

USES, CONCEPTS, SCOPE, AND CLASSIFICATIONS OF CONSUMER PRICE INDICES

2

Introduction

2.1 Chapter 2 begins with an overview describing the uses of the consumer price index (CPI). The primary uses drive the decisions regarding the concepts and scope for the index. As described in this chapter, countries face the reality of having to compile and disseminate a general-purpose index that tries to meet a variety of user needs. *The System of National Accounts 2008 (2008 SNA)* provides the general framework for the concepts used to compile the CPI. The chapter explores each of these concepts in detail and how they are applied to the CPI. The chapter concludes with a discussion of the recommended classification for the CPI. The Classification of Individual Consumption According to Purpose (COICOP) serves as the internationally recommended classification system for developing weights and compiling CPIs. The previous version of COICOP, adopted in 1999, was updated and has been released as COICOP 2018. The classification section highlights the key changes between COICOP 2018 and the previous version, and identifies some important issues for consideration as countries begin implementing the new classification system.

Consumer Price Index Uses

2.2 The CPI represents a key indicator of economic performance in most countries. This section will focus on why CPIs are compiled and their uses.

A Range of Possible Consumer Price Indices

2.3 As noted in Chapter 1, compilers have to consider the needs of users in deciding on the group of households and the range of consumption goods and services covered by a CPI. As the prices of different goods and services do not all change at the same rate, or even move in the same direction, changing the coverage of the index will change the results obtained. Thus, there can be no single, unique CPI that meets all needs, and a range of possible CPIs could be defined.

2.4 While there may be interest in a broadly defined CPI, covering all the goods and services consumed by all households, there are many other options for defining CPIs that cover specific sets of goods and services, which may be more useful for particular analytic or policy purposes. When only a single CPI is compiled and published, there is a risk that it may be used for purposes for which it is not appropriate. More than one CPI could be published to meet different analytic or policy needs but each index must be clearly defined and explained by metadata. Otherwise, the publication of more than one CPI can be confusing to users

who may view consumer inflation as a pervasive phenomenon affecting all households similarly. The coexistence of alternative measures could undermine their credibility for many users. Additionally, given budgetary constraints, many national statistical offices (NSOs) cannot compile more than one index. They face the reality of having to compile a single general-purpose index.

2.5 This section describes the most important uses for CPIs and indicates how the coverage of a CPI can be affected by the use for which it is intended. The question of the appropriate coverage of a CPI must be addressed before defining the appropriate methodology to be used. As described in the following text, whether the theoretical basis of a CPI is intended to be a cost of living index (COLI), a cost of goods index, or a general-purpose index, it is necessary to determine exactly what kinds of goods and services and what types of households are meant to be covered. This can only be decided based on the main uses of the index, which will drive decisions on the concepts and methods used.

2.6 Where only one CPI is published, it is the main use that should determine its type and scope. If there are several major uses, compromises may have to be made about how it is constructed. The purpose of a CPI should influence all aspects of its construction. CPI producers need to know how the index is being used if they are to ensure that it is fit for purpose. In this connection user, consultation is important.

Consumer Price Indices and General Inflation

2.7 Measures of the general rate of inflation in the economy are needed for various purposes:

- Controlling inflation is usually one of the main objectives of government economic policy, although responsibility for controlling inflation may be delegated to the central bank. A measure of general inflation is needed to set targets and to assess the degree of success achieved by the government or central bank in meeting anti-inflation targets.
- A measure of general inflation is also needed for both business and national accounting purposes, particularly for current purchasing power accounting.
- The concept of a relative price change is important in economics. It is convenient therefore to be able to measure the actual changes in the prices of individual goods or services relative to some measure of general inflation. There is also a need to measure neutral holding (or capital) gains and losses on assets, including monetary assets and liabilities.

2.8 A CPI is not a measure of general inflation, as it only measures changes in the prices of consumer goods and services purchased by households. A CPI does not cover capital goods, such as houses, or the goods and services consumed by enterprises or the government. Any analysis of inflation pressures in the economy must also take into account other price movements, such as changes in the prices of imports and exports, the prices of industrial inputs and outputs, and also asset prices.

2.9 However, even though the CPI does not measure general inflation, its movements may be expected to be highly correlated with those of a more general measure, because household consumption expenditure represents a large proportion of total final expenditure. In particular, the CPI should provide a reliable indicator of whether inflation is increasing or decreasing and also of possible turning points in the rate of inflation. This information is highly valuable even if the CPI may be systematically understating or overstating the general rate of inflation.

Use of the Consumer Price Index for Monetary and Economic Policy Purposes

2.10 The CPI is a key macroeconomic indicator and widely used for assessing economic policy, for monetary policy purposes, and for macroeconomic planning. It is also commonly used by governments and central banks to set inflation targets. As part of this, some countries produce measures of “core” or “underlying” inflation, based on the CPI or selected subindices of the CPI. In a few countries, the central bank produces measures of core inflation. Central banks require access to detailed weight, index, and price data for these calculations, and the NSO should provide these data. Central banks calculate core inflation using a variety of different methods that require access to these detailed data. For those NSOs that compile core inflation, the most common method used is known as the exclusion method. Under this method, the weights and prices of those items deemed volatile (that is, susceptible to short-term shocks) are excluded from the index. The items excluded can include items such as fresh fruit, vegetables, fish, meat, fuel, and so on. The NSO should work closely with the central bank to define the volatile items. The list of volatile items should be reviewed and updated as needed on a regular basis. When publishing the core inflation measure, the NSO or central bank should fully explain the methods used and define the purpose and uses for these data to avoid confusing users.

2.11 For monetary policy purposes, flash estimates of the CPI may be produced, which are released before the official CPI and give early warnings or signals about the development of consumer price inflation. More information on related or alternative measures can be found in Chapter 14.

Indexation

2.12 With indexation, the monetary values of certain payments, or stocks, are increased or decreased in proportion to the change in the value of a specified price index. Indexation, most commonly applied to monetary flows such as wages, pensions, social security benefits, rents, interest, or taxes, may also be applied to the capital values of certain monetary assets and liabilities. Under conditions of high

inflation, the use of indexation may become widespread throughout the economy.

2.13 The objective of indexation of money incomes may be either to maintain the purchasing power of those incomes with respect to certain kinds of goods and services or to preserve the standard of living or economic well-being of the recipients of the incomes. These two objectives are not quite the same, especially over the longer term. Maintaining purchasing power may be interpreted as changing money income in proportion to the change in the monetary value of a fixed basket of goods and services purchased with that income. Maintaining the purchasing power of income over a fixed set of goods and services does not imply that the standard of living of the recipients of the income is unchanged.

2.14 When the indexation applies to monetary assets or liabilities, it may be designed to preserve the real value of the asset or liability relative to other assets or relative to the values of specified flows of goods and services.

The Type of Index Used for Indexation

2.15 When income flows such as wages or social security benefits are index-linked, it is necessary to consider the implications of choosing between a COLI and a price index that measures the changes in the cost of purchasing a fixed basket of goods and services, a type of index described here as a Lowe index. The widely used Laspeyres and Paasche indices are examples of Lowe indices. The Laspeyres index uses a typical basket purchased in the earlier of the two periods compared, while the Paasche uses a basket typical of the later period. In contrast, a COLI compares the cost of two baskets that may not be exactly the same, but which bring the same satisfaction or utility to the consumer.

2.16 Indexation using a Laspeyres price index will tend to overcompensate the income recipients for changes in their cost of living. Increasing incomes in proportion to the change in the cost of a basket purchased in the past ensure that the income recipients have the opportunity to continue purchasing that same basket if they wish to do so. They would then be at least as well off as before. However, by adjusting their pattern of expenditures to take account of changes in the *relative* prices of the goods and services they buy, they would be able to improve their standard of living or economic well-being because they can substitute goods and services that have become relatively cheaper for ones that have become relatively dearer. In addition, they may be able to start to purchase completely new kinds of goods that provide new kinds of benefits that were not available in the earlier period. Such new goods and services tend to lower a COLI when they first appear even though no price can actually be observed to fall, as there was no previous price.

Indexation of Wages and Pensions

2.17 As noted in Chapter 1, the indexation of wages was the main objective behind the original compilation of CPIs, although there has always been a general interest in measuring inflation. If the indexation of wages and pensions is the main justification for a CPI, it has direct implications for the coverage of the index. First, it suggests that the index should be confined to expenditure made by households whose principal source of income is either wages or pensions. Second, it may suggest that expenditure on certain types of goods

and services, such as luxury items, may be excluded from the index. See also paragraph 1.35 in Chapter 1.

Indexation of Social Security Benefits

2.18 It has become common practice in many countries to index the rates at which social security benefits are payable. There are many kinds of benefits, including retirement pensions, unemployment benefits, sickness benefits, or child allowances. When indexing benefits of this kind is the main reason for compiling the CPI, it may suggest restricting the coverage of the index to certain types of households and goods and services. Some kinds of goods and services could then be excluded from the index based on political decisions that certain goods and services are deemed undesirable—for example, expenditure on alcoholic beverages and tobacco.

2.19 Alternatively, separate CPIs for different categories of households could be compiled. For example, an index may be compiled covering the basket of goods and services purchased by households whose principal source of income is a social security pension.

2.20 As already noted, publishing more than one CPI may be confusing if inflation is viewed as affecting everyone in the same way. Such confusion can be avoided by providing a detailed explanation of the purpose and use of each alternative index (as explained in Chapter 14). It is not difficult to explain that price changes are not the same for different categories of expenditure. In practice, some countries publish more than one index.

2.21 The main reason why it may not be justifiable to publish more than one index is that the movements in the different indices may be virtually the same, especially in the short term. In such cases, the costs of compiling and publishing separate indices may not be worthwhile. In practice, differences in the patterns of expenditure between different groups of households may not be large enough to yield significantly different CPIs.

2.22 Finally, it should be noted that the deliberate exclusion of certain types of goods and services by political decision on the grounds that the households toward whom the index is targeted ought not to be purchasing such goods or services or ought not to be compensated for increases in the prices of such goods and services, cannot be recommended because it exposes the index to political manipulation. For example, suppose it is decided that certain products such as tobacco or alcoholic beverages should be excluded from a CPI. There is a possibility that, when taxes on products are increased, these products may be deliberately selected for higher taxes with the knowledge that the resulting price increases would not be reflected in the CPI. Such practices are not unknown.

Indexation of Interest, Rents, and Other Contractual Payments

2.23 It is common for payments of both rents and interest, especially mortgage rates, to be indexed to the CPI. Governments may issue bonds with an interest rate specifically linked to the CPI. The interest payable in any given period may be equal to the fixed rate of interest plus the percentage change in the CPI. Payments of housing rents may also be linked to the CPI.

2.24 Creditors receiving interest payments do not consist only of households. In any case, the purpose of indexing

interest is not to maintain the standard of living of the creditors but rather to maintain their real wealth by compensating them for the neutral holding, or capital losses on their loans incurred as a result of general inflation. A CPI may not be the ideal index for this purpose but may be used in the absence of another more suitable index.

2.25 Many other forms of contractual payments may be linked to the CPI. For example, legal obligations to pay alimony or for the support of children may be linked to the CPI. Payments of insurance premiums may be linked either to the all-items CPI or to a subindex relating to some specific types of expenditure, such as the costs of repairs.

Taxation

2.26 Movements in a CPI may be used to affect the amounts payable in taxation in several ways. For example, liability for income tax may be affected by linking personal allowances that are deductible from taxable income to changes in the CPI. Under a system of progressive taxation, the various thresholds at which higher rates of personal income tax become effective may be changed in proportion to changes in the CPI. Liability for capital gains tax may be reduced by basing it on real, rather than nominal, capital gains by reducing the percentage increase in the value of the asset by the percentage change in the CPI over the same period. In general, there are various ways in which some form of indexation may be introduced into tax legislation.

Deflation: Changing Current Values to Volume Measures

2.27 Price indices, such as the CPI, can be used to remove the effect of changes in prices from current value data or to convert nominal data into data in volume terms (2008 SNA, paragraph 2.146). In general, changes in current value aggregates of output or expenditure can be decomposed into changes in price and volume components. Deflation separates the price effect from the volume changes. While aggregates of income may not, strictly speaking, be broken into price and volume components, they may be calculated in constant purchasing power or to maintain a constant standard of living, which is described as being in real terms. Converting nominal data into data in real terms provides a consistent and meaningful measure across time.¹

Measures of Real Consumption and Income

2.28 Price indices can be used to deflate final consumption expenditure at current prices or money income to derive measures of consumption expenditure in volume terms (also known as real consumption) and real income. Real measures involve volume comparisons over time (or space). There are two different approaches to such comparisons which are analogous to the distinction between a Lowe, or basket, index and a COLI.

¹The SNA distinguishes between volume and real measures. For example, the 2008 SNA, in paragraph 15.181, notes that many flows in the SNA, such as cash transfers, do not have price and quantity dimensions of their own and cannot, therefore, be decomposed in the same way as flows related to goods and services. While such flows cannot be measured in volume terms, they can nevertheless be measured “in real terms” by deflating their values with price indices in order to measure their real purchasing power over some selected basket of goods and services that serves as the numeraire.

2.29 The first approach defines the change in the consumption expenditure as the change in the total value of the goods and services actually consumed, measured at the fixed prices of some chosen period. This is equivalent to deflating the change in the current value of the goods and services consumed by an appropriately weighted Lowe price index. The change in real income can be measured by deflating the change in total money income by the same price index.

2.30 The alternative approach defines the change in consumption expenditure in volume as the change in economic well-being derived from the goods and services actually consumed. This may be estimated by deflating the change in the current value of consumption expenditure by using a COLI (see paragraphs 2.84–2.91). Real income may be similarly obtained by deflating money income by the same COLI.

2.31 The two approaches cannot lead to the same results if the pure price index and the COLI diverge. The choice between the two approaches to the measurement of consumption expenditure in volume and real income will not be pursued further here, as the issues involved are essentially the same as those already considered in the parallel discussion of the choice between a Lowe, or basket, price index and a COLI (see paragraphs 2.82–2.91).

Consistency between Price Indices and Expenditure Series

2.32 The data collected on prices and the data collected on household expenditure must be mutually consistent when measuring the volume of consumption. This requires that both sets of data cover the same set of goods and services and use the same concepts and classifications. Problems may arise in practice because the price indices and the expenditure series are often compiled independently of each other by different departments of an NSO or even by different agencies.

National Accounts

2.33 The CPI is mainly used in the national accounts to derive volume measures of household final consumption expenditure (HFCE). HFCE at current prices should be deflated at the most detailed level as possible using the respective CPIs (*2008 SNA*, paragraph 15.140). In addition, and in the absence of other indicators, the CPI is often used to derive volume measures of other national accounts aggregates, but this use of the CPI is neither ideal nor encouraged.

Purchasing Power Parities

2.34 Many countries participate in regular international programs enabling purchasing power parities (PPPs) to be calculated for household actual consumption expenditure. The calculation of PPPs requires the prices of individual consumer goods and services to be compared directly between different countries. Real expenditures and real incomes can then be compared between countries in much the same way as between different time periods in the same country.

2.35 It is not proposed to examine PPP methodology here but simply to note that PPPs create another demand for basic price data. When such data are being collected, it is important to recognize that they can be used for PPPs as well as CPIs. PPPs are essentially international deflators that are analogous to the intertemporal deflators needed for the

national accounts of a single country. Thus, while the processing and aggregation of the basic data for CPI purposes should be determined by the needs of the CPI itself, it is appropriate to take into account the requirements of these other kinds of price indices at the data collection stage. There may be important economies of scale obtained by using a single collection process to meet the needs of several different types of indices.

2.36 The International Comparison Program (ICP) represents one of the largest efforts to develop PPPs. Given limited staff and budgetary resources, there is a need for careful consideration to identify potential synergies between the ICP and CPI. These possible synergies are the topic of an ongoing task force under the auspices of the ICP. The objective of this task force is to develop guidelines for countries to maximize limited resources for the collection of price data needed for both programs, while ensuring that the reliability and representativity of the CPI is not adversely affected. Appendix 4 provides detail on the ICP which is managed by the World Bank.

2.37 Thus, operationally as well as conceptually, the CPI needs to be placed in the context of a wider set of inter-related price indices. The compilation of CPIs predates the compilation of national accounts by many years in some countries, so the CPI may have originated as a free-standing index. However, the CPI should no longer be treated as an isolated index whose compilation and methodology can proceed quite independently of other statistics.

Use of the Consumer Price Index for Accounting under Inflation

2.38 When there is inflation, both business and national accounts have to introduce adjustments that are not needed when the price level is stable. This is a complex subject that cannot be pursued in any depth here. Two methods of accounting are commonly used, and they are summarized in paragraphs 2.39 and 2.40. Both require price indices for their implementation.

Current Purchasing Power Accounts

2.39 Current purchasing power accounts are accounts in which the monetary values of the flows in earlier time periods are scaled up in proportion to the increase in some general index of inflation between the earlier period and the current period. In principle, the index used should be a general price index covering other flows in addition to HFCE, but in practice, the CPI is often used by default in the absence of a more suitable general index.

Current Cost Accounting

2.40 Current cost accounting (*2008 SNA*, paragraphs 1.65–1.67) is an accounting method in which the cost of using goods and assets in production is calculated using current prices of those goods and assets as distinct from the prices at which the assets were purchased or otherwise acquired in the past (historic costs). The current cost of using a good or asset takes account not only of changes in the general price level but also of changes in the relative price of that type of asset since it was acquired. In principle, the price indices that are used to adjust the original prices paid for the goods and assets should be specific price indices

relating to that particular type of good or asset, and such indices are calculated and used in this way in some countries. However, when there are no such indices available, the all-items CPI, or some subindex of the CPI, have been used for this purpose.

Consumer Price Indices and International Comparisons of Inflation

2.41 CPIs are also commonly used to make international comparisons of inflation rates. An important example of their use for this purpose is provided by the European Union (EU). Since the mid-1990s, EU member countries have compiled Harmonised Indices of Consumer Prices (HICP) that are used as an aggregate measure of inflation for the euro area and to compare consumer price inflation across member countries, and for monetary and economic policy purposes of the EU.

2.42 Another example would be the Group of Twenty (G20) CPI compiled by the Organisation for Economic Co-operation and Development. One of the outcomes of the G20 Data Gaps Initiative was the compilation of aggregates for the G20 countries. Using the headline² (all-items) indices, the G20 aggregate provides a measure of inflation for the G20 countries. For more information on the G20 CPI, see *Methodology Notes: Compilation of a G-20 Consumer Price Index* available on the Organisation for Economic Co-operation and Development website.³

2.43 Finally, CPIs are used for purposes of international comparisons by a range of international organizations, including the Food and Agriculture Organization, the International Labor Organization, the International Monetary Fund, Organisation for Economic Co-operation and Development, World Bank, and others.

Popularity of Consumer Price Indices for Economic Analysis

2.44 The CPI is a high-profile statistic. CPIs seem to have acquired a unique status among economic statistics in most countries. Changes in the CPI tend to receive significant publicity and often make headline news. There are several factors which help to explain this:

- All households experience the phenomenon the CPI intends to measure. The general public faces changes in the prices of consumer goods and services, and the direct impact those changes have on their living standards. Wages, pensions, and social security benefits may be adjusted according to changes in the CPI, which also will have a direct impact on households' income. Interest in CPIs is not confined to the press and politicians.
- Countries disseminate the CPI frequently, usually each month, so that the rate of consumer inflation can be closely monitored. The CPI is also a timely statistic that is released very soon after the end of the period to which it refers.
- The CPI is a statistic with a long history, as noted in Chapter 1. People have been familiar with it over this period of time.

- Although price changes for certain kinds of consumer products are difficult to measure because of quality changes, price changes for other kinds of goods and services, such as capital goods and government services, especially public services, tend to be even more difficult to measure.
- Most countries have deliberately adopted a policy of not revising the index once it has been published. This makes it more attractive for many purposes, especially those with financial consequences such as indexation. The lack of revisions may create a somewhat spurious impression of certainty, but it also seems to enhance the credibility and acceptability of the index.

2.45 The widespread use of the CPI for purposes other than those for which it was designed can be explained not only by the various factors listed in paragraph 2.44 but also with the fact that no satisfactory alternative or more comprehensive measures of inflation are available monthly in most countries. For example, the CPI may be used as a proxy for a more general measure of inflation in business accounting, even though it may be clear that, conceptually, the CPI is not the ideal index for this purpose. Similarly, the fact that the CPI is not subject to revision, together with its frequency and timeliness, may explain its popularity for indexation purposes in business or legal contracts in contexts where it also may not be very appropriate conceptually. These practices may be defended on the grounds that the alternative to using the CPI may be to make no adjustment for inflation. Although the CPI may not be the ideal measure, it is much better to use it than to make no adjustment.

2.46 Although the CPI is often used as a proxy for a general measure of inflation, this does not justify extending its coverage to include elements that go beyond household final consumption. If broader indices of inflation are needed, they should be developed in addition to the CPI, leaving the CPI intact. Some countries are in fact developing additional and more comprehensive measures of inflation within the SNA framework.

Inflation Perceptions

2.47 While countries strive to compile and disseminate a CPI that provides a reliable measure of price change, many data users, especially individual households, perceive the headline inflation rate to be incorrect. This perception negatively affects the credibility of the index and user confidence. NSOs should make every effort to improve these perceptions.

2.48 Individual consumers may regard the headline measure of inflation as wrong because they do not fully appreciate CPI concepts and compilation methods. First, the CPI represents a composite of all households, reflecting the average total expenditure of all households on the goods and services included in the basket, and not the expenditure of any single household. Second, the index represents a weighted average change over time in the prices paid by consumers. This means that some prices are increasing while others are decreasing. The impact of the price change of each item included in the basket is determined by the weight of that item.

2.49 To build user confidence and enhance credibility, NSOs should enhance transparency and provide more

²For the EU and Turkey, the HICP is used in the aggregation, while for all other countries, the national CPI is used.

³<http://www.oecd.org/sdd/prices-ppp/CPI-G20-methodology.pdf>.

details on the concepts and methods used to compile the CPI (that is, metadata). Index compilation methods should be explained in detail and made available to all users on the NSO website and in hardcopy as needed. In addition, NSOs can provide better explanations to frequently asked questions. Many NSO websites include a frequently asked questions section to respond to questions regarding concepts and methods used or to avoid common misperceptions. Finally, detailed data should be disseminated on the NSO website. More detailed data provide more information to all users to better understand the source(s) of price change. Chapter 14 provides more information on the need to provide more detailed data and metadata.

The Need for Independence and Integrity of Consumer Price Indices

2.50 Because of the widespread use of CPIs for various types of indexation, movements in the CPI can have major financial ramifications throughout the economy. The implications for the government alone can be considerable, given that the CPI can affect interest payments and taxation receipts, as well as the government's wage and social security outlays.

2.51 When financial interests are involved, there is always a risk that both political and nonpolitical pressure groups may try to exert an influence on the methodology used to compile the CPI. The CPI, in common with other official statistics, must be protected from such pressures. Partly for this reason, many countries establish an advisory committee to ensure that the CPI is not subject to inappropriate outside influence or pressure. The advisory committee may include representatives of a cross-section of interested parties, as well as independent experts able to offer professional advice. To enhance user confidence and transparency, details on the methodology used to compile CPIs should be made available to the general public.

Concepts and Scope of the Consumer Price Index

2.52 As noted previously in paragraphs 2.38–2.43 and in Chapter 1, the primary uses of the CPI will determine the concepts and scope used to compile the index. This section provides a more detailed look at the different concepts used to compile the CPI, as well as scope and coverage issues.

Concepts

2.53 While this chapter does not provide a detailed overview of SNA definitions and concepts, it should be noted that the SNA serves as the conceptual basis, or framework, for the CPI. Definitions for expenditure, consumption, households, and other concepts are derived from the SNA.

2.54 Households may acquire goods and services⁴ for purposes of final consumption in four main ways: (1) they may purchase them in monetary transactions; (2) they may produce them themselves for their own consumption; (3) they may receive them as payments in kind through barter transactions, particularly as remuneration in kind for

work done; and (4) they may receive them as free gifts, or transfers, from other economic units, including social transfers in kind provided by government. The treatment of household production activities is addressed in paragraphs 2.154–2.168.

2.55 The broadest concept of final consumption for CPI purposes would be a price index embracing all four categories of consumption goods and services listed previously. This set of consumption goods and services may be described as total acquisitions. Total acquisitions are equivalent to the total household actual final consumption as defined in the SNA (*2008 SNA*, paragraph 9.81). The *2008 SNA* distinguishes between *household actual final consumption* and *HFCE*, as explained in paragraphs 2.56–2.59.

2.56 According to the SNA (*2008 SNA*, paragraph 9.56), HFCE includes the expenditure incurred by resident households on consumption goods or services. These include purchases of consumer goods and services, as well as the estimated (imputed)⁵ value of barter transactions, goods and services received in kind, and goods and services produced and consumed by the same household (production for own consumption).

2.57 *Household actual final consumption*, as defined in the *2008 SNA* (*2008 SNA*, paragraph 9.81) consists of the consumption goods and services acquired by individual households. The total value of household actual final consumption includes the sum of these three components: (1) the value of households' expenditures on consumption goods or services, including expenditures on nonmarket goods or services sold at prices that are reduced or not economically significant,⁶ (2) the value of the expenditures incurred by government units on individual consumption goods or services provided to households as social transfers in kind, and (3) the value of the expenditures incurred by nonprofit institution serving households (NPISHs) on individual consumption goods or services provided to households as social transfers in kind.

2.58 Household actual final consumption is a broader concept than HFCE, and the difference between the two concepts is linked to the concepts of acquisitions and expenditure, as explained in paragraphs 2.59–2.61.

Expenditure

2.59 *Expenditure* on goods and services is the value of the amount that buyers pay, or agree to pay, to sellers in exchange for goods or services that sellers provide to them or to other institutional units designated by the buyers (*2008 SNA*, paragraph 9.32). In other words, expenditure is made by the economic units who pay for the goods and services that bear the costs. However, many of the goods and services consumed by households are financed and paid for by government units or nonprofit institutions. They are mostly services such as education, health, housing, and transport.

⁵The term "imputation" is used in the SNA (*2008 SNA*, paragraph 3.75) with a specific narrow meaning: it is preferable to reserve that term for the kind of situation that involves not only estimating a value but also constructing a transaction. In this manual, the term "imputation" has a broader meaning.

⁶Prices are said to be economically significant when they have a significant influence on the amounts the producers are willing to supply and on the amounts purchasers wish to buy (*2008 SNA*, paragraph 6.95).

⁴The *2008 SNA* defines goods and services in paragraphs 6.14–6.21.

Household Actual Final Consumption

Value of Expenditures on Consumption Goods or Services, Including Payments for Nonmarket Goods or Services Sold at Nonsignificant Economic Prices (9.56)

Value of Expenditures Incurred by Government Units or NPISH on Individual Consumption Goods or Services Provided to Households as Social Transfers in Kind (9.81)

Household Final Consumption Expenditure (HFCE)

Value of Expenditures on Consumption Goods or Services, Including Payments for Nonmarket Goods or Services Sold at Nonsignificant Economic Prices (9.56)

Purchases of Consumer Goods and Services (monetary transactions)	Purchases of Consumer Goods and Services (barter transactions)	Goods and Services Provided by Employers to Their Employees in Remuneration for Work Done	Consumer Goods and Services Produced and Consumed by the Same Household
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Household Final Monetary Consumption Expenditure (HFMCE)

Purchases of Consumer Goods and Services (monetary transactions)

Individual goods and services provided free of charge, or at prices that are not economically significant, to individual households by governments or nonprofit institutions are described as social transfers in kind⁷ (social transfers in kind do not include collective services provided by governments to the community as a whole, such as public administration and defense).

2.60 The expenditure on social transfers in kind is incurred by the governments or nonprofit institutions that pay for them, and not by the households that consume them. It could be decided that the CPI should be confined to final consumption expenditure incurred by households, in which case free social transfers in kind would be excluded from the scope of the index. Even if they were to be included, they can be ignored in practice when they are considered to be provided free, on the grounds that households incur zero expenditure on them. Of course, their prices are not zero from the perspective of the units that finance the social transfers, but the relevant prices for a CPI are those payable by the households.

2.61 Social transfers cannot be ignored, however, when governments and nonprofit institutions decide to introduce (or eliminate) charges for them, a practice that has become increasingly common in many countries. For example, if the CPI is intended to measure the change in the total value of a basket of consumption goods and services that includes social transfers, increases in their prices to households from zero to some positive amount increase the cost of the basket and should be captured by a CPI. The CPI should reflect the full extent of the price change in the period the price increases from zero to some positive amount. With a zero price, the good or service is generally excluded from the CPI; however, when the price changes from zero to some positive amount, it becomes a newly significant good or service and can be treated in the same way as other new goods or services are introduced. Chapter 7 provides an overview of the different methods for including new goods or services

in the CPI. Alternatively, if the price decreases from some positive amount to zero, this also must be reflected in the CPI. The question remains how to deal with the weight for that item. One option may be to use a zero price and adjust the weights during the next update. Another option may be to redistribute the weight to the other items within the class. Finally, it may be decided that the best approach would be to redistribute the weight broadly over all items. The treatment of health, education, and social protection services in the CPI is further discussed in Chapter 11.

Acquisitions and Uses

2.62 It has been customary in the literature on CPIs to draw a distinction between acquisitions of goods and services by households and their subsequent use (consumption) to satisfy their households' needs (the *2008 SNA* defines acquisitions in paragraphs 9.36–9.38 and consumption of goods and services in paragraphs 9.39–9.41). Consumption goods are typically acquired at one point of time and used at some other point of time, often much later, or they may be used repeatedly, or even continuously, over an extended period of time. The times of acquisition and use nevertheless coincide for many services, although there are other kinds of services that provide lasting benefits and are not used up at the time they are provided. This is further explained in paragraphs 2.63–2.67.

2.63 Acquisition of a good refers to the moment at which ownership of a good transfers to the consumer. In a market setting, it is the moment at which the consumer incurs a liability to pay, either in cash, credit, or in kind. Acquisition of a service cannot be determined as easily because the provision of a service does not involve an exchange of ownership. Instead, it typically leads to some improvement in the condition of the consumer. Consumers acquire a service at the same time that the producer provides it and the consumer accepts a liability to pay. In a market situation, therefore, the time of acquisition for both goods and services refers to the time at which the liability to pay is incurred. The distinction between time of acquisition and time of use is particularly important for durable goods and certain kinds of services.

⁷The *2008 SNA* refers to social transfers in kind in paragraphs 6.234 and 6.235.

2.64 A “nondurable” good would be better described as a single-use good (durable goods are defined in paragraph 9.42 of the *2008 SNA*). For example, food and drink are used once only to satisfy hunger or thirst. Heating oil, coal, or firewood can be burnt once only, but they are nevertheless extremely durable physically and can be stored indefinitely. Households may hold substantial stocks of so-called nondurables, such as many foodstuffs and fuel, especially in periods of political or economic uncertainty.

2.65 Conversely, the distinguishing feature of consumer durables, such as furniture, household equipment, or vehicles, is that they are durable under use. They can be used repeatedly or continuously to satisfy consumers’ needs over a long period of time, possibly many years. For this reason, a durable is often described as providing a flow of “services” to the consumer over the period it is used. Some durables last much longer than others, the less durable ones being described as “semidurables” in COICOP, for example, clothing. Dwellings are not classified as consumer durables in COICOP. They are treated as fixed assets and not consumption goods, and therefore fall outside the scope of COICOP and the CPI. However, the housing services produced and consumed by owner-occupiers are included in COICOP and classified in the same way as the housing services consumed by tenants. More information on the treatment of housing is available in Chapter 11.

2.66 Consumers may continue to benefit, and derive utility, from some services long after they were provided because they bring about substantial, long-lasting, or even permanent improvements in the condition of the consumers. The quality of life of individuals receiving medical treatments such as hip replacements or cataract surgery, for example, is substantially and permanently improved. Similarly, consumers of educational services can benefit from them over their entire lifetimes.

2.67 For some analytical purposes, it may be appropriate to treat certain kinds of services, such as education and health, as the service equivalents of durable goods. Expenditure on such services can be viewed as investments that augment the stock of human capital. Another characteristic that education and health services share with durable goods is that they are often so expensive that their purchase has to be financed by borrowing or by running down other assets.

Monetary and Nonmonetary Transactions

2.68 A distinction may also be drawn between monetary and nonmonetary transactions depending if the payment made or liability incurred is stated in units of currency. A monetary transaction occurs when a household pays in cash, by check or credit card, or otherwise incurs a liability to pay, in exchange for the acquisition of a good or service. Nonmonetary transactions occur when households do not incur a liability but bear the costs of acquiring the goods or services in some other way.

2.69 Households may incur nonmonetary transactions when household members receive goods and services from their employers as remuneration in kind (*2008 SNA*, paragraphs 9.51 and 9.52). The employees pay for the goods and services with their own labor rather than cash. Consumption goods and services received as remuneration in kind can, in principle, be included in a CPI using the estimated prices that would be payable for them on the market.

2.70 Another important category of nonmonetary transaction occurs when households consume goods and services that they have produced themselves (*2008 SNA*, paragraphs 9.53–9.55). The households incur the costs, while the expenditure is deemed to occur when the goods and services are consumed. Own-account production of this kind includes the production of housing services by owner-occupiers. The treatment of goods and services produced for own consumption raises important conceptual issues that are discussed in more detail in paragraphs 2.154–2.157 and in Chapter 11.

2.71 The narrowest concept of consumption that could be used for CPI purposes is one based on monetary transactions only. As noted previously, HFCE includes barter transactions, goods and services received in kind, and production for own consumption. A concept of consumption based only on monetary transactions excludes many of the goods and services actually acquired and consumed by households. On the other hand, only monetary transactions generate the prices needed for CPI purposes. The prices of the goods and services acquired through nonmonetary transactions cannot be directly observed and have to be imputed or estimated on the basis of the prices observed in monetary transactions. Imputed or estimated prices do not generate more price information. Instead, they affect the weighting, increasing the weight of the prices used to value nonmonetary transactions for which prices have to be imputed or estimated.

2.72 If the main reason for compiling a CPI is the measurement of inflation or as an input into monetary policy decisions, the scope of the index should be restricted to monetary transactions only, especially since nonmonetary transactions do not generate any demand for money. The HICP, used to measure inflation within the EU, is confined to household final monetary consumption expenditure (HFMCCE) (see Appendix 1).

Domestic and National Concept of Expenditure

2.73 The concept of residence is based on the center of predominant economic interest of the institutional unit (that is, household, in the case of the CPI), and not on nationality or legal criteria. The *SNA* states that the most commonly used concept of economic territory is the geographic territory administered by a government, although it may be larger or smaller than this (as in a currency or economic unit, or a region in a country). The economic territory also includes the territorial enclaves in the rest of the world (embassies, consulates, military bases, scientific stations, and so on). As a general rule, institutional units are considered resident in a certain economic territory if they are engaged in activities and transactions on a significant scale for one year or more. According to the *SNA*, the residence of individual persons is determined by that of the household of which they form part and not by their place of work, and all members of the same household have the same residence as the household itself. If members of a household work and reside abroad so long that they acquire a center of economic interest abroad, they cease to be members of their original household (*2008 SNA*, paragraphs 4.10–4.15).

2.74 Therefore, according to the *2008 SNA* (*2008 SNA*, paragraph 9.79), HFCE refers to the expenditure incurred by resident households, whether that expenditure is incurred within the economic territory or abroad. Additionally, nonresident households may make expenditure inside the

economic territory of a country. Depending on the residence principle, there are two important concepts related to CPI coverage: the domestic and national concept.

2.75 The *national concept*, which aligns with the HFCE concept as defined in the *2008 SNA*, includes expenditure made by resident households, whether it takes place on the economic territory or elsewhere. This means that the expenditure of resident households at home should be adjusted by adding the expenditure of resident households abroad (imports) and deducting the expenditure of nonresident households in the home territory (exports).

2.76 The *domestic concept* is not based on the residence of households, rather on the territory where the consumption or expenditure occurs. It covers the consumption expenditure made by all households on the economic territory of a country, including the expenditure of nonresidents of the country and excluding the expenditure of residents abroad.

2.77 Decisions about the choice of the concept used depend on the main use of a CPI. For inflation analysis and monetary policy purposes, it is the price change within a country which is of interest. An index of inflation is needed that covers all “domestic” consumption expenditure that takes place within the geographical boundaries of the country, whether made by residents or nonresidents.

2.78 When CPIs are used for escalating the incomes of residents, it may be appropriate to adopt the “national” concept which covers all the expenditure of residents, whether inside or outside the country. Household budget surveys (HBSSs) can cover all these types of expenditure. For example, the prices paid for airline tickets and package holidays bought within the domestic territory should be covered. It can be difficult, however, to obtain price data for the goods and services purchased by residents when abroad, although in some cases subindices of the partner countries’ CPIs might be used.

2.79 The treatment of purchases made online requires special consideration. In principle, the domestic and national concepts could provide guidance on how to treat the expenditure made on goods and services, including digital downloads, purchased online. In many cases, however, internet-based outlets may be based (registered) abroad and this expenditure would be considered cross-border shopping. For those countries following the national concept, the approach is clear. Strictly speaking, under the domestic concept, this expenditure would not be included because it would be defined as expenditure abroad; in practice, this requires a broader interpretation. The nature of internet purchases, therefore, requires a different way of thinking and special consideration, especially with regard to the domestic concept. Additionally, internet purchases continue to grow in importance.

2.80 Many countries have carefully considered how to include the expenditure (and prices) made on goods and services via the internet. For the purchase of goods, the expenditure and prices should be reflected in the country where the goods are delivered.

2.81 Services purchased on the internet can be more problematic for CPI compilation because there are both tangible and digital services. Tangible services would include the traditional services such as transportation, hotels, entrance to cultural/sporting events, or education. Digital services would include telecommunications, broadcasting

(for example, streaming or downloading music, movies, or television content) and other services (for example, software). If the service is consumed in the economic territory where the household is resident, it should be included in the CPI; however, if the service is consumed outside of the economic territory of the country, it would be excluded. For example, if a household reserves a hotel room that will be used and paid for in another country, it would be considered out of scope. For digital services, because the service is being consumed within the economic territory of a country, the expenditure and prices should be included in the country where the household resides. More details on the treatment of internet purchases can be found in Chapter 11.

Basket Indices and Cost of Living Indices

2.82 A fundamental conceptual distinction may be drawn between a *basket index* and a *COLI*. In a CPI context, a basket index is an index that measures the change between two time periods in the total expenditure needed to purchase a given set, or basket, of consumption goods and services. It is called a “Lowe index” in this Manual. A COLI is an index that measures the change in the minimum cost of maintaining a given standard of living. Both indices therefore have very similar objectives in that they aim to measure the change in the total expenditure needed to purchase *either* the same basket *or* two baskets whose composition may differ somewhat but between which the household is indifferent.

Basket Indices

2.83 CPIs are often calculated as either Lowe or Young indices in practice. Their properties and behavior are described in detail throughout this Manual. The operational target for most CPIs is to measure the change over time in the total value of a specified basket of consumption goods and services purchased, or acquired, by a specified group of households in a specified period of time. The meaning of such an index is clear. It is necessary to ensure that the selected basket is relevant to the needs of users and also kept up to date. The basket may be changed at regular intervals and does not have to remain fixed over long periods of time. The determination of the basket is considered in more detail in Chapter 3.

Cost of Living Indices

2.84 The economic approach to index number theory treats the quantities consumed as being dependent on the prices. Households are treated as price takers who are assumed to react to changes in *relative* prices by adjusting the *relative* quantities they consume. A basket index that works with a fixed set of quantities fails to allow for the fact that there is a systematic tendency for consumers to substitute items that have become relatively cheaper for those that have become relatively more expensive. A COLI based on the economic approach does take this substitution effect into account. It measures the change in the minimum expenditure needed to maintain a given standard of living when utility-maximizing households adjust their patterns of purchases in response to changes in relative prices. In contrast to a basket index, the baskets in the two periods in a COLI will generally not be quite the same in the two periods because of these substitutions.

2.85 The properties and behavior of COLIs are explained in some detail in Chapter 4 of the publication *Consumer Price Index Theory*. A summary explanation has already been given in Chapter 1. The maximum scope of a COLI would be the entire set of consumption goods and services consumed by the designated households from which they derive utility. It includes the goods and services received free as social transfers in kind from governments or NPISH. Because COLIs measure the change in the cost of maintaining a given standard of living or level of utility, they lend themselves to a uses rather than an acquisitions approach (see also paragraphs 2.62–2.67), as utility is derived not by acquiring a consumer good or service but by using it to satisfy personal needs and wants.

2.86 Economic well-being may be interpreted to mean not only economic welfare, that is, the utility linked to economic activities such as production, consumption, and working, but also the general well-being associated with other factors such as security from attack by others. It may not be possible to draw a clear distinction between economic and noneconomic factors, but it is clear that total economic well-being is only partly dependent on the amount of goods and services consumed.

2.87 *Conditional and unconditional COLIs.* In principle, the scope of a COLI is influenced by whether it is intended to be a conditional or unconditional COLI. The *total welfare* of a household depends on a string of noneconomic factors such as the climate, the state of the physical, social, and political environment, the risk of being attacked either by criminals or from abroad, the incidence of diseases, and so on, as well as by the quantities of goods and services consumed. An *unconditional COLI* measures the change in the cost to a household of maintaining a given level of total economic well-being allowing the noneconomic factors to vary as well as the prices of consumption goods and services. If changes in the noneconomic factors lower economic well-being, then some compensating increase in the level of consumption will be needed in order to maintain the same level of total economic well-being. For example, if there is an adverse change in the weather, that requires more fuel to be consumed to maintain the same level of comfort as before. The cost of the *increased quantities* of fuel consumed drives up the unconditional COLI, irrespective of what has happened to prices. There are countless other events that can impact on an unconditional COLI, from natural disasters such as earthquakes to man-made disasters such as climate change or acts of terrorism.

2.88 While there may be interest in an unconditional COLI for certain analytical and policy purposes, it is deliberately defined to measure the effects of many other factors besides prices. If the objective is to measure the effects of price changes only, the nonprice factors must be held constant. Given that a COLI is meant to serve as a CPI its scope must be restricted to exclude the effects of events other than price changes. A *conditional COLI* is defined as the ratio of the minimum expenditure needed to maintain a given level of utility, or standard of living, in response to price changes, assuming that all the other factors affecting economic well-being remain constant. It is conditional not only on a particular standard of living and set of preferences but also on a particular state of the nonprice factors affecting economic well-being. COLIs, in this Manual, are to be understood as *conditional* COLIs.

2.89 A conditional COLI should not be viewed as second best. An unconditional COLI is a more comprehensive COLI than a conditional COLI, but it is not a more comprehensive *price* index than a conditional index. An unconditional index does not include more price information than a conditional index and it does not give more insight into the impact of price changes on households' economic well-being. On the contrary, the impact of the price changes is diluted and obscured as more variables impacting on economic well-being are included within the scope of the index.

2.90 Lowe indices, including Laspeyres and Paasche, are also conditional, being dependent on the choice of the basket. The fact that the value of a basket index varies in predictable ways according to the choice of basket has generated much of the large body of literature available on index number theory. Conceptually, Lowe indices and conditional COLIs have much in common. A Lowe index measures the change in the cost of a specified basket of goods and services, whereas a conditional COLI measures the change in the cost of maintaining the level of utility associated with some specified basket of goods and services, other things being equal.

2.91 In practice, it is not possible to compile a true COLI. Some countries construct the CPI for indexation purposes and employ methods to approximate a COLI. Similarly, other countries construct their CPI with the primary purpose of measuring inflation, in which case a cost of goods index would be the target index. The selection of a cost of goods index or a COLI as target for the CPI has consequences concerning the scope of the index and the way different goods or services are included in the index. In practice, most countries compile a general-purpose index that strives to meet both compensation and inflation measurement needs in a single index.

Consumer Price Index Scope

Households and Outlets Included in the Scope of a Consumer Price Index

Population Coverage

2.92 The group of households included in the scope of a CPI is referred to as the “reference households,” or the “reference population.” In this context, scope refers to the households intended to be represented in the CPI; on the other hand, coverage refers to the actual households represented by the index.

2.93 According to the SNA, households are an institutional sector made up of private households and institutional households. *Private households* are defined as groups of persons who share the same living accommodation, who pool some or all of their resources and consume selected goods and services collectively. Members of the same household do not necessarily have to belong to the same family, as long as there is some sharing of resources and consumption. *Institutional households* consist of persons living permanently, or for a very long period of time, in institutions. These include religious institutions, hospitals, the military, prisons, or retirement homes. Persons who enter such institutions only for short periods of time should be treated as members of the individual households to which they normally belong

(the 2008 SNA defines household, private, and institutional household in paragraphs 4.149–4.154).

2.94 Following the SNA definition of HFCE (2008 SNA, paragraph 9.56) both private and institutional households are considered in the scope of the CPI, and in principle should be covered. For example, the EU's HICP coverage of households includes institutional households, consistent with the SNA definition (for more information, see Appendix 1). Nevertheless, in many countries, the consumption expenditure of institutional households may be of negligible importance, or it may be problematic to collect suitable expenditure data from institutional households. For these reasons, it may be decided to exclude the consumption expenditure of institutional households from the actual coverage of the CPI. It may also be the case that the compensation (indexing wages and salaries) of only private households is one of the main purposes of the CPI, which may also justify disregarding the consumption expenditure of institutional households.

2.95 In almost all countries, the CPI scope includes as many private households as possible and is not confined to those belonging to a specific socioeconomic group. In some countries, however, extremely wealthy households are excluded for various reasons. Their expenditure may be considered to be very atypical, while their expenditure data, as collected in an HBS, may be unreliable, as the response rates for wealthy households in an HBS are usually quite low. In addition, it may be too costly to collect prices for some of the consumer goods and services purchased exclusively by the wealthy. Other countries may decide to exclude other kinds of households. Such exclusions affect the expenditure weights to the extent that the patterns of expenditure of the excluded groups differ from those of the rest of the population. As far as possible, countries should define the scope to include all households regardless of size, location, or income.

2.96 In addition to a single wide-ranging official (headline) CPI relevant to the country as a whole, more and more countries publish a range of alternative indices relating to subsectors of the population (for example, low-income households or retirees).

Geographical Coverage

2.97 Geographical coverage refers either to the geographical coverage of expenditure or the coverage of price collection. Ideally, these two should coincide, whether the CPI intends to be a national or a regional index. In general, for the geographical coverage of expenditure, the index should include expenditure made by all households, urban and rural, throughout the country.

2.98 In many countries, prices are collected in urban areas only because their movements are considered to be representative of the price movements in rural areas. In these cases, if national weights are applied, the resulting index can be considered a national CPI. If price movements in urban and rural areas differ significantly and price collection is restricted to urban areas because of resource constraints, then urban weights should be applied, and the resulting index must be considered as an urban and not a national CPI. Most countries tend to use weights covering urban and rural households, although in the majority of cases, price collection takes place in urban areas only. Of

course, the borderline between urban and rural is inevitably arbitrary and varies from country to country. For example, in one country, urban price collection is interpreted to include villages with as few as 2,000 residents, while in others this threshold may be higher.

2.99 Decisions about geographical coverage with regard to urban versus rural coverage depend on the population distribution and the extent to which expenditure patterns and the movements of prices tend to differ between urban and rural areas.

2.100 When compiling regional indices, the concept of residence (as described in 2.73) applies to the region in which a household is resident. It is possible to draw a distinction between the expenditure within a region and the expenditure of the residents of that region, analogous to the distinction between the “domestic” and “national” concepts of expenditure at the country level. The same issues arise for regional indices as were discussed in the previous section for national indices. The principles applying to cross-border shopping between regions are the same as for international cross-border shopping (for a description of cross-border internet purchases, see the section on internet purchases in Chapter 11), but data availability is generally different. If the scope of the regional index is defined to include the purchases by regional residents when in other regions (and exclude purchases by consumers that are not residents of the region), although price data for the other regions should be readily available, it is unlikely that expenditure data will be available with the necessary split between expenditure within, and expenditure outside, the region of residence.

2.101 When compiling a regional index, care must be taken to treat cross-border purchases in the same way in all regions. Otherwise double counting, or omission, of expenditure may occur when regional data are aggregated. Where regional indices are aggregated to give a national index, the weights should be based on regional expenditure data rather than on population data, as discussed in Chapter 3.

2.102 Many countries try to satisfy the differing needs of their many CPI users by deriving a family of indices with different coverage, headed by a single wide-ranging official (headline) CPI which is relevant to the country as a whole. In some large countries, regional indices are more widely used than the national CPI, particularly where the indices are used for indexing wages and salaries. Thus, in addition to the headline CPI, which has the widest coverage possible, alternative indices are published which may relate to: (1) subsectors of the population; (2) geographical regions; and (3) specific product groups. Subindices of the overall (official all-items) CPI should be published at a level as detailed as possible, since many users are interested in the price change of specific product groups.

Outlet Coverage

2.103 The coverage of outlets is dictated by the purchasing behavior of the reference households. In principle, the prices relevant to CPIs are the prices paid by households. In practice, however, it is necessary to rely mainly on the prices at which products are offered for sale in retail shops or other outlets (including online outlets). All the outlets from which the reference population makes purchases are in the scope of the CPI and should be included in the sampling frame from which the outlets are selected.

2.104 Examples of outlets are: (1) retail shops (from very small permanent stalls to multinational chain stores); (2) market stalls and street vendors; (3) online and web-based retail outlets; (4) establishments providing household services (for example, electricians, plumbers, or window cleaners); (5) leisure and entertainment providers; (6) health and education services providers; (7) communication and transport providers; (8) public utilities; and (9) government agencies and departments.

2.105 Given the growing importance of online and web-based retailers, there is a significant need for NSOs to carefully review and augment outlet sampling frames to include online and web-based retailers. Collecting prices from online and web-based retailers raises a number of different issues that are addressed in more detail in Chapter 11.

2.106 In practice, prices are collected from only a sample of outlets and the samples may change, either because outlets open and close or because there is a deliberate periodic rotation of the sample. When the prices in the outlets newly included in the sample are different from those in the previous outlets, it is necessary to decide whether the price differences are apparent or genuine price changes. If they are assumed to be apparent, the difference between the price recorded previously in an old outlet and the new price in the new outlet is not treated as a price change for CPI purposes, the difference being treated as attributable to quality difference. As explained in more detail in Chapter 6, if this assumption is correct, the price changes recorded in the new outlets can simply be linked to those previously recorded in the old outlets without introducing any bias into the index. The switch from the old to the new outlets does not have any impact on the CPI.

2.107 If the price differences between the old and the new outlets are deemed to be genuine price changes, however, the simple linking just described can lead to bias. When households change the price they pay for a product by changing outlets, the price changes should be captured by the CPI. As explained in more detail in Chapter 6, it seems that most NSOs assume that the price differences are not genuine and simply link the new price series to the old. This procedure, although widely used, assumes that markets are always perfect, and that genuine price variation never occurs. This unrealistic and questionable assumption may lead to an upward bias. Such bias is described as *outlet rotation bias*.

2.108 The differences between old and new outlets becomes even more pronounced when the outlet sample expands to include web-based outlets. In principle, web-based outlets provide some greater utility to the consumer with regard to choice, convenience, and service; however, in practice, it is difficult to quantify the value of this added utility. While concrete guidance cannot be provided at this time, accounting for the differences when consumers switch from old to new outlets will be considered as part of the research agenda included in Appendix 6 of this Manual.

2.109 Outlet replacement and the treatment of price differences between the old and new outlets are discussed in Chapter 7. Methods for selecting a sample of outlets from which to collect prices are discussed in detail in Chapter 4.

Price Coverage

2.110 A CPI should reflect the experience of the consumers to whom it relates and should therefore record what

consumers actually pay for the goods and services included in the scope of the index. The expenditure and prices recorded should be purchaser's prices (2008 SNA, paragraphs 6.64–6.68). Purchaser's prices refer to those prices paid by consumers to acquire ownership of goods or services. Purchaser's prices include any taxes (not deductible by the purchaser) and service charges on the products, and taking account of all discounts, subsidies, and most rebates, even if discriminatory or conditional. It may be virtually impossible, however, to take account of all discounts and rebates in practice. Sensible practical compromises are needed, for which recommendations and examples are given in Chapter 5.

2.111 When households pay the full market prices for products and are then subsequently reimbursed by governments, social security programs, or NPISH for some of the amounts paid, CPIs should record the market prices less the amounts reimbursed. This kind of arrangement is common for educational and medical expenditure (health, education, and social protection are addressed in Chapter 11).

2.112 *Taxes and subsidies.* All taxes on products, such as sales taxes, excise taxes, and value-added tax (VAT), are part of the purchasers' prices paid by consumers which should be used for CPI purposes. Similarly, subsidies⁸ should be taken into account, being treated as negative taxes on products. For information on the treatment of taxes and subsidies on the national accounts, see 2008 SNA, paragraphs 7.71–7.106.

2.113 For some analytical and policy purposes, it may be useful to estimate a CPI that measures price movements excluding the effects of changes in taxes and subsidies. For monetary policymakers, the price increases resulting from changes in taxes on products or subsidies are not part of an underlying inflation process but are attributable to their own use of these economic levers. Similarly, when a CPI is used for escalation purposes, any increase in a CPI resulting from increases in taxes on products leads to an increase in wages and benefits linked to the CPI, despite the fact that the aim of the tax increase might have been to reduce consumers' purchasing power. Alternatively, an increase in subsidies might be intended to stimulate consumption, but the resulting lower prices could be offset by a smaller increase in indexed wages and benefits.

2.114 *Net price indices.* Net price indices in which taxes on consumer goods or services are deducted and subsidies are added to the purchasers' prices may be compiled. Such indices do not, however, necessarily show how prices would have moved if there were no taxes or changes in taxes. It is notoriously difficult to estimate the true incidence of taxes on products: that is, the extent to which taxes or subsidies, or changes therein, are passed on to consumers. It is also difficult to account for the secondary effects of changes in taxes. In order to estimate the secondary effects, input–output analysis can be used to work out the cumulative impact

⁸The SNA defines subsidies as current unrequited payments that government units make to enterprises on the basis of the level of their production activities or the quantities or values of the goods or services that they produce, sell, or import. Subsidies are not payable to final consumers; current transfers that governments make directly to households as consumers are treated as social benefits (2008 SNA, paragraphs 7.98–7.99). The use of the term “subsidies” is broader than the use in the SNA.

of taxes and subsidies through all the various stages of production. For example, some of the taxes on vehicle fuel will enter the price of transport services which in turn will enter the prices of transported products, some of which will enter the prices paid for consumer products by retailers and hence the prices which they charge to consumers. A more practicable alternative is therefore simply to confine the taxes and subsidies for which correction is made to those levied at the final stage of sale at retail; that is, primarily to VAT, sales, and excise taxes. Estimating prices less these taxes only, or corrected for changes in these taxes only, is more feasible. In the case of a percentage sales tax or VAT, the calculation is simple, but in the case of excise taxes, it would be necessary to ascertain the percentage markup by the retailer, since the excise tax will also be marked up by this percentage. However, in practice, it is not possible to determine the percentage markup by the retailer.

Price Variation

2.115 Price variation occurs when exactly the same good or service sells at different prices at the same moment of time. Different outlets may sell exactly the same product at different prices, or the same product may be sold from a single outlet to different categories of purchasers at different prices.

2.116 If markets were “perfect” in an economic sense, identical products would all sell at the same price. If more than one price was quoted, all purchases would be made at the lowest price. This suggests that some products sold at different prices may not be identical but must be qualitatively different in some way. When the price differences are, in fact, attributable to quality differences, the price differences are only apparent, not genuine. In such cases, a change in the average price resulting from a shift in the pattern of quantities sold at different prices would reflect a change in the average quality of the products sold. This would affect the volume and not the price index.

2.117 If NSOs do not have enough information about the characteristics of goods and services selling at different prices, they have to decide whether to assume the observed price differences are genuine or only apparent. The default procedure most commonly adopted in these circumstances is to assume that the price differences are not genuine. This assumption is typically made for both CPI and national accounts purposes.

2.118 However, markets are seldom perfect. One reason for the coexistence of different prices for identical products may be that the sellers are able to practice price discrimination. Another reason may simply be that households lack information and may buy at higher prices out of ignorance. Also, outlets may provide different levels of service which would be reflected in the prices paid by consumers. Finally, markets may be temporarily out of equilibrium as a result of shocks or the appearance of new products. It must be recognized, therefore, that genuine price differences do occur for a number of different reasons.

Price Discrimination

2.119 Economic theory shows that price discrimination tends to increase profits. Different households may pay different prices for identical products because of market imperfections. Price differences may persist because households

may not be aware of them, or they may have imperfect information because the costs of searching for the retail outlets selling at the lowest prices may be too high. Even when households are aware of the price differences, it may be too inconvenient or costly to visit the outlets selling at the lowest prices. Another reason for the persistence of price differences is that many service producers deliberately practice price discrimination by charging different households different prices for identical services (for example, by charging lower prices or fees to pensioners or people with low incomes). As services cannot be retraded, price discrimination is extremely common, or even prevalent, among service producers. Household expenditure is nevertheless recorded at the prices actually paid, as this is the appropriate value of the transaction.

2.120 Apparent price differences between the same goods or services are often not genuine price differences as they may be due to differences in quality, including differences in the terms or conditions of sale. For example, lower prices are often charged for bulk purchases of goods or off-peak purchases of services. Such expenditure is recorded at the prices actually paid; that is, after deducting from the standard or list prices or charges any discounts for bulk or off-peak purchases.

2.121 Price discrimination can cause problems in the compilation of price indices. Suppose, for example, that a service supplier discriminates by age by charging senior citizens, aged 60 years or more, price p_2 and everyone else price p_1 , where $p_1 > p_2$. Suppose, further, that the supplier then decides to redefine senior citizens as those aged 70 years or more, while otherwise keeping prices unchanged. In this case, although neither p_1 nor p_2 changes, the price paid by individuals aged 60–70 years changes and the average price paid by all households increases.

2.122 The example in paragraph 2.121 illustrates a point of principle. Although neither of the stated prices, p_1 and p_2 , at which the services are on offer changes, the price paid by certain households changes if they are obliged to switch from p_2 to p_1 . From the perspective of the households, price changes have occurred and a CPI should, in principle, record a change. When prices are collected from sellers and not from households, such price changes can be missed if price collectors do not pay attention to the conditions of sale.

Price Variation between Outlets

2.123 The existence of different prices in different outlets raises similar issues. Genuine price differences are almost bound to occur when there are market imperfections, if only because households are not perfectly informed. When new outlets sell at lower prices than existing ones, there may be a time lag during which exactly the same item sells at different prices in different outlets because of consumer ignorance or inertia.

2.124 Households may choose to switch their purchases from one outlet to another or even be obliged to switch because the universe of outlets is continually changing, some outlets closing down while new outlets open up. When households switch, the effect on the CPI depends on whether the price differences are genuine. When the price differences are genuine, a switch between outlets changes the average prices paid by households. Such price changes

ought to be captured by CPIs. On the other hand, if the price differences reflected quality differences, a switch would change the average quality of the products purchased, and hence affect volume, not price.

2.125 Most of the prices collected for CPI purposes are offer prices. Offer prices may not in all cases correspond to the actual transaction prices paid by households. In these circumstances, the effects of switches in the pattern of households' purchases between outlets may remain unobserved in practice. When the price differences reflect quality differences, the failure to detect such switches does not introduce any bias into the CPI. In this case, buying at a lower price means buying a lower-quality product, which does not affect the accuracy of the price index. However, when the price differences are genuine, the failure to detect switches will tend to introduce an upward bias in the index, assuming households tend to switch toward outlets selling at lower prices. This potential bias is described as *outlet substitution bias*.

Expenditure and Other Payments Generally Outside the Scope of Consumer Price Indices

2.126 Given that, conceptually, most CPIs are designed to measure changes in the prices of consumption goods and services, it follows that purchases of items that are not goods and services fall outside the intended scope of a CPI: for example, purchases of bonds, shares, or other financial assets. Similarly, payments that are not purchases because nothing is received in exchange fall outside the index: for example, payments of income taxes or social security contributions.

2.127 The implementation of these principles is not always straightforward, as the distinction between an expenditure on a good or service and other payments may not always be clear in practice. A number of conceptually difficult cases, including some borderline cases of a possibly controversial nature, are examined in paragraphs 2.128 and 2.129.

Transfers

2.128 *Transfers.* A transfer is a transaction in which one unit provides a good, service, or asset to another without receiving any good, service, or asset in return (2008 SNA, paragraph 8.10), that is, transactions in which there is no counterpart. Transfers are unrequited. As no good or service of any kind is acquired by the household when it makes a transfer, the transfer must be outside the scope of a CPI. The challenge is to determine whether or not certain kinds of transactions are in fact transfers, an issue common to both CPIs and national accounts.

2.129 *Social security contributions and taxes on income and wealth.* As households do not receive any specific, individual good or service in return for the payment of social security contributions, they are treated as transfers (2008 SNA, paragraph 8.16) that are outside the scope of CPIs. Similarly, all payments of taxes based on income or wealth (the ownership of assets) are outside the scope of a CPI since they are unrequited compulsory transfers to government (2008 SNA, paragraph 8.15). Property taxes on dwellings (commonly levied as local authority taxes or rates) are outside the scope. It may be noted, however, that unrequited compulsory transfers could be incorporated within

an unconditional COLI or within a more broadly defined conditional COLI that allows for changes in some other factors besides changes in the prices of consumption goods and services.

2.130 *Licenses.* Households have to pay to obtain various kinds of licenses and it is often not clear whether they are simply taxes under another name or whether the government agency issuing the license provides some kind of service in exchange, for example, by exercising some supervisory, regulatory, or control function. In the latter case, they could be regarded as purchases of services (2008 SNA, paragraphs 8.64c and 9.70).

2.131 Payments by households for licenses to own or use certain goods or facilities are, by convention, classified as consumption expenditure, not transfers, and are thus included within the scope of a CPI. For example, license fees for radios, televisions, driving, firearms, and so on, as well as fees for passports are included. On the other hand, licenses or fees for owning or using vehicles, boats, and aircraft, and for hunting, shooting, and fishing are conventionally classified as current taxes and are therefore outside the scope of CPIs. Many countries, however, do include taxes for private vehicle use as they regard them as taxes on consumption for CPI purposes. As the actual circumstances under which licenses are issued, and the conditions attaching to them, can vary significantly from country to country, NSOs may wish to deviate from the proposed conventions in some instance. However, in general, it seems appropriate to make use of conventions internationally agreed by the relevant experts and to be consistent with the SNA.

2.132 *Gifts and subscriptions.* Gifts are transfers, by definition (2008 SNA, paragraph 3.82), and thus outside the scope of a CPI. Payments of subscriptions or donations to charitable organizations for which no easily identifiable services are received in return are also transfers (2008 SNA, paragraph 8.132). On the other hand, payments of subscriptions to clubs and societies, including charities, which provide their members with some kind of service (for example, regular meetings or magazines) can be regarded as HFCE and included in a CPI.

2.133 *Tips and gratuities.* Noncompulsory tips or gratuities are considered gifts and are outside the scope of a CPI. There may be cases, however, where gratuities are compulsory, and in these cases, the payment should be included in the expenditure on, and the price of, the good or service in questions. For example, where restaurants include a compulsory service charge on the bill, this would be included in a CPI.⁹ In cases where payment of a tip or gratuity is customary, although not compulsory, it could be argued that because payment of a tip is expected, it should be included in both the expenditure and the price; however, on practical grounds, these tips and gratuities are often excluded because the amount given is discretionary and it is not possible to define a single amount or percentage that should be added.

⁹The SNA states that commissions, gratuities, and tips received by employees should be treated as payments for services rendered by the enterprise employing the worker, and so should also be included in the output and gross value added of the employing enterprise when they are paid directly to the employee by a third party (2008 SNA, paragraph 7.44). Therefore, the prices considered for final uses include the tips paid.

Insurance

2.134 *Insurance.* There are two main types of insurance: life and nonlife insurance (2008 SNA, paragraph 17.6). In both cases the premiums have two components: the net premium, described as the payment for the insurance, and the service charge payable to the insurance enterprise for arranging the insurance (that is, a fee charged for calculating the risks, determining the premiums, administering the collection and investment of premiums, and the payment of claims).

2.135 The service charge is not directly observable by the policyholders or insurance companies. It is an integral part of the gross premium that is not separately identified in practice. As a payment for a service it falls within the scope of a CPI, but it is difficult to estimate.

2.136 In the case of nonlife insurance, the net premium is essentially a transfer that goes into a pool covering the collective risks of policyholders as a whole. As a transfer, it falls outside the scope of a CPI. In the case of life insurance, the net premium is essentially a form of financial investment. It constitutes the purchase of a financial asset, which is also outside the scope of a CPI.

2.137 Finally, it may be noted that when insurance is arranged through a broker or agent separate from the insurance company, the fees charged by the brokers or agents for their services are included within the scope of the CPI, over and above the service charges made by the insurers.

Gambling

2.138 *Gambling.* The amounts paid for lottery tickets or placed in bets also consist of two elements that are usually not separately identified—the payment of an implicit service charge (part of consumption expenditure) and a current transfer that enters the pool out of which the winnings are paid (2008 SNA, paragraph 8.136). Only the implicit or explicit service charges payable to the organizers of the gambling and taxes fall within the scope of a CPI. The service charges are usually calculated at an aggregate level as the difference between payables (stakes) and receivables (winnings).

Transactions in Financial Assets

2.139 *Transaction in financial assets.* Financial assets are not consumption goods or services (2008 SNA, paragraph 11.8). The creation of financial assets and liabilities, or their extinction (for example, by lending, borrowing, and repayments), are financial transactions that are quite different from expenditure on goods and services and take place independently of them. The purchase of a financial asset is not expenditure on consumption, being a form of financial investment.

2.140 Some financial assets, notably securities in the form of bills, bonds, and shares, are tradable and have market prices (2008 SNA, paragraph 11.64). They have their own separate price indices, such as stock market price indices. Many of the financial assets owned by households are acquired indirectly through the medium of pension programs and life insurance. Excluding the service charges, pension contributions by households are similar to payments for life insurance premiums. They are essentially forms of investment and are thus excluded from CPIs. In contrast, the explicit or implicit fees paid by households for the services

rendered by financial auxiliaries such as brokers, banks, insurers (life and nonlife), pension fund managers, financial advisors, accountants, and so on are within the scope of a CPI. Payments of such fees are simply purchases of services. For more detailed information, see the section on Financial Services in Chapter 11.

2.141 *Purchases and sales of foreign currency.* Foreign currency is a financial asset. Purchases and sales of foreign currency are therefore outside the scope of CPIs. Changes in the prices payable, or receivable, for foreign currencies resulting from changes in exchange rates are not included in CPIs. In contrast, the service charges made by foreign-exchange dealers are included within the scope of CPIs when households acquire foreign currency for personal use. These charges include not only explicit commission charges but also the differences between the buying or selling rates offered by the dealers and the average of the two rates (2008 SNA, paragraph 11.34).

2.142 Transactions in financial assets do not change wealth and there is no consumption involved. A transaction of a financial asset merely rearranges the individual's asset portfolio by exchanging one type of asset for another. For example, when a loan is made, the lender exchanges cash for a financial claim over the debtor. Similarly, the borrower acquires cash counterbalanced by the creation of an equal liability. Such transactions are irrelevant for CPI purposes.

2.143 In general, when a household borrows from financial institutions, including moneylenders, the borrowed funds may be used for a variety of purposes including the purchase of assets such as dwellings or financial assets (for example, bonds or shares), as well as the purchase of expensive goods and services. Similarly, the credit extended to the holder of a credit card can be used for a variety of purposes. In itself, the creation of a financial asset and liability by new borrowing has no impact on a CPI. There is no good or service acquired, no expenditure, and no price.

2.144 Hire purchase (see 2.147) and mortgage loans must be treated consistently with other loans. The fact that certain loans are conditional on the borrower using the funds for a particular purpose does not affect the treatment of the loan itself. Moreover, conditional loans are by no means confined to the purchase of durable goods on "hire purchase." Conditional personal loans may be made for other purposes, such as large expenditure on education or health. In each case, the contracting of the loan is a separate transaction from the expenditure on the good or service and must be distinguished from the latter. The two transactions may involve different parties and may take place at quite different times.

2.145 Although the provision of finance is a separate transaction from the purchase of a good or service for which it is used, it may affect the price paid. Each case needs to be carefully considered. For example, suppose the seller agrees to defer payment for one year. The seller appears to make an interest-free loan for a year, but this is not the economic reality. The seller makes a loan, but it is not interest-free. Nor is the amount lent equal to the "full" price. Implicitly, the purchaser issues a short-term bill to the seller to be redeemed one year later and uses the cash received from the seller to pay for the good. However, the present value of a bill at the time it is issued is its redemption value discounted by one year's interest. The amount payable by the purchaser at

the time the purchase of the good actually takes place is the present discounted price of the bill and not the full redemption price to be paid one year later. It is this discounted price that should be recorded for CPI purposes. The difference between the discounted price and the redemption price is, of course, the interest that the purchaser implicitly pays on the bill over the course of the year. This way of recording corresponds to the way in which bills and bonds are actually valued on financial markets and also to the way in which they are recorded in both business and economic accounts (2008 SNA, paragraph 17.266). Deferring payments in the manner just described is equivalent to a price reduction and should be recognized as such in CPIs. The implicit interest payment is not part of the price. Instead, it reduces the price. This example shows that in certain circumstances the market rate of interest can affect the price payable but it depends on the exact circumstances of the credit arrangement agreed between the seller and the purchaser. Each individual case needs to be carefully considered on its merits.

2.146 This case needs to be clearly distinguished from hire purchase, considered in 2.147, when the purchaser actually pays the full price and borrows an amount equal to the full price while contracting to make explicit interest payments in addition to repaying the amount borrowed.

2.147 *Hire purchase.* Under a hire purchase agreement, a buyer leases a good over a period of time and does not acquire ownership until the full amount of the contract is paid (2008 SNA, paragraph 9.73). In the case of a durable good bought on hire purchase, it is necessary to distinguish the de facto, or economic, ownership of the good from the legal ownership. The time of acquisition is the time the hire purchase contract is signed and the purchaser takes possession of the durable. From then onward, it is the purchaser who uses it and derives the benefit from its use. The purchasing household becomes the de facto owner at the time the good is acquired, even though legal ownership may not pass to the household until the loan is fully repaid.

2.148 By convention, the purchasing household is treated as buying the good at the time possession is taken and paying the full amount in cash at that point. At the same time, the purchaser borrows, either from the seller or some financial institution specified by the seller, a sum sufficient to cover the purchase price and the subsequent interest payments. The difference between the cash price and the total sum of all the payments to be made is equal to the total interest payable. The relevant price for CPI purposes is the cash price payable at the time the purchase takes place whether or not the purchase is facilitated by some form of borrowing. The treatment of hire purchase is the same as that of financial leases whereby fixed assets, such as aircraft, used for purposes of production are purchased by a financial institution and leased to the producer for most or all of the service life of the asset (2008 SNA, paragraph 17.304). This is essentially a method of financing the acquisition of an asset by means of a loan and needs to be distinguished from operational leasing, such as hiring out cars for periods of time (2008 SNA, paragraph 17.301). The treatment of hire purchase and financial leasing outlined here is followed in both business and economic accounting.

2.149 *Interest payments.* The treatment of interest payments on the various kinds of debt that households may have incurred raises both conceptual and practical difficulties.

Nominal interest is a composite payment covering four main elements whose mix may vary considerably. The first component is the pure interest charge, which is the interest that would be charged if there were perfect capital markets and perfect information. The second component is a risk premium that depends on the creditworthiness of the individual borrower and can be regarded as a built-in insurance charge against the risk of the debtor defaulting. The third component is a service charge incurred when households borrow from financial institutions that make a business of lending money. Finally, when there is inflation, the real value of a loan fixed in monetary terms (that is, its purchasing power over goods and services) declines with the rate of inflation. However, creditors offset the real holding, or capital, losses they expect to incur by charging appropriately high rates of nominal interest. For this reason, nominal interest rates vary directly with the expected rate of general inflation, a universally familiar phenomenon under inflation conditions. In these circumstances, the main component of nominal interest may therefore be the built-in payment of compensation from the debtor to the creditor to offset the latter's real holding loss. When there is very high inflation it may account for almost all of the nominal interest charged.

2.150 The treatment of the first component, the pure interest charge, is somewhat controversial but this component may account for only a small part of the nominal interest charged. The treatment of the second component, insurance against the risk of default, is also somewhat controversial because it can be difficult to measure in practice.

2.151 The third component, the payment of compensation for the creditor's real holding loss, is clearly outside the scope of a CPI. It is essentially a financial transaction. It may account for most of nominal interest under inflation conditions.

2.152 The fourth component constitutes the purchase of a service from financial institutions whose business is to make funds available to borrowers. It is known as the financial service indirectly measured and clearly falls within the scope of a CPI. It is included in COICOP (COICOP 2018, class 12.2.1). The service charge is not confined to loans made by "financial intermediaries," institutions that borrow funds in order to lend them to others. Financial institutions that lend out of their own resources provide the same kind of services to borrowers as financial intermediaries. When sellers lend out of their own funds, they are treated as implicitly setting up their own financial institution that operates separately from their principal activity. The rates of interest of financial institutions also include service charges.

2.153 It is clear that interest payments should not be treated as if they were just pure interest or even pure interest plus a risk premium. It is very difficult to disentangle the various components of interest. It may be practically impossible to make realistic and reliable estimates of the service charges embodied in most interest payments. Moreover, for CPI purposes it is necessary to estimate not only the values of the service charges but changes in the prices of the services over time. Given the complexity of interest flows and the fact that the different flows need to be treated differently, payments of nominal interest should not be included in a CPI, especially in inflation conditions.

Household Production

2.154 *Household production.* Households can engage in various kinds of productive activities that may be either aimed at the market or intended to produce goods or services for own consumption (2008 SNA, paragraphs 1.41 and 1.42).

2.155 Households may engage in business or commercial activities such as farming, retail trading, construction, and the provision of professional or financial services. Goods and services that are used up in the process of producing other goods and services for sale on the market constitute intermediate consumption (2008 SNA, paragraph 6.213). They are not part of the final consumption of households. The prices of intermediate goods and services purchased by households are not to be included in CPIs. In practice, it is sometimes difficult to draw a clear distinction between intermediate and final consumption, as the same goods and services may be used for either purpose.

2.156 Households do not in fact consume directly all the goods and services they acquire for purposes of consumption. Instead, they use them as inputs into the production of other goods or services which are then used to satisfy their needs and wants. For example, basic foodstuffs such as flour, cooking oils, raw meat, and vegetables may be processed into bread, cakes, or meals with the assistance of other inputs including fuels, the services provided by consumer durables, such as fridges and cookers, and labor of members of the household. Inputs of materials, equipment, and labor are used to clean, maintain, and repair dwellings. Inputs of seeds, fertilizers, insecticides, equipment, and labor are used to produce vegetables, flowers, and so on.

2.157 The practical alternative, if the output is not intended for sale, is to treat the goods and services acquired by households on the market for use as inputs into the various kinds of household production activities as if they were themselves final consumer goods and services. They provide utility indirectly assuming that they are used exclusively to produce goods and services that are directly consumed by households. This is the practical solution that is generally adopted not only in CPIs but also in national accounts where household expenditure on such items is classified as final consumption. Although this seems a simple and conceptually acceptable solution, exceptions may be made for specific kinds of household production that are particularly important and whose outputs can readily be identified.

2.158 *Subsistence agriculture.* In the national accounts, an attempt is made to record the value of the agricultural output produced for own consumption. In some countries, subsistence agriculture may account for a large part of the production and consumption of agricultural produce. The national accounts require such outputs to be valued at their market prices (2008 SNA, paragraphs 24.47–24.49). For an index used for monetary policy purposes or as a general macroeconomic measure of inflation, it is not appropriate to follow this procedure for CPI purposes.

2.159 A CPI may record either the actual input prices or the imputed output prices, but not both. If the imputed output prices for subsistence agriculture are included in a CPI, the prices of the purchased inputs should be excluded. This could remove from the index most of the market transactions made by such households. Expenditure on inputs may constitute the principal contact that the households

have with the market and through which they experience the effects of inflation. It therefore seems preferable to record the actual prices of the inputs and not the imputed prices of the outputs in CPIs.

2.160 *Housing services produced for own consumption.* There is no unique recommendation for the treatment of owner-occupied housing services in the CPI, as described in Chapter 11. There is no general consensus on what constitutes best practice. Conceptually, the production of housing services for own consumption by owner-occupiers is no different from other types of own-account production taking place within households. The distinctive feature of the production of housing services for own consumption, as compared with other kinds of household production, is that it requires the use of an extremely large fixed asset in the form of the dwelling. In economics, and also national accounting (2008 SNA, paragraphs 6.34 and 6.117), a dwelling is regarded as a fixed asset so that the purchase of a dwelling is classified as gross fixed capital formation and not as the acquisition of a durable consumer good.

2.161 It is important to note that there are two quite distinct service flows involved in owner-occupied housing services. One consists of the flow of *capital services* provided by the dwelling which are consumed as *inputs* into the production of housing services. The other consists of the flow of *housing services* produced as *outputs* which are consumed by members of the household. The two flows are not the same. The value of the output will be greater than that of the input. The capital services are defined and measured in exactly the same way as the capital services provided by other kinds of fixed assets, such as equipment or structures other than dwellings. As explained in more detail in Chapter 11, the value of the capital services is equal to the user cost and consists primarily of two elements, depreciation and interest, or capital costs. Capital costs are incurred whether or not the dwelling is purchased by borrowing on a mortgage. When the dwelling is purchased out of own funds, the interest costs represent the opportunity cost of the capital tied up in the dwelling, that is, the forgone interest that could have been earned by investing elsewhere.

2.162 There are three main options for the treatment of own-account production and consumption of owner-occupied housing services in CPIs. One is to price the output of housing services consumed by owner-occupiers. The second is to price the inputs, including the inputs of capital services. The third is to include the price of the dwelling. If housing services are to be treated consistently with other forms of production for own consumption by households, the input approach should be adopted. The production and consumption of housing services by owner-occupiers may, however, be considered to be so important as to merit special treatment.

2.163 If it is decided to price the outputs, the prices may be estimated using the market rents payable on rented accommodation of the same type. This is described as the rental equivalence approach. One practical problem is that there may be no accommodation of the same type that is rented on the market. For example, there may be no rental market for rural dwellings in developing countries where most of the housing may actually be constructed by the households themselves. Another problem is to ensure that the market rents do not include other services, such as electricity or

heating, that are additional to the housing services. An additional challenge is that market rents, like the rentals charged when durables are leased, have to cover the operating expenses of the renting agencies as well as the costs of the housing services themselves and also provide some profit to the owners. Finally, rented accommodation is inherently different from owner-occupied housing in that it may provide the tenants with more flexibility and mobility. The transaction costs involved in moving from one house to another may be much less for tenants than for owners.

2.164 In principle, if the *output* approach is adopted, then the prices of the inputs into the production of housing services for own consumption, such as expenditure on repairs, maintenance, and insurance, should not be included. Otherwise, there would be double counting.

2.165 The alternative is to price the inputs into the production of housing services for own consumption in the same way that other forms of production for own consumption within households are treated. In addition to intermediate consumption, such as expenditure on repairs, maintenance, and insurance, the costs of the capital services must be estimated and their prices included in the CPI. The technicalities of estimating the values of the flow of capital services are dealt with in Chapter 10 of the publication *Consumer Price Index Theory*. As in the case of other types of production for own consumption by households, it is not appropriate to include the estimated costs of labor provided by the owners.

2.166 Whether the input or the output approach is adopted, it can be challenging to estimate the relevant prices. The practical difficulties experienced may sometimes be so great as to lead compilers and users to query the reliability of the results. There is also some reluctance to use imputed prices in CPIs, whether the prices refer to the inputs or the outputs. It has therefore been suggested that the attempt to measure the prices of housing service flows should be abandoned. Instead, it may be preferred to include the prices of the dwellings in the CPI. In most cases, these are observable market prices, although many dwellings, especially in rural areas in developing countries, are also built by their owners, in which cases their prices still have to be estimated on the basis of their costs of production. Ultimately, it may be useful for CPI compilers to rely on owner-occupied dwelling services estimated in the national accounts.

2.167 Including the prices of dwellings in CPIs should involve a significant change in the scope of the index. A dwelling is clearly an asset and its acquisition is gross fixed capital formation and not HFCE. While the same argument applies to durables, there is a substantial difference of degree between a durable consumption goods and a dwelling as reflected by the considerable differences in their prices and their service lives. In principle, therefore, extending the scope of a CPI to include dwellings implies extending the scope of the index to include gross fixed capital formation.

2.168 The advantage of including dwellings in the CPI is that it does not require estimates of either the input or output service flows, but conceptually it deviates significantly from the concept of a CPI as traditionally understood. In the case of both durable consumption goods and dwellings, the options are either to record the acquisitions of the assets in the CPIs at their market prices or to record the estimated prices of the service flows, but not both. Just as no service

flows from durables are included in CPIs at present because their acquisitions were included; similarly if the prices of dwellings are included in CPIs, the service flows would have to be excluded. As explained in Chapter 11, the acquisitions approach may give insufficient weight to durables and dwellings over the long term because it does not take account of the capital costs incurred by the owners of the assets.

Treatment of Some Specific Household Expenditure

2.169 Some of the expenditure made by households may not be on goods and services for household consumption and would therefore fall outside the scope of a CPI. One major category consists of the business expenditure made by households.

Fees of Agents and Brokers

2.170 *Fees of agents and brokers.* The 2008 SNA classifies expenses associated with the transfer of real estate (including real estate agents' commissions) as part of gross fixed capital formation (2008 SNA, paragraphs 10.48–10.52). Although harmonization is desirable, in some countries some CPI concepts do not precisely follow the national accounts concepts.

2.171 When a house is purchased for own use by an owner-occupier, it can be argued that the transfer costs associated with purchase (and sale) should be treated as consumption expenditure. The fees paid to an agent to buy or sell houses are included in many national CPIs, provided that the house is to be occupied by the owner and not rented to a third party.

Undesirable, Informal, or Illegal Goods and Services

2.172 *Nonobserved economy: informal or illegal production of goods and services* (2008 SNA, paragraphs 6.39–6.48). As described in 2.56, HFCE includes the expenditure incurred by resident households on consumption goods and services, and therefore these fall within the scope of a CPI, irrespective of whether their production, distribution, or consumption is informal or illegal. Particular kinds of goods or services must not be excluded from the CPI because their consumption is socially discouraged, or their production informal or illegal. Such exclusions could be quite arbitrary and undermine the objectivity and credibility of the CPI. In the case where certain goods or services have been excluded from the index, these exclusions should be clearly documented and explained.

2.173 First, it should be noted that some goods and services might be deemed to be undesirable at sometimes and desirable at others, or *vice versa*. Similarly, some goods or services may be deemed to be undesirable in some countries but not in others at the same point of time. The concept of an undesirable good or service is inherently subjective and somewhat arbitrary and volatile.

2.174 Second, if it is accepted that some goods and services may be excluded on the grounds that they are undesirable, the index is thereby exposed to actual or attempted manipulation by pressure groups.

2.175 Third, attempts to exclude certain goods or services by pressure groups may be based on a misunderstanding of the implications of so doing. For example, if the CPI

is used for escalating incomes, it may be felt that households ought not be compensated for increases in the prices of certain undesirable products. However, excluding them does not imply lowering the index. A priori excluding some items is just as likely to increase the CPI as reduce it, depending on whether the price change for the item in question is below or above the average for other goods and services. For example, if it is decided to exclude tobacco from a CPI and the price increase for tobacco products is below average, excluding tobacco actually increases the real income of smokers.

2.176 While goods and services that households consume should not, in principle, be excluded from a CPI because they are acquired in the informal economy or even illegally, it may be impossible to obtain the requisite data on the expenditure or the prices, especially on illegal goods and services. They may well be excluded in practice.

Luxury Goods and Services

2.177 *Luxury goods and services.* When a CPI is used as an index of general inflation, it ought to include all households regardless of their socioeconomic group and also all consumer goods and services regardless of how expensive they are. Similarly, the scope of an index used for purposes of escalating incomes should include all the goods and services purchased by the reference households, irrespective of whether any of these goods and services are considered to be luxuries or otherwise unnecessary.

2.178 If the reference households are confined to a selected group of households, the index will effectively exclude all those items that are purchased exclusively by households that are not in the group. For example, excluding the wealthiest 5 percent of households will, in practice, exclude many luxury items from the scope of the index. As already noted, such households may be excluded for various reasons, including the unreliability of their expenditure data and the fact that collecting prices for some items purchased exclusively by a relatively small minority of households may not be cost-effective. However, once the group of reference households has been decided and defined, judgments should not be made about whether to exclude certain part of their expenditure that is considered to be nonessential or on luxuries.

Second-Hand Goods

2.179 *Second-hand goods.* Markets for used or second-hand goods exist for most durable goods. HFCE includes expenditure on second-hand goods and these are therefore within the scope of a CPI. Household sales of durables constitute negative expenditure, and the weights for second-hand goods are based on household net expenditure (that is, total purchases less sales). The total expenditure on a particular type of second-hand good is a function of the rate at which it is bought and sold (that is, a higher turnover rate or number of transactions gives a higher total expenditure). A higher turnover does not, however, increase the rate at which any individual good can be used for purposes of consumption or the flow of services that may be obtained from the good.

2.180 Households may buy second-hand goods through any of the following routes:

- Directly from another household—the selling household will record the proceeds of the sale as receipts. Net

expenditure (that is, expenditure less receipts) is zero, so no weight is attached to purchases and sales from one household to another.

- From another household via a dealer—in principle, household expenditure on the services of the dealers is given by the values of their margins (the difference between their buying and selling prices). These intermediation services should be included in CPIs. They should be treated in the same way as the fees charged by financial intermediaries. The margins may be extremely difficult to estimate in practice. Care should be taken to include trade-ins either as purchases by the dealers or receipts of households.
- Directly from another sector (for example, from a corporation or from abroad)—the weight would be household purchases of the second-hand goods from other sectors less sales to other sectors.
- From another sector (for example, corporation or from abroad) via a dealer—the appropriate weight is given by household purchases from dealers less any household sales to dealers plus the aggregate of dealers' margins on the goods that they buy from and resell to households.

2.181 In some countries, many of the durables purchased by households, especially vehicles, may be imports of second-hand goods from other countries. The prices and expenditure on these goods enter the CPI in the same way as those for newly produced goods. Similarly, in some countries, there may be significant net purchases of second-hand vehicles by households from the corporations' sector.

Imputed Expenditure on Goods and Services

2.182 *Imputed expenditure on goods and services.* As explained in paragraphs 2.59–2.67, many of the goods and services acquired and used by households for their final consumption are not purchased in monetary transactions but are acquired through barter or as remuneration in kind, or are produced by households for their own consumption. It is possible to estimate what households would have paid if they had purchased these goods and services in monetary transactions or, alternatively, what it cost to produce them. In other words, values may be imputed for nonmonetary transactions.

2.183 The extent to which it is desirable to include imputed expenditure within the scope of a CPI depends partly on the main purpose of the index. If the CPI is intended to be a measure of consumer inflation, it can be argued that only monetary transactions should be included. Inflation is a monetary phenomenon measured by changes in prices recorded in monetary transactions. Transactions include the buying and selling of a good or service. Monetary transactions occur when a seller exchanges ownership of a good or service in exchange for some form of monetary payment. Even when the main use of a CPI is for indexation purposes, it can be argued that it should only reflect changes in the monetary prices actually paid by the reference population. For example, consistent with the objective of monitoring inflation in the EU, the aim of the HICP compiled by Eurostat is to measure inflation faced by consumers. The concept of HFMCE used in the HICP defines both the goods and services to be covered, and the price concept to be used (that is, prices net of reimbursements, subsidies, and discounts). HFMCE refers only to monetary transactions

and includes neither consumption of own production (for example, agricultural goods or owner-occupied housing services), nor consumption of goods and services received as income in kind.

2.184 *Discounts, rebates, loyalty programs, and “free” products.* CPIs should take into account the effects of rebates, loyalty programs, and money-off vouchers. Given that a CPI is meant to cover all the reference households, whether in the country as a whole or in a particular region, discounts should be included even if they are available only to certain households or to consumers satisfying certain payment criteria.

2.185 It may be difficult to record discriminatory or conditional discounts for practical reasons. When only one selected group of households can enjoy a certain discount on a specific product, the original stratum for that product is split into two new strata, each experiencing different price changes and each requiring a weight. So, unless weight reference period expenditure for all possible strata are known, it is not possible to record discriminatory discounts correctly. Similarly, with conditional discounts (for example, discounts on utility bills for prompt payment), it can be difficult to record the effect of the introduction of such offers unless data are available on the proportion of customers taking advantage of the offer. These kinds of practical problems also arise when there is price discrimination and the sellers change the criteria that define the groups to whom different prices are charged, thereby obliging some households to pay more or less than before without changing the prices. These cases are discussed further in Chapter 5.

2.186 Although it is desirable to record all price changes, it is also important to ensure that the qualities of the goods or services for which prices are collected do not change in the process. While discounted prices may be collected during general sales or discount seasons, care should be taken to ensure that the quality of the products being priced has not deteriorated.

2.187 The borderline between discounts and rebates can be hazy and is perhaps best drawn according to timing. In other words, a discount takes effect at the time of purchase, whereas a rebate takes effect some time later. Under this classification, money-off vouchers are discounts and, as with the conditional discounts mentioned in paragraph 2.185, can only be taken into account in a CPI if they relate to a single product and if the take-up rate is known at the time of CPI compilation. Since this is highly unlikely, the effect of money-off vouchers is usually excluded from a CPI. It should be noted that the discount is recorded only when the voucher is used, not when the voucher is first made available to the consumer.

2.188 Rebates may be made in respect of a single product (for example, air miles), or may be more general (for example, supermarket loyalty programs where a \$10 voucher is awarded for every \$200 spent). As with discounts discussed previously, such rebates can only be recorded as price falls if they relate to single products and can be weighted according to take-up. Bonus products provided “free” to the consumer, either by larger pack sizes or offers such as “two packs for the price of one,” should be treated as price reductions, although they may be ignored in practice when the offers are only temporary and quickly reversed. When permanent changes to pack sizes occur, quality adjustments should be made (see Chapter 6).

2.189 Given the practical difficulties in correctly recording all these types of price decreases, it is usual to reflect discounts and rebates only if widely available. More and more countries include discounts associated with loyalty cards because most shoppers obtain and use the loyalty card, effectively meeting the criteria that the discount or rebate should be widely available. Discounts during seasonal sales may be recorded provided that the quality of the goods does not change.

2.190 As noted in Chapter 10, scanner data more effectively reflect discounts, sales, and promotions.

Consumer Price Index Classifications

2.191 The classification system upon which any CPI is built provides the structure essential for many stages of CPI compilation. Most obviously, it provides the weighting and aggregation structure, but it also provides the basis for stratification of products in the sampling frame, at least down to a certain level of detail, and it dictates the range of subindices available for publication.

2.192 The international standard for classification of individual final consumption expenditure is the *Classification of Individual Consumption According to Purpose* (COICOP). COICOP is part of a set of classifications of expenditure according to purpose, also known as *functional* classifications, and have formed an integrated part of the SNA since 1968 (*2008 SNA*, paragraphs 29.9–29.20). COICOP covers the individual final consumption expenditure incurred by three institutional sectors: households, NPISHs, and general government. Individual final consumption expenditure is that which benefits individual persons or households.

2.193 A few countries continue to use a country-specific classification system and have not adopted COICOP. To enhance international comparison, these countries should provide bridge tables to map their national classification systems to COICOP.

2.194 While part of the SNA, COICOP is intended for use in several other statistical areas. In addition to CPIs, COICOP is also used for HBS, analysis of living standards, and for compilation of PPPs.

2.195 COICOP was revised in 2018 to reflect changes in consumption patterns and the emergence of new goods and services since the previous version, introduced in 1999. The updated version, referred to as COICOP 2018, consists of 15 divisions:

- Divisions 01–13 covering the final consumption expenditure of households
- Division 14 covering the final consumption expenditure of NPISHs
- Division 15 covering the individual consumption expenditure of general government

2.196 COICOP 2018 has four levels of detail organized in a hierarchical structure—divisions, groups, classes, and subclasses:

- Division (two-digit level), for example, 03 Clothing and footwear
- Group (three-digit level), for example, 03.1 Clothing

- Class (four-digit level), for example, 03.1.2 Garments
- Subclass (five-digit level), for example, 03.1.2.1 Garments for men or boys

2.197 Divisions 01–13, which cover households, include 63 groups, 186 classes, and 338 subclasses. The full COICOP 2018 structure can be found in Appendix 3.

2.198 *Classifying according to purpose.* COICOP groups HFCE on individual goods and services according to the purpose they are deemed to fulfill, such as nourishing the body, preventing and curing illness, acquiring knowledge, or traveling from one place to another. The principle of classifying according to purpose means that where similar or related products exist in either physical or virtual forms (for example, books, music, videos, or games) the product should be categorized in a unique class based on the predominant purpose. For example, the purchase of electronic or virtual books (for example, eBooks or audiobooks) should be classified in the same class or subclass as paper books because they are used for the same purpose. Similarly, software and apps may provide the household with a specific service. If the payment is actually not for the software but for an associated service, which is provided with the help of the software or the app, the expenditure should be classified under the corresponding service. As a general rule, expenditure on second-hand goods are classified together with the new goods since they are used for the same purpose. One exception is the recording of motor cars, where the subclass level allows a separate recording of new motor cars and second-hand motor cars (COICOP 2018 Subclass 07.1.1.2).

2.199 *Multipurpose goods and services.* While most goods and services can be assigned to a single purpose, some goods and services could plausibly be assigned to more than one purpose. Examples include motor fuel which may be used to power vehicles classified as transport as well as recreational vehicles; bicycles which may be purchased for transport or recreational purposes; or sports footwear which may be used for sports or for leisure wear. In cases where goods and services can be used for different purposes, they should be assigned to the division considered to represent the primary or predominant purpose.

2.200 *Disaggregation of COICOP.* The detail provided by COICOP, even at its most detailed level, may not be sufficient for the required analysis or to meet country-specific needs. In such cases, classes or subclasses can be further subdivided as needed. There are clear advantages in maintaining the basic structure of COICOP to facilitate comparison between countries, over time and between different statistical domains such as CPIs, household expenditure statistics, and national accounts aggregates. It is recommended that additional detailed categories created to meet specific needs still can be aggregated into the existing COICOP Class or Subclass.

2.201 *Type of product.* COICOP classes and subclasses are divided into services (S), nondurables (ND), semidurables (SD), and durables (D). This additional classification facilitates other analytical applications. For example, an estimate may be required of the stock of consumer durables held by households, in which case the goods in those COICOP classes that are identified as “durables” provide the basic elements for such estimates. As explained earlier in paragraphs 2.64 and 2.65 the distinction between nondurable goods and durable goods is based on whether the goods can be used

only once or whether they can be used repeatedly or continuously over a period of more than one year. Semidurable goods differ from durable goods in that their expected lifetime of use, though more than one year, is often significantly shorter and their purchasers’ value is substantially less.

2.202 Although a systematic separation between goods and services is applied, some classes and subclasses contain both because it is difficult for practical reasons to break them down into goods and services. Such classes and subclasses are usually assigned an S, as the service component is considered to be predominant. Similarly, there are classes that contain either both nondurable and semidurable goods or both semidurable and durable goods. Such classes and subclasses are assigned an ND, SD, or D according to which type of good is considered to be predominant.

2.203 *Bundled goods and services.* Single expenditure outlays (that is, where there is no itemized price information for the individual goods or services) may sometimes comprise a bundle of goods and services that serve different purposes. Examples include telecommunication (for example, payment of one price for multiple services that include mobile phone, internet, television, and landline telephone); package tours which include payment for transport, accommodation, and catering services; education services that include payment for transport, accommodation, and educational materials; inpatient hospital services that include payments for medical treatment, accommodation, and catering; and transport services that include meals and accommodation in the ticket price (for example, passenger air transport). Single outlays covering two or more purposes and not separately invoiced should be classified according to the predominant product or service of the bundle.

Key Changes from COICOP 1999 to COICOP 2018

2.204 COICOP 2018 reflects changes in consumption patterns and the emergence of new goods and services. The main changes from COICOP 1999 and COICOP 2018 include the following.

Introduction of a New Subclass Level

2.205 COICOP 2018 introduces an additional fifth-digit level denominated subclass that was not part of COICOP 1999. The introduction of these new subclasses facilitates further harmonization of data collection and aggregation, improving comparability of the resulting statistics. It also improves the correspondence with the Central Product Classification to more easily reconcile with production data.

Restructuring of Division 06 Health

2.206 Division 06 is restructured to allow for a better alignment of COICOP with the International Classification for Health Accounts and its family of classifications.

Restructuring between Division 08 Information and Communication, and Division 09 Recreation, Sport, and Culture, and Renaming of the Divisions

2.207 To better reflect household use of information and communication technology, a number of goods and services have been moved from Division 09 to Division 08. Division

08 has been renamed *Information and Communication* (formerly *Communication*) and Division 09 was renamed *Recreation, Sport, and Culture* (formerly *Recreation and Culture*) to better reflect the coverage of the divisions.

Division 12 Insurance and Financial Services, and Division 13 Personal Care, Social Protection, and Miscellaneous Goods and Services

2.208 Personal care, social protection, and miscellaneous goods were included in Division 12 of COICOP 1999; Division 12 of COICOP 1999 has been divided into two divisions in COICOP 2018—Division 12 *Insurance and Financial Services*, and Division 13 *Personal Care, Social Protection, and Miscellaneous Goods and Services*. This change creates two, more homogeneous divisions.

2.209 In addition to the previously mentioned major changes, a number of changes were introduced at the more detailed levels for most divisions.

Implementing COICOP 2018

2.210 Implementation of COICOP 2018 must be done with care to avoid confusing data users and to prevent any loss in user confidence that could result from this confusion. NSOs should coordinate the implementation of COICOP 2018 simultaneously across programs (for example, national accounts and CPI). To further minimize any impact on data users, the introduction of COICOP 2018 should coincide with a routine update of the CPI.

Key Recommendations

- Consult with key data users to identify and define uses for CPI data. This ensures that the data compiled remain relevant. It is important that NSOs consult with data users on a routine and regular basis.
- When the CPI is used for inflation analysis and monetary policy purposes, the domestic concept should be used.
- When the CPI is used only for escalating the incomes of residents, it may be appropriate to adopt the national concept.
- The weights and prices in the CPI should be based on the purchaser's price. Purchaser's prices refer to those prices paid by consumers to acquire ownership of goods or services and include any taxes and service charges on the products, and taking account of all discounts, subsidies and most rebates, even if discriminatory or conditional.
- NSOs are encouraged to provide central banks with detailed weight, item, and price data in anonymized forms so that they may calculate different measures of core inflation or for analytical purposes.
- Geographic coverage of expenditure should include all expenditure of households regardless of income, size, or location (urban and rural).
- Geographic coverage of price collection should be as broad as possible.
- It is critical to communicate and explain changes adopted when implementing COICOP 2018. The introduction of COICOP 2018 should coincide with a routine CPI update.

Annex 2.1

Use of Price Statistics in the National Accounts—Supply and Use

Uses											
	Domestic Production	Intermediate					Final Consumption		Fixed Capital Formation		
		Agriculture	Mining and Manufacturing	Construction	Wholesale and Retail Trade	Other Services	Households	Government	Construction	Equipment	Exports
	Agriculture	APPI	APPI	APPI	APPI	APPI	CPI	PPI	—	—	XPI/PPI
	Mining and Manufacturing	PPI	PPI	PPI	PPI	PPI	CPI	PPI	—	PPI	XPI/PPI
	Construction	CPPI	CPPI	CPPI	CPPI	CPPI	CPI	PPI	CPPI	—	XPI/CPPI
Supply	Wholesale and Retail Trade	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
	Other Services	SPPI	SPPI	SPPI	SPPI	SPPI	CPI	SPPI	SPPI		XPI
Imports		MPI	MPI	MPI	MPI	MPI	CPI	MPI	MPI	MPI	
Labor		LCI	LCI	LCI	LCI	LCI	LCI	—	—	—	—

APPI, Agriculture producer price index (output); MPI, Import price index; CPI, Consumer price index; PPI, Producer price index; CPPI, Construction producer price index (output); SPPI, Services producer price index; LCI, Labor cost index; XPI, Export price index.

(a) Margins—these are combined with prices and goods—not observed separately.

