

Chapter 5

Household consumption

This chapter focuses on consumption as the basis of meeting needs. It presents the concepts and definitions associated with consumption, as well as ways to use the information and the methods for the collection, analysis and dissemination of data on consumption at the micro level.

Introduction

The consumption of goods and services is a primary component of economic well-being and, as such, a primary indicator of living standards.¹ Wealth and income are available to support consumption, today and in the future (through the saving that income generates). Income, consumption and wealth are three dimensions of the broader concept of economic well-being, and it is important to understand the relationships between them.

Everything else being equal, a person with a higher level of consumption is regarded as having a higher level of economic well-being than someone with a lower level of consumption. Consumption needs can be met through the spending of income, through the running down of wealth, and through borrowing.

Production, in the market and at home, supports consumption. As noted by Adam Smith (1937): “Consumption is the sole end and purpose of all production and the welfare of the producer ought to be attended to, only so far as it may be necessary for promoting that of the consumer.” Since Smith wrote in the 18th century, there has been much focus on consumption and how to value and measure it. Studies in the economics literature have linked food consumption with food expenditures and home production (e.g. Aguiar and Hurst, 2005). Some researchers have estimated consumption using expenditure data and information on durables (e.g. Meyer and Sullivan, 2011), while others have focused on non-durable expenditures as a measure of consumption (e.g. Attanasio et al., 2012). In other cases, total household expenditures are used as a measure of consumption (e.g. Lise and Seitz, 2011). There have also been studies valuing the flow of services from owner-occupied housing from household survey data and national accounts (e.g. Garner and Short, 2009).

The ICW Framework incorporates the concept of consumption expenditure as a valuation of the consumption of all goods and services, both those produced within households and those purchased in the market. The concept of consumption in the ICW Framework is developed in parallel with the concepts of income and wealth so as to allow integration of the three types of measures, enabling a comprehensive and in-depth analysis of the various dimensions of economic well-being.

Use of data on household expenditure

Data on expenditures at the micro level (households, families) have been collected since the late 19th and early 20th centuries, and have been used to bring light to various aspects of the economic situation of populations in countries around the world. This section describes some of the most common uses of micro data on household expenditures.

Consumer price index

To compare income or consumption expenditure over time, it is necessary to be able to account for relative changes in the prices of the goods and services that households purchase to meet their needs. The consumer price index (CPI) is a measure of inflation: it measures changes in the price of a basket of goods and services, selected as representative

of consumer spending, purchased by households. The CPI has been used for adjusting wages, pensions and social benefits and, in many countries, it plays an important role in the implementation of monetary policy and in the setting of interest rates by central banks. In some countries, the CPI is assumed to approximate the cost of living.

Micro data on consumer expenditures are used to construct the CPI through the identification of consumer goods and services that are to be included in the basket, and through the calculation of the shares of individual categories of goods and services in total expenditures. These shares are used to create weights for the calculation of the index.

Welfare analysis

The prosperity of individuals and society, one of the key targets of the socio-economic policies pursued by government, is measured using a number of indicators. The potential levels of material living standards are often measured in terms of income and wealth, while actual levels are measured in terms of consumption or spending during a particular time period. In most countries, consumer spending is generally more stable than income over time. This suggests that the structure of consumer spending and its changes over time may better reflect the economic well-being of households, social groups and whole societies.

The analysis of economic resources should take into account the economic environment of individuals and households: there are groups who, for some periods of time, spend more on consumption than their income, while there are others who save significant amounts of their income. Thus, expenditures, income and wealth should be considered together in welfare analysis. It is important that data are defined consistently and collected comparably. Expenditures and income, in particular, have been used together when identifying groups at risk of poverty, when producing inequality measures, and when examining changes in the living standards of particular groups.

National accounts

Data on expenditures can be used to control and compile SNA data for the household sector. However, not all countries use aggregates from household expenditure micro data for their national accounts. When they are used, these data can complement production and sales data to produce a more complete picture of the household sector.

As micro data and macro data on household expenditure have been developed for different purposes, there are often a number of differences in the resulting estimates of expenditure. These differences can be due to scope or to definitional and methodological differences. The main scope and definitional differences between micro and macro data on consumption are addressed in Annex B.

Expenditure statistics are used for creating, implementing, monitoring and analysing the effects of economic and social policy, including, for example:

- The planning of fiscal changes.
- The analysis of the results of government activities in the support of certain groups.
- The evaluation of programs to reduce disparities between regions and groups.

Expenditure statistics also provide a rich source of data for analyses of the consumption of and demand for different categories of products and services and for different social groups.

Other uses

There are many other types of work that make use of household expenditure statistics, usually in combination with data on income. These relate to, among other things, analysis of the labour market, consumer behaviour, the financial situation of households, the underground economy, lifestyle (health), public services (education, health) and others.

Information about the structure of expenditures, in combination with demographic and labour market information, and on the way these change over time, can improve our knowledge about the conditions and standards or levels of living of the population.

Concepts and definitions

The material needs and wants of individuals and households can be satisfied by the consumption of goods and services, and the consumption of goods and services is integral to participation in society. To calculate the total value of this consumption, it is necessary to sum its various components, including the value of consumer spending of private households (adjusted as necessary to allow for goods purchased in one period to be consumed in a later period), the value of the consumption of goods and services produced at home, the value of the consumption of goods and services received by households without payment from government and from non-profit organisations, and the value of the consumption of people living in institutions or with no usual place of residence (e.g. homeless people), who are generally excluded from the scope of collection of consumption data.

Consumption expenditure is the value of consumption goods and services used or paid for by a household to directly meet its needs. These goods and service are obtained:

- through the purchase of goods and services in the market;
- as in-kind income from employers, from self-employment (through the barter of goods and services produced by the household), or from property or other investments (e.g. portion of crop provided by share-farming tenant);
- from the household's own production of goods and services; or
- as transfers in kind from other households or from businesses.

Actual final consumption is the sum of consumption expenditure and the value of social transfers in kind provided by government and non-profit institutions. This is the total value of all goods and services used by the household to meet the needs of its members.

Households also incur expenses not directly aimed at meeting these needs, such as current transfers to government, social organisations or other households. These are non-consumption current expenditure. Households also need to pay interest on any consumer credit that they have.

Total current expenditure is the sum of consumption expenditure, non-consumption current expenditure and interest paid on consumer credit. If total current expenditure in a period is less than total income received in the period, there has been saving and a net addition to wealth. If total current expenditure is more than total income, there has been dissaving and a net subtraction from wealth.

The point in time when expenditures are registered may influence that total amount that is recorded. There are three possible approaches to the date of registration of household expenditure: acquisition, use and payment. Often these three events occur

simultaneously, especially in the case of services. With the *acquisition* approach, goods and services are included when they are acquired or taken possession of, regardless of whether they have been paid for or, in the case of goods, regardless of whether they have been used. With the *use* approach, goods and services are included when they are used, regardless of when they were acquired or paid for. With the *payment* approach, they are included when they are paid for.

As explained in Chapter 3, the ICW Framework adopts an accrual accounting approach, which equates to the *acquisition* approach. In principle, consumption expenditure would more closely equate to *consumption* if a *use* approach were followed. However, in practice, there is likely to be little difference between these approaches for most consumption goods and services. It is assumed that a household acquires goods that it produces for its own use (such as grain or other agricultural production) at the time that those goods are used. Notionally, at this time the goods pass from the household in its role as a producer to the household in its role as a consumer.

The assumption that there is little difference between acquisition and use is valid only for consumption goods and services. Consumption goods and services include those goods that are used up in a relatively short period of time, often known as *non-durables*, and all services. The assumption does not hold for dwellings or for goods that can be used repeatedly over a length of time, often known as *consumer durables*. Consumer durables include motor vehicles, electrical appliances, furniture, clothing, and the like that would normally be expected to be usable for more than a year.

When a household purchases a dwelling or consumer durables, it does not normally consume them immediately. Rather, the household can be viewed as a producing entity that invests in those items as capital expenditure and provides a flow of services to itself as a consuming entity. In the ICW Framework, that flow of services is included as consumption expenditure, rather than the initial purchase of the capital items. Two such service flows are included in the detailed framework: i) the value of housing services provided by owner-occupied housing and ii) the value of services from household consumer durables. They are discussed in more detail in Chapter 3, as is the income the household generates for itself through this provision of services.

Chapter 3 also describes a third service flow that households provide to themselves and which is included in consumption expenditure, i.e. the value of unpaid domestic services. It is possible to estimate the quantity of this work on the basis of time-use surveys, but different approaches can be taken in deciding how to value that time.

The SNA also includes the flow of services provided by owner-occupied housing as a component of the consumption expenditure of households. However, it treats the purchase of consumer durables as consumption expenditure, rather than the flow of services from them. It does not include the value of unpaid domestic services at all.

Consumer price indices are intended to reflect the prices that households pay for purchases made in the market. They therefore also reflect the purchase price of consumer durables but do not incorporate the value of unpaid domestic services. The treatment of dwelling purchases varies between countries.

A household survey collecting household expenditure and consumption data may be required to support several different uses, including the integrated analysis of household income, consumption and wealth, the compilation of the national accounts, and the

derivation of weights for the consumer price index. The different uses are likely to have slightly different data requirements, which have to be accommodated by the survey.

Special treatment of certain categories of expenditure

Special treatment is required for the collection and estimation of certain expenditures. Some of these treatments are described below.

Consumption goods and services received by households as *in-kind income* are included in consumption expenditure. These include goods and services produced by the household for its own use, as well as consumption goods and services provided to members of the household as employee income or supplied for household consumption by enterprises owned by the household or supplied as payment for the use of property (such as the proportion of a crop from a tenant share farmer). They also include in-kind transfers from other households or businesses. However, in-kind transfers from government and non-profit organisations are included only in social transfers in kind, as discussed in Chapter 3. Any consumer durables and other non-consumption items provided in kind to households as a return for labour or for the use of the household's property are included in income but not in consumption expenditure.

In principle, in-kind receipts by households should be valued at the prices that would be paid if they were acquired in the market. However, there are not always relevant markets that can be referenced, especially for the services provided by consumer durables, unpaid domestic services and social transfers in kind. Chapters 3 and 4 provide further discussion on these issues.

Since consumption goods and services are normally consumed at or soon after acquisition, and since they cannot normally be reused, there is essentially no second-hand market for them. However, some can be resold in their original state or transferred in kind to other households or other entities as gifts. *Re-sales and transfers of consumption goods and services* should be treated as negative consumption expenditure, valued at the original purchase price or at the re-sale price if it differs. For transfers, the same value should also be included in current transfers paid.

Sales and transfers of consumer durables, of either new or second-hand items, do not need to be considered when deriving consumption expenditure within the ICW Framework, since these transactions are regarded as the disposal of capital items. Chapter 3 discussed the boundary between current and capital items.

The *use of goods not owned by households* mainly concerns an employee's use of an employer's property for private purposes. In principle, such use should be regarded as income in kind and included in consumption expenditure. There may be problems in valuation, however. Households often cannot estimate the actual benefit from such use, because the products used are combined with certain restrictions (e.g. prohibition of the use of a company car on weekends) or the use is regarded as an obligation, rather than a benefit.

One way of approximating the value of services provided by goods not owned by the household is to use rates from the tax authorities. In the Danish household budget survey, for example, rates for cars, dwellings, boats, computers and mobile phones are used to estimate the value of the household's benefit from these goods. These data are available in administrative records, so it is not necessary to burden the household with questions about them. If the rates are available only at the macro level, they can be combined with an

interview question about any of these goods made available to household members by employers.

In the case of *goods rented and/or leased*, the repayment of instalments on a contract (such as for a car lease) would be considered as a consumer or household expenditure, as long as the contract is not a hire purchase or similar form of lease in which the household gains ownership of the good at the end of the lease. In the latter case, the contract may in effect be a purchase agreement combined with a loan agreement, and the value of the flow of services from the good should be included as consumption expenditure, as discussed above.

Financial service fees such as commissions for banking services and credit card fees that are charged directly to households should be included in consumer expenditures. However, the value of these services can be difficult to collect, as respondents may not know what they are if the fees are built into a bundle of services offered by the financial institutions. They are often not included in consumer price indices. Indirect fees such as the FISIM (financial intermediation services indirectly measured) included in the SNA are excluded from household expenditure micro data, as they are not relevant to a household perspective.

Interest paid on loans is excluded from current expenditure if the loans are primarily for business, for the purchase or renovation of owner-occupied dwellings, or for the purchase or renovation of consumer durables. Interest paid on these loans is treated as a cost of business, a cost of providing owner-occupied dwelling services, or a cost of providing services from consumer durables, respectively, and deducted to derive a net value of the corresponding flows.

Interest paid on consumer loans is included as non-consumption current expenditure in the ICW Framework. Consumer loans include those used primarily to finance the purchase of consumption items, education loans, loans used to finance transfers, and loans to other households (which may occur, for example, when the first household can obtain a better interest rate than the second household).

The treatment of *insurance premiums* depends on the type of insurance. The characteristics of the various forms of insurance, and the consequent treatment in the ICW Framework, are discussed in detail in Chapter 3 and Annex C. Insurance is treated in four separate ways.

Contributions to social insurance schemes, such as mandatory pension schemes or health insurance schemes, are included in current transfers paid, and are therefore included in total current expenditure but not in consumption expenditure.

Premiums paid for life insurance and contributions to private pension schemes are regarded as saving and therefore excluded from current expenditure aggregates.²

Premiums paid for accident insurance, covering assets such as owner-occupied dwellings, consumer durables and businesses, are considered as input costs to be deducted when deriving the net income generated by those assets; therefore, their premiums are not included in consumption expenditure.

Premiums paid for term insurance, private health insurance, travel insurance and similar accident insurance are included in consumption expenditure. Benefits received from term insurance are normally regarded as a capital transfer received, but benefits from health

insurance and other accident insurance are normally treated as negative consumption expenditure offsetting the payment of the premiums.

Gambling is usually considered an entertainment expenditure by consumers. Some gambling expenditure is offset by winnings paid back to the gambler, although the size of the benefit to be received is not known at the time when the expenditure is made. In aggregate, a proportion of the bets are retained by the gambling operators (as their profit and operating cost), which in concept constitutes the value of the service provided to the gamblers. Since the value of the service provided to individual gamblers cannot be identified, all gambling expenditure is treated as consumption expenditure, and gambling winnings as negative expenditure, unless the payment is large, in which case it is regarded as a capital transfer received, as discussed in Chapter 3.

The cost of *repairs and upkeep of dwellings* by both owner-occupiers and tenants is regarded as consumption expenditure if it is for items normally expected to be paid for by tenants of rented dwellings. In contrast, any expenditure by owner-occupiers on items that are normally expected to be paid for by landlords is regarded as an input cost to providing the dwelling services or capital expenditure. In either case, it is excluded from consumption expenditure.

Donations and gifts to other households, non-profit organisations and other entities are regarded as current transfers unless they are large and irregular, in which case they are capital transfers.

Fees for licenses and rights contributed to public institutions that are associated with certain services or products (such as for a TV subscription, for issuing a document or for the right to possess a boat) are classified as consumer expenditure. The SNA treats some of them (in accordance with the convention used for tax statistics) as non-consumer expenditures.

Direct taxes paid by households are not included in consumption expenditure, because they are obligatory and because it is difficult to identify specific services received in exchange for the payments made. These fall into the category of non-consumption current expenditure as part of current transfers paid.

Fines and similar penalties are included with direct taxes in current transfers paid and excluded from consumption expenditure.

Expenses related to private enterprises incurred by a member of the household, and which are a result of business activity, are not considered as household expenditures. Such expenses are considered either as the purchase of an asset, using already existing wealth or incurring a debt, or as intermediate costs that are subtracted when deriving net business income as a part of household income.

All *expenditure incurred with the intention of investment* (e.g. works of art, jewellery, payments on deposits, the purchase of shares) is excluded from household consumption expenditure and is treated as the acquisition of assets using existing reserves of wealth or by incurring a debt (negative wealth). If assets such as art and jewellery are purchased primarily to derive pleasure, they are included as consumer durables, and consumption expenditure should include the value of the services flowing from them. As these assets are unlikely to depreciate physically, the value of the flow of services would essentially comprise a notional return to the capital value of the items.

Components and expenditure classifications

Expenditure classifications are created in order to group variables for analytical purposes. Classifications should be comprehensive (i.e. include all possible variables) and mutually exclusive (i.e. a variable should be assigned to only one category).

The most commonly used expenditure classification in most (but not all) countries is the Classification of Individual Consumption by Purpose (COICOP) developed by the United Nations (Table 5.1). For this system, expenditures are grouped according to the purpose for which they are intended. The system consists of 12 main groups of goods and services, each of which is divided into more specific categories. The COICOP is an integral part of the System of National Accounts (1993 SNA), but has also been used by countries for household budget surveys, consumer price indexes and international comparisons of consumer expenditure.³

The main problem when using the COICOP is how to classify products that are used for different purposes (e.g. a bicycle can be classified as either transport or recreation) and expenditures that combine different categories of services (e.g. a tourist trip combines transportation, catering and hotel services). It is therefore important to establish clear rules before this classification is used.⁴

Key issues related to measurement

Statistical Unit

In the ICW Framework, the household has been chosen as the primary unit to be used for analysing micro data on income, consumption and wealth. A household is either an individual person or a group of persons who live together under the same housing arrangement and who combine to provide themselves with food and possibly other essentials of living. More detail on the choice and use of statistical units is given in Chapter 3.

Household reference person

In most household budget surveys, one individual is identified as the reference person in order to classify the household with regard to a set of socio-demographic characteristics, for example, social groupings. It is with respect to this person that the relationship of other household members is determined. Information about the household reference person is collected at the stage of data collection. Various criteria are used to identify the reference person. This person could be the household member with the highest income, the oldest person in the household, the one who holds the lease or owns the property, the one who makes the spending decisions, or the first member mentioned by the respondent to the interview when asked to: “Start with the name of the person or one of the persons who owns or rents the home”, as in the US Consumer Expenditure Survey.

Reference period

The period to which expenditures are related in statistical output is called the reference period. The reference period is most often a year and specified as either a calendar year or some other period of twelve consecutive months. A full year is preferred to a shorter reference period in order to ensure that seasonal variations in expenditure (e.g. power bills) and expenditures made only once a year (e.g. motor vehicle registration fee) are properly captured.

Table 5.1. **Classification of individual consumption according to purpose**

01 – Food and non-alcoholic beverages	01.1 Food 01.2 Non-alcoholic beverages
02 – Alcoholic beverages, tobacco and narcotics	02.1 Alcoholic beverages 02.2 Tobacco 02.3 Narcotics
03 – Clothing and footwear	03.1 Clothing 03.2 Footwear
04 – Housing, water, electricity, gas and other fuels	04.1 Actual rentals for housing 04.2 Imputed rentals for housing 04.3 Maintenance and repair of the dwelling 04.4 Water supply and miscellaneous services relating to the dwelling 04.5 Electricity, gas and other fuels
05 – Furnishings, household equipment and routine household maintenance	05.1 Furniture and furnishings, carpets and other floor coverings 05.2 Household textiles 05.3 Household appliances 05.4 Glassware, tableware and household utensils 05.5 Tools and equipment for house and garden 05.6 Goods and services for routine household maintenance
06 – Health	06.1 Medical products, appliances and equipment 06.2 Outpatient services 06.3 Hospital services
07 – Transport	07.1 Purchase of vehicles 07.2 Operation of personal transport equipment 07.3 Transport services
08 – Communication	08.1 Postal services 08.2 Telephone and telefax equipment 08.3 Telephone and telefax services
09 – Recreation and culture	09.1 Audio-visual, photographic and information processing equipment 09.2 Other major durables for recreation and culture 09.3 Other recreational items and equipment, gardens and pets 09.4 Recreational and cultural services 09.5 Newspapers, books and stationery 09.6 Package holidays
10 – Education	10.1 Pre-primary and primary education 10.2 Secondary education 10.3 Post-secondary non-tertiary education 10.4 Tertiary education 10.5 Education not definable by level
11 – Restaurants and hotels	11.1 Catering services 11.2 Accommodation services
12 – Miscellaneous goods and services	12.1 Personal care 12.2 Prostitution 12.3 Personal effects <i>n.e.c.</i> 12.4 Social protection 12.5 Insurance 12.6 Financial services <i>n.e.c.</i> 12.7 Other services <i>n.e.c.</i>
13 – Individual consumption expenditure of non-profit institutions serving households	13.1 Housing 13.2 Health 13.3 Recreation and culture 13.4 Education 13.5 Social protection 13.6 Other services
14 – Individual consumption expenditure of general government	14.1 Housing 14.2 Health 14.3 Recreation and culture 14.4 Education 14.5 Social protection

Data collection

Data on household expenditures are normally collected through household surveys. These can be dedicated expenditure surveys, but also combined expenditure and income surveys.

Methods of data collection

Data are collected retrospectively or on an on-going basis. Data collected retrospectively are collected by an interviewer or via a questionnaire completed by the respondent. When conducted by an interviewer, data are collected through face-to-face interviews or by telephone. Retrospective collection means that data are collected for an earlier time period. Data collected on an ongoing basis are collected through the use of a diary completed by the household. Diaries are provided by the interviewer and the respondent's role is to record all purchases during the reporting period.

An electronic variant of diaries can also be used. In this case, the household is given a login and password to an electronic diary (usually available via Internet), which is similar to the paper version. It is also possible to give the household the choice between using the paper or electronic versions, as the Danish household budget survey has done for the last several years. To encourage the take-up of the electronic version, a small gift is given to households who opt for it. The introduction of electronic diaries in Denmark has been very successful for both households and data collectors. Households found it more convenient to register purchases electronically, and the statistical agency found that handling the data from the electronic diaries required fewer resources, with no loss to data quality.

The reporting period to which the expenditures refer during the data collection may be shorter than the reference period used for statistical output, and could refer to any period of time, e.g. a day, week, month, quarter or year. The shorter the time period, the better the data for more frequently purchased goods and services; conversely, the longer the time period, the better the data for less frequently purchased goods and services. If the reporting period is shorter than the reference period, data collection should take place regularly during the reference period so that in aggregate the reporting periods are representative of the entire reference period.

Advantages and disadvantages of retrospective and ongoing methods

Both methods imply the risk of errors: omission of certain expenses (especially for small expenses when using retrospective methods) or the inclusion of expenditures outside the reference period (when there is telescoping of expenditures and no bounding interview).

Both retrospective interviews and diaries are big burdens for households. Retrospective interviews can be very time-consuming when many expenditure items are being reported, for large households or for households with complex structures. Diaries can place a large burden on respondents too, as reporting periods can vary from several days to several months, although usually the recording period is daily for one to two weeks.

Respondent

Ideally, the person who replies to the questionnaire should be the person responsible for household expenses. This may be the reference person or someone else. In some instances, even within the same data collection period, there may be several respondents

depending on the categories of expenditure considered. In order to reduce the burden on respondents, it is possible to use other methods, such as collecting receipts or accounts, or to use electronic devices for scanning product codes when shopping. At this moment these methods are most often used as complements to the fundamental methods.⁵

Items to be collected

In the case of expenditure surveys, it is necessary to collect the most detailed information, which can then be aggregated to a higher level. Data are also collected to enable the categorisation of the household undertaking the expenditure. Additional data often collected in expenditure surveys include: i) quantitative food consumption; ii) income (including social transfers in cash and in kind); iii) characteristics of household members (demographic characteristics, social and professional situation, etc.); iv) the characteristics of the dwelling in which the household lives; and v) the liabilities and assets of the households.

Expenditures while travelling abroad pose a specific challenge. For welfare analysis, these should be included in household expenditures but excluded when determining the weights used in the consumer price index. Therefore, they should be recorded separately. This is also true for expenditures made on out-of-town trips, which need to be separated for the production of consumer price indexes for specific geographic areas. Expenditures on consumer durables are required for determining weights in the consumer price index, but they are not included in current household expenditure as defined in the ICW Framework.

Survey design and sample

There are four basic models of household expenditure survey:

- Single-sample in a cross-sectional design. The main advantage of this method is that it is easy to conduct. The disadvantages include seasonal variations (depending on the period of collecting data, some expenses may not appear); the fact that long reference periods can be a source of inaccuracies and errors in the case of retrospective studies; and the problem that expenses incurred during the recording period can lower or raise estimated annual expenditures in the case of diaries.
- Sub-samples in a series of cross-sectional design (e.g. quarterly intervals over the year). The advantages of this method are that it is easy to carry out, that it allows estimation of the annual expenditure, and seasonality has less impact on the calculation of expenses for the entire population or sub-groups of households. The disadvantages include the inability to correctly estimate the annual expenditure for a particular household.
- Single sample in a panel design (e.g. each quarter). The advantages of this method are that annual and seasonal expenses can be estimated, that it allows conducting seasonal variation analysis and that it moulds a more precise estimate of annual expenditure by comparing the same expenses in subsequent periods. The disadvantages are the risk of cancellation in subsequent periods, that it is expensive, and that it needs to take into account changes in household composition.
- Sub-samples in a panel design (e.g. repeated every second quarter). This has all the advantages of the previous method and a lower risk of withdrawal from the study; however, it is the most difficult to implement.

The type and size of the sample for an expenditure survey should be representative, both for the whole population and for selected groups of households. A random stratified sample is typically used. The draw may be single- or multi-staged. Over-representation of certain groups of households can be used (e.g. people living in rural areas, ethnic groups).

Non-response

The complexity of expenditure surveys can lead to high levels of non-response and refusals to participate in the data collection. In some cases, this can lead to a lack of representativeness. Therefore, at the stage of data collection, information about households that refuse to participate should be recorded in order to describe their characteristics and evaluate the impact of non-response on representativeness. Households refusing to participate in the study may be replaced by another, either drawn from a reserve sample or based on another method.

Frequency

Due to the complex nature and high costs of household expenditure surveys, they are often performed less frequently than other socio-economic studies. Both the 2003 ILO Resolution and Eurostat recommend that data collection be conducted at a minimum every 5 years. In many countries, expenditure surveys are carried out more frequently or as a continuous survey.

Higher frequency (annual or quarterly collections are the preferred options) is important for the preparation of weights for the consumer price index. The assumption is that the CPI basket of goods changes every year. In addition, the European Statistical System recommends the use of consumption surveys (based on household budget surveys) to support the System of National Accounts.

Analysis and dissemination

Under-estimation of some expenses

Certain groups of expenditures are typically underestimated in surveys because of under-reporting by respondents. The expenditures usually most under-reported are those for illegal goods and services (e.g. illegal drugs and prostitution) or for socially unacceptable goods or services (e.g. alcohol, gambling). In order to analyse the under-reporting of these categories, household expenditures are compared to those from other sources (e.g. national accounts and trade statistics). It is recommended to publish the results of such comparisons, including information about the reasons for possible over- and under-reporting.

Expenditure covered by the tax/transfer system

When comparing the economic well-being of people living in different periods, socio-economic groups or countries, it is necessary to account for the fact that there are differences in the extent to which they receive goods and services directly from government. This is particularly true of education and health. Low levels of expenditures by one group of households for these goods and services do not necessarily imply a low standard of living compared to another group that spends more. Goods and services provided by government and non-profit institutions directly to households are called social transfers in kind (STIK). Because of difficulties in defining which services should be included in STIK, and because of difficulties in determining how to distribute their value

between recipients, this category of receipts is often omitted from micro estimates of expenditure, but it is included in the definition of actual final consumption.

Sampling error

Sampling error is the difference between a survey estimate and the true population value. The most common measure of the sampling error is the standard error of the estimate, which provides information about the variability associated with the estimate. Standard errors should be calculated, using a formula appropriate to the sample design and weighting structure of the survey, and published. For periods of less than a year, for example monthly, the variability of expenditure consists of the variability of household expenditures per month, and the variability of household expenditures between months.

Dealing with non-response

There are two types of non-response: unit non-response and item non-response. In both cases, imputation is needed to account for all household expenditures for a country's population. When a household does not respond to the survey, care must be taken to determine whether the household is missing at random or not. If missing at random, simple re-weighting is the solution. Otherwise, auxiliary information will need to be used to adjust the weights to account for its non-random character. The same is true for item non-response. There are many methods for dealing with missing data. The most flexible methods are regression-based. Imputed data should always be recognised in the data set using a flag or other method.

There are several general imputation approaches, based on stochastic or deterministic techniques, using the same or other data sets. The *Canberra Group Handbook* (para. 3.3.5) recommends the use of imputation to reduce bias and increase the comparability of data sets over time, and it provides some examples. The general methods are also mentioned in the ILO resolution (para. 97), with additional focus on not having an undue number of missing values that need to be imputed.

Confrontation of current expenditure and income

Some countries compare aggregate current expenditure and income estimates as a control mechanism. However, when doing this, one must take into account timing differences, any conceptual and implementation inconsistencies in the treatment of current income and expenditure, and the fact that current expenditure may also be financed from wealth. Therefore, a mismatch between current income and expenditure cannot automatically be assumed to constitute an error. Analyses of current expenditure and income, separately from savings and debt, may lead to erroneous conclusions.

Equivalence scales

Expenditures are dependent upon the size and characteristics of household members (e.g. age, gender, marital status) and of the housing unit itself (e.g. apartment, free-standing dwelling). Thus, any analysis should take into account the needs of the household, most often the differences in the needs of adults versus children, as well as economies of scale of goods and services purchased for the use and/or consumption of household members. The most commonly used units of analysis are: i) expenditure per capita in the household; and ii) expenditure per consumption unit, as defined through the

use of an equivalence scale. As discussed in Chapter 8, several equivalence scales can be used, and no particular equivalence scale is universally preferred.

Presentation of output

Expenditures are typically presented in the form of tables containing information on:

- The number and/or percentage of persons or households incurring the expenditure.
- The average (i.e. mean or median) expenditure for a given category of goods or services.
- The structure of expenditure (i.e. the share of each category in total expenditures).

Some countries also analyse the dynamics of expenditures, i.e. the change in current expenditures compared to those from a previous period in both nominal and real terms, and the dispersion in expenditures (e.g. Gini coefficient). Tables may include distributions of variables divided into: i) income groups (e.g. deciles, quarters, quintiles), preferably using equivalised income; ii) main source of income (e.g. wages and salaries, pensions); iii) household characteristics (e.g. household size, marital status, number of children); iv) possession of important durable goods; v) characteristics of household members (e.g. gender, age, education, professional status); vi) geographic location of residence (e.g. city size, region); vii) type of housing ownership (e.g. with a mortgage, without a mortgage, renting); and viii) size of dwelling.

It is common to present population-weighted data in terms of expenditures either per capita or per equivalent unit. Also important for expenditure analyses is information about the proportion of households with zero expenditure for the good or service considered.

The main report should contain basic tables and measures (e.g. means, medians, aggregates), as well as methodological notes providing information about the sample, the estimation error, methods of research, non-sampling errors and non-response.

Dissemination

The survey results should be shared as widely as possible, with presentations in various forms including paper publications (e.g. tabular, analytical reports, brochures, leaflets, articles), conferences, the mass media, electronic publications (available on electronic media, the Internet), and data sets for public use.

Dissemination should also include micro-level data sets for public use that do not have any specific identifiers that would make it possible for individual respondents to be identified through cross-classification of the data items in the set. It is necessary to develop and publish rules on the provision of such data, including data transfer costs. Many countries provide researchers working in non-commercial institutions with micro data on household expenditures for free, or at very low costs.

It is important to prepare an internal working document that contains all the methodological details of the procedures, concepts, methods, and classifications used in the survey. If major changes in methodology occur, a short version of these changes should be available to external users.

Another purpose of data analysis and dissemination is to promote surveys, not only expenditure surveys, but all government-sponsored surveys. This can be done through the publication of results that highlight the most important goal of the data collection effort and present the results in a way that is attractive to mass audiences. This kind of

promotion is of great importance for statistical agencies and institutes, particularly in the light of the growing number of unit and item non-responses.

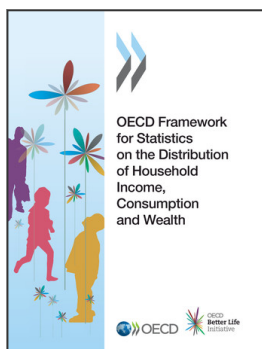
Summary

The key highlights from this chapter can be summarised as follows:

- Consumption is people's use of goods and services to meet their material wants and needs for food, shelter, social activity and so on.
- Everything else being equal, a person with a higher level of consumption is regarded as having a higher level of economic well-being than someone with a lower level of consumption.
- Consumption expenditure is the value of the consumption goods and services acquired, and can be undertaken by utilising income, available wealth and borrowing.
- Information on consumption and consumption expenditure can be used in the analysis of household economic well-being to derive weights for the consumer price index, to compile national accounts and for other purposes.
- Consumption expenditure includes the purchase of consumption goods and services in the market, the acquisition of consumption goods and services in the form of in-kind income from employment, the services produced by the household for own consumption, and the in-kind transfers received from other households and from businesses.
- In-kind transfers of consumption goods and services received from government and non-profit organisations comprise social transfers in kind; these are added to consumption expenditure to obtain actual final consumption.
- Total current expenditure of households includes consumption expenditure, current transfers paid and interest on consumer credit.
- In the ICW Framework, expenditures on consumption goods do not include that incurred for purchasing consumer durables. Rather, a household is considered as acquiring a flow of services from these consumer durables. However, consumer durables are considered as consumption goods in other uses, such as the establishment of CPI weights and the compilation of the national accounts.
- The re-sale or transfer of consumption goods and services to other entities is regarded as negative consumption expenditure, as are benefits received from accident insurance and small winnings from gambling.
- Donations and gifts to other households, non-profit organisations and other entities are regarded as current transfers paid, unless they are large and irregular, in which case they are considered as capital transfers.
- The household is the primary unit for analysing consumption data. Consumption expenditure aggregates can be adjusted by equivalence scales to reflect variations in household size and composition.
- In aggregate, consumption data should reflect a full year's consumption in order to reflect seasonal differences. However, for practical purposes, full year data may not be collected from each respondent.

Notes

1. See Slesnick (2000) for a discussion with regard to the United States.
2. In the ICW Framework, life insurance refers to life insurance policies that provide a payment at the maturity date of the policy. They represent a saving and investment component in the policy. Term insurance, which expires with no residual value, is treated as a form of accident insurance. See Annex C for a more detailed explanation.
3. The most commonly used classifications are: i) the Classification of Individual Consumption According to Purpose (COICOP), *Statistical Papers*, Series M, No. 84; United Nations, New York, 1999; and ii) the COICOP/HBS – Household Budget Surveys in the EU, Methodology and Recommendations for Harmonisation – 2003, European Commission, Luxembourg, 2003. Other organisations use a more detailed (e.g. EUROSTAT) or different (United States) classification, which, however, at the highest level (least detailed) can be compared with the COICOP.
4. The COICOP reflects SNA practice and includes expenditure on consumer durables, rather than the flow of services from household consumer durables, and there is no item for unpaid domestic services. However there is an item for the imputed rent of owner-occupied dwellings.
5. Several countries use a combination of retrospective and diary methods.



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