

11 Overview of all consumption items

This chapter provides an overview of the national accounts components distinguished on the consumption side, describing their main characteristics and highlighting items from micro data sources that may provide the best possible link. It also explores possible reasons for gaps between the micro aggregates and the national accounts totals and provides guidance on how to arrive at underlying distributions in case micro data is lacking.

11.1. Introduction

This chapter provides an overview of the various national accounts components that are distinguished on the consumption side, based on the Classification of Individual Consumption according to Purpose (COICOP). Two main aggregates are distinguished, i.e. *final consumption expenditure* (P31) and *actual final consumption* (P4), as defined in the System of National accounts (European Commission et al., 2009_[1]) (hereinafter referred to as *2008 SNA*). The former measures the amount of household expenditure on consumption goods and services, whereas the latter records the amount of consumption goods and services acquired by households. The difference relates to the treatment of social transfers in kind. These are goods and services provided to households by government and non-profit institutions serving households (NPISHs) either for free or at prices that are not economically significant. To reflect that they are acquired by households, although they are not actually purchased by households, they are included in actual final consumption, which is the counterpart of adjusted disposable income as recorded on the income side.

11.2. Food and non-alcoholic beverages (CP010)

This category covers all food products and non-alcoholic beverages purchased for consumption at home. It excludes food and beverages sold for immediate consumption away from home by hotels, restaurant, cafés, bars etc., as well as cooked dishes prepared by restaurants for consumption off their premises or by catering contractors which are all to be included in *restaurant and hotels* (CP110). It also excludes pet foods which are to be included in *recreation and culture* (CP090). Examples of products that are included in this category are bread, meat, fish, milk, eggs, oils, fruit, vegetables, chocolate, coffee, tea, mineral waters, soft drinks and juices (see for more information category 01 of the COICOP classification).

In addition to products purchased on the market, this category also includes food products and non-alcoholic beverages that are produced by households for own consumption. These are part of household production and the surplus that derives from this production forms part of mixed income. The goods are treated as either being consumed immediately by the household or stored in inventories for later use.

Household budget surveys will normally cover the consumption of food and non-alcoholic beverages, which can be used to allocate the amounts to underlying households. However, this will usually only concern the products as purchased on the market and may not cover the consumption of food and non-alcoholic beverages that are produced for own consumption. In that case, it is recommended to allocate the amounts related to the latter separately, as its distribution may deviate from the one for purchased foods and non-alcoholic beverages. Information may be available on households that are likely to be involved in the production of these goods for own consumption, for example because they own a farm or an allotment. In allocating the related amounts, compilers should be aware of the link between the distribution of the consumption of these goods and of the mixed income related to their own account production. Although their distributions need not be identical (e.g. due to the impact of intermediate consumption), it may be assumed that these will be closely aligned.

11.3. Alcoholic beverages, tobacco and narcotics (CP020)

This consumption category includes alcoholic beverages (including the non-alcoholic variant such as non-alcoholic beer) that are purchased for consumption at home, thus excluding those beverages sold for immediate consumption away from home by hotels, restaurant, cafés, bars etc. Alcoholic beverages that are distinguished in this category are spirits, wine and beer. Furthermore, this category includes all purchases of tobacco, including purchases in restaurants, cafés, bars, et cetera. Finally, it also includes

narcotics, such as marijuana, opium and cocaine (see for more information category 02 of the COICOP classification).

As was the case with food and non-alcoholic beverages, this category includes consumption of own account production, which may not be covered in micro data sources. In that case, the related amounts should be allocated to the relevant households separately. Information may be available on households that are likely to be involved in the production of alcoholic beverages, tobacco and/or narcotics for own consumption, which in that case may be used for its distribution across households. It is recommended to also keep a close link between the distribution of the consumption of these goods and the distribution of the mixed income related to their production, as was mentioned in the previous section.

In addition to consumption of own account produced goods, this category may also include consumption of goods that are part of the non-observed economy. In that regard, the production and consumption of narcotics will often be illegal, and production and consumption of alcoholic beverages and tobacco may partly be hidden from authorities to avoid excise duties. As it is unlikely that the related consumption expenditure will be reported in household surveys, the related amounts will largely have to be allocated separately on the basis of auxiliary information. Assumptions will have to be made which households are most likely to be involved in the consumption of these goods.

The work conducted by the expert group showed relatively large gaps between the micro aggregates and the national accounts totals for this specific category. Whereas this may be partly due to the lack of information of consumption of own account produced goods and of goods produced and consumed as part of the underground economy, this could also be due to underreporting. This is related to the fact that large consumption of these goods is usually regarded as socially unacceptable (see OECD (2013_[2])). If information is available on which types of respondents are more likely to underreport, this could be used in better aligning the micro data to the national accounts totals.

11.4. Clothing and footwear (CP030)

This category comprises clothing and footwear, which in addition to clothing materials, garments, shoes and other articles of clothing, clothing accessories and footwear, also includes their cleaning, repair and hiring (see for more information category 03 of the COICOP classification). In addition to newly bought goods, it may also include purchases of second-hand goods, which will normally not be visible in the national accounts (at least for the largest part) as it mainly concerns transactions between households.¹ Box 11.1 explains the role of trade in second-hand goods in the system of national accounts and how it should be dealt with in compiling distributional results.

Household budget surveys usually include information on the consumption expenditure on clothing and footwear. This can be used for the allocation of the amounts to underlying households. It may be assumed that the budget surveys will also include purchases of second-hand goods, but if these are not included, these should be added separately before aligning the results to the national accounts totals. Furthermore, the sale of these products should also be included as negative consumption. It is likely that this is not treated in this way in budget surveys or other micro data sources, so corrections will most likely be needed for these sales. Information will be needed on which households are more likely to involve in the sale of second-hand products to make the appropriate corrections. As explained in Box 11.1 properly accounting for these second-hand sales is very relevant in order to arrive at accurate consumption and saving levels for the various household groups, especially in countries where second-hand trade forms an important part of the economy.

Box 11.1. Treatment of second-hand trade

Most consumption goods and services are normally used up immediately and completely by households, but in some cases, they may be used or re-used over a longer period of time. In those cases, goods can be resold (or transferred) to other households. This is for example the case with clothing and footwear (CP030), certain household equipment (CP050), and vehicles or other means of transportation (CP070). In the national accounts, such re-sales (and transfers) of consumption goods are treated as negative consumption expenditure for the household selling (or transferring) the good, whereas it is recorded as positive consumption expenditure for the household buying (or receiving) the good (see European System of Account 2010 (Eurostat, 2013^[3]), §9.47). The purchase (or transfers) should be valued at market price (or original purchase price if no information is available on the market price). In case of a transfer, the same amount should be recorded as current transfer paid and received.

Whereas the trade in second-hand goods between households does not affect the national accounts totals for the household sector (except for any service charge that may be related to the sale) as the related transactions (negative and positive consumption expenditure) cancel out at the aggregated level, this will not be the case when breaking out the household sector in more granular household groups. The sales (or transfers) and purchases (or receipts) of second-hand goods may concern different types of households and therefore no longer cancel out at disaggregated levels. As this may affect household groups in different ways and as the amounts involved may be significant (also in relation to the increased use of digital platforms such as eBay to facilitate second-hand trade), it is important that second-hand trade is accounted for explicitly within the compilation of distributional results.

To explicitly address the issue of second-hand trade, estimates will be needed on the amounts related to second-hand trade for the relevant products involved. These should be added to the national accounts totals that currently only reflect the net purchases of these products (i.e. excluding any trade in second-hand goods) by the household sector. By explicitly showing the sales and purchases (or transfers) of second-hand goods, they can be attributed separately to the relevant households, also depending on how both sales and purchases of second-hand goods are covered in micro data sources.

An example is provided below on how to derive the distribution of the consumption expenditure for a specific good when considering the explicit treatment of the trade in second-hand goods. First, assume that the national accounts aggregate for the household consumption expenditure of good A amounts to 900. This concerns the net purchases of the household sector in which second-hand trade in this good (which in this example is set equal to 200) has been netted out. Furthermore, assume that the household budget survey provides the following information on the consumption of good A by three household groups.

	Aggregate	HH group 1	HH group 2	HH group 3
Consumption expenditure on good A	+1,000	+250	+350	+400

In the example, it is assumed that this information in the budget survey concerns all purchases of good A, so covering both purchases of new and of second-hand goods, but that it does not include a correction for any sales of goods. That means that the numbers reflect the gross purchases of the various second-hand household groups, adding up to 1,000 in this example.

Without any correction for second-hand trade, the distribution of the consumption of this good can be derived by proportionally allocating the gap between the micro and macro aggregates to the three household groups. This would give the following result.

	Aggregate	HH group 1	HH group 2	HH group 3
Consumption expenditure on good A	+900	+225	+315	+360

However, as was explained above, it is assumed that good A is subject to second-hand trade within the household sector for an amount of 200. In order to properly account for the involvement of the three household groups in this second-hand trade, separate information is needed on the sales and purchases involved in the second-hand trade. The table below provides the relevant information for each household group.

	Aggregate	HH group 1	HH group 2	HH group 3
Second-hand sales of good A	-200		-100	-100
Second-hand purchases of good A	+200	+150	+50	0

Household group 1 only purchases second-hand goods, whereas group 3 only sells them. On the other hand, group 2 both sells and purchases second-hand goods.

To properly account for the second-hand trade in the overall distributional results for good A, both the trade in goods with other sectors and the second-hand trade within the household sector should be accounted for. This can be done by distinguishing between the relevant underlying flows. As the micro data are assumed to not only cover purchases from other sectors, but also purchases of second-hand goods, the micro data can be linked to gross purchases in line with national accounts totals. These are equal to the net purchases as recorded in the national accounts (900) plus the purchases of second-hand goods (200), i.e. 1 100. In this case, a proportional allocation of the relevant amounts would lead to the following result for gross purchases.

	Aggregate	HH group 1	HH group 2	HH group 3
Gross consumption expenditure on good A	+1,100	+275	+385	+440

To arrive at the correct distributional results for this item, the sales of the second-hand goods (-200) should also be allocated to the relevant households, as they are treated as negative consumption. Combining the gross consumption expenditure on good A as derived above with the distribution of the sales of second-hand goods, leads to the following results for the overall distribution of the consumption of good A.

	Aggregate	HH group 1	HH group 2	HH group 3
Gross consumption expenditure on good A	+1100	+275	+385	+440
Second-hand sales of good A	-200	0	-100	-100
Net purchases of good A	+900	+275	+285	+340

This treatment has led to significantly different results. The consumption of good A by household group 1 comes out more than 20% higher (275 versus 225), whereas for group 2 and 3 it comes out respectively 8% and 9% lower.

The example deals with a situation in which the micro data are assumed to include purchases of second-hand goods. In that case, these kinds of purchases can be added to the national accounts totals before aligning the micro and macro data (if separate micro information is available on the purchases of new goods and of second-hand goods, it would be better to separately derive their distributions). If the micro data do not cover purchases of second-hand goods, the impact of the second-hand trade should be assessed separately and only added to the results after aligning the micro data to the national accounts totals. On the other hand, if both the impact of purchases and sales of second-hand goods are already reflected in the micro data, these underlying flows should first be distinguished separately in the micro data to arrive at separate distributions for all three underlying components.

11.5. Housing, water, electricity, gas and other fuels (CP040)

This consumption category consists of different consumption items related to housing. As these components may differ in size, link to different micro variables, and may have different distributions across households, the template separately distinguishes them, and compilers are advised to derive results at this detailed level to arrive at best possible results. See category 04 of the COICOP classification for more information on the coverage of this specific item and its underlying components.

11.5.1. Actual rentals on housing (CP041)

This category includes the actual payments for the use of the dwelling including the land on which the property stands. In case of the rental of a furnished dwelling, it also includes the payments for using the furniture. Furthermore, it includes payments for the use of a garage to provide parking in connection with the dwelling. On the other hand, it excludes income receivable by the owner of a natural resource which may be put at the disposal of another institutional unit for use in production. The latter is recorded as rent as covered under item D45 (see also Section 10.5.5). The amounts recorded under this category reflect the actual rents, so before deduction of any allowances as may be received by some households. These allowances should be recorded as current transfer received by the relevant households.

Information on actual rentals is usually available from micro data sources. This can be used as underlying information to derive the distribution in line with the national accounts total. It should, however, be borne in mind that the underlying concept of the related micro variable may differ from the national accounts concept, in that the amount may already have been corrected for any allowances received. In that case, a correction should be made at the micro level for the households that received allowances before aligning the micro data to the national accounts totals. For this purpose, information may be available from administrative data sources.

11.5.2. Imputed rentals on housing (CP042)

This item relates to the own-account production of housing services by owner occupiers (for both main residences and second homes in the domestic economy). As was explained in Section 10.2.1 the rationale is to arrive at more comparable data on the production and consumption of housing services across countries with different ratios of owner-occupied to rented dwellings and for countries in which this ratio may fluctuate a lot over time. Furthermore, the imputation of the production and consumption of housing services by owner-occupiers leads to fairer inequality measures. Without the imputation house-owners and households renting their house may arrive at similar income levels, whereas the house-owners may be far better off with not having to pay for any explicit rent. By imputing for the housing services produced by the house-owner both its income and consumption are corrected for this difference.

The housing services are recorded at market prices, usually based on estimated rental that a tenant would pay for accommodation of the same size, quality and type. This full output value is recorded as produced and consumed by the same household. It also constitutes the input for deriving *operating surplus from owner-occupied dwellings* (B2R1) which is obtained by deducting intermediate costs from these produced housing services. As a consequence, the distribution of the consumption of imputed rentals on housing is usually closely aligned to the distribution of operating surplus from owner-occupied dwellings.

Micro data will usually be available to derive the value of the own-account production of housing services by owner occupiers. For example, surveys may ask whether respondents own the house they live in and/or about the value of the dwelling (often both covering main residences and second homes). Furthermore, information may be available on characteristics of the dwelling (e.g. the number of square meters, type of residence, neighbourhood) that may be used to estimate the imputed rent (see for example Tsakloglou et al. (2010_[41])). Also, in some countries the imputed value of the income generated by production of

housing services is taxed, so information may be available from fiscal records. As mentioned above, there is a close relation between operating surplus from owner-occupied dwellings and consumption of imputed rentals on housing. This should be kept in mind when deriving the distribution for both items.

11.5.3. Maintenance and repair of dwellings (CP043)

This item refers to activities that have to be undertaken regularly in order to maintain the dwelling in a good working order and that do not change the dwelling's performance, capacity or expected service life. They can be further broken down into minor and major maintenance and repairs. Only expenditures on materials and services for minor maintenance and repair that are normally the responsibility of a tenant, such as interior decoration and repairs to fittings, are part of this consumption category. Expenditures that owner-occupiers incur on the decoration, minor repairs and maintenance of the dwelling, which would normally be seen as the responsibility of a landlord, are not treated as household final consumption expenditure but as intermediate expenditure in the production of housing services. The same goes for major maintenance and repairs, such as re-plastering walls or repairing roofs. Furthermore, major renovations or extensions to dwellings are recorded as fixed capital formation (see 2008 SNA, §9.66-9.68).

Micro data will often be available on expenditure on maintenance and repair of dwellings, but the coverage may differ from the national accounts concept. The micro variable may for example include expenditure on repairs that according to the national accounts should be recorded as intermediate consumption in the production of housing services. If possible, a correction should be made to align the micro data with the national account concept, possibly also involving a correction to the calculation of operating surplus on owner-occupied dwellings, to which part of the micro concept may relate. In that sense, the correction to the micro data on maintenance and repair of dwellings to exclude the part that relates to intermediate consumption should be reflected in a lower value of operating surplus from owner-occupied dwellings for the relevant households.

11.5.4. Water supply and miscellaneous (CP044)

This category covers expenditure associated to water supply, including hire of meters, reading of meters and standing charges. Furthermore, it includes refuse and sewage collection and disposal, and co-proprietor charges for caretaking, gardening, heating and lighting etc. in multi-occupied buildings.

Underlying distributions may be obtained from budget survey information or from administrative data that may be available from water suppliers. If no micro data is available, the distribution could be derived by using the sum of actual and imputed rentals on housing (i.e. CP041 and CP042) as a proxy.

11.5.5. Electricity, gas and other fuels (CP045)

This category covers expenditures related to electricity, including hire of meters, reading of meters, and standing charges. Furthermore, it includes expenditures related to gas, liquid fuels, solid fuels, and heat energy.

Underlying distributions may be obtained from budget survey information or from administrative data that may be available from energy suppliers. If no micro data is available, the distribution could be derived by using the sum of actual and imputed rentals on housing (i.e. CP041 and CP042) as a proxy.

11.6. Furnishings, household equipment and routine household maintenance (CP050)

This category includes furniture and furnishings, carpets and other floor coverings, including their delivery, installation and repair, as well as household textiles, appliances, glassware, tableware and household

utensils, tools and equipment for house and garden, and goods and services for routine household maintenance. Part of the items may concern consumer durables which are goods that may be used for purposes of consumption repeatedly or continuously over a period of more than a year (see 2008 SNA, §9.42). Section 11.18 provides more information on the treatment of consumer durables in the SNA.

Information on this specific category is usually available from micro data sources. However, the treatment of purchases of consumer durables may differ. In this regard, the ICW Framework (OECD, 2013^[2]) treats consumer durables as assets that provide services to their owners, in analogy to the treatment of owner-occupied dwellings. For that reason, they may be excluded from the corresponding micro variables what would necessitate an explicit imputation before aligning the micro data to the national accounts totals. It may be the case that purchases of consumer durables are covered in another item in the micro data source, which may then be used to make the necessary correction. However, it has to be borne in mind that this may also include consumer durables that relate to one of the other consumption items in the DNA approach.

Furthermore, it has to be noted that this category may also include trade in second-hand goods. That also requires specific treatment of the related flows (see Box 11.1).

11.7. Health (CP060)

This category consists of different items related to health care expenditure by households. As these components may differ in size, link to different micro variables, and may have different distributions across households, the template separately distinguishes them, and compilers are advised to derive results at this detailed level to arrive at best possible results. See category 06 of the COICOP classification for more information on the coverage of this specific item and its underlying components.

11.7.1. Medical products, appliances and equipment (CP061)

This category covers medicaments, prostheses, medical appliances and equipment, and other health-related products, intended for use outside a health facility or institution. It includes pharmaceutical products, other medical products (such as clinical thermometers, bandages, first-aid kits and pregnancy tests) and therapeutic appliances and equipment (such as eyeglasses and contact lenses, hearing aids and prosthetic devices), including their repair. It includes products that are paid for on the basis of health insurance benefits received by households but excludes any health care that has been acquired by government or non-profit institutions serving households provided to households for free or at prices that are not economically significant. These are treated as social transfers in kind, which are not part of the *consumption expenditure of households* (P31) but are added to this consumption expenditure to arrive at *actual final consumption* (P4).

Micro information may be available from budget surveys or from other data sources. In linking the data to the national accounts totals, it has to be assessed whether the coverage of the items is similar. The micro concept may for example also include health insurance premiums which are excluded in the national accounts concept (these are covered under item D71P) or amounts related to social transfers in kind. If that is the case, these have to be corrected for, before linking the micro and macro data. It also has to be borne in mind that, as it concerns sensitive information, respondents may not always provide honest answers to questions relating to their health situation. This may lead to gaps between the micro aggregates and the national accounts totals. In those cases, it has to be carefully assessed which households this most likely concerns.

11.7.2. Out-patient services (CP062)

This category covers medical, dental and paramedical services delivered to outpatients by medical, dental and paramedical practitioners and auxiliaries. These may be delivered at home, in facilities, dispensaries or outpatient clinics of hospitals. As was the case with the previous category, this also includes products that are paid for by health insurance benefits but excludes health care that has been provided via social transfers in kind.

Micro information may be available on these expenses from budget surveys or from other data sources. In linking the micro and macro data, it has to be assessed whether the coverage of the items is similar. If the micro concept also includes health insurance premiums or amounts related to social transfers in kind, corrections will need to be made before linking the micro and macro data. Furthermore, also for this category it may be the case that micro-macro gaps may be related to reluctance of part of the household population to provide accurate information on their expenses on health care. In that case, it has to be considered which households are most likely to underreport and/or are most likely to consume out-patient services.

11.7.3. Hospital services (CP063)

This category covers the services of general and specialist hospitals, medical centres, maternity centres, nursing homes and convalescent homes that chiefly provide in-patient health care. It also includes the services of institutions serving old people in which medical monitoring is an essential component and the services of rehabilitation centres providing in-patient health care and rehabilitative therapy where the objective is to treat the patient rather than to provide long-term support. The services related to the latter are covered under category *miscellaneous goods and services* (CP120). As was the case with the previous two, this category also includes products that are paid for on the basis of health insurance benefits and excludes health care that has been provided via social transfers in kind.

As for the other health expenditure categories, micro information may be available from budget surveys or from other data sources, but it has to be carefully assessed whether the coverage is the same. If the micro concept also includes health insurance premiums or amounts related to social transfers in kind, corrections will be needed before linking the micro and macro data. Furthermore, micro-macro gaps for this category may be related to reluctance of some households to provide accurate information on their health care expenses. In that case, it has to be considered which households are most likely to underreport and/or are most likely to purchase out-patient services.

11.8. Transport (CP070)

This category consists of different items related to transport expenditure by households. As these components may differ in size, link to different micro variables, and may have different distributions across households, the template separately distinguishes them, and compilers are advised to derive results at this detailed level to arrive at best possible results. See category 07 of the COICOP classification for more information on the coverage of this specific item and its underlying components.

11.8.1. Purchases of vehicles (CP071)

This group covers the purchases of motor cars, motorcycles, bicycles and animal-drawn vehicles, but it excludes recreational vehicles such as camper vans, caravans, trailers and boats, which are covered under *recreation and culture* (CP090). Although all these goods may be considered as assets because they have a life span of over a year and may render services to their owning households over a longer period of time, they are treated as consumption items in the SNA (as long as they are not purchased by households in

their role as unincorporated enterprise) as the services they render are not covered by the production boundary (see Section 11.18 for more information). This may differ from treatment in micro statistics and has to be borne in mind when linking micro data to the national accounts totals. Furthermore, as was explained in Box 11.1, second-hand trade may play an important role in this category. Compilers have to be aware of the impact of this second-hand trade in compiling the distributional results.

Micro data on the purchases of cars will usually be available from budget surveys, even though the treatment may often be different. In linking these micro data to national accounts totals, it has to be borne in mind that the reported micro data may also include purchases of second-hand cars. As explained in Box 11.1, a specific treatment is needed to avoid any errors feeding into the distributional results, as these sales and purchases of second-hand cars within the household sector are not reflected in the national accounts totals. Compilers are therefore encouraged to estimate the gross estimates of car purchases by the household sector and distribute the purchases on the basis of those results and only then process the impact of sales of second-hand cars within the household sector. Directly linking micro data on car purchases to the net purchases of cars by the household sector in the national accounts is expected to lead to inaccurate distributional results.

11.8.2. Operation of personal transport equipment (CP072)

This group covers the purchases of spare parts, accessories, fuels and lubricants for, as well as services for the maintenance and repair of personal transport equipment. It also covers hire of parking space not providing parking in connection with the dwelling (the latter is included in *actual rentals on dwellings* (CP041)), toll and parking meters, and driving lessons and licenses.

Micro data may be available on purchases related to the operation of personal transport equipment, although not all items may be covered in the micro concept. In case the micro concept differs from the macro concept, adjustments may be made to correct for these differences and allocated to the relevant households separately from the part that provides a conceptual match. If no additional information is available on the items that do not correspond between the micro and macro data, a proportional allocation may be appropriate.

11.8.3. Transport services (CP073)

This category covers purchases of services for passenger transport by railway, road, air, sea and inland waterway, also including services of other modes of transportation such as cable car, removal and storage services, and travel agents' commissions. Transport that is part of all-inclusive holidays or tours is not included under this item, but under *recreation and culture* (CP090).

Micro data on purchases of transport services may be available from budget surveys. If no information is available, it is not recommended to use the other two categories as a proxy, as no direct link is assumed between owners of vehicles and the use of passenger transport. In that case, it would be better to look for other types of information that may be available on the use of transport services by households or alternatively link it to aggregated consumption expenditure by households.

11.9. Communication (CP080)

This group covers expenditures related to postal services, telephone and telefax equipment and their services (see for more information category 08 of the COICOP classification).

Micro data may be available from budget surveys, but in case information is lacking, aggregated consumption expenditure by households can be used as a proxy.

11.10. Recreation and culture (CP090)

This category comprises multiple items. First of all, it includes audio-visual, photographic and information processing equipment, such as television and radio sets, cameras, personal computers, records and discs. Secondly, it covers major durables for recreation and culture, including camper vans, caravans, boats, horses and ponies, and musical instruments. Thirdly, it includes other recreational items and equipment (such as games and toys, sport equipment and camping gear), gardens, plants and flowers, and pets and related products (including veterinary and other services for pets). A fourth category comprises recreational and sporting services, such as provided by sport stadiums, fitness centres, amusement parks, cinemas, theatres, museums and national parks. It also includes the hire of equipment and accessories for sport, recreation and culture. Furthermore, it includes costs related to games of chance, such as service charges for lotteries and casinos. The fifth category concerns newspapers, books and stationery, and the final item relates to package holidays. These are all-inclusive holidays or tours which provide for travel, food, accommodation, guides etc. See category 09 of the COICOP classification for more information on the coverage of this specific item and the underlying components.

Micro data are usually available on various aspects of recreation and culture. In case micro data is available at more granular levels of detail, it may be best to derive distributional results at these more detailed levels. In case of large gaps between the micro and macro aggregates, and in case of sub-items for which micro data is lacking, this is expected to gain better results than simply aligning the results at the aggregated level. For example, it may be the case that only one item shows large micro-macro gaps, and that the underlying distribution is completely different from the items that show perfect alignment. Proportionally allocating on the basis of aggregated results would in that case lead to significantly different results from allocating on the basis of the underlying items. Furthermore, analysing gaps between the micro and macro data at this more detailed level may also provide better insight into possible underlying reasons for these gaps and for their proper allocation across households.

11.11. Education (CP100)

This category comprises educational services, but does not include expenditures on educational materials, such as books and stationery. These latter are covered in *recreation and culture* (CP090). Furthermore, it does not include education that has been acquired by government or non-profit institutions serving households to provide to households for free or at prices that are not economically significant. These are treated as social transfers in kind which are not part of the consumption expenditure of households but are added to arrive at actual final consumption (see for more information category 10 of the COICOP classification).

Micro information is usually available from budget surveys or from data sources on education. In linking the data to the national accounts totals, it has to be assessed whether the coverage of the micro items correspond to the national accounts concepts. If the micro data for example include amounts related to social transfers in kind, this has to be corrected for before linking the micro and macro data.

11.12. Restaurant and hotels (CP110)

This category covers catering services provided by restaurants, cafés, bars, canteens etc., as well as accommodation services provided by hotels, boarding houses, motels, holiday villages, boarding schools, universities and hostels for young workers or immigrants, etc. However, with regard to the latter, it excludes rentals paid by households for secondary residences, which should be recorded as rentals for housing (CP041 and CP042). See category 11 of the COICOP classification for more information on the coverage of this item.

Micro information is usually available from budget surveys, although the underlying concepts may differ from the COICOP definition. The micro data may for example include rent for secondary residences or costs related to package holidays. In that case, adjustments will be needed to arrive at a better conceptual alignment before linking the micro data to the national accounts totals.

11.13. Miscellaneous goods and services (CP120)

This category consists of all consumption items not covered by all previous categories and includes a wide range of categories. As these underlying items may differ in size, link to different micro variables, and may have different distributions across households, the template separately distinguishes them and compilers are advised to derive results at this detailed level to arrive at best possible results. See category 12 of the COICOP classification for more information on the coverage of this item and its underlying components.

11.13.1. Insurance expenditures (life and non-life) (CP125)

This category covers the service charges for insurance, such as life insurance and insurances connected with the dwelling, health and transport. It does not include the actual insurance premiums or benefits, which should be recorded on the income side, under net non-life insurance premiums (D71P) and net non-life insurance benefits (D72R) respectively.

As the payment for the service is normally included in the insurance premium payment, no separate information will usually be available from micro data sources on the actual service charge. In that case, the national accounts total should be allocated to the relevant households on the basis of auxiliary information. As there is a direct link between the service charge and the insurance premiums, it is recommended to use the sum of the life and non-life insurance premiums (if possible, including the premium supplements related to the investment income attributable to insurance policy holders) as a proxy for the distribution of the service charge. If separate information is available on the service charges for the different types of insurance as well as on premiums paid by households at this more detailed level, this can be used to arrive at more accurate distributions.

11.13.2. FISIM (CP1261)

This category concerns the part of *financial intermediation services indirectly measured* (FISIM) that is consumed by household as part of their individual consumption expenditure. As was explained in Section 10.5.1, in addition to charging customers directly for financial intermediation services, financial corporations also generate service income by lending at a rate of interest higher than the one at which they borrow. This is an indirect charge for the service of bringing together borrowers and lenders. That means that the interest that is charged by financial corporations on loans also includes a service charge and that a service charge is already withheld on interest paid out on deposits. This service charge is calculated on the basis of both the difference between the interest rate received on loans and a reference rate, and the difference between a reference rate and the interest rate paid on deposits (see also 2008 SNA, §A3.24-A.3.27). The actual interest flows are corrected to exclude these indirect service charges, which have to be recorded as part of consumption reflecting the payment for the indirect intermediary service provided by financial corporations. Depending on the underlying interest payment, it will be recorded as intermediate consumption or as final consumption. If FISIM relates to mortgage loans, it should be recorded as intermediate consumption in the production of housing services related to owner-occupied dwellings, reflected in a lower value of *operating surplus* (B2). If FISIM relates to business loans owed by households or deposits held by unincorporated enterprises, it should be recorded as intermediate consumption reflected in a lower value of *mixed income* (B3). For all other deposits and loans, the related FISIM should be recorded as part of final consumption (CP1261).

As FISIM is a specific SNA concept, no direct micro data will be available on its distribution. Therefore, as was explained in Section 10.5.1, it is recommended to derive the distribution of FISIM on the basis of the actual interest payments and receipts by households. If detailed information is available on the different actual interest rates for various types of deposits and loans and if these can be linked to underlying households or specific household groups, this can be used to allocate FISIM at a detailed level. If such information is lacking, one could assume equal margins for all types of deposits and loans, allocating FISIM proportionally to the aggregated absolute amount of interest payments and receipts by households or household groups.

The calculation of the FISIM correction at the income side provide the starting point for the calculation of the related FISIM items at the consumption side: as explained above, the FISIM that relates to mortgage loans should be recorded as intermediate consumption in the production of housing services related to owner-occupied dwellings and be reflected in a lower value of *operating surplus* (B2); the FISIM that relates to business loans taken out by households or deposits held by household in their role as unincorporated enterprise should also be recorded as intermediate consumption but now reflected in a lower value of *mixed income* (B3); and the FISIM related to all other deposits and loans should be recorded as part of final consumption (CP1261). As there is a direct link between the consumption of FISIM and the correction item as recorded in the property income block, one should make sure that this link is maintained in the distributional results. This means that the sum of FISIM recorded as final consumption (CP1261) and as intermediate consumption (reflected in lower values of B2 and B3) should equal the total amount of FISIM recorded as correction items in property income (FISIM_R and FISIM_P) at the level of the household (or household group). The breakdown into type of consumption should ideally be made on the basis of information on the types of deposits and loans or type of interest receipt and payments. If that type of information is not available, assumptions should be made to break it down into these three types of consumption.

11.13.3. Miscellaneous (less FISIM, less insurance) (CP12x)

This category includes consumption expenditure that is not covered by any of the other categories. Items that are covered in this category are: personal care (e.g. hairdressing salons and appliances and articles for personal care); prostitution; jewellery, clocks and watches; other personal effects (e.g. travel goods, articles for babies, miscellaneous personal articles); social protection (i.e. assistance and support services provided to persons who are elderly, disabled, having occupational injuries and diseases, etc.); and other services not classified elsewhere such as fees for legal services, charges for undertaking, payments for the services of estate agents, and payments for advertisements.

Micro data may be available on various underlying categories. In case micro data is available at more granular levels of detail, it may be best to derive distributional results at these more detailed levels when they can be matched to corresponding national account results. This will be particularly relevant if this category turns out to be substantial. In case of large gaps between the micro and macro aggregates, and in case of sub-items for which micro data is lacking, it is expected to gain better results than simply aligning the results at the aggregate level. It may for example be the case that only one underlying item shows a large gap between the micro and macro results, and that the underlying distribution is completely different from the items that show perfect alignment. Proportional allocation on the basis of aggregated results would in that case lead to significantly different results from allocation on the basis of the underlying items. Furthermore, analysing gaps between the micro and macro data at this more detailed level may also provide better insight into possible underlying reasons for these gaps and for their allocation across households.

When looking at the coverage of the various items in micro data sources, it is expected that no information will be available with regard to prostitution which is usually part of the non-observed economy. For that specific item, the distribution will have to be estimated on the basis of other information or in proportion to

aggregated final consumption expenditure. In case information is also missing for other items, compilers are recommended to look for relevant information that can be used for the allocation of the related amounts.

11.14. Adjustment for expenditures by resident households abroad (and expenditures by non-residents on the territory) (P33 and P34)

As was explained in Chapter 2, in most countries, national accounts data for household final consumption expenditure by type of goods and services refer to all final consumption on the territory. This means that they include the amount of final consumption expenditure of non-resident households on the territory and exclude expenditure of resident households abroad. In that case, corrections are needed to arrive at results for total final consumption of resident households,² which should be the starting point for the DNA calculations (see also Section 4.4). A first correction concerns separating out the consumption expenditures of non-resident households on the economic territory. A second correction concerns the inclusion of consumption expenditure of residents abroad. Both corrections can be done at the detailed level of consumption components, in which case no additional corrections will be needed at the aggregated level. Alternatively, one or both of the corrections can be applied at an aggregated level, in which case aggregated correction items will be needed in the distributional template to reflect the impact of these corrections on the distributional results.

As budget survey data only apply to resident households, it is recommended to correct for the expenditure of non-residents at the detailed level of consumption items. Alternatively, this can be done at the aggregated level via item P34, but there will be no good approximation of how to allocate this correction to underlying households, for which the detailed consumption amounts will then incorrectly include expenditure by non-residents.

With regard to the correction for the inclusion of the expenditure of resident households abroad, it is recommended to include this at an aggregated level. However, if the micro data include these consumption expenditures at the detailed level, it may be preferable to also correct the national accounts totals for these expenditures at the detailed level, as this may lead to a better match and to better results. This may be done on the basis of tourism satellite accounts or on the basis of available micro data. For international consistency, some adjustments will then be needed at the end of the compilation process, to move the amounts that relate to expenditure abroad at the detailed level to the aggregated correction item. In this way, results can be provided in the line with the internationally agreed template. It can also be decided to already make this correction at the micro level, but this will mainly depend on what is expected to provide the most reliable results.

11.15. Social transfers in kind (D63P)

As was explained in Section 10.12, social transfers in kind are goods and services that are provided to households by government and non-profit institutions either free of charge or at subsidised rates. Health care and education are the most well-known examples of social transfers in kind, but in-kind goods and services may also cover housing, childcare and elderly care. As social transfers in kind can be regarded as a direct alternative to providing households with a cash benefit to purchase associated goods and services themselves, they are included in the measure of adjusted disposable income to arrive at a more comprehensive income measure and to provide for a fairer comparison across countries and over time. In line with this more comprehensive income measure, the national accounts also include a consumption measure that reflects that these goods, although the expenditure is actually undertaken by government and NPISHs, are consumed by households. In this regard, actual final consumption of households reflects the goods and services acquired by households for the satisfaction of their needs regardless of whether they are purchased by households or obtained by transfer from government units or NPISHs.

The item is equal to the one recorded as part of adjusted disposable income (see Section 10.12) and the distribution should be equal to the one derived in that context.

11.16. Change in net equity of households in pension funds (D8)

In order to arrive at household saving, consumption expenditure has to be subtracted from income. However, because of the way pension contributions and benefits are treated in the SNA, an adjustment is needed for the change in pension entitlements. This is to reflect that whereas these transactions are included in household income, they also affect the saving of households, increasing their pension entitlements as a consequence of pension premium payments and decreasing their entitlements via the receipt of pension benefits.

The adjustment item D8 covers those parts of social insurance schemes for which the liabilities are recognised in the SNA (i.e. employment-related social insurance schemes). Pensions due under social assistance and social security schemes are excluded, as they do not lead to an accrual of pension entitlements for households (2008 SNA, §9.20-9.25). Furthermore, the item does not cover individual pension plans (e.g. life insurance), as these are not regarded as social insurance (thus not affecting disposable income) and are only recorded in the financial accounts.

The adjustment for the change in pension entitlements is equal to:

- the total value of the actual and imputed social contribution payable into pension schemes (parts of D611P, D612P and D613P that relate to pensions),
- plus the total value of contribution supplements payable out of the property income attributed to pension fund beneficiaries (part of D614P that relates to pensions),
- minus the value of the associated service charges (part of CP125 that relates to pension schemes),
- minus the total value of the pensions paid out as social insurance benefits by pension schemes (part of D62R that relates to pensions).

As the adjustment for the change in pension entitlements is the result of various components with their own specific distributions across households, one should make sure that the distribution for this component is derived on the basis of these underlying items. Ideally, this is done at the level of the household or at the level of detailed household groups, but as a minimum it is recommended to distinguish between the active population (for which actual pension contributions (part of D61P), related service charges (part of CP125) and their part of the premium supplements are relevant), and the retired population (for which pension benefits (part of D62), related service charges (part of CP125) and their part of the premium supplements are relevant). This allows for a better link with the main underlying flows.

11.17. Taxes less subsidies on production and imports (memorandum item)

Although taxes and subsidies on production and imports as paid or received by households are already reflected in the relevant income and consumption amounts, there is a lot of user interest in separate information on these items, in order to obtain more insights in the impact of government policies on various household groups. For that reason, the relevant items are included in the template in the form of memorandum items.

Taxes are “compulsory, unrequited payments, in cash or in kind, made by institutional units to government units” (2008 SNA, §7.71). Unrequited refers to the fact that the government provides nothing in return to the individual unit making the payment. *Taxes on production and imports* (D2) consist of *taxes on products* (D21), which are payable per unit of the product, and *other taxes on production* (D29), which are imposed on the producer and do not apply to the products nor to the profits of the producer (see 2008 SNA, §6.50).

Subsidies are “current unrequited payments that government units, including non-resident government units, make to enterprises on the basis of the levels of their production activities or the quantities or values of the goods or services that they produce, sell or import” (2008 SNA, §7.98). Similar to taxes, *subsidies* (D3) consist of *subsidies on products* (D31) and *other subsidies on production* (D39).

Taxes and subsidies on products will be reflected in the purchasers’ prices of the relevant products and, hence, already be recorded in the template under the relevant items. For example, any taxes on products borne by households in their capacity as final consumers will be reflected in the amounts of the relevant consumption categories. Other taxes and subsidies on production are not related to the purchase of products but rather to the production of products and will be reflected in measures of gross operating surplus (in case the taxes and subsidies relate to owner-occupied dwelling services) and/or mixed income. For example, any other taxes on production borne by the household in its role as producer in a specific industry will have led to a lower value of mixed income.

For the purposes of the DNA work, only taxes (and subsidies) on products and production that are explicitly paid (and received) by the households sector are considered. While it is possible that part of the taxes (less subsidies) on products and production paid (and received) by other sectors may be passed on and, in the end, get paid (or be received) by households (as final consumers), to assume this in its entirety not only ignores the components of final demand by the government sector, non-profit institutions serving households and non-residents, but it also removes the ability for the statistical outputs to properly reflect the behaviour of organisations in response to changes in taxation policy.

The total amount of taxes less subsidies on products as paid by the household sector as part of their final consumption expenditure is normally available from input-output tables.³ However, a direct estimate of other taxes less subsidies on production is normally not available from the national accounts, as this information is only available by industry in input-output tables and supply-and-use tables. In that case, an estimate may be derived by multiplying the taxes less subsidies for each industry by the share of mixed income in the sum of gross operating surplus and mixed income for the relevant industry (except for the industry *imputed rents of owner-occupied dwellings* for which the full amount of other taxes less subsidies on production relates to the household sector).

Information on taxes and subsidies on products will normally be lacking from household surveys as the amounts are concealed in the overall consumption expenditure amounts. Information may be available from tax records, but it may be difficult to link this to purchases made by specific (groups of) households. This means that a proxy will be needed to arrive at distributional results for taxes and subsidies on products. On the other hand, micro data sources may cover information on other taxes and subsidies on production, as these may be explicitly paid by households as part of their production activities. If this information is lacking, a proxy will be needed to arrive at a proper allocation of the amounts to the underlying households.

With regard to a proxy for the allocation of taxes and subsidies on products, the recommendation is to allocate the amounts on the basis of consumption expenditure, ideally at the level of detailed product categories as different rates may apply to different product groups. The latter would require calculating the total amount of taxes less subsidies paid by the household sector per COICOP category, which would imply breaking down the total from the input-output tables (as mentioned above) into underlying consumption categories. This may be done by using information from supply table on the total of taxes (less subsidies) by products and deriving the part paid by the household sector on the basis of the share of household final consumption in the total supply for each product category, where necessary adjusting the amounts to align to the total as obtained from the input-output tables (for example adjusting the results via a proportional adjustment).⁴ The results at product level may be transferred into results at COICOP level (e.g. via a concordance table) and, subsequently, these amounts may be allocated to the underlying households on the basis of their share in total consumption for each of the categories.

If no micro data is available to allocate the amount of other taxes and subsidies on production, this amount may be allocated to households in proportion to their gross mixed income and, where relevant, gross operating surplus. If more granular information is available on the specific production activity of the various household, this may be combined with information of the specific amount of taxes (less subsidies) paid per industry to arrive at more accurate results.

As explained, the information on taxes less subsidies on production and imports has been included in the form of memorandum items on the consumption sheet. It is broken down into specific subcategories and aggregations, so that compilers can choose at what level of detail to report this information, dependent on the available information and the methodology chosen to derive the results.

11.18. Consumer durables (memorandum item)

Whereas expenditure on consumer durables is already captured under the relevant consumption items, it may be useful to show it separately as it may significantly affect saving results and might explain negative savings for specific households in certain years. For that reason, the template includes a memorandum item for *consumer durables*, broken down into *vehicles* and *other consumer durables*.

Consumer durables concern goods that may be used repeatedly or continuously over a year or more. Examples are vehicles, furniture, and electrical equipment such as washing machines. In case that these goods are purchased for business purposes (by households in their role as unincorporated enterprise or by other units engaged in production) they are classified as gross fixed capital formation. However, when they are purchased for personal use of household members, they are classified as final consumption expenditure. This relates to the asset boundary of the SNA that states that the coverage of assets is limited to those assets that are used in economic activity as defined in the SNA. As the production of domestic services by households for their own final consumption (with the exception of own-account production of housing services by owner-occupiers) are excluded from the production boundary, durables that are used in the production of these services are also excluded from the asset boundary and their purchases are recorded as part of consumption expenditure (see 2008 SNA, §3.46-3.47).

While the treatment of purchases of consumer durables looks relatively straightforward, it often turns out to be more complicated in practice, especially when certain durable goods are used partly for business purposes and partly for personal benefit (e.g. a car that is used both as a taxi and for personal rides by the household). In those cases, the expenditure on the purchase of the durable should, in theory, be split between gross fixed capital formation and household consumption expenditure in proportion to its usage for business and personal purposes (see 2008 SNA, §9.60). However, whereas this may seem easy from a theoretical point of view, it often turns out to be very complicated from a practical point of view.

The purchase of consumer durables is often treated differently in micro statistics. The ICW Framework (OECD, 2013^[2]) treats consumer durables as assets that are used in the production of household services for their own final use. That also implies that according to this framework the surplus from unpaid domestic household services is regarded as an element of household income. As a consequence, it recommends recording purchases of consumer durables as gross fixed capital formation by households instead of as consumption expenditure.

The different treatment of consumer durables in micro statistics and in national accounts may lead to differences in coverage of the national accounts consumption items and related micro variables, mainly affecting furnishings, household equipment and routine household maintenance (CP050) and purchases of vehicles (CP071). Information on consumer durables may be covered in other items in the micro data, but if no micro data is available imputations will be needed to arrive at an appropriate distribution of the related amounts. As these may be significant, ideally auxiliary information can be used for a proper allocation.

It also has to be borne in mind that consumer durables are often goods that may be subject to second-hand trade, because of their relatively longer life span. For that reason, it is important to also keep track of any second-hand trade that may take place for these goods. Again, as the related amounts may be substantial, a correct recording of the sales and purchases of second-hand trade is very relevant. For some of these consumer durables, second-hand trade may take place via well-organised markets or via websites (e.g. trade in second-hand cars), from which relevant information may be derived that can be used as input to derive the relevant distributions. See Box 11.1 for more information on how to deal with second-hand trade.

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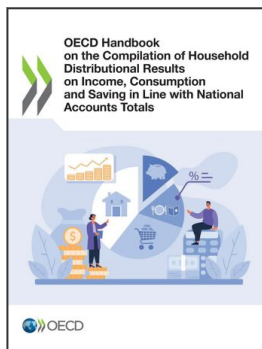
Notes

¹ In some cases, it may concern transactions involving other sectors or the rest of the world. In those cases, the transactions would indeed show up in the accounts, although it is expected that the amounts will normally be very small.

² If the national accounts data already exclude consumption of non-residents on the territory and include consumption of residents abroad, no corrections will be needed. If one of the two conditions does not hold, this would require adjustments to bring the data in line with final consumption of resident households.

³ If compilers would also like to include an estimate of any taxes less subsidies as paid by the household sector as part of their gross fixed capital formation (GFCF), this may be obtained by multiplying the total amount of taxes less subsidies on products on GFCG by the share of household GFCF in total GFCF for the economy as a whole. Although GFCF is currently not included in the DNA work, the inclusion of any taxes paid in relation to GFCF would provide a more complete picture of the impact of government policies on various household groups. Ideally, distributional estimates would be available for GFCF to use for distributing the relevant amounts to underlying households. Alternatively, estimates may need to be made to distribute the amounts, bearing in mind that most GFCF will relate to housing and to machinery that may be needed in production.

⁴ While the amounts may differ, they should normally come relatively close. Significant differences may be due to country specific peculiarities and may point to the need for a slightly different approach.



From:

OECD Handbook on the Compilation of Household Distributional Results on Income, Consumption and Saving in Line with National Accounts Totals

Access the complete publication at:

<https://doi.org/10.1787/5a3b9119-en>

Please cite this chapter as:

OECD (2024), "Overview of all consumption items", in *OECD Handbook on the Compilation of Household Distributional Results on Income, Consumption and Saving in Line with National Accounts Totals*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/a3f7ea66-en>

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