due to the lapsing of time (in a manner symmetrical with changes in the prices of the inventories). Such modifications are important if the prices of the products involved change significantly within a year.

PRODUCTION AND OUTPUT

3.07 *Definition:* production is an activity carried out under the control, responsibility and management of an institutional unit that uses inputs of labour, capital and goods and services to produce outputs of goods and services.

Production does not cover natural processes which have no human involvement or direction, such as the unmanaged growth of fish stocks in international waters, but production does include fish farming.

3.08 Production includes:

- (a) the production of all individual or collective goods and services that are supplied to units other than their producers;
- (b) the own-account production of all goods that are retained by their producers for their own final consumption or gross fixed capital formation.

Examples of own-account production for gross fixed capital formation are the production of fixed assets such as construction, the development of software and mineral exploration for own gross fixed capital formation. The concept of gross fixed capital formation is described in paragraphs 3.124-3.138.

Own-account production of goods by households pertains in general to:

- (1) own-account construction of dwellings;
- (2) the production and storage of agricultural products;
- (3) the processing of agricultural products, like the production of flour by milling, the preservation of fruit by drying and bottling, the production of dairy products like butter and cheese and the production of beer, wine and spirits;
- (4) the production of other primary products, like mining salt, cutting peat and carrying water;

- (5) other kinds of processing, like weaving cloth, the production of pottery and making furniture;
- (c) the own-account production of dwelling services by owner-occupiers;
- (d) domestic and personal services produced by employing paid domestic staff;
- (e) volunteer activities that result in goods. Examples of such activities are the construction of a dwelling, church or other building. Volunteer activities that do not result in goods, e.g. care-taking and cleaning without payment, are excluded.

The activities listed above in points (a) to (e) are included as production irrespective of being illegal or not-registered at tax, social security, statistical and other public authorities.

Own-account production of goods by households is recorded when this type of production is significant, i.e. when it is quantitatively important in relation to the total supply of that good in a country.

The only own-account production of goods by households included is the construction of dwellings, and the production, storage and processing of agricultural products.

3.09 Production excludes the production of domestic and personal services that are produced and consumed within the same household. Examples of domestic services produced by households themselves that are excluded are:

- (a) cleaning, decoration and maintenance of the dwelling as far as these activities are also common for tenants;
- (b) cleaning, servicing and repair of household durables;
- (c) preparation and serving of meals;
- (d) care, training and instruction of children;
- (e) care of sick, infirm or old people; and
- (f) transportation of members of the household or their goods.

Domestic and personal services produced by employing paid domestic staff and the services of owner-occupied dwellings are included in production.

Principal, secondary and ancillary activities

- 3.10 *Definition:* the principal activity of a local KAU is the activity where the value added of such activity exceeds that of any other activity carried out within the same unit. The classification of the principal activity is determined by reference to NACE rev. 2, first at the highest level of the classification and then at more detailed levels.
- 3.11 *Definition:* a secondary activity is an activity carried out within a single local KAU in addition to the principal activity. The output of the secondary activity is a secondary product.
- 3.12 *Definition:* an ancillary activity is an activity whose output is intended for use within an enterprise.

An ancillary activity is a supporting activity undertaken within an enterprise in order to enable the principal or secondary activities of local KAUs to be carried out. All inputs consumed by an ancillary activity — materials, labour, consumption of fixed capital, etc. — are treated as inputs into the principal or secondary activity which it supports.

Examples of ancillary activities are:

- (a) purchasing;
- (b) sales;
- (c) marketing;
- (d) accounting;
- (e) data processing;
- (f) transportation;
- (g) storage;
- (h) maintenance;
- (i) cleaning; and
- (j) security services.

Enterprises have a choice between engaging in ancillary activities and purchasing such services on the market from specialist service producers.

Own-account capital formation is not an ancillary activity.

3.13 Ancillary activities are not isolated to form distinct entities or separated from the principal or secondary activities or entities they serve. Accordingly, ancillary activities must be integrated with the local KAU they serve.

Ancillary activities may be carried out in separate locations, located in a region other than the local KAU they serve. The strict application of the rule referred to in the first subparagraph for the geographical allocation of the ancillary activities would result in the underestimation of the aggregates in the regions where ancillary activities are concentrated. In accordance, therefore, with the principle of residence, ancillary activities have to be allocated to the region where they are situated; they remain in the same industry as the local KAU they serve.

Output (P.1)

3.14 *Definition:* output is the total of products created during the accounting period.

Examples of output include the following:

- (a) the goods and services which one local KAU provides to a different local KAU belonging to the same institutional unit;

- (b) the goods produced by a local KAU that remain in inventories at the end of the period in which they are produced, whatever their subsequent use. Goods and services produced and consumed within the same accounting period and within the same local KAU are not separately identified. They are not recorded as part of the output or intermediate consumption of that local KAU.

3.15 When an institutional unit contains more than one local KAU, the output of the institutional unit is the sum of the outputs of its component local KAUs, including outputs delivered between the component local KAUs.

3.16 Three types of output are distinguished in the ESA 2010:

- (a) market output (P.11);
- (b) output produced for own final use (P.12);
- (c) non-market output (P.13).

This distinction is also applied to local KAUs and institutional units:

- (a) market producers;
- (b) producers for own final use;
- (c) non-market producers.

The distinction between market, for own final use and non-market is fundamental in view of the following:

- (a) it affects the valuation of output and related concepts, such as value added, gross domestic product and final consumption expenditure by the government and NPISH;
- (b) it affects the classification of institutional units by sector, e.g. which units are included in the sector general government and which are not.

The distinction determines the valuation principles to be applied to output. Market output and output produced for own final use are valued at basic prices. The total output of non-market producers is valued by summing the costs of production. The output of an institutional unit is valued as the sum of the outputs of its local KAUs and depends thus also on the distinction between market, for own final use and non-market.

The distinction is also used to classify institutional units by sector. Non-market producers are classified in the general government sector or the non-profit institutions serving households sector.

The distinctions are defined in a top-down way, i.e. the distinction is first defined for institutional units, then for local KAUs and then for their output.

At the product level output is classified as market output, output for own final use and non-market output according to the characteristics of the institutional unit and the local KAU that produce that output.

- 3.17 *Definition:* market output consists of output that is disposed of on the market or intended to be disposed of on the market.
- 3.18 Market output includes:
- (a) products sold at economically significant prices;
 - (b) products bartered;
 - (c) products used for payments in kind (including compensation of employees in kind and mixed income in kind);
 - (d) products supplied by one local KAU to another within the same institutional unit to be used as intermediate inputs or for final uses;
 - (e) products added to the inventories of finished goods and work-in-progress intended for one or other of the above uses (including natural growth of animal and vegetable products and uncompleted structures for which the buyer is unknown).

3.19 *Definition:* economically significant prices are prices that have a substantial effect on the amounts of products that producers are willing to supply and on the amounts of products that purchasers wish to acquire. Such prices arise when both of the following conditions apply:

- (a) the producer has an incentive to adjust supply either with the goal of making a profit in the long run or, at a minimum, covering capital and other costs; and
- (b) consumers have the freedom to purchase or not purchase and make the choice on the basis of the prices charged.

Not economically significant prices are likely to be charged in order to raise some revenue or achieve some reduction in the excess demand that may occur when services are provided completely free.

The economically significant price of a product is defined in relation to the institutional unit and local KAU that has produced the output. For example, all the output of unincorporated enterprises owned by households sold to other institutional units is sold at economically significant prices; it is thus to be regarded as market output. For the output of other institutional units, the ability to undertake a market activity at economically significant prices will be checked notably through a quantitative criterion (the 50 % criterion), using the ratio of sales to production costs. To be a market producer, the unit shall cover at least 50 % of its costs by its sales over a sustained multi-year period.

- 3.20 *Definition:* output produced for own final use consists of goods or services that are retained either for own final consumption or for capital formation by the same institutional unit.
- 3.21 Products retained for own final consumption can only be produced by the households sector. Examples of products retained for own final consumption include:
- (a) agricultural products retained by farmers;
 - (b) dwelling services produced by owner-occupiers;
 - (c) household services produced by employing paid staff.
- 3.22 Products used for own capital formation can be produced by any sector. Examples of such products are:
- (a) machine tools produced by engineering enterprises;
 - (b) dwellings, or extensions to dwellings, produced by households;
 - (c) own-account construction, including communal construction undertaken by groups of households;
 - (d) own-account software;

- (e) own-account research and development. Expenditure on research and development is only to be recorded as fixed capital formation when a sufficiently high level of reliability and comparability of the estimates across the Member States has been achieved.

3.23 *Definition:* non-market output is output that is provided to other units for free, or at prices that are not economically significant.

Non-market output (P.13) is subdivided into two items: 'Payments for non-market output' (P.131), which consists of various fees and charges, and 'Non-market output, other' (P.132), which is output provided for free.

Non-market output is produced for the following reasons.

- (a) It may be technically impossible to make individuals pay for collective services because their consumption of such services cannot be monitored and controlled. The production of collective services is organised by government units and financed out of funds other than receipts from sales, namely taxation or other government incomes.
- (b) Government units and NPISHs may also produce and supply goods or services to individual households for which they could charge but choose not to do so as a matter of social or economic policy. Examples are the provision of education or health services, for free or at prices that are not economically significant.

3.24 *Definition:* market producers are local KAUs or institutional units the majority of output of which is market output.

If a local KAU or institutional unit is a market producer, its main output is by definition market output, as the concept of market output is defined after having applied the distinction market, for own final use and non-market output, to the local KAU and institutional unit that have produced that output.

3.25 *Definition:* producers for own final use are local KAUs or institutional units the major part of the output of which is for own final use within the same institutional unit.

3.26 *Definition:* non-market producers are local KAUs or institutional units the major part of the output of which is provided for free or at not economically significant prices.

Institutional units: distinction between market, for own final use and non-market

3.27 For institutional units as producers, the distinction between market, for own final use and non-market is summarised in Table 3.1. The classification by sectors is also shown.

Table 3.1 — The distinction between market producers, producers for own final use and non-market producers for institutional units

Type of institutional unit		Classification			
Private or public?		NPI or not?	Market producer?	Type of producer	Sector(s)
1. Private producers	1.1 Unincorporated enterprises owned by households (excluding quasi-corporate enterprises owned by households)			1.1 = Market or for own final use	Households
	1.2 Other private producers (including quasi-corporate enterprises owned by households)	1.2.1 Private NPIs	1.2.1.1 Yes	1.2.1.1 = Market	Corporations
			1.2.1.2 No	1.2.1.2 = Non-market	NPISH
		1.2.2 Other private producers not NPI		1.2.2 = Market	Corporations
2. Public producers			2.1 Yes	2.1 = Market	Corporations
			2.2 No	2.2 = Non-market	General government

- 3.28 Table 3.1 shows that, in order to determine whether an institutional unit should be classified as a market producer, a producer for own-final use or a non-market producer, several distinctions are made sequentially. The first distinction is between private and public producers. A public producer is a producer that is controlled by the general government, where control is as defined in paragraph 2.38.
- 3.29 As Table 3.1 shows, private producers are found in all sectors except general government. In contrast, public producers are only found in the non-financial corporations sector, the financial corporations sector, and the general government sector.
- 3.30 A specific category of private producers is that of unincorporated enterprises owned by households. These are market producers or producers for own final use. The latter occurs in case of the production of services of owner-occupied dwellings and the own-account production of goods. All unincorporated enterprises owned by households are classified to the households sector apart from quasi-corporate enterprises owned by households. These are market producers and classified in the non-financial corporations and financial corporations sectors.

3.31 For other private producers, a distinction is made between private non-profit institutions and other private producers.

Definition: a private non-profit institution (NPI) is defined as a legal or social entity acting for the purpose of producing goods and services whose status does not permit them to be a source of income, profit or other financial gains for the units that establish, control or finance them. Where their productive activities generate surpluses, such surpluses cannot be appropriated by other institutional units.

A private NPI is classified to the non-financial corporations and financial corporations sectors, if it is a market producer.

A private NPI is classified to the NPISH sector if it is a non-market producer, except when it is under the control of government. When a private NPI is controlled by government, then it is classified in the general government sector.

All other private producers that are not NPIs are market producers. They are classified in the non-financial corporations and financial corporations sectors.

3.32 In distinguishing between market and non-market output and between market and non-market producers, several criteria are to be used. The market-non-market criteria in question (see paragraph 3.19 on the definition of economically significant prices) seek to assess the existence of market circumstances and sufficient market behaviour by the producer. According to the quantitative market-non-market criterion, products sold at economically significant prices should cover at least a majority of the production costs by sales.

3.33 In applying this quantitative market-non-market criterion, sales and production costs are defined as follows.

- (a) Sales shall mean the sales excluding taxes on products but including all payments made by general government or the institutions of the Union and granted to any kind of producer in this type of activity, i.e. all payments linked to the volume or value of output are included, but payments to cover an overall deficit or settle debts are excluded.

This definition of sales corresponds to that of output at basic prices except that:

- (1) output at basic prices is only defined after it has been decided on whether the output is market or non-market: sales are only used in valuing market output; non-market output is valued at costs;

- (2) the payments made by general government to cover an overall deficit of public corporations and quasi-corporations constitute part of other subsidies on products as defined in point (c) of paragraph 4.35. As a consequence, market output at basic prices includes the payments made by general government to cover an overall deficit.
- (b) Sales exclude other sources of revenue like holding gains (though they could be a normal and expected part of business revenue), investment grants, other capital transfers (e.g. debt redemption) and the purchase of equity.
- (c) For the purpose of this criterion, production costs are equal to the sum of intermediate consumption, compensation of employees, consumption of fixed capital, other taxes on production plus costs of capital. Other subsidies on production are not deducted. To ensure consistency of the concepts 'sales' and 'production costs' when applying the quantitative market-non-market criterion, 'production costs' shall exclude all costs incurred for own-account capital formation. For the sake of simplicity, the costs of capital may in general be approximated by the net actual interest payments. However, for producers of financial services, the interest charge is taken, i.e. a correction is made for financial intermediation services indirectly measured (FISIM).

The quantitative market-non-market criterion is applied by looking over a range of years. Minor fluctuations in the size of sales from one year to another do not require a reclassification of institutional units (and their local KAUs and output).

- 3.34 Sales may consist of various elements. For example, in the case of health care services provided by a hospital, sales may correspond to:
- (a) purchases by employers to be recorded as income in kind paid to their employees and final consumption expenditure by these employees;
 - (b) purchases by private insurance companies;
 - (c) purchases by social security funds and general government to be classified as social benefits in kind;
 - (d) purchases by households without reimbursement (final consumption expenditure).

Only other subsidies on production and gifts (e.g. from charities) received are not treated as sales.

Similarly, as an illustrative example, the sale of transport services by an enterprise may correspond to intermediate consumption by producers, income in kind provided by employers, social benefits in kind provided by the government and purchases by households without reimbursement.

- 3.35 Private non-profit institutions serving businesses are a special case. They are usually financed by contributions or subscriptions from the group of businesses concerned. The subscriptions are treated not as transfers but as payments for services rendered, i.e. as sales. These NPIs are therefore market producers and are classified in the non-financial corporations or the financial corporations sector.
- 3.36 In applying the criterion of comparing sales and production costs of private or public NPIs, including in sales, all the payments linked to volume of output may be misleading in some specific cases. This can be the case, for example, in relation to the financing of private and public schools. Payments by general government can be linked to the number of pupils but be the subject of negotiation with general government. In such a case, those payments are not recorded as sales, although they may have an explicit link with a measure of the volume of output, such as the number of pupils. This implies that a school mainly financed by such payments is a non-market producer.
- 3.37 Public producers can be market producers or non-market producers. Market producers are classified in the non-financial and financial corporations sectors. If the institutional unit is a non-market producer, it is classified in the general government sector.
- 3.38 Local KAUs as market producers and as producers for own final use cannot supply non-market output. Their output can thus only be recorded as market output or output for own final use and valued correspondingly (see paragraphs 3.42 to 3.53).

- 3.39 Local KAUs as non-market producers can supply as secondary output market outputs and output for own final use. The output for own final use consists of own-account capital formation. The occurrence of market output should in principle be determined by applying the qualitative and quantitative market-non-market criteria to individual products. Such secondary market output by non-market producers might be the case for instance when government hospitals charge economically significant prices for some of their services.
- 3.40 Other examples are sales of reproductions by government museums and sales of weather forecasts by meteorological institutes.
- 3.41 Non-market producers may also have revenues from the sale of their non-market output at not economically significant prices, e.g. the museum's revenues from tickets for entrance. These revenues pertain to non-market output. However, if both types of revenues (revenues from tickets and those from the sale of posters and cards) are difficult to distinguish, they can all be treated as either revenues for market output or revenues from non-market output. The choice between these two alternative registrations should depend on the assumed relative importance of both types of revenues (from tickets versus those from the sale of posters and cards).

Time of recording and valuation of output

3.42 Output is to be recorded and valued when it is generated by the production process.

3.43 All output is to be valued at basic prices, but specific conventions hold for:

- (a) the valuation of non-market output;
- (b) the valuation of total output of a non-market producer (local KAU);
- (c) the valuation of the total output of an institutional unit of which a local KAU is a non-market producer.

3.44 *Definition:* the basic price is the price receivable by the producers from the purchaser for a unit of a good or service produced as output minus any tax (i.e. taxes on products) payable on that unit as a consequence of its production or sale, plus any subsidy (i.e. subsidies on products) receivable on that unit as a consequence of its production or sale. It excludes any transport charges invoiced separately by the producer. It also excludes holding gains and losses on financial and non-financial assets.

- 3.45 Output for own final use (P.12) is valued at the basic prices of similar products sold on the market. This generates net operating surplus or mixed income for such output. An example is services of owner-occupied dwellings generating net operating surplus. If basic prices of similar products are not available, output for own final use should be valued at the costs of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income.
- 3.46 Additions to work-in-progress are valued at the current basic price of the finished product.
- 3.47 In order to estimate in advance the value of output treated as work-in-progress, the value is based on the actual costs incurred, plus a mark-up (except for non-market producers) for the estimated operating surplus or mixed income. The provisional estimates are subsequently replaced by those obtained by distributing the actual value (once known) of the finished products, over the period of work-in-progress.

The value of the output of finished products is the sum of the values of:

- (a) finished products sold or bartered;
- (b) entries of finished products into inventories, less withdrawals;
- (c) finished products for own final use.

3.48 For buildings and structures acquired in an incomplete state, a value is estimated based on costs to date, including a mark-up for operating surplus or mixed income. This mark-up results when the value can be estimated on the basis of the prices of similar buildings and structures. The amounts of stage payments may be used to approximate the values of gross fixed capital formation undertaken by the purchaser at each stage, assuming no advance payments or arrears.

Where the own-account construction of a structure is not completed within a single accounting period, the value of the output is estimated by the following method. The ratio of the costs incurred in the current period to the total costs over the whole time of construction is calculated. This ratio is applied to the estimate of total output at the current basic price. If it is not possible to estimate the value of the finished structure at current basic price, it is valued by its total costs of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income. If some or all of the labour is provided free, as may happen with communal construction by households, an estimate of what the cost of paid labour would have been is included in the estimated total production costs using wage rates for similar labour inputs.

3.49 The total output of a non-market producer (a local KAU) is valued at the total costs of production, i.e. the sum of:

- (a) intermediate consumption (P.2);
- (b) compensation of employees (D.1);

- (c) consumption of fixed capital (P.51c);
- (d) other taxes on production (D.29) less other subsidies on production (D.39).

Interest payments (excluding FISIM) are not included as costs of non-market production. The costs of non-market production also do not include an imputation for a net return on capital, nor an imputation for the rental value of the non-residential buildings owned and used in non-market production.

- 3.50 The total output of an institutional unit is the sum of the total output of its constituent local KAUs. This applies also to institutional units that are non-market producers.
- 3.51 In the absence of secondary market output by non-market producers, non-market output is valued at the costs of production. In the case of secondary market output by non-market producers, non-market output is valued as a residual item, i.e. as the total costs of production minus their revenues from market output.

- 3.52 Market output by non-market producers is valued at basic prices. Total output of a non-market local KAU covering market, non-market and own final use output is valued by the sum of production costs. The value of its market output is given by its receipts from sales of market products, the value of its non-market output being obtained residually as the difference between the value of its total output and the sum of its market output and output for own final use. The value of its receipts from the sale of non-market goods or services at prices that are not economically significant does not figure in these calculations — they are part of the value of its non-market output.
- 3.53 A list of exceptions and clarifications to the times of recording and the valuation of output follows, in the order of CPA sections.

Products of agriculture, forestry and fishing (Section A)

- 3.54 The output of agricultural products is recorded as being produced continuously over the entire period of production (and not only when the crops are harvested or animals slaughtered).

Growing crops, standing timber and stocks of fish or animals reared for purposes of food are treated as inventories of work-in-progress during the process, and transformed into inventories of finished products when the process is completed.

Output excludes any changes in uncultivated biological resources, e.g. growth of animals, birds, fish living in the wild or uncultivated growth of forests.

Manufactured products (Section C); construction work (Section F)

3.55 In the case of the construction of a building or other structure extending over several accounting periods, the output produced each period is treated as being sold to the purchaser at the end of the period, i.e. recorded as fixed capital formation by the purchaser rather than work-in-progress in the construction industry. The output is treated as being sold to the purchaser in stages. When the contract calls for stage payments, the value of the output may be approximated by the value of stage payments made each period. Where there is no certainty as to the ultimate purchaser, the incomplete output produced each period is recorded as work-in-progress.

Wholesale and retail trade services; repair services of motor vehicles and motorcycles (Section G)

3.56 The output of wholesale and retail services is measured by the trade margins realised on the goods they purchase for resale.

Definition: a trade margin is the difference between the actual or imputed sale price realised on a good purchased for resale, and the price that would have to be paid by the distributor to replace the good at the time it is sold or otherwise disposed of.

Trade margins realised on some goods can be negative if their sale prices are marked down. Trade margins are negative on goods that are not sold, but instead go to waste or are stolen. Trade margins on goods given to employees as compensation in kind, or withdrawn for final consumption by owners, are equal to zero.

Holding gains and losses are not included in the trade margin.

The output of a wholesaler or retailer is given by the following identity:

the value of output =

the value of sales

plus the value of goods purchased for resale and used for intermediate consumption, compensation of employees in kind or mixed income in kind,

minus the value of goods purchased for resale,

plus the value of additions to inventories of goods for resale,

minus the value of goods withdrawn from inventories of goods for resale,

minus the value of recurrent losses due to normal rates of wastage, theft or accidental damage.

Transportation and storage (Section H)

- 3.57 The output of transport services is measured by the value of the amounts receivable for transporting goods or persons. Transportation for own use within the local KAU is considered ancillary activity and is not separately identified and recorded.
- 3.58 The output of storage services is measured as the value of an addition to work-in-progress. Increases in the price of goods while in inventories should not be regarded as work-in-progress and production, but be treated as holding gains. If the increase in value reflects a rise in price with no change in quality, then there is no further production during the period in addition to the costs of storage or the explicit purchase for a storage service. However, in three cases the increase in value is regarded as production:
- (a) the quality of the good may improve with the passage of time, e.g. in case of wine; only in cases where maturing is part of the regular production process, the increase of the quality of the good is regarded as production;
 - (b) seasonal factors affecting the supply or demand for a specific good that lead to regular, predictable variations in price over the year, even though its physical qualities may not have changed;
 - (c) the production process is sufficiently long that discounting factors are applied to work carried out significantly long before delivery.

3.59 Most changes in prices of goods while in inventories are not additions to work-in-progress. In order to estimate the increase in the value of goods stored over and above the storage costs, use may be made of the expected increase in value over and above the general rate of inflation over a predetermined period. Any gain that occurs outside the predetermined period continues to be recorded as a holding gain or loss.

Storage services do not include any change in price due to holding financial assets, valuables or other non-financial assets like land and buildings.

3.60 The output of travel agency services is measured as the value of service charges of agencies (fees or commission charges) and not by the full expenditures made by travellers to the travel agency, including charges for transport by third parties.

3.61 The output of tour operator services is measured by the full expenditure made by travellers to the tour operator.

3.62 Travel agency services and tour operator services are distinguished by the fact that travel agency services amount only to intermediation on behalf of the traveller, while tour operator services create a new product called a tour, which has various components of travel, accommodation and entertainment.

Accommodation and food services (Section I)

3.63 The value of the output of the services of hotels, restaurants and cafes includes the value of the food, beverages, etc. consumed.

Financial and insurance services (Section K): output of the central bank

The central bank delivers the following services:

- (a) monetary policy services;
- (b) financial intermediation services;
- (c) supervisory services overseeing financial corporations.

The output of the central bank is measured as the sum of its costs.

Financial and insurance services (Section K): financial services in general

Financial services consist of the following services:

- (a) financial intermediation (including insurance and pension services);
- (b) services of financial auxiliaries; and
- (c) other financial services.

- 3.64 Financial intermediation is financial risk management and liquidity transformation. Corporations engaged in these activities obtain funds for example by taking deposits, and issuing bills, bonds and other securities. The corporations use these funds as well as own funds to acquire financial assets by making loans to others and by purchasing bills, bonds or other securities. Financial intermediation includes insurance and pension services.
- 3.65 Auxiliary financial activities facilitate risk management and liquidity transformation. Financial auxiliaries act on behalf of other units and do not put themselves at risk by incurring financial liabilities or by acquiring financial assets as part of an intermediation service.
- 3.66 Other financial services include monitoring services such as monitoring the stock and bond market, security services such as safeguarding expensive jewellery and important documents, and trading services such as foreign exchange dealing and dealing in securities.
- 3.67 Financial services are produced almost exclusively by financial institutions because of the stringent supervision of those services. For example, if a retailer wishes to offer credit facilities to its customers, the credit facilities are usually offered by a financial corporation subsidiary of the retailer or by another specialised financial institution.

3.68 Financial services may be paid for directly or indirectly. Some transactions in financial assets may involve both direct charges and indirect charges. Financial services are provided and charged for in four main ways:

- (a) financial services provided for direct payment;
- (b) financial services paid for through loading interest charges;
- (c) financial services in acquiring and disposing of financial assets and liabilities in financial markets;
- (d) financial services provided in insurance and pension schemes, where the activity is financed by loading insurance contributions and from the income return on savings.

Financial services provided for direct payment

3.69 These financial services are provided for explicit charges, covering a wide range of services that may be provided by different types of financial institutions. The following examples illustrate the nature of the services charged for directly:

- (a) banks charge households to arrange a mortgage, manage an investment portfolio, and administer an estate;
- (b) specialised institutions charge non-financial corporations for organising a takeover or for administering a restructuring of a group of corporations;

- (c) credit card companies charge units that accept credit cards usually a percentage of each sale;
- (d) a card holder is charged an explicit fee, usually each year, for holding the card.

Financial services paid for through loading interest charges

- 3.70 For example, in financial intermediation, a financial institution like a bank accepts deposits from units wishing to receive interest on funds for which the unit has no immediate use and lends them to other units whose funds are insufficient to meet their needs. The bank thus provides a mechanism to allow the first unit to lend to the second. Each of the two parties pays a fee to the bank for the service provided: the unit lending funds pays by accepting a rate of interest lower than the 'reference' rate of interest, while the unit borrowing funds pays by accepting a rate of interest higher than the 'reference' rate of interest. The difference between the interest rate paid to banks by borrowers and the interest rate actually paid to depositors is a charge for FISIM.
- 3.71 It is seldom the case that the amount of funds lent by a financial institution exactly matches the amount deposited with them. Some money may have been deposited but not yet loaned. Some loans may be financed by the bank's own funds and not from borrowed funds. Irrespective of the source of finance, a service is provided for the loans and deposits offered. FISIM are imputed for all loans and deposits. These indirect charges apply only to loans and deposits provided by, or deposited with, financial institutions.

3.72 The reference rate lies between bank interest rates on deposits and loans. It does not correspond to an arithmetic average of the rates on loans or deposits. The rate prevailing for inter-bank borrowing and lending is a suitable choice. However, different reference rates are needed for each currency in which loans and deposits are denominated, especially when a non-resident financial institution is involved.

FISIM are described in detail in Chapter 14.

Financial services consisting of acquiring and disposing of financial assets and liabilities in financial markets

3.73 When a financial institution offers a security (e.g. bill or bond) for sale, a service charge is levied. The purchase price (the ask price) is equal to the estimated market value of the security plus a margin. Another charge is levied when a security is sold, the price offered to the seller (the bid price) being equal to the market value minus a margin. Margins between buying and selling prices apply also to equities, investment fund shares and foreign currencies. These margins are for the provision of financial services.

Financial services provided in insurance and pension schemes, where activity is financed by loading insurance contributions and from the income return on savings

3.74 The following financial services fall under this heading. Each of them results in a redistribution of funds.

- (a) Non-life insurance. Under a non-life insurance policy, the insurance company accepts a premium from a client and holds it until a claim is made or the period of the insurance expires. The insurance company invests the premium and the resulting property income is an extra source of funds. The property income represents income foregone by the client and is treated as an implicit supplement to the actual premium. The insurance company sets the level of the actual premiums to be such that the sum of the premiums plus the property income earned on them less the expected claims will leave a margin that the insurance company will retain as the output of the insurance company.

Non-life insurance output is calculated as:

total premiums earned

plus implicit premium supplements (equal to the property income earned on technical reserves)

less adjusted claims incurred.

The insurance corporation has at its disposal reserves consisting of unearned premiums (actual premiums relating to the next accounting period) and claims outstanding. Claims outstanding cover claims that have not yet been reported, have been reported but are not yet settled or have been reported and settled but are not yet paid. These reserves are called technical reserves and are used to generate investment income. Holding gains and losses are not income from investment of the insurance technical reserves. Insurance technical reserves may be invested in secondary activities of the insurance company, e.g. the letting of dwellings or offices. The net operating surplus on these secondary activities is income from the investment of insurance technical reserves.

The appropriate level of claims used in calculating output is called 'adjusted claims' and these can be determined in two ways. The expectation method estimates the level of adjusted claims from a model based on the past pattern of claims payable by the corporation. The second method uses accounting information: adjusted claims are derived *ex post* as actual claims incurred plus the change in equalisation provisions, i.e. the funds set aside to meet unexpectedly large claims. Where the equalisation provisions are insufficient to bring adjusted claims back to a normal level, contributions from own funds are added to the measure of adjusted claims. A major feature of both methods is that unexpectedly large claims do not lead to volatile and negative estimates of output.

Changes in technical reserves and equalisation provisions in response to changes in financial regulation are recorded as other changes in the volume of assets; they are irrelevant for calculating output. If, due to lack of information, both methods for estimating adjusted claims are not possible, it may be necessary to estimate output instead by the sum of costs including an allowance for normal profits.

In case of with-profits insurance, the change in the reserves for with-profits insurance is deducted to obtain output.

(b) A life insurance policy is a type of saving scheme. For a number of years, the policyholder pays premiums to the insurance corporation against a promise of benefits at some future date. These benefits may be expressed in terms of a formula related to the premiums paid or may be dependent on the level of success the insurance corporation has in investing the funds. The method of calculating output for life insurance follows the same general principles as for non-life insurance. However, because of the time intervals between the time when premiums are received and when benefits are paid, special allowances must be made for changes in the technical reserves. The output of life insurance is derived as:

premiums earned

plus premium supplements, *less* benefits due

less increases (plus decreases) in life insurance technical reserves.

Premiums are defined in exactly the same way for life insurance as for non-life insurance. Premium supplements are more significant for life insurance than for non-life insurance. Benefits are recorded as they are awarded or paid. There is no need under life insurance to derive an adjusted estimate of benefits since there is not the same unexpected volatility in the payment under a life policy. Life insurance technical reserves increase each year because of new premiums paid and new investment income allocated to the policyholders (but not withdrawn by them) and decrease because of benefits paid. It is thus possible to express the level of output of life insurance as the difference between the total investment income earned on the life insurance technical reserves less the part of this investment income actually allocated to the policy holders and added to the insurance technical reserves.

When this method is not feasible for data reasons or does not yield meaningful results, output of life insurance shall also be calculated as the sum of production costs plus an allowance for 'normal profit'.

- (c) The output of reinsurance is to be determined in exactly the same way as for non-life insurance, whether it is life or non-life policies that are being reinsured.
- (d) The output of running a social insurance scheme depends on the way in which it is organised. The following are examples of how such schemes are organised.
 - (1) Social security schemes are social insurance schemes that cover the community at large, and are imposed and controlled by government. Their purpose is to provide benefits for citizens to meet the demands of old age, invalidity or death, sickness, work injury, unemployment, family and health care, etc. If separate units are distinguished, their output is determined in the same way as all non-market output as the sum of costs. If separate units are not distinguished, the output of social security is included with the output of the level of government at which it operates.
 - (2) When an employer operates his own social insurance scheme, the value of the output is determined as the sum of costs including an estimate for a return to any fixed capital used in the operation of the scheme. The value of output is measured in the same way where the employer establishes a separate pension fund to manage the scheme.
 - (3) Where an employer uses an insurance corporation to manage the scheme on his behalf, the value of the output is the fee charged by the insurance corporation.

- (4) For a multi-employer scheme, the value of output is measured as for life insurance policies: it is investment income received by the schemes less the amount added to reserves.
- (e) Measuring the output of standardised loan guarantee schemes depends on the type of producer involved. If a standardised loan guarantee scheme operates as a market producer, the value of output is calculated in the same way as non-life insurance. If the scheme operates as a non-market producer, the value of output is calculated as the sum of costs.

Real estate services (Section L)

3.75 The output of services of owner-occupied dwellings is valued at the estimated value of rental that a tenant would pay for the same accommodation, taking into account factors such as location, neighbourhood amenities, etc., as well as the size and quality of the dwelling itself. For garages located separately from dwellings, which are used by the owner for final consumption purposes in connection with using the dwelling, a similar imputation is to be made. The rental value of owner-occupied dwellings abroad, e.g. holiday homes, should not be recorded as part of domestic production, but as imports of services and the corresponding net operating surplus as primary income received from the rest of the world. For owner-occupied dwellings owned by non-residents, analogous entries are made. In case of time-sharing apartments, a proportion of the service charge is recorded.

- 3.76 To estimate the value of owner-occupied dwelling services, the stratification method is used. The stock of dwellings is stratified by location, nature of dwelling and other factors that affect the rental. Information about actual rentals from rented dwellings is used to obtain an estimate of the rental value of the total stock of dwellings. The average actual rental per stratum is applied to all dwellings in that particular stratum. If the information on rentals is derived from sample surveys, the grossing-up to total stock rentals relates to both a part of the rented and all owner-occupied dwellings. The detailed procedure to determine a rental per stratum is carried out for a base year and is then extrapolated to the later periods.
- 3.77 The rental to be applied to owner-occupied dwellings in the stratification method is defined as the private market rental due for the right to use an unfurnished dwelling. The rentals for unfurnished dwellings from all private market contracts are used to determine imputed rentals. Private market rentals that are at a low level due to government regulation are included. If the information source is the tenant, the observed rental is corrected by adding any specific rental allowance, which is paid directly to the landlord. If the sample size for the observed rentals as defined above is not large enough, observed rentals for furnished dwellings may be used for imputation purposes, provided they are adjusted for the furniture element. Exceptionally, also increased rentals for public-owned dwellings may be used. Low rentals for dwellings let to relatives or to employees should not be used.

3.78 The stratification method is used for grossing up to all rented dwellings. The average rental for imputation as described above may not be suitable for some segments of the rental market. For example, scaled-down rentals for furnished dwellings or increased public rentals are not appropriate for the respective actually rented dwellings. In this case, separate strata for actually rented furnished or social dwellings combined with appropriate average rentals are required.

3.79 In the absence of a sufficiently large rental market, where accommodation is characteristic of owner-occupied dwellings, the user-cost method is applied for owner-occupied dwellings.

Under the user-cost method, the output of dwelling services is the sum of intermediate consumption, consumption of fixed capital, other taxes less subsidies on production and net operating surplus (NOS).

The NOS is measured by applying a constant real annual rate of return to the net value of the stock of owner-occupied dwellings at current prices (replacement costs).

3.80 The output of real estate services of non-residential buildings is measured by the value of the rentals due.

Professional, scientific and technical services (Section M); Administrative and support services (Section N)

- 3.81 The output of operating leasing services, such as renting out machinery or equipments, is measured by the value of the rental paid. Operating leasing is different from financial leasing: financial leasing is financing the acquisition of fixed assets, by making a loan from the lessor to the lessee. Financial leasing payments consist of repayments of principal and interest payments, with a small charge for direct services provided (see Chapter 15: Contracts, leases and licences).
- 3.82 Research and development (R&D) is creative work undertaken on a systematic basis to increase the stock of knowledge, and use of this stock of knowledge for the purpose of discovering or developing new products, including improved versions or qualities of -existing products, or discovering or developing new or more efficient processes of production. R&D of a significant size relative to the principal activity is recorded as a secondary activity of the local KAU. A separate local KAU is distinguished for R&D where possible.
- 3.83 The output of R&D services is measured as follows:
- (a) R&D by specialised commercial research laboratories or institutes is valued at the revenues from sales, contracts, commissions, fees, etc. in the usual way;

- (b) the output of R&D for use within the same enterprise is valued on the basis of the estimated basic prices that would be paid if the research were subcontracted. In the absence of a market for subcontracting R&D of a similar nature, it is valued as the sum of production costs plus a mark-up (except for non-market producers) for NOS or mixed income;
- (c) R&D by government units, universities and non-profit research institutes is valued as the sum of the costs of production. Revenues from the sale of R&D by non-market producers of R&D are to be recorded as revenues from secondary market output.

Expenditure on R&D is distinguished from that on education and training. Expenditure on R&D does not include the costs of developing software as a principal or secondary activity.

Public administration and defence services, compulsory social security services (Section O)

3.84 Public administration, defence services and compulsory social security services are provided as non-market services and valued accordingly.

Education services (Section P); human health and social work services (Section Q)

3.85 For education services and health services, a precise distinction is drawn between market and non-market producers and between their market and non-market output. For example, for some types of education and medical treatment, nominal fees can be levied by government institutions (or by other institutions due to specific subsidies), but for other education and special medical treatments they may charge commercial tariffs. Another example is that the same type of service (e.g. higher education) is provided by, on the one hand, the government and, on the other hand, commercial institutes.

Education and health services exclude R&D activities; health services exclude education in health care, e.g. by academic hospitals.

Arts, entertainment and recreation services (Section R); other services (Section S)

3.86 The production of books, recordings, films, software, tapes, disks, etc. is a two-stage process and is measured accordingly:

- (1) the output from the production of originals — an intellectual property product — is measured by the price paid if sold, or, if not sold, by the basic price paid for similar originals, its production costs (including a mark-up for NOS) or the discounted value of the future receipts expected from using it in production;

- (2) the owner of this asset may use it directly or to produce copies in subsequent periods. If the owner has licensed other producers to make use of the original in production, the fees, commissions, royalties, etc. received from the licenses are the output of services. However, the sale of the original is negative fixed capital formation.

Private households as employers (Section T)

- 3.87 The output of household services produced by employing paid staff is valued by the compensation of employees paid; this includes any compensation in kind such as food or accommodation.

INTERMEDIATE CONSUMPTION (P.2)

- 3.88 *Definition:* intermediate consumption consists of goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services are either transformed or used up by the production process.

3.89 Intermediate consumption includes the following cases:

- (a) goods and services used as inputs into ancillary activities. Common examples are purchasing, sales, marketing, accounting, data processing, transportation, storage, maintenance, security, etc. These goods and services are not distinguished from those consumed by the principal (or secondary) activities of a local KAU;
- (b) goods and services which are received from another local KAU of the same institutional unit;
- (c) rental of fixed assets, e.g. the operational leasing of machines, cars, software and entertainment originals;
- (d) fees for short-term contracts, leases and licences recorded as non-produced assets; this excludes the outright purchase of such non-produced assets;
- (e) the subscriptions, contributions or dues paid to non-profit business associations (see paragraph 3.35);
- (f) items not treated as gross capital formation, such as:
 - (1) inexpensive tools used for common operations, such as saws, spades, knives, axes, hammers, screwdrivers, spanners, wrenches and other hand tools; small devices such as pocket calculators. All expenditure on such durables is recorded as intermediate consumption;

- (2) the regular maintenance and repair of fixed assets used in production;
 - (3) services of staff training, market research and similar activities, purchased from an outside agency or provided by a separate local KAU of the same institutional unit;
 - (4) expenditure on R&D will be treated as fixed capital formation when a sufficiently high level of reliability and comparability of the estimates by the Member States has been achieved;
- (g) expenditure by employees, reimbursed by the employer, on items necessary for the employers' production, like contractual obligations to purchase on own-account tools or safety-wear;
- (h) expenditure by employers which is to their own benefit as well as to that of their employees, because it is necessary for production. Examples are:
- (1) reimbursement of employees for travelling, separation, removal and entertainment expenses incurred in the course of their duties;

- (2) providing amenities at the place of work.

A list of relevant expenditure is presented in the paragraphs on compensation of employees (D.1) (see paragraph 4.07);

- (i) non-life insurance service charges paid by local KAUs (see Chapter 16: Insurance). To record only the service charge as intermediate consumption, the premiums paid are discounted for, e.g. claims paid out and the net change in actuarial reserves. The net change in actuarial reserves shall be allocated to the local KAUs as a proportion of the premiums paid;
- (j) FISIM purchased by resident producers;
- (k) the non-market output of the central bank output should be entirely allocated to the intermediate consumption of other financial intermediaries.

3.90 Intermediate consumption excludes:

- (a) items treated as gross capital formation, examples being:
 - (1) valuables;
 - (2) mineral exploration;

- (3) major improvements beyond those required to keep the fixed assets in good working order. Examples are renovation, reconstruction or enlargement;
- (4) software purchased outright or produced on own-account;
- (5) military weapons and the equipment to deliver them;
- (b) expenditure treated as the purchase of non-produced assets. Examples are long-term contracts, leases and licences (see Chapter 15);
- (c) expenditure by employers treated as wages and salaries in kind;
- (d) use by market or own-account producer units of collective services provided by government units (treated as collective consumption expenditure by government);
- (e) goods and services produced and consumed within the same accounting period and within the same local KAU (they are also not recorded as output);
- (f) payments for government licenses and fees that are treated as other taxes on production;
- (g) payments for licences for using natural resources (e.g. land) that are treated as rents, i.e. as a payment of property income.

Time of recording and valuation of intermediate consumption

- 3.91 Products used for intermediate consumption are recorded and valued at the time they enter the process of production. They are valued at the purchasers' prices for similar goods or services at the time of use.
- 3.92 Producer units do not record the use of goods in production directly. They record the purchases intended to be used as inputs less the increase in the amounts of such goods held in inventory.

FINAL CONSUMPTION (P.3, P.4)

- 3.93 Two concepts of final consumption are used:
- (a) final consumption expenditure (P.3);
 - (b) actual final consumption (P.4).

Final consumption expenditure is expenditure on goods and services used by households, NPISHs and government to satisfy individual and collective needs. In contrast, actual final consumption refers to its acquisition of consumption goods and services. The difference between these concepts lies in the treatment of certain goods and services financed by the government or NPISHs but supplied to households as social transfers in kind.

Final consumption expenditure (P.3)

- 3.94 *Definition:* final consumption expenditure consists of expenditure incurred by resident institutional units on goods or services that are used for the direct satisfaction of individual needs or wants or the collective needs of members of the community.
- 3.95 Household final consumption expenditure includes the following examples:
- (a) services of owner-occupied dwellings;
 - (b) income in kind, such as:
 - (1) goods and services received as income in kind by employees;
 - (2) goods or services produced as outputs of unincorporated enterprises owned by households that are retained for consumption by members of the household. Examples are food and other agricultural goods, housing services by owner-occupiers and household services produced by employing paid staff (servants, cooks, gardeners, chauffeurs, etc.);

- (c) items not treated as intermediate consumption, such as:
 - (1) materials for small repairs to and interior decoration of dwellings of a kind carried out by tenants as well as owners;
 - (2) materials for repairs and maintenance to consumer durables, including vehicles;
- (d) items not treated as capital formation, in particular consumer durables, that continue to perform their function in several accounting periods; this includes the transfer of ownership of some durables from an enterprise to a household;
- (e) financial services directly charged and the part of FISIM used for final consumption purposes by households;
- (f) insurance services by the amount of the implicit service charge;
- (g) pension funding services by the amount of the implicit service charge;
- (h) payments by households for licences, permits, etc. which are regarded as purchases of services (see paragraphs 4.79 and 4.80);
- (i) the purchase of output at not economically significant prices, e.g. entrance fees for a museum.

3.96 Household final consumption expenditure excludes the following:

- (a) social transfers in kind, such as expenditures initially incurred by households but subsequently reimbursed by social security, e.g. some medical expenses;
- (b) items treated as intermediate consumption or gross capital formation, such as:
 - (1) expenditures by households owning unincorporated enterprises when incurred for business purposes — e.g. on durable goods such as vehicles, furniture or electrical equipment (gross fixed capital formation), and also on non-durables such as fuel (treated as intermediate consumption);
 - (2) expenditure that an owner-occupier incurs on the decoration, maintenance and repair of the dwelling not typically carried out by tenants (treated as intermediate consumption in producing housing services);
 - (3) the purchase of dwellings (treated as gross fixed capital formation);
 - (4) expenditure on valuables (treated as gross capital formation);
- (c) items treated as acquisitions of non-produced assets, in particular the purchase of land;
- (d) all those payments by households which are to be regarded as taxes (see paragraphs 4.79 and 4.80);

- (e) subscriptions, contributions and dues paid by households to NPISHs, such as trade unions, professional societies, consumers' associations, churches and social, cultural, recreational and sports clubs;
- (f) voluntary transfers in cash or in kind by households to charities and relief and aid organisations.

3.97 Final consumption expenditure of NPISHs includes two separate categories:

- (a) the value of the goods and services produced by NPISHs other than own-account capital formation and other than expenditure made by households and other units;
- (b) expenditures by NPISHs on goods or services produced by market producers that are supplied — without any transformation — to households for their consumption as social transfers in kind.

3.98 Final consumption expenditure (P.3) by government includes two categories of expenditures, similar to those by NPISHs:

- (a) the value of the goods and services produced by general government itself (P.1) other than own-account capital formation (corresponding to P.12), market output (P.11) and payments for non-market output (P.131);

(b) purchases by general government of goods and services produced by market producers that are supplied to households, without any transformation, as social transfers in kind (D.632). General government pays for these goods and services that the sellers provide to households.

3.99 Corporations do not make final consumption expenditures. Their purchases of goods and services as used by households for final consumption are either used for intermediate consumption or provided to employees as compensation of employees in kind, i.e. imputed household final consumption expenditure.

Actual final consumption (P.4)

3.100 *Definition:* actual final consumption consists of the goods or services that are acquired by resident institutional units for the direct satisfaction of human needs, whether individual or collective.

3.101 *Definition:* goods and services for individual consumption ('individual goods and services') are goods and services acquired by a household and used to satisfy the needs and wants of members of that household. Individual goods and services have the following characteristics:

- (a) it is possible to observe and record the acquisition of the goods and services by an individual household or member thereof and also the time at which the acquisition took place;
- (b) the household has agreed to the provision of the goods and services and takes the action necessary to consume the goods and services, for example by attending a school or clinic;
- (c) the goods and services are such that their acquisition by one household or person, or by a group of persons, precludes its acquisition by other households or persons.

3.102 *Definition:* collective services are services for collective consumption that are provided simultaneously to all members of the community or all members of a particular section of the community, such as all households living in a particular region. Collective services have the following characteristics:

- (a) they can be delivered simultaneously to every member of the community or to particular sections of the community, such as those in a particular region or locality;
- (b) the use of such services is usually passive and does not require the agreement or active participation of all the individuals concerned;
- (c) the provision of a collective service to one individual does not reduce the amount available to other in the same community or section of the community.

3.103 All household final consumption expenditure is individual. All goods and services provided by NPISHs are treated as individual.

3.104 For the goods and services provided by government units, the borderline between individual and collective goods and services is drawn on the basis of the classification of the functions of government (COFOG).

All government final consumption expenditure under each of the following headings is treated as expenditure on individual consumption:

(a) 7.1 Medical products, appliances and equipment

7.2 Outpatient services

7.3 Hospital services

7.4 Public health services;

(b) 8.1 Recreational and sporting services

8.2 Cultural services;

(c) 9.1 Pre-primary and primary education

9.2 Secondary education

9.3 Post-secondary non-tertiary education

- 9.4 Tertiary education
- 9.5 Education not definable by level
- 9.6 Subsidiary services to education;
- (d) 10.1 Sickness and disability
- 10.2 Old age
- 10.3 Survivors
- 10.4 Family and children
- 10.5 Unemployment
- 10.6 Housing
- 10.7 Social exclusion not elsewhere included.

3.105 Alternatively individual consumption expenditure of general government corresponds to division 14 of the classification of individual consumption by purpose (Coicop), which includes the following groups:

14.1 Housing (equivalent to COFOG group 10.6)

14.2 Health (equivalent to COFOG groups 7.1 to 7.4)

14.3 Recreation and culture (equivalent to COFOG groups 8.1 and 8.2)

14.4 Education (equivalent to COFOG groups 9.1 to 9.6)

14.5 Social protection (equivalent to COFOG groups 10.1 to 10.5 and group 10.7).

3.106 Collective consumption expenditure is the remainder of the government final consumption expenditure.

It consists of the following COFOG groups:

(a) general public services (division 1);

(b) defence (division 2);

(c) public order and safety (division 3);

(d) economic affairs (division 4);

(e) environmental protection (division 5);

- (f) housing and community amenities (division 6);
- (g) general administration, regulation, dissemination of general information and statistics (all divisions);
- (h) research and development (all divisions).

3.107 The relationships between the various consumption concepts employed can be shown in Table 3.2.

Table 3.2 — Sector making expenditure

	Government	NPISHs	Households	Total acquisitions
Individual consumption	X (= Social transfers in kind)	X (= Social transfers in kind)	X	Households actual individual final consumption
Collective consumption	X	0	0	Government's actual collective final consumption
Total	Government's final consumption expenditure	NPISHs final consumption expenditure	Households' final consumption expenditure	Actual final consumption = Total final consumption expenditure

X: applicable

0: not applicable

- 3.108 Final consumption expenditure of NPISHs is all individual. Total actual final consumption is equal to the sum of households' actual final consumption and actual final consumption of general government.
- 3.109 There are no social transfers in kind with the rest of the world (though there are such transfers in monetary terms). Total actual final consumption is equal to total final consumption expenditure.

Time of recording and valuation of final consumption expenditure

- 3.110 Expenditure on a good is recorded at the time of change of ownership; expenditure on a service is recorded when the delivery of the service is completed.
- 3.111 Expenditure on goods acquired under a hire purchase or similar credit agreement, and also under a financial lease, is recorded at the time the goods are delivered even if there is no change of ownership at this point.
- 3.112 Own-account consumption is recorded when the output retained for own final consumption is produced.
- 3.113 The final consumption expenditure of households is recorded at purchasers' prices. This is the price the purchaser actually pays for the products at the time of the purchase. A more detailed definition is in paragraph 3.06.

- 3.114 Goods and services supplied as employee compensation in kind are valued at basic prices when produced by the employer and at the purchasers' prices of the employer when bought in by the employer.
- 3.115 Retained goods or services for own consumption are valued at basic prices.
- 3.116 Final consumption expenditures by general government or NPISHs on products produced by themselves are recorded at the time they are produced, which is also the time of delivery of such services by government or NPISHs. For the final consumption expenditure on goods and services supplied via market producers, the time of delivery is the time of recording.
- 3.117 Final consumption expenditure (P.3) by general government or NPISHs is equal to the sum of their output (P.1), plus the expenditure on products supplied to households via market producers, part of social transfers in kind (D.632), minus the payments by other units, market output (P.11) and payments for non-market output (P.131), minus own-account capital formation (P.12).

Time of recording and valuation of actual final consumption

- 3.118 Goods and services are acquired by institutional units when they become the new owners of the goods and when the delivery of services to them is completed.
- 3.119 Acquisitions (actual final consumption) are valued at the purchasers' prices for the units that incur the expenditures.

- 3.120 Transfers in kind other than social transfers in kind from government and NPISHs are treated as if they were transfers in cash. Accordingly, the values of the goods or services are recorded as expenditures by the institutional units or sectors that acquire them.
- 3.121 The values of the two aggregates of final consumption expenditure and actual final consumption are the same. The goods and services acquired by resident households through social transfers in kind are valued at the same prices as those at which they are valued in the expenditure aggregates.

GROSS CAPITAL FORMATION (P.5)

- 3.122 Gross capital formation consists of:
- (a) gross fixed capital formation (P.51g):
 - (1) consumption of fixed capital (P.51c);
 - (2) net fixed capital formation (P.51n);
 - (b) changes in inventories (P.52);
 - (c) acquisitions less disposals of valuables (P.53).
- 3.123 Gross capital formation is measured gross of consumption of fixed capital. Net capital formation is calculated by deducting consumption of fixed capital from gross capital formation.

Gross fixed capital formation (P.51g)

3.124 *Definition:* gross fixed capital formation (P.51) consists of resident producers' acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producer or institutional units. Fixed assets are produced assets used in production for more than one year.

3.125 Gross fixed capital formation consists of both positive and negative values:

(a) positive values:

- (1) new or existing fixed assets purchased;
- (2) fixed assets produced and retained for producers' own use (including own account production of fixed assets not yet completed or fully mature);
- (3) new or existing fixed assets acquired through barter;
- (4) new or existing fixed assets received as capital transfers in kind;
- (5) new or existing fixed assets acquired by the user under a financial lease;
- (6) major improvements to fixed assets and existing historic monuments;
- (7) natural growth of those natural assets that yield repeat products;

- (b) negative values, i.e. disposals of fixed assets recorded as negative acquisitions:
 - (1) existing fixed assets sold;
 - (2) existing fixed assets surrendered in barter;
 - (3) existing fixed assets surrendered as capital transfers in kind.

3.126 The disposals components of fixed assets exclude:

- (a) consumption of fixed capital (which includes anticipated normal accidental damage);
- (b) exceptional losses, such as those due to drought or other natural disasters, which are recorded as other change in the volume of assets.

3.127 The following types of gross fixed capital formation are distinguished:

- (1) dwellings;
- (2) other buildings and structures; this includes major improvements to land;
- (3) machinery and equipment, such as ships, cars and computers;
- (4) weapons systems;
- (5) cultivated biological resources, e.g. trees and livestock;

- (6) costs of ownership transfer on non-produced assets, like land, contracts, leases and licences;
- (7) R&D, including the production of freely available R&D. Expenditure on R&D will only be treated as fixed capital formation when a high level of reliability and comparability of the estimates by the Member States has been achieved;
- (8) mineral exploration and evaluation;
- (9) computer software and databases;
- (10) entertainment, literary or artistic originals;
- (11) other intellectual property rights.

3.128 Major improvements to land include:

- (a) reclamation of land from sea by the construction of dikes, sea walls or dams for this purpose;
- (b) clearance of forests, rocks, etc. to enable land to be used in production for the first time;

- (c) draining of marshes or the irrigation of deserts by the construction of dikes, ditches and irrigation channels; prevention of flooding or erosion by the sea or rivers by the construction of breakwaters, sea walls or flood barriers.

These activities may lead to the creation of substantial new structures such as sea walls, flood barriers and dams, but these structures are not used to produce other goods and services, but obtain more or better land, and it is the land, a non-produced asset, that is used in production. For example, a dam built to produce electricity serves a different purpose from a dam built to keep out the sea. Only the latter type of dam is classified as an improvement to land.

3.129 Gross fixed capital formation includes the following borderline cases:

- (a) acquisitions of houseboats, barges, mobile homes and caravans used as residences of households and any associated structures such as garages;
- (b) structures and equipment used by the military;
- (c) light weapons and armoured vehicles used by non-military units;
- (d) changes in livestock used in production year after year, such as breeding stock, dairy cattle, sheep reared for wool and draught animals;

- (e) changes in trees that are cultivated year after year, such as fruit trees, vines, rubber trees, palm trees, etc.;
- (f) improvements to existing fixed assets beyond ordinary maintenance and repairs;
- (g) the acquisition of fixed assets by financial leasing;
- (h) terminal costs, i.e. large costs associated with disposal, e.g. decommissioning costs of nuclear power stations or clean up costs of landfill sites.

3.130 Gross fixed capital formation excludes:

- (a) transactions included in intermediate consumption, like:
 - (1) purchase of small tools for production purposes;
 - (2) ordinary maintenance and repairs;
 - (3) the acquisition of fixed assets to be used under an operational leasing contract (see also Chapter 15: Contracts, leases and licences). For the enterprise that is using the fixed asset, rentals are treated as intermediate consumption. For the owner of the asset, the cost of acquisition is recorded as gross fixed capital formation;

- (b) transactions recorded as changes in inventories:
 - (1) animals raised for slaughter, including poultry;
 - (2) trees grown for timber (work-in-progress);
- (c) machinery and equipment acquired by households for purposes of final consumption;
- (d) holding gains and losses on fixed assets;
- (e) catastrophic losses on fixed assets, e.g. destruction of cultivated assets and livestock by outbreaks of disease which is not normally covered by insurance, or damage due to abnormal flooding, wind damage or forest fires;
- (f) funds set aside or put in reserve without any commitment for the actual purchase or construction of a specific capital good, e.g. a government fund for infrastructure.

3.131 Gross fixed capital formation in the form of improvements to existing fixed assets is recorded as acquisitions of new fixed assets of the same kind.

3.132 Intellectual property products are the result of research and development, investigation or innovation leading to knowledge, use of which is restricted by law or other means of protection.

Examples of intellectual property assets are:

- (a) results of R&D;
- (b) results of mineral exploration, measured as the costs of actual test drilling, aerial or other surveys, transportation, etc.;
- (c) computer software and large databases to be used in production for more than one year;
- (d) entertainment, literary or artistic originals of manuscripts, models, films, sound recordings, etc.

3.133 For both fixed assets and non-produced non-financial assets, the costs of ownership transfer incurred by their new owner consist of:

- (a) charges incurred in taking delivery of the asset (new or existing asset) at the required location and time, such as transport charges, installation charges, erection charges, etc.;

- (b) professional charges or commissions incurred, such as fees paid to surveyors, engineers, lawyers, valuers, etc., and commissions paid to estate agents, auctioneers, etc.;
- (c) taxes payable by the new owner on the transfer of ownership of the asset. These taxes are taxes on the services of intermediaries and any tax on the transfer of ownership but not taxes on the asset bought.

All these costs are to be recorded as gross fixed capital formation by the new owner.

Time of recording and valuation of gross fixed capital formation

3.134 Gross fixed capital formation is recorded when the ownership of the fixed assets is transferred to the institutional unit that intends to use them in production.

This rule is modified for:

- (a) financial leasing, when a change of ownership from lessor to lessee is imputed;
- (b) own-account gross fixed capital formation, which is recorded when it is produced.

3.135 Gross fixed capital formation is valued at purchasers' prices including installation charges and other costs of ownership transfer. When produced on own-account it is valued at the basic prices of similar fixed assets, and if such prices are not available, at the costs of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income.

3.136 Acquisitions of intellectual property products are valued in different ways:

- (a) for mineral exploration: by the costs of actual test drillings and borings, and the costs incurred to make it possible to carry out tests, such as aerial or other surveys;
- (b) for computer software: by purchasers' prices when purchased on the market, or at its estimated basic price, or if no basic price is available, at its costs of production plus a mark-up for net operating surplus (except for non-market producers) when developed in-house;
- (c) for entertainment, literary or artistic originals: valued at the price paid by the purchaser when it is sold, or if not sold, the following methods of estimation are acceptable:
 - (i) at the basic price paid for similar originals;
 - (ii) the sum of its production costs plus a mark-up (except for non-market producers) for net operating surplus; or
 - (iii) the discounted value of expected receipts.

3.137 Disposals of existing fixed assets by sale are valued at basic prices, deducting any costs of ownership transfer incurred by the seller.

3.138 Costs of ownership transfer can apply to both produced assets, including fixed assets, and non-produced assets, such as land.

These costs are included in the purchasers' prices in the case of produced assets. They are separated from the purchases and sales themselves in the case of land and other non-produced assets, and recorded under a separate heading in the classification of gross fixed capital formation.

Consumption of fixed capital (P.51c)

3.139 *Definition:* consumption of fixed capital (P.51c) is the decline in value of fixed assets owned, as a result of normal wear and tear and obsolescence. The estimate of decline in value includes a provision for losses of fixed assets as a result of accidental damage which can be insured against. Consumption of fixed capital covers anticipated terminal costs, such as the decommissioning costs of nuclear power stations or oil rigs or the cleanup costs of landfill sites. Such terminal costs are recorded as consumption of fixed capital at the end of the service life, when the terminal costs are recorded as gross fixed capital formation.

3.140 Consumption of fixed capital shall be calculated for all fixed assets (except animals), including intellectual property rights, major improvements to land and costs of ownership transfers associated with non-produced assets.

- 3.141 Consumption of fixed capital is different from the depreciation allowed for tax purposes or the depreciation shown in business accounts. Consumption of fixed capital is estimated on the basis of the stock of fixed assets and the expected average economic life of the different categories of those goods. For the calculation of the stock of fixed assets, the perpetual inventory method (PIM) is applied whenever direct information on the stock of fixed assets is missing. The stock of fixed assets is valued at the purchasers' prices of the current period.
- 3.142 Losses of fixed assets occurring as a result of accidental damage which can be insured against are taken into account in calculating the average service life of the goods in question. For the economy as a whole the accidental damages within a given accounting period will be equal, or close, to the average. For individual units and groupings of units, actual and average accidental damage may differ. In this case, for sectors, any difference is recorded as other changes in volume of fixed assets.
- 3.143 Consumption of fixed capital shall be calculated according to the 'straight line' method, by which the value of a fixed asset is written off at a constant rate over the whole lifetime of the good.

- 3.144 In some cases, the geometric depreciation method is used when the pattern of decline in the efficiency of a fixed asset requires it.
- 3.145 In the system of accounts, consumption of fixed capital is recorded below each balancing item, which is shown gross and net. Recording 'gross' means without deducting consumption of fixed capital, while recording 'net' means after deducting consumption of fixed capital.

Changes in inventories (P.52)

- 3.146 *Definition:* changes in inventories are measured by the value of the entries into inventories less the value of withdrawals and the value of any recurrent losses of goods held in inventories.
- 3.147 Due to physical deterioration, or accidental damage or pilfering, recurrent losses may occur to all kinds of goods in inventories, such as:
- (a) losses of materials and supplies;
 - (b) losses in the case of work-in-progress;
 - (c) losses of finished goods;
 - (d) losses of goods for resale (e.g. shoplifting).

3.148 Inventories consist of the following categories:

(a) materials and supplies:

materials and supplies consist of all products held in stock with the intention of using them as intermediate inputs in production; this includes products held in stock by the government. Items such as gold, diamonds, etc. are included when intended for industrial use or other production;

(b) work-in-progress:

work-in-progress consists of output produced that is not yet finished. It is recorded in the inventories of its producer. Examples of the different forms it can take are the following:

- (1) growing crops;
- (2) maturing trees and livestock;
- (3) uncompleted structures (except those produced under a contract of sale agreed in advance or on own-account; both of these examples are treated as fixed capital formation);
- (4) uncompleted other fixed assets, e.g. ships and oil rigs;
- (5) partially completed research for a legal or consultant's dossier;

- (6) partially completed film productions;
- (7) partially completed computer programs.

Work-in-progress shall be recorded for any production process that is not finished at the end of the given period. This is significant in quarterly accounts, an example being agricultural crops not completing growth within a quarter of a year.

Reductions in work-in-progress take place when the production process is completed. At that point, all work-in-progress is transformed into a finished product;

- (c) finished goods:

finished goods as part of inventories consist of outputs that their producer does not intend to process further before supplying them to other institutional units;

- (d) goods for resale:

goods for resale are goods acquired for the purpose of reselling them unchanged from their present state.

Time of recording and valuation of changes in inventories

- 3.149 The time of recording and the valuation of changes in inventories is consistent with those of other transactions in products. This applies in particular to intermediate consumption (e.g. for materials and supplies), output (e.g. work-in-progress and output from storage of agricultural products) and gross fixed capital formation (e.g. work-in-progress). If goods are processed abroad with a change of economic ownership, the goods are to be included in exports (and later in imports). The export is reflected in a concomitant reduction in inventories, and the corresponding later import is recorded as an increase in inventories, provided it is not sold or used at once.
- 3.150 In measuring changes in inventories, goods entering inventories are valued at the time of entry, and goods being withdrawn are valued at the time of withdrawal.
- 3.151 The prices used to value goods in changes in inventories are as follows:
- (a) output of finished goods transferred into the producer's inventories is valued as if they were sold at that time, at current basic prices;
 - (b) additions to work-in-progress are valued in proportion to the estimated current basic price of the finished product;
 - (c) reductions in work-in-progress due to work withdrawn from inventories when production is finished are valued at current basic prices of the unfinished product;

- (d) goods transferred out of inventories for sale are valued at basic prices;
- (e) goods for resale entering the inventories of wholesalers and retailers, etc. are valued at the actual or estimated purchasers' prices of the trader;
- (f) goods for resale withdrawn from inventories are valued at the purchasers' prices at which they can be replaced at the time they are withdrawn, and not at the price when they were acquired.

3.152 Losses as a result of physical deterioration, insurable accidental damage or pilfering are recorded and valued as follows:

- (a) for materials and supplies: as materials and supplies actually withdrawn to be used up in production (intermediate consumption);
- (b) for work-in-progress: valued as deduction from the additions accruing to production carried out in the same period;
- (c) for finished goods and goods for resale: treated as withdrawals at the current price of undeteriorated goods.

3.153 Where information is lacking, the following approximate methods for the estimation of change in inventories are used:

- (a) when changes in the volume of inventories are regular, an acceptable approximate method is to multiply the volume change of the inventories by the average prices for the period. Purchasers' prices are used for inventories held by users or by wholesalers or retailers; basic prices are used for inventories held by their producers;
- (b) when prices of the goods involved remain constant, fluctuations in the volume of inventories do not invalidate the approximation of estimating the change in inventories by multiplying the volume change by the average price;
- (c) if both the volume and the prices of the inventories change substantially within the accounting period, more sophisticated approximation methods are required. For example, quarterly valuation of the changes in inventories or the use of information about the distribution of the fluctuations within the accounting period (fluctuations may be largest at the end of the calendar year, during harvest time, etc.);

- (d) if information about the values at the beginning and end of the period are available (e.g. in case of wholesale or retail trade in which inventories often exist of many different products), but no separate information about prices and volumes, the changes in volume between the beginning and end of the period are estimated. One way of estimating the change in volumes is to estimate constant turn-over rates by type of product.

Seasonal changes in prices may reflect a change in quality, e.g. clearance prices or off-season prices for fruit and vegetables. These changes in quality are treated as changes in the volume.

Acquisitions less disposals of valuables (P.53)

3.154 *Definition:* valuables are non-financial goods that are not used primarily for production or consumption, do not deteriorate (physically) over time under normal conditions and are acquired and held primarily as stores of value.

3.155 Valuables include the following types of goods:

- (a) precious stones and metals, such as diamonds, non-monetary gold, platinum, silver, etc.;

- (b) antiques and other art objects, such as paintings, sculptures, etc.;
- (c) other valuables, such as jewellery fashioned out of precious stones and metals and collectors' items.

3.156 Such types of goods are recorded as acquisition or disposal of valuables in the following examples:

- (a) the acquisition or disposal of non-monetary gold, silver, etc. by central banks and other financial intermediaries;
- (b) the acquisition or disposal of these goods by enterprises whose principal or secondary activity does not involve the production or trade in such types of goods. This acquisition or disposal is not included in the intermediate consumption or fixed capital formation of these enterprises;
- (c) the acquisition or disposal of such goods by households. Such acquisitions are not included in final consumption expenditure by households.

In the ESA, by convention also the following cases are recorded as acquisition or disposal of valuables:

- (a) the acquisition or disposal of these goods by jewellers and art dealers (following the general definition of valuables, the acquisition of these goods by jewellers and art dealers should be recorded as changes in inventories);
- (b) the acquisition or disposal of these goods by museums (following the general definition of valuables, the acquisition by a museum of these goods should be recorded as fixed capital formation).

This convention avoids frequent reclassification between the three main types of capital formation, i.e. between acquisition less disposal of valuables, fixed capital formation and changes in inventories, e.g. in the case of transactions of such goods between households and art dealers.

3.157 The production of valuables is valued at basic prices. All other acquisitions of valuables are valued at the purchasers' prices paid for them, including any agents' fees or commissions. They include trade margins when bought from dealers. Disposals of valuables are valued at the prices received by sellers, after deducting any fees or commissions paid to agents or other intermediaries. Acquisitions less disposals of valuables between resident sectors cancel out, leaving only agents and dealers margins.

EXPORTS AND IMPORTS OF GOODS AND SERVICES (P.6 and P.7)

3.158 *Definition:* exports of goods and services consist of transactions in goods and services (sales, barter, and gifts) from residents to non-residents.

3.159 *Definition:* imports of goods and services consist of transactions in goods and services (purchases, barter, and gifts) from non-residents to residents.

3.160 Exports and imports of goods and services do not include:

(a) establishment trade, i.e.:

- (1) deliveries to non-residents by non-resident affiliates of resident enterprises, e.g. sales abroad by foreign affiliates of a multinational owned/controlled by residents;
- (2) deliveries to residents by resident affiliates of non-resident enterprises, e.g. sales by domestic affiliates of a foreign multinational;

- (b) primary income flows to or from the rest of the world, such as compensation of employees, interest and revenues from direct investment. The revenues from direct investment may include an indistinguishable part for the provision of various services, e.g. training of employees, management services and the use of patents and trademarks;
- (c) the cross-border sale or purchase of financial assets or non-produced assets, such as land.

3.161 Imports and exports of goods and services are distinguished into:

- (a) intra-EU deliveries;
- (b) imports and exports outside the EU.

Both types are referred to as imports and exports.

Exports and imports of goods (P.61 and P.71)

3.162 Imports and exports of goods occur when economic ownership of goods changes between residents and non-residents. This applies irrespective of corresponding physical movements of goods across frontiers.

- 3.163 For deliveries between affiliated enterprises (branch or subsidiary, or foreign affiliate): a change of economic ownership is imputed whenever goods are delivered between affiliated enterprises. This applies only when the establishment receiving the goods assumes responsibility for making the decisions about the levels of supply and prices at which their output is delivered for the market.
- 3.164 Exports of goods occur without the goods crossing the country's frontier in the following examples:
- (a) goods produced by resident units operating in international waters are sold directly to non-residents in foreign countries. Examples of such goods are oil, natural gas, fishery products, maritime's salvage;
 - (b) transportation equipment or other movable equipment not tied to a fixed location;
 - (c) goods after changing ownership, which are lost or destroyed before they have crossed the frontier of the exporting country;
 - (d) merchanting, i.e. the purchase of a good by a resident from a non-resident and the subsequent resale of the good to another non-resident, without the good entering the merchant's economy.

Analogous cases occur for the imports of goods.

3.165 Imports and exports of goods include transactions between residents and non-residents in the following:

- (a) non-monetary gold;
- (b) silver bullion, diamonds and other precious metals and stones;
- (c) paper money and coins not in circulation and unissued securities (valued as goods, not at face value);
- (d) electricity, gas and water;
- (e) livestock driven across frontiers;
- (f) parcel post;
- (g) government exports including goods financed by grants and loans;
- (h) goods transferred to or from the ownership of a buffer stock organisation;
- (i) goods delivered by a resident enterprise to its non-resident affiliates, except for goods for processing;
- (j) goods received by a resident enterprise from its non-resident affiliates, except for goods for processing;

- (k) smuggled goods or products not reported for taxes like import duties and VAT;
- (l) other unrecorded shipments, such as gifts and those of less than a stated minimum value.

3.166 Imports and exports of goods exclude the following goods which nevertheless may cross the national frontier:

- (a) goods in transit through a country;
- (b) goods shipped to or from a country's own embassies, military bases or other enclaves inside the national frontiers of another country;
- (c) transportation equipment and other movable kinds of equipment which leave a country temporarily, without any change of economic ownership, e.g. construction equipment for installation or construction purposes abroad;
- (d) equipment and other goods which are sent abroad for processing, maintenance, servicing or repair; this applies also to goods processed to order abroad when a substantial physical change in the goods is involved;
- (e) other goods which leave a country temporarily, being generally returned within a year in their original state and without change of economic ownership.

Examples are goods sent abroad for exhibition and entertainment purposes, goods under an operating lease, including leases for several years and goods returned without being sold to a non-resident;

- (f) goods on consignment lost or destroyed after crossing a frontier before change of ownership occurs.

3.167 Imports and exports of goods are recorded when the ownership of the goods is transferred. A change of ownership is considered to occur at the time the parties to the transaction record it in their books or accounts. This may not coincide with the various stages of the contractual process, such as:

- (a) the time of commitment (contract date);
- (b) the time of provision of goods and services and acquisition of a claim for payment (transfer date);
- (c) the time of settlement of that claim (payment date).

3.168 Imports and exports of goods are to be valued free on board at the border of the exporting country (FOB). This value is:

- (a) the value of the goods at basic prices;

- (b) plus the related transport and distributive services up to that point of the border, including the cost of loading on to a carrier for onward transportation;
- (c) plus any taxes less subsidies on the goods exported; for intra-EU deliveries this includes VAT and other taxes on the goods paid in the exporting country.

In the supply and use and symmetric input-output tables, imports of goods for individual product groups are valued at the cost-insurance-freight (CIF) price at the border of the importing country.

3.169 *Definition:* the CIF price is the price of a good delivered at the frontier of the importing country, or the price of a service delivered to a resident, before the payment of any import duties or other taxes on imports or trade and transport margins within the country.

3.170 Proxies or substitute measures for the FOB value may be necessary under certain circumstances, such as:

- (a) barter of goods are valued at the basic prices that would have been received if the goods had been sold for cash;
- (b) transactions between affiliated enterprises: as a rule, actual transfer values are used. However, if they differ from market prices, they are replaced by an estimated market price equivalent;

- (c) goods transferred under a financial lease: the goods are valued on the basis of the purchasers' price paid by the lessor, and not by the cumulative value of the rental payments;
- (d) imports of goods estimated on the basis of customs data (for extra-EU trade) or Intrastat-information (for intra-EU trade). Both data sources do not apply FOB valuation; they use respectively the CIF value at the EU border and CIF values at the national border. As FOB-values are only used at the most aggregate level and CIF-values are used at the product group level, these modifications are applied at the most aggregate level, and the modification is known as the CIF/FOB adjustment;
- (e) imports and exports of goods estimated on the basis of survey information or various types of ad hoc information. In such instances, the total value of sales split out by product is obtained. The estimate is based on purchasers' prices and not on FOB values.

Exports and imports of services (P.62 and P.72)

3.171 *Definition:* exports of services consist of all services rendered by residents to non-residents.

3.172 *Definition:* imports of services consist of all services rendered by non-residents to residents.

3.173 Exports of services include the following cases:

- (a) transportation of exported goods after they have left the frontier of the exporting country when provided by a resident carrier (cases 2 and 3 in Table 3.3);
- (b) transportation of imported goods by a resident carrier:
 - (1) up to the frontier of the exporting country when goods are valued FOB to offset the transportation value included in the FOB-value (case 3 in Table 3.4);
 - (2) up to the frontier of the importing country when goods are valued CIF to offset the transportation value included in the CIF-value (cases 3 and 2 CIF in Table 3.4);
- (c) transportation of goods by residents on behalf of non-residents which does not involve imports or exports of the goods (e.g. the transport of goods that do not leave the country as exports or the transport of goods outside the domestic territory);
- (d) passenger transportation on behalf of non-residents by resident carriers;
- (e) processing and repair activities on behalf of non-residents; these activities are to be recorded net, i.e. as an export of services excluding the value of the goods processed or repaired;
- (f) installation of equipment abroad when a project is of limited duration by its nature;

- (g) financial services provided by residents to non-residents including both the explicit and implicit service charge, like FISIM;
- (h) insurance services provided by residents to non-residents by the amount of the implicit service charge;
- (i) expenditure by non-resident tourists and business travellers. The expenditure is classified as services; for the purposes of the supply and use and symmetric input-output tables, a breakdown by component products is necessary;
- (j) expenditure by non-residents on health and education services provided by residents; this includes the provision of these services on the domestic territory as well as abroad;
- (k) services of owner-occupied holidays homes of non-residents (see paragraph 3.77);
- (l) royalties and license fees, receipts of which are associated with the authorised use of intellectual property rights, such as patents, copyrights, trademarks, industrial processes, franchises, etc., and with the use through licensing agreements of produced originals or prototypes, such as manuscripts, paintings, etc. paid by non-residents to residents.

3.174 There is an equivalent import of service as a mirror image of the list of exports of services in paragraph 3.173, and only the following imports of services require further description.

3.175 Imports of transport services include the following examples:

- (a) transportation of exported goods up to the frontier of the exporting country when provided by a non-resident carrier to offset the transportation value included in the FOB-value of the exported goods (case 4 in Table 3.3);
- (b) transportation of imported goods by a non-resident carrier:
 - (1) from the frontier of the exporting country as a separate transportation service when imported goods are valued FOB (cases 4 and 5 FOB in Table 3.4);
 - (2) from the frontier of the importing country as a separate transportation service when imported goods are valued CIF (in this case the value of the transportation service between the frontiers of the exporting and the importing country is already included in the CIF-value of the good; case 4 in Table 3.4);
- (c) transportation of goods by non-residents on behalf of residents which does not involve imports or exports of goods (e.g. transport of goods in transit or transport outside the domestic territory);
- (d) international or national passenger transportation on behalf of residents by non-resident carriers.

Imports of transport services do not include transportation of exported goods after they have left the frontier of the exporting country when provided by a non-resident carrier (cases 5 and 6 in Table 3.3). Exports of goods are valued FOB and all such transport services are thus to be regarded as transactions between non-residents, i.e. between a non-resident carrier and a non-resident importer. This applies when these transportation services are paid under export-CIF-contracts by the exporter.

- 3.176 Imports in respect of direct purchases abroad by residents cover all purchases of goods and services made by residents while travelling abroad for business or personal purposes. Two categories must be distinguished because they require different treatment:
- (a) all business related expenditure by business travellers are intermediate consumption;
 - (b) all other expenditure, whether by business travellers or other travellers, are household final consumption expenditure.
- 3.177 Imports and exports of services are recorded at the time at which they are rendered. This time coincides with the time at which the services are produced. Imports of services are valued at purchasers' price and exports of services at basic prices.

Table 3.3 — The treatment of transportation of exported goods

	Domestic territory	Territory in-between	Territory of importing country
	1. resident carrier ⇒	2. resident carrier ⇒	3. resident carrier ⇒
	4. non-resident carrier ⇒	5. non-resident carrier ⇒	6. non-resident carrier ⇒

	Exports of goods (FOB)	Exports of services	Imports of goods (CIF/FOB)	Imports of services
1.	x	—	—	—
2.	—	x	—	—
3.	—	x	—	—
4.	x	—	—	x
5.	—	—	—	—
6.	—	—	—	—

3.178 Explanation of how to read this table: the first part of this table indicates that there are six possibilities of transportation of exported goods, depending on whether the carrier is resident or not and depending on where the transport takes place: from a place on the domestic territory to the national border, from the national border to the border of the importing country or from the border of the importing country to a place within the importing country. In the second part of this table, for each of these six possibilities, it is indicated whether the transportation costs are to be recorded as exports of goods, exports of services, imports of goods or imports of services.

Table 3.4 — The treatment of transportation of imported goods

Domestic territory	Territory in between	Territory of exporting country
1. resident carrier ⇐	2. resident carrier ⇐	3. resident carrier ⇐
4. non-resident carrier ⇐	5. non-resident carrier ⇐	6. non-resident carrier ⇐

	Valuation of imported goods	Imports of goods	Imports of services	Exports of goods (FOB)	Exports of services
1.	CIF/FOB	—	—	—	—
2.	FOB	—	—	—	—
	CIF	x	—	—	x
3.	CIF/FOB	x	—	—	x
4.	CIF/FOB	—	x	—	—
5.	FOB	—	x	—	—
	CIF	x	—	—	—
6.	CIF/FOB	x	—	—	—

3.179 Explanation of how to read this table: the first part of this table indicates that there are six possibilities of transportation of imported goods, depending on whether the carrier is resident or not and depending on where the transport takes place: from a place in the exporting country to the border of this exporting country, from the border of the exporting country to the border of the importing country and from the national border to a place on the domestic territory. In the second part of this table, for each of these six possibilities, it is indicated whether the transportation costs are to be recorded as imports of goods, imports of services, exports of goods or exports of services. In some instances (cases 2 and 5), this recording depends on the valuation principle applied for imported goods. Note that the transition from valuation of imported goods at CIF to FOB consists of:

- (a) CIF/FOB adjustment, i.e. from 2 CIF to 2 FOB (reduces total imports and exports);
- (b) CIF/FOB reclassification, i.e. from 5 CIF to 5 FOB (leaves total imports and exports unchanged).

TRANSACTIONS IN EXISTING GOODS

3.180 *Definition:* existing goods are goods that already have had a user (other than inventories).

3.181 Existing goods include:

- (a) buildings and other fixed capital goods which have been sold by producer units to other units:
 - (1) to be reused as such;
 - (2) to be demolished or broken up; the resulting products becoming raw materials (e.g. scrap iron) used for the production of new goods (e.g. steel);
- (b) valuables sold from one unit to another;
- (c) consumer durables which have been sold by households to other units:
 - (1) to be reused as such;
 - (2) to be broken up and converted into demolition materials;

- (d) non-durable goods (e.g. waste paper, rags, old clothes, old bottles, etc.) which have been sold by any unit, either to be used again or to become raw material for the manufacture of new goods.

The transfer of existing goods is recorded as a negative expenditure (acquisition) for the seller and a positive expenditure (acquisition) for the purchaser.

3.182 This definition of existing goods has the following consequences:

- (a) when the sale of an existing fixed asset or valuable takes place between two resident producers, the positive and negative values recorded for gross fixed capital formation cancel out for the economy as a whole except for the costs of ownership transfer;
- (b) when an existing immovable fixed asset (e.g. a building) is sold to a non-resident, the latter is treated as purchasing a financial asset, i.e. the equity of a notional resident unit. This notional resident unit is then deemed to purchase the fixed asset. The sale and purchase of the fixed asset take place between resident units;
- (c) when an existing movable fixed asset, such as a ship or aircraft, is exported, no positive gross fixed capital formation is recorded in the economy to offset the seller's negative gross fixed capital formation;

- (d) durable goods, such as vehicles, may be classified as fixed assets or as consumer durables depending upon the owner and the purpose for which they are used. If the ownership of such a good is transferred from an enterprise to a household to be used for final consumption, negative gross fixed capital formation is recorded for the enterprise and positive consumption expenditure for the household. Where ownership of such a good is transferred from a household to an enterprise, for the household negative final consumption expenditure is recorded and for the enterprise positive gross fixed capital formation is recorded;
- (e) transactions in existing valuables are to be recorded as the acquisition of a valuable (positive gross capital formation) by the purchaser and as the disposal of a valuable (negative gross capital formation) by the seller. In case of a transaction with the rest of the world, the import or export of a good is to be recorded. The sale of a valuable by a household is not to be recorded as negative final consumption expenditure;
- (f) when existing military durables are sold abroad by the government, this is recorded as an export of goods and as negative fixed capital formation by the government.

3.183 Transactions in existing goods are recorded at the time of change of ownership. The valuation principles appropriate to the type of transactions in products involved are applied.

ACQUISITIONS LESS DISPOSALS OF NON-PRODUCED ASSETS (NP)

- 3.184 *Definition:* non-produced assets consist of assets that have not been produced within the production boundary, and that may be used in the production of goods and services.
- 3.185 Three categories of acquisition less disposals of non-produced assets are distinguished:
- (a) Acquisition less disposals of natural resources (NP.1);
 - (b) Acquisition less disposals of contracts, leases and licenses (NP.2);
 - (c) Purchases less sales of goodwill and marketing assets (NP.3).
- 3.186 Natural resources shall comprise the following categories:
- (a) Land;
 - (b) Mineral and energy reserves;
 - (c) Non-cultivated biological resources;
 - (d) Water resources;
 - (e) Radio spectra;

- (f) Other natural resources.

Natural resources exclude the produced asset cultivated biological resources. The purchase or sale of cultivated biological resources is not recorded as acquisition less disposal of natural resources; it is recorded as fixed capital formation. Also, payments for the temporary use of natural resources are not recorded as acquisition of natural resources; they are recorded as rent, i.e. as property income (see Chapter 15: Contracts, leases and licences).

- 3.187 Land is defined as the ground itself, including soil covering and associated surface water. The associated surface water includes any inland waters (reservoirs, lakes, rivers, etc.) over which ownership rights can be exercised.
- 3.188 The following items are not included under the heading of land:
- (a) buildings or other structures on the land or through it (for example roads and tunnels);
 - (b) vineyards, orchards, or other plantations of trees and growing crops, etc.;
 - (c) subsoil assets;
 - (d) non-cultivated biological resources;

(e) water resources below the ground.

Items (a) and (b) are produced fixed assets, items (c), (d) and (e) are types of non-produced assets.

3.189 Acquisitions and disposals of land and other natural resources are valued at current market prices prevailing at the time the acquisitions/disposals occur. Transactions in natural resources are recorded at the same value in the accounts of the purchaser and in those of the seller. This value excludes the costs of the transfer of ownership of the natural resource. These costs are treated as gross fixed capital formation.

3.190 Contracts, leases and licenses as non-produced assets consist of the following classes:

- (a) marketable operating leases;
- (b) permits to use natural resources, e.g. fishing quota;
- (c) permits to undertake specific activities, e.g. emission permits and licences for a limited number of casinos or to operate taxis in a certain area;
- (d) entitlements to future goods and services on an exclusive basis, e.g. a footballer's contracts and a publisher's exclusive right to publish new works by a named author.

3.191 Contracts, leases and licenses as a category of non-produced assets exclude the operating lease of such assets; payments for the operating lease are recorded as intermediate consumption.

The value of acquisitions and disposals of contracts, leases and licences excludes the associated costs of ownership transfer. The costs of ownership transfer are a component of gross fixed capital formation.

3.192 *Definition:* the value of goodwill and marketing assets is the difference between the value paid for an enterprise as a 'going concern' and the sum of its assets less the sum of its liabilities. To calculate the total value of assets less liabilities, each individual asset and liability is separately identified and valued.

3.193 Goodwill is only recorded when its value is evidenced by a market transaction, for example by the sale of the whole corporation. Where identified marketing assets are sold individually and separately from the whole corporation, such sale is recorded under this item.

3.194 Acquisitions less disposals of non-produced assets are recorded in the capital account of the sectors, the total economy and the rest of the world.