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## Component expenditures of GDP

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# Component expenditures of GDP

# 4



## 4.1 Introduction

4.1 Eurostat and OECD comparisons of GDP are made from the expenditure side. Each country participating in a comparison is required to provide either Eurostat or the OECD with a detailed breakdown of its expenditure estimate of GDP for the reference year. The detailed expenditures are used as weights in the calculation of PPPs and in the estimation of real expenditures. For this they need to be harmonised across participating countries that are required to report their final expenditures according to a common classification. This chapter explains the definitions and concepts underlying the common classification used for Eurostat and OECD comparisons. It describes the structure and presentation of the classification. The classification itself can be found in Annex III. The chapter also covers the reporting of expenditure data by countries and the subsequent validation of reported data by Eurostat or the OECD. It concludes by identifying those developments that will occur after publication of the manual and which will impact on the classification.

## 4.2 The expenditure approach to GDP

4.2 A prerequisite of international price and volume comparisons of GDP is that the definition of GDP and its expenditure components is the same for all participating countries. To this end, the Eurostat-OECD expenditure classification adheres to the definitions, concepts, classifications and accounting rules of the SNA 93<sup>1</sup> and the ESA 95<sup>2</sup>. Participating countries compile their estimates of final expenditure following one of these two international systems of national accounts. The two systems are fully consistent with each other. The ESA 95 is a version of the SNA 93 appropriate to the circumstances and needs of the European Union. The SNA 93 provides guidelines and recommendations for global implementation. The ESA 95 specifies how the guidelines and the recommendations should be applied by EU Member States. It has legal status within the European Union.

4.3 As mentioned in Chapter 1, both systems have been revised. Most, if not all, participating countries will have switched to either the SNA 2008<sup>3</sup> or the ESA 2010<sup>4</sup> by 2014. Changes between the original and revised versions that are relevant to the expenditure classification are listed at the end of the chapter.

4.4 The SNA 93 and the ESA 95 define GDP from the expenditure side as:

- total final expenditures at purchasers' prices<sup>5</sup>
- *plus* f.o.b. (free on board) value<sup>6</sup> of exports of goods and services
- *less* f.o.b. value of imports of goods and services.

4.5 Final expenditures are expenditures on goods and services purchased for final use - that is, for final consumption or for gross capital formation. Final consumption consists of the goods and services used up by individual households or the community to satisfy their individual or collective needs. Final consumption expenditures are incurred by households, non-profit institutions serving

<sup>1</sup> *System of National Accounts 1993*, Commission of the European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, World Bank, 1993.

<sup>2</sup> *European System of Accounts 1995*, Eurostat, Luxembourg, 1996.

<sup>3</sup> *System of National Accounts 2008*, Commission of the European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, World Bank, New York, 2009.  
<http://unstats.un.org/unsd/nationalaccount/sna2008.asp>

<sup>4</sup> *European System of Accounts 2010*, Eurostat, Luxembourg, 2011.

<sup>5</sup> The purchaser's price is the amount paid by the purchaser in order to take delivery of a unit of a good or service at the time and place required by the purchaser. It includes supplier's retail and wholesale margins, separately invoiced transport and insurance charges, non-deductible tax on products and sometimes, as in the case of certain items of machinery and equipment, installation costs.

<sup>6</sup> The f.o.b. (free on board) price is the price of a good delivered at the customs frontier of the exporting country. It includes the freight and insurance charges incurred to that point (including, when applicable, the cost of loading onto a carrier for onward transportation from that point) and any export duties or other taxes on exports levied by the exporting country.

households (NPISHs) and general government. Gross capital formation comprises gross fixed capital formation, change in inventories and acquisitions less disposals of valuables. Gross capital formation expenditures are incurred by resident producers of goods and services: incorporated enterprises, unincorporated enterprises (including households engaged in own-account production), general government and non-profit institutions. Final expenditures do not include expenditures on intermediate consumption – that is, the goods and services, other than fixed assets<sup>7</sup>, that are used or consumed as inputs by a production process.

4.6 The difference between the f.o.b. value of exports of goods and services and the f.o.b. value of imports of goods and services is called the *balance of exports and imports* or *net exports*.

4.7 GDP is therefore:

total final consumption expenditure:

- final consumption expenditure of households
- final consumption expenditure of NPISHs
- final consumption expenditure of general government

plus gross capital formation:

- gross fixed capital formation
- change in inventories
- acquisitions less disposals of valuables

plus balance of exports and imports.

#### 4.2.1 Actual and imputed expenditures

4.8 Final expenditure includes actual expenditures and imputed expenditures. Actual expenditures cover monetary transactions. They can be measured directly because for each transaction there is a price agreed between buyer and seller that is stated in monetary units. Imputed expenditures are non-monetary transactions. They cannot be measured directly because either the transaction is explicit, as in barter trade, but the price agreed is not stated in monetary units, or the transaction is implicit, as, for example, owner-occupiers “purchasing” housing services from themselves, and no price is involved. Expenditures on non-monetary transactions are obtained by estimating or imputing a value to them - hence, *imputed expenditures*.

4.9 Imputations are made for:

- *consumption of own-produced goods*: goods that households produce and consume themselves (agricultural produce, preserved foodstuffs, wine, spirits, clothing, furniture, etc.);
- *own-account production of fixed capital assets*: gross fixed capital formation carried out by producers on their own account (includes own-account construction, improvement and extension of dwellings by households);
- *imputed rentals of owner-occupiers*: housing services that owner-occupiers “sell” to themselves;
- *income in kind*: goods and services that employees receive free, or at very low prices, from their employers (meals, drinks, transportation to and from work, recreation facilities, company cars for personal use, etc.);
- *financial intermediation services indirectly measured* (FISIM): financial intermediation services that banks provide clients but for which they do not charge explicitly;

<sup>7</sup> Fixed assets provide capital services that are consumed over a number of years. Their consumption is recorded as consumption of fixed capital.

- *imputed social contributions*: unfunded social insurance schemes operated by employers (such as pension schemes for government employees that are funded out of general revenue);
- *barter trade*;
- *consumption of fixed capital by non-market producers*, that is, by NPISHs and general government.

4.10 The values to be imputed are defined by national accounting conventions. These vary from case to case and are described in the SNA 93 and the ESA 95. Generally, goods and services produced for own final use should be valued at the basic prices<sup>8</sup> at which they could be sold if offered for sale on the market or, failing that, as the sum of their costs of production. For example, the imputed rentals of owner-occupiers should be valued at the estimated rental that a tenant pays for a dwelling of the same size and quality in a comparable location with similar neighbourhood amenities. To do this requires the existence of a well-organised market for rented accommodation. In the absence of such a market, the value of imputed rentals will have to be derived by some other objective procedure such as the user-cost method<sup>9</sup>.

#### 4.2.2 Individual and collective consumption expenditures

4.11 The SNA 93 and the ESA 95 describe the components of final consumption expenditure as either *individual* or *collective*. Individual consumption expenditure comprises the expenditures made by households, NPISHs and general government on goods and services that benefit individual households. Such goods and services are called *individual goods and services*. Collective consumption expenditure comprises the expenditures made by general government on services that benefit households collectively. Such services are called *collective services*. Health, education and social protection are examples of individual services that households purchase for themselves and which NPISHs and general government provide to specific identifiable households. Defence, public order and safety, and environment protection are examples of collective services that general government provides to the community as a whole.

4.12 On the basis of this differentiation, final consumption expenditure breaks down into the following four main aggregates:

- *Individual consumption expenditure by households*: The actual and imputed final consumption expenditure incurred by households on individual goods and services. By definition, all final consumption expenditures of households are for the benefit of individual households so all such expenditure is classified as individual. Household final consumption expenditure covers a broad range of goods and services that includes food, beverages, tobacco, clothing, footwear, housing, heating and lighting, furniture and furnishings, household appliances, medical goods and services, transport equipment, transport and communication services, recreation and sporting equipment, recreation and sporting services, cultural services, education, services of hotels and restaurants, personal care services, social protection, insurance and financial services, etc. Imputations for consumption of own-produced goods, rentals of owner-occupiers, income in kind, FISIM and, possibly, barter transactions can be important components of household expenditure.
- *Individual consumption expenditure by NPISHs*: The actual and imputed final consumption expenditure incurred by NPISHs on individual goods and services. In practice, nearly all final consumption expenditures of NPISHs are individual in nature and so, for simplicity, all final consumption expenditures of NPISHs are treated by

<sup>8</sup> The amount received by the producer from the purchaser for a unit of good or service produced as output. It includes subsidies on products and other taxes on production. It excludes taxes on products, other subsidies on production, supplier's retail and wholesale margins and separately invoiced transport and insurance charges.

<sup>9</sup> This consists of summing the relevant cost items: intermediate consumption (current maintenance and repairs, insurance services), consumption of fixed capital, other taxes on production and net operating surplus (nominal rate of return on the capital invested in the dwelling and land).

convention as individual. Essentially, the final consumption expenditure of NPISHs relates to individual services – that is, housing, health, recreation, sport, culture, education and social protection. It also includes the collective services provided by religious and community organisations, political parties and political action groups, trade unions and professional associations operating as NPISHs.<sup>10</sup>

- *Individual consumption expenditure by government:* The actual and imputed final consumption expenditure incurred by general government on housing, health, recreation and culture, education, and social protection. Not all government expenditure on these services constitutes individual consumption expenditure. Expenditures on the overall policy-making, planning, budgetary, co-ordinating and monitoring responsibilities of ministries overseeing the services and on the research and development carried out for the services are classified as collective consumption expenditure because they cannot be identified with specific individual households and are considered to benefit households collectively.
- *Collective consumption expenditure by government:* The actual and imputed final consumption expenditure incurred by general government on collective services. It covers all government final consumption expenditure on general public services, defence, public order and safety, economic affairs, environment protection, and housing and community amenities. It includes as well government expenditure on the collective features of individual services mentioned in the previous bullet point.

**Box 4.1:** Moving from final consumption expenditure to actual final consumption

Who pays	Final consumption expenditure	Actual final consumption	Who consumes
Households	Individual consumption expenditure by households	Actual individual consumption	Households individually
NPISHs	Individual consumption expenditure by NPISHs		
General government	Individual consumption expenditure by government		
	Collective consumption expenditure by government	Actual collective consumption	General government (households collectively)

<sup>10</sup> Had these services been provided by government they would normally be considered to be collective and not individual services.

### 4.2.3 Actual individual and collective consumption

4.13 Each of the four aggregates defined above clearly indicates, who is the beneficiary of the expenditure – individuals or the community – and who makes the expenditure – households, NPISHs or general government. The SNA 93 and the ESA 95 use the distinction between *who consumes* and *who pays* to derive two additional aggregates: actual individual consumption and actual collective consumption.

- *Actual individual consumption* is a measure of the goods and services that individual households actually consume as opposed to what they actually purchase. It is derived, as shown in Box 4.1, by adding individual consumption expenditure by NPISHs and individual consumption expenditure by government to individual consumption expenditure by households. In this context, the SNA 93 and the ESA 95 treat the individual consumption expenditures of NPISHs and government as *social transfers in kind*.
- *Actual collective consumption* is a measure of the services that general government provides to the community as a whole and which households consume collectively. It is obtained, as shown in Box 4.1, by deducting individual consumption expenditure by government from final consumption expenditure of general government. In other words, it is the same as collective consumption expenditure by government.

4.14 Countries following the SNA 93 or the ESA 95 estimate final expenditure by who pays. Thus the concept of actual individual consumption is of particular relevance to comparisons of the economic well-being of households (when well-being is measured by the volume of individual goods and services consumed) because of the different ways individual services, particularly health and education, are financed in countries.

4.15 In some countries, government (and/or NPISHs) provide the greater part of health and education services and these expenditures are included in the individual consumption expenditure of government (and/or NPISHs). In other countries, households purchase nearly all health and education services from market producers and these expenditures are included in the individual consumption expenditure of households. Under these circumstances, individual consumption expenditure by households is not the correct measure with which to compare the volumes of individual goods and services actually consumed by households in different countries. Households in countries where government (and/or NPISHs) are the main providers of individual services will appear to consume a smaller volume of goods and services than households in countries where the households themselves pay directly for the bulk of these services. This is avoided by comparing the actual individual consumption of countries as illustrated by Box 4.2.

**Box 4.2:** Individual consumption expenditure by households and actual individual consumption (by households)

Country	Per capita volume indices in 2008	
	Individual consumption expenditure by households	Actual individual consumption (by households)
Denmark	54	70
Finland	53	67
France	56	69
Germany	60	70
Iceland	60	75
Netherlands	58	73
Norway	65	81
Sweden	54	70
United Kingdom	67	79
United States	100	100

1. The table above gives the per capita volume indices from the 2008 Eurostat and OECD comparisons for individual consumption expenditure by households and actual individual consumption (by households) for nine European countries and the United States. The indices show that in 2008 households in the United States both spent and consumed more per capita than did households in the nine European countries. The differences are larger for individual consumption expenditure - 41 per cent on average – than they are for actual individual consumption – 27 per cent on average. But which measure better reflects relative economic well-being? Were households in the United States 27 per cent or 41 per cent “better off” than the European households in 2008?
2. In the nine European countries listed, individual services are mostly purchased by government and, following the who pays criterion, are included in government expenditure. In the United States, individual services are mainly purchased by households and, in accordance with the who pays principle, are recorded under household expenditure. A comparison of economic welfare based on the per capita volume indices of individual consumption expenditure by households is clearly misleading in this situation. The comparison has to be based on what households actually consumed – that is, on the value of the individual goods and services they purchased themselves plus the value of the individual goods and services provided to them by government. It is the per capita volume indices of actual consumption (by households) that provide a correct picture of relative economic well-being. Households in the United States were 27, not 41, per cent “better off” than the European households in 2008.

#### 4.2.4 Market and non-market services

4.16 By definition, the collective services that government provides to households can only be produced by government. But the individual services that government provides to households can be either purchased by government from market producers or produced by government itself. The individual services that government purchases from market producers are *market services*. The individual and collective services that general government produces itself are mainly *non-market services*. The difference between market services and non-market services is that the former are sold at prices that are economically significant, while the latter are either provided free or sold at prices that are not economically significant. The SNA 93 defines economically-significant prices as prices that have a significant influence on the amounts producers are willing to supply and on the amounts purchasers wish to buy. The ESA 95 is more specific. It defines economically-significant prices as prices which cover over 50 per cent of the costs of production.

4.17 Because they are sold at economically-significant prices, expenditures on market services can be obtained by multiplying the quantities sold by the prices they are sold at. The same prices can also be used to calculate the PPPs for market services. The lack of economically-significant prices for non-market services precludes their expenditures and their PPPs being derived in the same

manner as they are for market services. Instead, following the convention adopted by national accountants, expenditures on non-market services are estimated by summing up their costs of production. Consistency with the prices underlying the expenditure estimates can be maintained by using the prices of inputs to calculate the PPPs for non-market services. This is referred to as the *input-price approach*. To implement the input-price approach, the expenditures on non-market services need to be broken down by cost components, namely: compensation of employees, intermediate consumption, consumption of fixed capital, net operating surplus, net taxes on production and receipts from sales. The disadvantage of the input-price approach is that differences in productivity across countries are not reflected in the resulting volume measures.

4.18 Formerly in Eurostat and OECD comparisons, PPPs for all individual and collective non-market services produced by general government were obtained by the input-price approach. Now, however, the input-price approach is only used for hospital services and collective services, although, once the output-price approach that is being developed for hospital services is introduced, it will be used solely for collective services. An output approach is already used for education. It involves calculating volume ratios with quality adjusted quantities first and then deriving PPPs indirectly as described in Chapter 8. This change in methodology reflects a trend in national accounts to measure the volume of individual services from the output rather than the input side as was the practice in the past.<sup>11</sup>

#### 4.2.5 Gross capital formation

4.19 The SNA 93 and the ESA 95 define gross capital formation as comprising gross fixed capital formation, change in inventories and acquisitions less disposals of valuables, of which gross fixed capital formation is the most important. These three aggregates are defined as follows:

- *Gross fixed capital formation*: The acquisitions less disposals of fixed assets plus major improvements to non-produced assets.

Fixed assets are assets that are produced by human production processes. They exclude land and subsoil assets which are produced by nature. Fixed assets are used repeatedly, or continuously, in processes of production for more than one year. Fixed assets are either tangible, such as buildings, machinery, etc., or intangible, such as mineral exploration<sup>12</sup>, computer software<sup>13</sup>, etc. They may be new or existing – that is, used or second-hand. Sales and purchases of existing fixed assets between residents cancel out over the economy as a whole and, except for the transfer of ownership costs which do not cancel out, can be ignored. Sales and purchases of existing fixed assets between residents and non-residents do not cancel each other out and cannot be ignored. They are recorded as investment by the importer and disinvestment by the exporter.<sup>14</sup> Imports of second-hand machinery and equipment can be a significant part of the gross fixed capital formation of some countries participating in Eurostat and OECD comparisons. An important element of gross fixed capital formation is own-account production of fixed capital assets (including the construction of new dwellings and the extension and modification of existing dwellings carried out by households on own account).

Non-produced assets are assets that are needed for production and come into existence in ways other than through processes of production. Major improvements to non-produced assets must come about through productive activity. Land, for example, is a non-produced asset. Major improvements to land usually involve the construction of dykes, drainage ditches, irrigation channels, etc. for the purpose of reclaiming land from

<sup>11</sup> See, for example, *Handbook on price and volume measures in national accounts*, Eurostat, Luxembourg, 2001 [http://epp.eurostat.ec.europa.eu/portal/page/portal/product\\_details/publication?p\\_product\\_code=KS-41-01-543](http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-41-01-543) and *Towards measuring the volume output of education and health services: a handbook*, Paul Schreyer, Statistics Directorate Working Paper No 31, OECD, Paris, April 2010.

<sup>12</sup> Covers all expenditures on such exploration irrespective of whether or not new discoveries are made.

<sup>13</sup> Covers both purchases of ready-made software and the cost of software developed in house.

<sup>14</sup> Basic headings for machinery and equipment can have negative values when disinvestment by the exporter is greater than investment by the importer.

the sea, marshes, deserts, etc. The clearance of land to bring it into production for the first time is also a major improvement. Non-produced assets, like fixed assets may be both tangible, such as subsoil assets, land, etc., and intangible, such as leases, patented entities, etc.

- *Change in inventories*: The acquisition less disposals of stocks of raw materials, semi-finished goods and finished goods that are held by producer units prior to their being further processed or sold or otherwise used. Inventories also cover all raw materials and goods stored by government as strategic reserves. Semi-finished goods include work-in-progress - that is, goods and services that are only partially completed and whose production process will be continued by the same producer in a period following the accounting period. Work-in-progress is particularly important for production processes with long gestation periods, such as the construction of large-scale civil engineering works, the manufacture of ships and aeroplanes, and reforestation. Also covered by work-in-progress is the natural growth prior to harvest of agricultural crops and the natural growth in livestock raised for slaughter.
- *Acquisitions less disposals of valuables*: Changes in the stocks of goods that have been acquired primarily as stores of value because they are expected to appreciate - or at least not to decline - in value and do not deteriorate over time under normal conditions. Valuables include gold (other than monetary gold) and other precious metals, expensive jewellery and precious stones, works of art and antiques.

## 4.3 The expenditure classification

### 4.3.1 Structure of the classification

4.20 The Eurostat-OECD classification breaks down final expenditure into seven main aggregates:

- Individual consumption expenditure by households,
- Individual consumption expenditure by NPISHs,
- Individual consumption expenditure by government,
- Collective consumption expenditure by government,
- Gross fixed capital formation,
- Change in inventories and acquisitions less disposals of valuables,
- Balance of exports and imports.

4.21 These seven main aggregates are subsequently broken down first into expenditure categories, then into expenditure groups and expenditure classes and finally into basic headings. There are 31 expenditure categories, 66 expenditure groups, 143 expenditure classes and 206 basic headings.<sup>15</sup> The distribution of these aggregation levels by main aggregate is shown in Box 4.3.

<sup>15</sup> The OECD version of the classification has 196 basic headings to which the 206 basic headings in the Eurostat version sum exactly. The principal difference between the two versions is that the OECD version has just one basic heading for furniture and one basic heading for NPISHs, whereas the Eurostat version has four basic headings for furniture and six basic headings for NPISHs.

**Box 4.3:** Number of categories, groups, classes and basic headings by main aggregates

Main aggregates Categories	Categories	Groups	Classes	Basic headings
<b>11.00 Individual consumption expenditure by households</b>	<b>13</b>	<b>44</b>	<b>105</b>	<b>143</b>
- .01 Food and non-alcoholic beverages		2	11	34
- .02 Alcoholic beverages, tobacco and narcotics		3	5	5
- .03 Clothing and footwear		2	6	10
- .04 Housing, water, electricity, gas and other fuels		5	11	11
- .05 Furnishings, household equipment and maintenance		6	12	16
- .06 Health		3	7	7
- .07 Transport		3	14	18
- .08 Communication		3	3	3
- .09 Recreation and culture		6	20	22
- .10 Education		1	1	1
- .11 Restaurants and hotels		2	3	4
- .12 Miscellaneous goods and services		7	11	11
- .13 Net purchases abroad		1	1	1
<b>12.00 Individual consumption expenditure by NPISHs</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>
- .01 Housing		1	1	1
- .02 Health		1	1	1
- .03 Recreation and culture		1	1	1
- .04 Education		1	1	1
- .05 Social protection		1	1	1
- .06 Other services		1	1	1
<b>13.00 Individual consumption expenditure by government</b>	<b>5</b>	<b>6</b>	<b>11</b>	<b>21</b>
- .01 Housing		1	1	1
- .02 Health		2	7	17
- .03 Recreation and culture		1	1	1
- .04 Education		1	1	1
- .05 Social protection		1	1	1
<b>14.00 Collective consumption expenditure by government</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>7</b>
<b>15.00 Gross fixed capital formation</b>	<b>3</b>	<b>6</b>	<b>13</b>	<b>26</b>
- .01 Machinery and equipment		2	7	20
- .02 Construction		3	3	3
- .03 Other products		1	3	3
<b>16.00 Change in inventories and acquisitions less disposals of valuables</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
- .01 Change of inventories		1	1	1
- .02 Acquisitions less disposals of valuables		1	1	1
<b>17.00 Balance of exports and imports</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>GDP</b>	<b>31</b>	<b>66</b>	<b>143</b>	<b>206</b>

### 4.3.2 Basic headings

4.22 The lowest level of aggregation is referred to as the *basic heading level*. Basic headings are the building blocks of Eurostat and OECD comparisons. It is at the level of the basic heading that expenditures are defined, products selected, prices collected, prices validated and PPPs first calculated and averaged. The PPP Regulation defines basic headings as the lowest level of aggregation in the expenditure breakdown for which PPPs are calculated.<sup>16</sup> Ideally a basic heading should consist of a group of similar well-defined goods or services, but in reality coverage is frequently determined by the lowest level of final expenditure for which explicit expenditure weights can be estimated. An actual basic heading can therefore include a broader range of products than is theoretically desirable. Examples of basic headings are given in Box 4.4. Their coverage varies. The basic headings for potatoes and men's footwear are relatively homogeneous, while those for major household appliances and maintenance and repair services for dwellings are distinctly heterogeneous with the latter being a mix of both goods and services.

#### Box 4.4: Examples of basic heading definitions

<b>11.01.17.2</b>	<b>Fresh or chilled potatoes (ND)</b> Fresh or chilled potatoes; <i>includes</i> other tuber vegetables (manioc, arrowroot, cassava, sweet potatoes, etc.).
<b>11.03.21.1</b>	<b>Men's footwear (SD)</b> All footwear for men including sports footwear suitable for everyday or leisure wear (shoes for jogging, cross-training, tennis, basket ball, boating, etc.); <i>includes</i> gaiters, leggings and similar articles; shoelaces; parts of footwear, such as heels, soles, etc., purchased by households with the intention of repairing footwear themselves; <i>excludes</i> shoe-trees, shoehorns and polishes, creams and other shoe-cleaning articles (11.05.61.1); orthopaedic footwear (11.06.13.1); game-specific footwear (ski boots, football boots, golfing shoes and other such footwear fitted with ice skates, rollers, spikes, studs, etc.) (11.09.32.1); shin-guards, cricket pads and other protective apparel for sport (11.09.32.1).
<b>11.05.31.1</b>	<b>Major household appliances whether electric or not (D)</b> Refrigerators, freezers and fridge-freezers; washing-machines, dryers, drying cabinets, dishwashers, ironing and pressing machines; cookers, spit roasters, hobs, ranges, ovens and micro-wave ovens; air conditioners, humidifiers, space heaters, water heaters, ventilators and extractor hoods; vacuum cleaners, steam-cleaning machines, carpet shampooing machines and machines for scrubbing, waxing and polishing floors; safes, sewing machines, knitting machines, water softeners, etc.; <i>includes</i> the delivery and installation of the appliances when applicable; <i>excludes</i> such appliances that are built into the structure of the building (capital formation).
<b>11.04.32.1</b>	<b>Services for the maintenance and repair of the dwelling (S)</b> Services of plumbers, electricians, carpenters, glaziers, painters, decorators, floor polishers, etc. engaged for minor maintenance and repair of the dwelling; <i>includes</i> total value of the service (that is, both the cost of labour and the cost of materials are covered); <i>excludes</i> separate purchases of materials made by households with the intention of undertaking the maintenance or repair themselves (11.04.31.1); services engaged for major maintenance and repair (intermediate consumption) or for extension and conversion of the dwelling (capital formation).

<sup>16</sup> See PPP Regulation, article 3(e) in Annex II.

### 4.3.3 Derivation of actual individual consumption

4.23 The Eurostat-OECD classification is first and foremost an expenditure classification. Individual consumption expenditure is clearly structured by who pays – households, NPISHs or general government. Participating countries are required to provide a breakdown of their final expenditure in line with this structure. Yet, for the reason explained in Box 4.2, one of the principal aims of Eurostat and OECD comparisons is to compare actual individual consumption (by households) at various levels of aggregation. And the results of comparisons are presented by who consumes – households or general government. The Eurostat-OECD classification is designed to allow the final consumption expenditures of households, NPISHs and government to be reclassified according to whether they benefit households individually or collectively.

4.24 This is achieved by using three functional classifications from the SNA 93: COICOP<sup>17</sup>, COPNI<sup>18</sup> and COFOG 98<sup>19</sup>. These classify respectively the expenditures of households, NPISHs and general government by purpose – that is, by the ends that they wish to achieve through these expenditures. COICOP is designed to classify only a single outlay: individual consumption expenditure. COPNI and COFOG 98 are designed to classify a range of transactions of which the outlay on final consumption expenditure is one. In this respect, the main use of COPNI and COFOG 98 is to classify the individual consumption expenditures by NPISHs and government in a way that is consistent with the classification of individual consumption expenditure by households in COICOP.

4.25 Together, COICOP, COPNI and COFOG 98 ensure the harmonised treatment of individual consumption expenditures of households, NPISHs and government that is central to the Eurostat-OECD classification. The correspondence with the three classifications as it is to be found in the Eurostat-OECD classification is summarised in Box 4.5. The table shows the correspondence between the expenditure categories of the classification and how these are summed to obtain actual individual consumption at the category level. This correspondence carries through to the lower levels of aggregation for households and for government, but not for NPISHs because participating countries generally do not have the detailed expenditure data required.

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<sup>17</sup> “Classification of Individual Consumption According to Purpose (COICOP)”, *Classification of Expenditure According to Purpose*, United Nations, New York, 2000.

<sup>18</sup> “Classification of the Purposes of Non-Profit Institutions Serving Households (COPNI)”, *Classification of Expenditure According to Purpose*, United Nations, New York, 2000.

<sup>19</sup> “Classification of the Functions of Government (COFOG)”, *Classification of Expenditure According to Purpose*, United Nations, New York, 2000.

**Box 4.5:** Derivation of actual individual consumption for expenditure categories

Purpose of expenditure	Households [COICOP]	NPISHs [COPNI]	Government [COFOG 98]	Actual individual consumption
Food and non-alcoholic beverages	11.01			11.01
Alcoholic beverages, tobacco & narcotics	11.02			11.02
Clothing and footwear	11.03			11.03
Housing, water, electricity, gas & other fuels	11.04			11.04
<i>of which</i> Actual rentals for housing	11.04.1*	12.01	13.01	11.04.1* + 12.01 + 13.01
Furnishings, household equip. & maintenance	11.05			11.05
Health	11.06	12.02	13.02	11.06 + 12.02 + 13.02
Transport	11.07			11.07
Communication	11.08			11.08
Recreation and culture	11.09	12.03	13.03	11.09 + 12.03 + 13.03
Education	11.10	12.04	13.04	11.10 + 12.04 + 13.04
Restaurants and hotels	11.11			11.11
Miscellaneous goods and services:	11.12			11.12
<i>of which</i> Social protection	11.12.4*	12.05	13.05	11.12.4* + 12.05 + 13.05
Other services		12.06		12.06
Total individual consumption expenditure	11.00	12.00	13.00	11.00 + 12.00 + 13.00

\* Expenditure group

#### 4.3.4 Main aggregates

4.26 The main aggregates have already been defined. This paragraph describes how they are dealt with in the expenditure classification.

- *Individual consumption expenditure by households* is broken down by purpose in line with COICOP into 143 basic headings. Expenditures at the basic heading level are defined according to the domestic concept – that is, irrespective of whether the household making the purchase is resident or not. Hence, the expenditures will include purchases of goods and services in the domestic market by non-resident households and will exclude purchases of goods and services by resident households when travelling abroad. But total individual consumption expenditure by households is required by the national concept – that is, it should refer to expenditures by resident households only. To obtain this total, a global adjustment – *net purchases abroad* – is made. The adjustment comprises one basic heading in the classification and is defined as the difference between purchases by residential households in the rest of the world less purchases by non-residential households in the economic territory of the country.
- *Individual consumption expenditure by NPISHs* is broken down by purpose according to COPNI into six basic headings: housing, health, recreation and culture, education, social protection, and other services. Other services includes expenditure by NPISHs on religion, political parties, labour and professional organisations, environment protection, and research and development.
- *Individual consumption expenditure by government* is broken down into 21 basic headings. The initial breakdown is by purpose as defined by COFOG 98: housing, health, recreation and culture, education and social protection. Of these, only health is broken down further. First, by whether the expenditure is for the purchase of health services from market producers (in the form of benefits and reimbursements) or for the production of health services by government itself. The expenditure on government-produced health services is then broken down by cost components as required by the input-price approach. The breakdown is given in Box 4.6.

- *Collective consumption expenditure by government* is defined in line with COFOG 98. It is treated as a single aggregate and broken down by cost components into seven basic headings as required by the input-price approach. From Box 4.6, it can be seen that compensation of employees and intermediate consumption are broken down by type of service – that is, by whether they relate to defence or to collective services other than defence.
- *Gross fixed capital formation* is broken down by type of product following CPA 96<sup>20</sup> into 26 basic headings: twenty for machinery and equipment, three for construction and three for other products. Other products include products of agriculture, forestry, fisheries and aquaculture; computer software; land improvement, mineral exploration and other intangible fixed assets.
- *Change in inventories and acquisitions less disposals of valuables* is broken down into two basic headings: change in inventories<sup>21</sup> and acquisitions less disposals of valuables.
- *Balance of exports and imports* is one basic heading. It is defined as exports of goods and services *less* imports of goods and services. According to the SNA 93 and the ESA 95, both exports and imports should be valued at f.o.b. (free on board) prices – that is, the prices at the frontier of the exporting country. This is difficult to do in the case of imports, which are usually registered in customs records at the value at the frontier of the importing country – that is, at c.i.f. (cost, insurance and freight)<sup>22</sup> prices. If merchandise imports are adjusted to f.o.b. prices, the effect is to reduce the value of merchandise imports and to increase the value of net imports of freight and insurance services by exactly the same amount. Since only the balance – that is, the combined totals - of exports and imports of goods and services is required for the calculation of PPPs, the Eurostat-OECD classification, as a practical matter, calls for merchandised imports to be valued at c.i.f. prices.

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<sup>20</sup> Statistical Classification of Products by Activity in the European Economic Community (CPA 1996), Eurostat, Luxembourg, 1998.

<sup>21</sup> For the purposes of Eurostat-OECD comparisons, change in inventories also includes the statistical discrepancies of those participating countries that report them in their estimates of final expenditure on GDP.

<sup>22</sup> The c.i.f. (cost, insurance and freight) price is the price of a good delivered at the customs frontier of the importing country. It includes any insurance and freight charges incurred to that point. It excludes any import duties or other taxes on imports and trade and transport margins within the importing country.

**Box 4.6:** Government final consumption expenditure by basic heading

<b>INDIVIDUAL CONSUMPTION EXPENDITURE BY GOVERNMENT</b>	
13.01.11.1	Housing
	<b><i>Health benefits and reimbursements</i></b>
13.02.11.1	Pharmaceutical products
13.02.11.2	Other medical products
13.02.11.3	Therapeutic appliances and equipment
13.02.12.1	Out-patient medical services
13.02.12.2	Out-patient dental services
13.02.12.3	Out-patient paramedical services
13.02.12.4	Hospital services
	<b><i>Production of health services</i></b>
13.02.21.1	Compensation of employees: Physicians
13.02.21.2	Compensation of employees: Nurses and other medical staff
13.02.21.3	Compensation of employees: Non-medical staff
13.02.22.1	Intermediate consumption: Pharmaceutical products
13.02.22.2	Intermediate consumption: Other medical goods
13.02.22.3	Intermediate consumption: Therapeutic appliances and equipment
13.03.22.4	Intermediate consumption n.e.c.
13.02.23.1	Gross operating surplus
13.02.24.1	Net taxes on production
13.02.25.1	<u>less</u> Receipts from sales
13.03.11.1	Recreation and culture
13.04.11.1	Education
13.05.11.1	Social protection
<b>COLLECTIVE CONSUMPTION EXPENDITURE BY GOVERNMENT</b>	
14.01.11.1	Compensation of employees (collective services relating to defence)
14.01.11.2	Compensation of employees (collective services other than defence)
14.01.12.1	Intermediate consumption (collective services relating to defence)
14.01.12.2	Intermediate consumption (collective services other than defence)
14.01.13.1	Gross operating surplus
14.01.14.1	Net taxes on production
14.01.15.1	<u>less</u> Receipts from sales

**Box 4.7: Levels of aggregation**

10.00.00.0 GROSS DOMESTIC PRODUCT	
11.00.00.0 INDIVIDUAL CONSUMPTION EXPENDITURE BY HOUSEHOLDS	= main aggregate
11.01.00.0 FOOD AND NON-ALCOHOLIC BEVERAGES	= expenditure category
11.01.10.0 FOOD	= expenditure group
11.01.11.0 <u>Bread and cereals</u> [COICOP 01.1.1]*	= expenditure class
11.01.11.1 Rice (ND)**	= basic heading
11.01.11.2 Other cereals (ND)**	= basic heading
11.01.11.3 Bread (ND)**	= basic heading
11.01.11.4 Other bakery products (ND)**	= basic heading
11.01.11.5 Pasta products (ND)**	= basic heading
11.01.12.0 <u>Meat</u> [COICOP 01.1.2]*	= expenditure class
11.01.12.1 Beef and veal (ND)**	= basic heading
11.01.12.2 Pork (ND)**	= basic heading

\* classification correspondence

\*\* classification by type of product

**4.3.5 Presentation of the classification**

4.27 The classification is presented in Annex III. GDP, main aggregates, expenditure categories and expenditure groups are identified by capital letters and by one-, two-, four- and five-digit codes respectively. Expenditure classes are underlined and have six-digit codes. Basic headings have seven-digit codes. These distinctions are illustrated in Box 4.7.

4.28 Annex III provides a definition for each basic heading. Examples of these definitions are given in Box 4.4. From these it can be seen that a definition lists either the products or the product groups covered by the basic heading. For example, the definition of services for the maintenance and repair of the dwelling specifies products: *services of plumbers, electricians, carpenters, glaziers, painters, decorators, floor polishers, etc.* The definition for major household appliances identifies six product groups: *refrigerators, freezers and fridge-freezers; washing-machines, dryers, drying cabinets, dishwashers, ironing and pressing machines; cookers, spit roasters, hobs, ranges, ovens and micro-wave ovens; air conditioners, humidifiers, space heaters, water heaters, ventilators and ex-tractor hoods; vacuum cleaners, steam-cleaning machines, carpet shampooing machines and machines for scrubbing, waxing and polishing floors; safes, sewing machines, knitting machines, water softeners, etc.*

4.29 The lists are not comprehensive, but they are complete enough to demarcate the boundaries of the basic headings and to distinguish between them. In addition, there are clarifications, when possible ambiguities may arise, of what is to be specifically included and what is to be specifically excluded. In the case of exclusions, the correct basic heading for the excluded product is identified. From the definition of men's footwear in Box 4.4, it can be seen that the expenditure on the basic heading should include expenditure on *gaiters, leggings and similar articles; shoelaces; parts of footwear, such as heels, soles, etc., purchased by households with the intention of repairing footwear themselves* and should exclude expenditure on *shoe-trees, shoehorns and polishes, creams and other shoe-cleaning articles (11.05.61.1); orthopaedic footwear (11.06.13.1); game-specific footwear (ski boots, football boots, golfing shoes, other such footwear fitted with ice skates, rollers, spikes, studs, etc.) (11.09.32.1); shin-guards, cricket pads and other protective apparel for sport (11.09.32.1)*. Excluded expenditures should be assigned to the basic heading stipulated: 11.05.61.1, 11.06.13.1, 11.09.32.1 or 11.09.32.1.

### 4.3.6 Correspondence with COICOP, COPNI, COFOG 98 and CPA 96

4.30 The individual consumption expenditures of households, NPISHs and government are classified by purpose using COICOP, COPNI and COFOG 98. Gross fixed capital formation is classified according to CPA 96 which classifies products by activity in line with NACE Rev. 1<sup>23</sup>.

4.31 In Annex III, the correspondence with COICOP, COPNI and CPA 96 is specified in square brackets [ ] at the level of the expenditure class. From Box 4.7, it can be seen that expenditure class 11.01.11 Bread and cereals corresponds to COICOP class 01.1.1 and that expenditure class 11.01.12 Meat corresponds to COICOP class 01.1.2. Usually there is a one-to-one correspondence between the expenditure classes of individual consumption expenditure by households and COICOP classes. This is not the case with the expenditure classes of individual consumption by NPISHs and the classes of COPNI. Nor is it so with the expenditure classes of gross fixed capital formation and the classes of CPA 96. In both cases, the correspondence is between an expenditure class and a range of classes of the underlying classification. For example, it can be seen in Annex III that expenditure class 12.02.11 Health corresponds to COPNI classes 02.1.1 to 02.6.0 and that expenditure class 15.01.12 General purpose machinery corresponds to CPA 96 classes 29.11 to 29.24.

4.32 The correspondence with COFOG 98 is defined two aggregation levels higher, at the expenditure category level. The correspondence is broad, generally at the level of COFOG divisions (or two-digit level). For example, in Annex III, the correspondence between expenditure category 13.02.00.0 HEALTH and COFOG 98 is defined as follows:

“COFOG 07 Health covers government outlays on health services provided to individual persons and health services provided on a collective basis. Only expenditures on individual services - COFOG 07.1.1 to 07.4.0 - are allocated here (*that is, to 13.02.00.0 HEALTH*). Expenditures on collective services - COFOG 07.5.0 and 07.6.0 - are assigned to 14.01.10.0 (*that is, to COLLECTIVE SERVICES*).”

A clear distinction is made between those expenditures that are individual and those that are collective as required by COFOG 98.

### 4.3.7 Classification by type of product

4.33 Each basic heading in Annex III is classified by type of product – that is, whether the products it covers are goods or services. For example, in Box 4.7, all the basic headings are designated (ND). This indicates that they contain non-durable consumer goods as explained below.

4.34 Under individual consumption expenditure by households, basic headings containing goods are denoted by either (ND), (SD) or (D) indicating *non-durable*, *semi-durable* or *durable* respectively, while those containing services are denoted by (S). Most of these basic headings comprise either goods or services, but, for practical reasons, some basic headings contain both goods and services. Similarly, there are basic headings which contain either both non-durable and semi-durable goods or both semi-durable and durable goods. Such basic headings are assigned a (ND), (SD), (D) or (S) according to which type of product is considered to be predominant.

4.35 The distinction between non-durable goods and durable goods is based on whether the goods can be used only once or whether they can be used repeatedly or continuously over a period of considerably more than one year.<sup>24</sup> Durables have as well a relatively high purchasers' price. Semi-durable goods differ from durable goods in that their expected lifetime of use, though more than one year, is often significantly shorter and that their purchasers' price is substantially less.<sup>25</sup> These differentiations are the same as those applied to classify COICOP classes by type of product.

<sup>23</sup> Statistical Classification of Economic Activities in the European Community (NACE Rev.1), Eurostat, Luxembourg, 1996.

<sup>24</sup> Paragraph 9.38, SNA 93.

<sup>25</sup> Paragraph 6.93, SNA 68.

4.36 All basic headings under individual consumption expenditure by NPISHs and individual consumption expenditure by government are classified as individual services (IS). Likewise, all basic headings under collective consumption expenditure by government are classified as collective services (CS) and all basic headings under gross fixed capital formation are classified as investment goods (IG).

## 4.4 Reporting and validation of expenditure data

### 4.4.1 Reporting

4.37 Participating countries are required to report details of their final expenditure for a reference year,  $t$ , three times: first in the September of year  $t+1$ , then in the September of year  $t+2$  and finally in the September of year  $t+3$ .

- The detailed expenditures reported in  $t+1$  are used to calculate the preliminary PPPs for  $t$  that are released in December of  $t+1$ . Countries are expected to report the best estimates for the various levels of aggregation that are available for  $t$  at that time. Being provisional, the extent to which the breakdowns, particularly at the lower levels of aggregation, will reflect that of a previous year rather than  $t$  will vary from country to country. As a minimum, GDP, the main aggregates and the expenditure categories should be current estimates for  $t$ , but the structure of expenditure below these levels may be that of  $t-1$  or even  $t-2$ .
- The detailed expenditures reported in  $t+2$  are used to calculate the intermediate PPPs for  $t$  that are released in December of  $t+2$ . Countries are expected to report breakdowns that refer to  $t$  at all levels of aggregation. It is also expected that the breakdowns will be almost final with countries having introduced most of the major revisions to their estimates with only minor revisions outstanding.
- The detailed expenditures reported in  $t+3$  are used to calculate the final PPPs for  $t$  that are released in December of  $t+3$ . Countries are expected to report breakdowns that refer to  $t$  at all levels of aggregation. It is also expected that the breakdowns will be final.

4.38 The PPPs for  $t$  will be calculated in December of  $t+1$ ,  $t+2$  and  $t+3$  just prior to their dissemination. The detailed expenditures that were reported earlier in the corresponding September provide the weights for the calculation. But they do not provide the levels of either GDP or its component expenditures. Levels for GDP and the main aggregates are taken from the national accounts data bases maintained by Eurostat and the OECD just before the calculation is made. The expenditure extracted for each of the main aggregates is then distributed proportionally across the aggregate's basic headings in line with each basic heading's share in the expenditure on the aggregate reported in September.

4.39 Participating countries are required to report their detailed expenditures on the electronic reporting form supplied by Eurostat or by the OECD. An example of the first page of the reporting form is provided in Box 4.8. The various levels of aggregation are listed in descending order - GDP, main aggregates, expenditure categories, expenditure groups, expenditure classes, basic headings - with each aggregation level being nested under the aggregation level immediately above it. The reporting form is programmed to be completed from the bottom up - that is, from the basic heading upwards. For example, once the expenditures on the basic headings *rice, other cereals, flour and other cereal products, bread, other bakery products* and *pasta* have been entered, expenditure on the expenditure class *bread and cereals* will be calculated automatically. This expenditure will be carried through to all the higher levels of aggregation - *food, food and non-alcoholic beverages, individual consumption expenditure by households* and, finally, *GDP* - as shown in Box 4.8. Of course, as the expenditures for the other basic headings are introduced, the higher levels of aggregation will change. They will keep on accumulating until the expenditures for all their constituent basic headings have been included.

4.40 The cells for basic headings on the reporting form are not programmed – that is, they do not contain an aggregation formula. Only the cells for aggregation levels above the basic heading level are programmed for automatic aggregation. Participating countries should complete the form by entering only the expenditures on the 206 basic headings listed. Automatic aggregation will complete the reporting form and provide a data set that is internally consistent – that is, each aggregate is the sum of its components. In practice, it is unlikely that countries will apply this bottom up approach throughout. For certain expenditure classes, and even, perhaps, for some expenditure groups, countries will follow a top down approach. If a top down approach is adopted, care must be taken not to override the aggregation formula in order to preserve the internal consistency of the data set. This can be done by entering the expenditure for the class in the cell of one of its basic headings. Later the expenditure can be revisited and divided over all the basic headings covered by the expenditure class.<sup>26</sup>

4.41 Neither the reporting form nor the expenditure classification on which it is based makes provision for the statistical discrepancy that may arise when countries use two independent approaches to estimate GDP. For the purposes of Eurostat and OECD comparisons, participating countries that report a statistical discrepancy for their expenditure estimate of GDP should include the discrepancy under the basic heading *change in inventories* on the reporting form.

#### 4.4.2 Validation

4.42 Participating countries should make sure that the reporting form is complete and that there is an entry for each basic heading. If the form is not complete, countries are required to fill the gaps themselves and not leave it to be done for them by Eurostat or the OECD. Countries are generally in a better position to estimate missing expenditures and it is preferable that they, and not Eurostat or the OECD, do the estimations. Possible ways of doing this include referring back to the expenditure data of former reference years, searching for a data source which, while not consulted during regular compilations of the national accounts, could be used for PPP purposes, and soliciting experts for “guesstimates”. The allocations of participating countries having “similar” expenditure patterns can also be applied, although this approach works better with the household expenditure than it does with government expenditure or capital formation. If none of these options are effective, then, as a last resort, completeness can be forced by distributing the expenditure on an expenditure class equally over its basic headings. When this occurs it should be brought to the attention of Eurostat or the OECD and indicated on the reporting form. Note, that if there is no expenditure on a basic heading then a zero must be entered into its cell, it should not be left blank. Reporting forms with blank cells will be returned to countries for completion.

4.43 Participating countries should also verify the temporal consistency of the expenditures they report. The shares of the component expenditures of all levels of aggregation should be compared with their respective shares in previous reference years. Conspicuous shifts in shares that cannot be readily explained should be investigated and corrected when necessary. Otherwise they should be flagged and endorsed either on the reporting form or in a covering note. This will avoid needless queries when either Eurostat or the OECD repeats the edit.

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<sup>26</sup> For example, a country may have firm information about expenditures on the expenditure class *fruit*, but no direct information on the two basic headings – *fresh or chilled fruit* and *frozen, preserved, processed fruit and fruit products* – that make up the expenditure class. In this case, the country can enter the expenditure on fruit directly into one of the basic heading cells, return later to this expenditure and use its best judgement about the split between the two basic headings.

## Box 4.8: Expenditure reporting form

Main aggregates, categories, groups, classes and basic headings	Reference year (t)
10.00.00.0 GROSS DOMESTIC PRODUCT	100
11.00.00.0 INDIVIDUAL CONSUMPTION EXPENDITURE BY HOUSEHOLDS	100
11.01.00.0 FOOD AND NON-ALCOHOLIC BEVERAGES	100
11.01.10.0 FOOD	100
11.01.11.0 <u>Bread and cereals</u>	100
11.01.11.1 Rice	15
11.01.11.2 Other cereals, flour and other cereal	5
11.01.11.3 Bread	35
11.01.11.4 Other bakery products	20
11.01.11.5 Pasta products	25
11.01.12.0 <u>Meat</u>	
11.01.12.1 Beef and veal	
11.01.12.2 Pork	
11.01.12.3 Lamb, mutton and goat	
11.01.12.4 Poultry	
11.01.12.5 Other meats and edible offal	
11.01.12.6 Delicatessen and other meat	
11.01.13.0 <u>Fish and seafood</u>	
11.01.13.1 Fresh, chilled or frozen fish and seafood	
11.01.13.2 Preserved and processed fish and	
11.01.14.0 <u>Milk, cheese and eggs</u>	
11.01.14.1 Fresh milk	
11.01.14.2 Preserved milk and other milk products	
11.01.14.3 Cheese	
11.01.14.4 Eggs and egg-based products	
11.01.15.0 <u>Oil and fats</u>	
11.01.15.1 Butter	
11.01.15.2 Margarine	
11.01.15.3 Other edible oils and fats	
11.01.16.0 <u>Fruit</u>	
11.01.16.1 Fresh or chilled fruit	
11.01.16.2 Frozen/preserved/processed fruit	
11.01.17.0 <u>Vegetables</u>	
11.01.17.1 Fresh or chilled vegetables other than	
11.01.17.2 Fresh or chilled potatoes	
11.01.17.3 Frozen/preserved/processed vegetables	
11.01.18.0 <u>Sugar, jam, honey and confectionery</u>	
11.01.18.1 Sugar	
11.01.18.2 Jams, marmalades and honey	
11.01.18.3 Confectionery, chocolate & other cocoa	
11.01.18.4 Edible ice, ice cream and sorbet	
11.01.19.0 <u>Food products n.e.c.</u>	
11.01.19.1 Food, products n.e.c.	
11.01.20.0 NON-ALCOHOLIC BEVERAGES	
11.01.21.0 <u>Coffee, tea and cocoa</u>	
11.01.21.1 Coffee, tea and cocoa	
11.01.22.0 <u>Mineral waters, soft drinks, fruit and vegetable</u>	
11.01.22.1 Mineral waters	
11.01.22.2 Soft drinks and concentrates	
11.01.22.3 Fruit and vegetable juices	

4.44 On receipt of the reporting forms, Eurostat and the OECD will repeat the checks for completeness, internal consistency and temporal consistency. They will verify as well the spatial consistency of the reported expenditures by comparing the shares of component expenditures of each level of aggregation across countries. Even though the expenditure patterns of participating countries can vary considerably, this edit allows inconsistencies arising from differences in interpretation and implementation to be identified. Unless a country has changed its practice between reference years, it is unlikely to find such inconsistencies itself when checking temporal consistency. For example, in the past, some countries included the cost of food purchased in restaurants under food, while others included it under restaurants. This discrepancy was discovered by comparing the expenditure shares of countries. Another example concerns rentals for housing. Rentals, as defined in the SNA 93 and the ESA 95, should not include charges for heating or for miscellaneous services relating to the dwelling such as refuse collection or co-proprietor charges in multi-occupied dwellings. Not all countries observe this definition and countries not doing so can be identified when their expenditure shares are compared with countries that do.

4.45 Once verification is concluded, the expenditure breakdowns that participating countries report for  $t$  in September  $t+3$  will be complete and internally consistent. Their temporal and spatial consistency will have been validated. They will also be final – that is, the shares of components for all aggregation levels up to the main aggregate level are fixed. They will not be changed to take account of revisions to GDP estimates that take place below the main aggregate level after September  $t+3$ . Revisions to GDP and the main aggregates that are made between September  $t+3$  and December  $t+3$  when the PPPs are calculated will be accommodated however as explained in paragraph 4.38. Changes to the main aggregates will be distributed proportionally over their component expenditures in line with each component's share in the finalised expenditure breakdown.

4.46 Publication policy and the annual publication schedule are explained in Chapter 13. It is sufficient to note here that the PPPs for  $t$  calculated and disseminated in December  $t+3$  are final. They will not be recalculated to take account of revisions to the GDP for  $t$  that occur after December  $t+3$ . Instead the revised estimates of GDP and its component expenditures will be converted to real final expenditures using the PPPs of December  $t+3$ . In the long term, the final PPPs for  $t$  and for other reference years may be recalculated when the definitions, concepts, classifications and accounting rules of the SNA 93 and the ESA 95 are replaced by those of the SNA 2008 and the ESA 2010.

## 4.5 Future developments

4.47 The expenditure classification in Annex III is not the same as the classification specified in the PPP Regulation. It has been modified to accommodate the new methodologies for construction and education that have been introduced since December 2007 when the Regulation was adopted by the European Parliament and the Council of the European Union. Further modifications to the classification can be expected when the new methodology for health outlined in Chapter 7, Section 7.6, is introduced in 2013. It is anticipated also that the classification in Annex III will evolve as the result of three other developments that are expected to take place after publication of this manual in 2012. The first is the switch from the SNA 93 and the ESA 95 to the SNA 2008 and the ESA 2010; the second is the harmonisation of COICOP at the five-digit or subclass level; and the third is the redefinition of the correspondence between the classification's capital expenditures and the latest version the CPA – that is, the CPA 2008<sup>27</sup>.

<sup>27</sup> *Statistical Classification of Products by Activity in the European Economic Community, 2008 version*, Eurostat, Luxembourg, 2008, [http://epp.eurostat.ec.europa.eu/portal/page/portal/cpa\\_2008/introduction](http://epp.eurostat.ec.europa.eu/portal/page/portal/cpa_2008/introduction)

### 4.5.1 SNA 2008 and ESA 2010

4.48 The majority of participating countries will have moved to either the SNA 2008 or the ESA 2010 by 2014. Both revised systems have kept the theoretical framework of the system it will replace and remain fully compatible with each other as before. There are no radical departures from their predecessors and the basic structure of the classification will remain as it is. Even so, within the basic structure, changes will occur under gross fixed capital formation as a result of the changes that have been introduced in the classification of fixed assets.

4.49 The first change is the reclassification of expenditures on research and development (R&D) and on military weapons systems as expenditures on fixed assets to be included under capital formation. Previously these expenditures were treated as intermediate consumption. Extending the assets boundary to include expenditure on R&D will raise both the levels of gross fixed capital formation and GDP. The inclusion of expenditure on military weapon systems will increase the level of gross fixed capital formation and, to a lesser extent, the level of GDP, but it will also reduce the level of collective services as these are estimated by summing their costs of production of which intermediate consumption is one. The increase in GDP will be equal to the consumption of fixed capital on weapon systems, while the decrease in collective services will be equal to the intermediate consumption reclassified as capital formation less consumption of fixed capital on weapon systems.

4.50 R&D can be accommodated either by creating a new basic heading or, as it is an intellectual property product, by adding it to the basic heading *other products not elsewhere classified* which includes other intellectual property products. The second option is probably the better given that prices are unlikely to be collected for R&D and real expenditures will be obtained with a reference PPP. Military weapons systems probably require a new basic heading. This is in line with the current practice which distinguishes between *intermediate consumption relating to defence* and *intermediate consumption relating to collective services other than defence*, thereby allowing different reference PPPs to be applied to each. No matter how expenditure on military weapons systems is accommodated, its transfer to gross fixed capital formation removes the reason for having two basic headings for intermediate consumption under collective services.

4.51 The second change in the classification of fixed assets concerns expenditure on land improvements and ownership transfer costs relating to land. Before these expenditures were allocated to the non-produced asset, land. But now they are included under expenditure on non-residential buildings and other structures. Either this will require a new basic heading with possibly the PPP for civil engineering works as the reference PPP or the expenditures can be added directly to the existing basic heading *civil engineering works*.

4.52 The third change concerns the explicit identification of ownership transfer costs on non-produced assets. This is necessary as there is no fixed asset with which they can be identified (the practice is to assign ownership transfer costs to the fixed asset to which they apply). Whether these costs need to be separately identified in the expenditure classification is debatable. They could be included, together with R&D, mineral exploration and evaluation, the acquisition of entertainment, literary or artistic originals and other intellectual property products, under the basic heading *other products not elsewhere classified*.

4.53 The final change concerns computer software and databases. Formerly only computer software was considered to be a fixed asset. Under the revised systems, all databases holding data with a useful life of more than one year are required to be treated as fixed assets. Databases could be included with computer software in a basic heading *computer software and databases*.

## 4.5.2 Harmonisation of COICOP

4.54 The internationally agreed version of COICOP which covers individual consumption expenditure of households stops at the four-digit or class level. This is not sufficiently detailed for some statistical applications and different versions of COICOP exist at the five-digit or subclass level as a result. Within the European Union three five-digit versions of COICOP were developed: one for Household Budget Surveys (HBS), one for the Harmonised Index of Consumer Prices (HICP) and one for PPPs. The three versions are not the same and this compromises comparability across the three statistical domains. Harmonising COICOP-PPP and COICOP-HICP has particular relevance for the PPP Programme: it will improve the quality of the extrapolations of PPPs from survey years to non-survey years that are required by the rolling survey approach and which are carried out with HICP indices.

4.55 In 2010, Eurostat started the process of developing a 5-digit version of COICOP to be used by all Eurostat statistics. The process was limited to the five-digit level. Changes at the four-digit level would have to be discussed within the context of a broader revision involving the United Nations Statistics Division, the guardian of COICOP. The object at the five-digit level is to draw up a master classification with subclasses defined to meet the needs of the PPP Programme, the HICP Programme and the HBS. The process was concluded in 2012<sup>28</sup>. The classification is to be introduced in HICP and PPP by 2014.

4.56 The detail demanded by the HICP Programme is greater than that required for the PPP Programme so that the master classification to be put forward for consideration by EU Member States consists of more subclasses than there are currently basic headings. For example, it is proposed that the basic heading *services for the maintenance and repair of the dwelling* is broken down into six subclasses covering the services of plumbers, electricians, heating system maintenance engineers, painters, carpenters, and others. Whether internationally comparable prices and expenditures can be collected for each of these sub-classes is questionable and, in practice for PPP purposes, a single basic heading could remain providing it corresponds completely to the six subclasses. This will allow the PPPs for the basic heading to be extrapolated with an index having exactly the same coverage.

4.57 The redefinition of basic headings and HICP subclasses required to harmonise COICOP-PPP and COICOP-HICP should lead to greater alignment between basic heading PPPs and their HICP extrapolators. It should also result in greater coherence in the presentation of PPP and HICP results and, possibly, in the results themselves.

## 4.5.3 CPA 2008

4.58 CPA 2008 is the latest version of the statistical classification of products by activity of the European Union. It is a revision of CPA 2002 which itself is a revision of CPA 96. CPA 96 is the version that was used in the expenditure classification to define the expenditure classes under gross fixed capital formation. It does not, however, provide structure to gross fixed capital formation in the way that COICOP provides structure to individual consumption expenditure by households and COFOG 98 provides structure to government services. The structure underlying gross fixed capital formation in the expenditure classification is that of the classification of fixed assets in the SNA 93 and the ESA 95. Once the details of the breakdown of gross fixed capital formation were agreed and the expenditure classes defined, a correspondence was established between the products in the expenditure classes and those in the classes of CPA 96. A similar process will be employed with CPA 2008 after the structure of gross fixed capital formation has been brought into line with the classification of fixed assets in the SNA 2008 and the ESA 2010.

<sup>28</sup>The full five-digit classification can be consulted on Eurostat's classification server:  
[http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST\\_NOM\\_DTL&StrNom=COICOP\\_5&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC](http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=COICOP_5&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC)