

Chapter 3

Integrated framework

This chapter outlines the main concepts used to describe and measure economic well-being at the micro-level, e.g. at the level of individuals and groups of individuals.

Introduction

Chapter 2 introduced economic well-being as an essential component of human well-being. The concepts adopted in this report have been chosen because they provide an accurate description of the phenomena that analysts and policy makers are trying to capture, and because they have been judged to provide the most suitable foundation for compiling micro statistics on income, consumption and wealth that are comprehensive and that can be integrated with each other. They therefore provide a sound basis for examining each of the various dimensions of economic well-being and the relationships between those dimensions.

The integrated framework for micro data on income, consumption and wealth presented in this report (the ICW Framework) has much in common with the framework for macro data developed in the System of National Accounts (SNA). However, while maintaining consistency with the SNA in most respects, the micro data framework reflects a household perspective, not an economy-wide perspective. It also differs from the SNA in places because it has a focus on reflecting variations in economic well-being *within* the household sector, whereas the SNA has a focus on providing aggregate income, consumption and wealth measures for the sector as a whole. Differences between the two are discussed in this chapter, with a detailed listing of the differences provided in Annex B.

The first sections of this chapter describe the underlying concepts of income, consumption and wealth, and the relationships between them. They are followed by more in-depth discussion of two important cross-cutting issues – income in kind and its relationship to consumption and wealth, and the boundary between current and capital transactions. The sections that then follow discuss concepts that are required to give the context in which data on income, consumption and wealth can be analysed. These include the statistical units and reference period to which the data relate, the use of equivalence scales to obtain comparable data for different-sized units, valuation issues, and managing price differences over time and across geography. The chapter concludes discussing the relationship between the ICW Framework and the SNA and other international frameworks and standards, followed by a summary.

The chapter is supported by three annexes. Annex A presents the ICW Framework at a detailed level and shows the relationships between the various elements. Annex B is the detailed listing of the differences between the ICW Framework and the SNA. Annex C provides a detailed description of the terminology and concepts underlying social assistance, pensions, social insurance, other insurance and related items.

Income, consumption, wealth and economic well-being

People consume goods and services as an integral part of living. For some people, consumption is limited to the very basics of food, clothing and shelter. Others consume much more, with higher standards of food, clothing and housing, and also medical care, recreational goods and services, education and the like. Broadly speaking, consumption is the use of goods and services to directly satisfy a person's needs and wants. Consumption expenditure is the value of the goods and services consumed.

Considered simply, and everything else being equal, people with higher levels of consumption or consumption expenditure can be regarded as having a higher level of current economic well-being than those with lower levels of consumption. However, for a fuller understanding of economic well-being, it is also necessary to consider the economic resources of income and wealth that enable consumption to take place now and in the future.

In essence, income is the on-going flow of economic resources received. It includes money received in return for working, as profit from business undertakings and ownership of property, or as a pension. It also includes any corresponding non-monetary receipts, known as in-kind income. Income in kind includes, for example, the goods and services provided directly by employers as a form of wages and salaries, those provided directly by government, and the net value of goods and services produced for barter or for one's own consumption, such as from subsistence farming. The value of that part of income in kind made up of consumption goods and services is also included in consumption expenditure.

If income is greater than consumption expenditure, saving has taken place and wealth has been increased. However, if income is less than consumption expenditure, there has been dissaving and the stock of wealth has decreased.

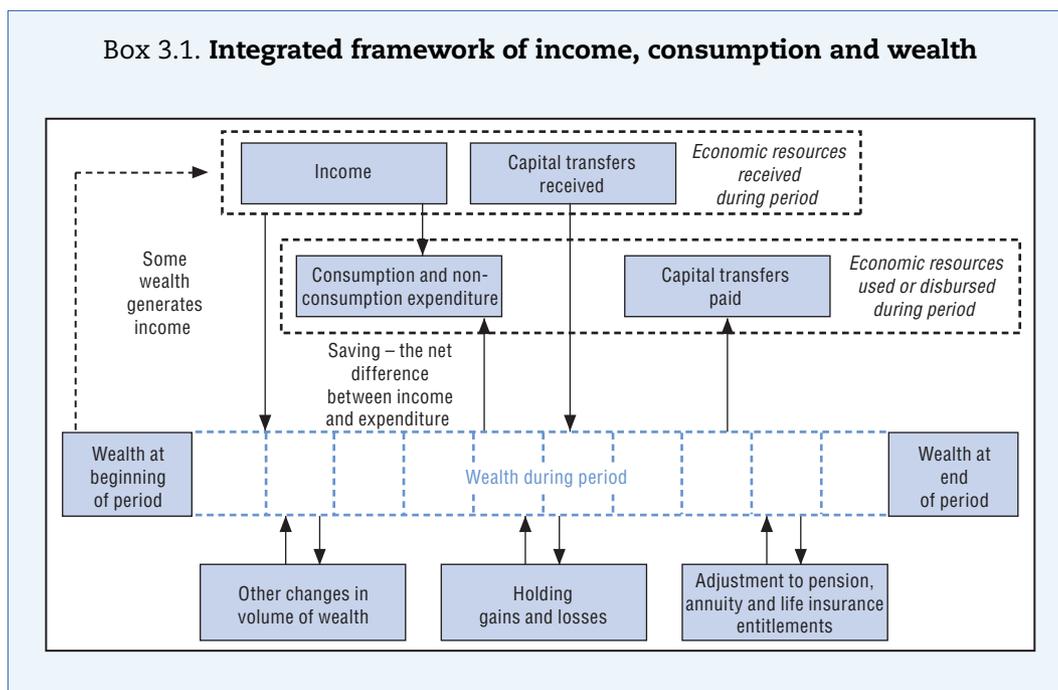
Wealth is the total stock of economic resources held at a point in time. It includes, for example, cash held, the value of unincorporated businesses and property owned, motor vehicles, shares, and other non-financial and financial assets. Debts and other liabilities are negative wealth, and their value is subtracted from the value of non-financial and financial assets when measuring wealth.

For given levels of consumption and wealth, and everything else being equal, people with a higher income can be regarded as having a higher level of economic well-being than people with a lower income.¹ Higher incomes give people a greater opportunity to increase consumption now, if desired, and to save income that might be used to finance consumption in the future.

Similarly, for given levels of consumption and income, and everything else being equal, people with greater wealth can be regarded as having a higher level of economic well-being than people with less wealth. The former have more opportunity to increase consumption now, if desired, and to use their wealth to generate income and/or finance consumption in the future. Even if wealth cannot be liquidated to finance current consumption, it can often be used as security to obtain a loan that can finance consumption. Loans obtained using wealth as security are likely to be borrowed at a more favourable interest rate than those available to people who have little or no wealth, regardless of whether the loan is used to finance current consumption or to purchase income-generating assets. Finally, some forms of wealth tend to experience asset price increases above the general rate of inflation, with the increased wealth used to finance future consumption.

Integrated framework of income, consumption and wealth

The Income, Consumption and Wealth Framework is built around the basic concepts of income, consumption and wealth and the relationships described in the previous paragraphs. Box 3.1 illustrates this integrated framework, along with some additional concepts and relationships.



Economic resources received over a period of time are regarded as either income or capital transfers received. In very general terms, income comprises those receipts that can be expected on a regular basis. In contrast, capital transfers are not received on a regular basis, tend to be large, and are often described as windfall gains. *Capital transfers received* are assets obtained from another party where the recipient makes no payment to the provider of the asset.

The economic resources already available at the beginning of the period constitute wealth. During the period, most income is added to the stock of wealth, even if only for a very short time. For example, wages are usually paid as a deposit into the employee's bank account or as cash in hand, both of which are forms of wealth. However, in-kind income comprising consumption goods and services is regarded, for simplicity in recording, as being consumed as it is received and is therefore not added to wealth (such as in stocks of food). All capital transfers received are added to the stock of wealth.

Economic resources can be used or disbursed by purchasing consumption goods and services, by using consumption goods and services obtained as income in kind, by undertaking non-consumption expenditure such as the payment of taxes or other current transfers (deducted in deriving disposable income), by paying interest on consumer credit, and by paying capital transfers. Very broadly, *current expenditure payments* – whether consumption expenditure, current transfers paid, or payments on consumer credit – are payments that can be expected to be made on a regular basis. On the other hand, *capital*

transfers paid are payments that are not likely to be made regularly and tend to be large. Most current expenditure and all capital transfer payments utilise economic resources held as wealth, even if those resources have only been held as wealth for a brief period of time (such as wages deposited in a bank account).

Wealth is the stock of economic resources held by a person at any point of time. Wealth comprises non-financial assets such as dwellings and financial assets such as cash and stocks (shares) in corporations. Financial assets may contain negative elements in the form of loans, and therefore wealth is sometimes known as *net worth*.

The value of wealth normally changes frequently either as economic resources are added or withdrawn, or as asset prices change. For most purposes, it is of little interest to track all the additions to and withdrawals from wealth, or the many price changes, but it is of interest to know the net position at the end of the period.

In addition to saving/dissaving during the period, changes in the stock of wealth reflect capital transfers received and paid, and some non-transactional flows: *other changes in the volume of wealth* such as those resulting from a natural disaster or war; *holding gains and losses* reflecting the impact of changing asset prices on wealth, and sometimes known as capital gains and losses; and the *adjustment to pension, annuity and life insurance entitlements*, which is explained as part of the more detailed discussion of wealth later in this chapter.

There are secondary relationships between income and wealth that can also be considered. Wealth is a stock of economic resources in itself, but that stock often generates additional economic resources. For example, personal businesses generate self-employment income, bank deposits usually earn interest, shares generate dividends, and home-owners receive rent. The economic resources generated may be in kind, e.g. owner-occupiers of dwellings receive income in the form of housing services from those dwellings. These relationships are shown in more detail in Annex A. Wealth may also be used as security to obtain a loan, which is then used to generate income and/or finance consumption at a more favourable rate than that available to people who have little or no wealth.

Income, consumption and wealth statistics comprise data on *stocks and flows*. Wealth is the stock of resources held at a point in time. The flows are the transactions making up income, consumption and other current expenditure, and capital transfers, plus the non-transactional flows listed above. The balance of these flows over a period of time determines the change in the stock of wealth between the beginning and the end of the period. Also, when investment transactions are made and one form of asset is exchanged for another, there are flows between the asset classes that make up wealth.

Since by definition the flows and stocks in the ICW Framework balance, the framework can be viewed as a set of accounts with an income account, a current expenditure account, a capital account, and a balance sheet. Such a perspective is particularly important when considering a data item such as saving, since saving is a residual value that can only be derived, e.g. by subtracting total current expenditure from total income.

In order for the accounts to “balance”, it is essential that the definitions of the detailed components be consistent between the accounts. If it is not possible to obtain a high degree of consistency, it is not possible to reliably estimate residual values such as saving. Breakdowns of aggregates from the various dimensions (income, consumption and wealth) should also use consistent treatments and classifications, so that data from one dimension can be related to data from another dimension. For example, data on income from

investments should be defined and classified in a way that is consistent with the definitions and classifications underlying the wealth data on those investments.

Table 3.1 presents the main elements of the income, consumption and wealth framework, and describes how the transactional flows can be aggregated in an internally consistent manner. An overview of the framework elements, along with definitions for the key aggregates, are given in the following sections, with more detailed discussion in the following chapters. A further breakdown of the elements and a mapping of the relationships between them is provided in Annex A.

Table 3.1. **Income, consumption and wealth – main elements and relationships**

INCOME		
I1	Income from employment (both paid and self-employment)	
I2	Property income	
I3	Income from production of household services for own consumption	
IP	Total primary income	= I1 + I2 + I3
I4	Current transfers received (excluding social transfers in kind)	
IT	Total income	= IP + I4
	<i>Less</i> current transfers paid	= E2
ID	Disposable income	= IT – E2
I5	Social transfers in kind (STIK)	= E4
IAD	Adjusted disposable income	= ID + I5
CONSUMPTION AND OTHER CURRENT EXPENDITURE		
E1	Consumption expenditure	
E2	Current transfers paid	
E3	Interest on consumer credit	
ENC	Total non-consumption current expenditure	= E2 + E3
ET	Total current expenditure	= E1 + ENC
	Consumption expenditure	= E1
E4	Social transfers in kind (STIK)	= I5
EAFc	Actual final consumption	= E1 + E4
CHANGE IN NET WORTH		
	Total income	= IT
	<i>Less</i> total current expenditure	= ET
KS	Saving	= IT – ET
KR	Capital transfers received	
KP	<i>Less</i> capital transfers paid	
KNA	Net accumulation of capital	= KS + KR – KP
KO1	Other changes in volume of wealth	
KO2	Holding gains and losses	
KO3	Adjustment to pension, annuity and life insurance entitlements	
KO	Total of other flows contributing to changes in net worth	= KO1 + KO2 + KO3
KCW	Change in net worth	= KNA + KO
WEALTH		
W1	Non-financial assets	
W2	Financial assets	
W3	<i>Less</i> liabilities	
WT	Total wealth (net worth)	= W1 + W2 – W3
Wb	Wealth at beginning of period	
	Change in net worth	= KCW
We	Wealth at end of period	= Wb + KCW

Source: OECD (2013).

Income and other economic resources received

When considering a person's economic well-being in terms of the economic resources he or she receives, it is of primary interest to know the level of on-going consumption that could be supported by those resources. Therefore, it is essential to differentiate between the receipts (both cash and in kind) that are likely to be available on a regular and on-going basis and those that are not.

Many types of economic resources received by people meet the criterion of being regular and on-going. They include wages and salaries, profit from business activity, subsistence production, other production of goods and services for own consumption, dividends from the ownership of shares, economic support through social assistance and social insurance schemes, and economic support from family and friends.² Such receipts are regarded as income.

Sometimes the receipts may not be regular and on-going for certain individuals, but they are the type of receipt that would normally be expected to be regular and on-going. For example, a person may be employed only for a short period of time; therefore, employment income would not be regular and on-going for that individual, but because of its nature, it is always considered as income. Similarly, receipts such as social assistance and social insurance benefits or support from family or friends are regarded as income if they are intended to support the individual's current consumption, even if they are received only once. Such receipts are often provided because of a temporary halt to the receipt of employment or other regular income; alternatively, they may be explicitly provided to meet a short-term need for extra consumption, such as the extra costs associated with the birth of a baby.

Income is defined as all receipts, whether monetary or in kind, that are received at annual or more frequent intervals and other receipts that are provided with the intent of supporting the current consumption of the recipient. This excludes windfall gains and other such irregular and typically one-time receipts.

Income includes: i) income from employment (both paid and self-employment); ii) property income; iii) income from the production of household services for own consumption; iv) current transfers received other than social transfers in kind; and v) social transfers in kind. *Current transfers received* are receipts for which the recipient does not directly provide anything such as labour or the use of property in exchange for that receipt. While the various forms of income are explained in more detail in Chapter 4, specific comment is provided in the next three subsections below on income from the production of household services for own consumption, social transfers in kind, and pension funds, annuities and life insurance.

Some income components can be negative because they are considered as net items, where the costs of earning the income are subtracted from the gross receipts received. For example, the costs incurred by an unincorporated enterprise may be greater than its revenue, i.e. the enterprise makes an operating loss. Similarly, the mortgage interest payments and other costs of providing owner-occupied housing may be greater than the imputed rent received (see below). However, employee income is not considered on a net basis, i.e. expenses borne by employees (such as child care costs, transport costs, clothing costs, etc.) are not deducted from employee income.

Income from the production of household services for own consumption

There are a number of household services that many people produce for themselves that require capital or labour input. These services could be purchased in the market, at least notionally, and therefore have economic value and should be counted as an economic resource. This is especially the case where a significant part of the population acquires the services in the market but a significant part of the population also produces their own. If the services are produced within the household and not purchased, they are called production of household services for own consumption and are analogous to income in kind from self-employment. Household services for own consumption are separated into three main categories.

First is the net value of owner-occupied housing services. This is the rental value that could be obtained if an owner-occupied dwelling were rented on the market (gross imputed rent) less the costs incurred in owning the dwelling, such as maintenance expenses and interest costs on housing loans (net imputed rent).³

Second is income from services from household consumer durables. As with owner-occupied housing, household consumer durables normally provide their owner with services over a number of years. The economic resource flowing to the owner is notionally the rental value of the durables less the costs such as maintenance expenses, depreciation and interest on any loan used to purchase the items. While similar in nature to the net value of owner-occupied housing, it is separated out because it is much more difficult to obtain relevant data, and because on average it is likely to have less impact on the micro data, although it may be significant for some sub-population analysis.

Third is the estimated value of unpaid domestic services such as cooking, housekeeping, minor repairs and child-care. The valuation of such services is difficult and is discussed later in this chapter.

Social transfers in kind

Social transfers in kind (STIK) is a particular category of current transfers received that tends to be treated differently from other categories of current transfers received due to difficulties in definition and practical measurement. STIK are the goods and services provided by government and non-profit institutions to individuals that are provided free or at subsidised prices. For example, social transfers in kind include the value of the subsidised component of medical services provided for free or at below-market prices, including where medical expenses are initially met by individuals but are subsequently either fully or partly reimbursed by government. Other examples of STIK include government-provided education, partial or full government reimbursement of rent payments, and the subsidy element of publicly provided housing. The treatment is symmetrical, regardless of whether the subsidy is delivered as a lower initial cash price or as a rebate or refund on outlays; conceptually, the consumption levels are the same and the income component is the social transfer in kind.

Because of difficulties in defining which services should be included in STIK, and because of difficulties in determining how to distribute the value between recipients of some forms of STIK, this category of receipts is often omitted from micro estimates of income, but it is included in adjusted disposable income (see the definition in a later subsection).

While STIK is difficult to measure, the omission of STIK from income estimates is likely to distort many income comparisons. If STIK is omitted from income estimates, in income distribution and similar analysis it is implicitly assumed that the benefits received in the form of STIK are proportional to the value of income received from other sources. Within a country, this is unlikely to be true when comparing different groups of interest. For example, low-income people will normally receive proportionally more STIK than high-income people, and some forms of STIK, such as free or subsidised education, are targeted at families with children. Over time, both the level and form of STIK are likely to change, and population structures will also change, both of which will lead to distortions in time-series comparisons if STIK is omitted. Perhaps most importantly, the level and form of STIK can vary widely between countries, reflecting different institutional structures and other factors. Therefore international comparisons of income are also likely to be distorted by the omission of STIK.

Income from pension funds, annuities and life insurance

Receipts from certain types of pension funds, annuities and life insurance are generally regular and ongoing and are an important source of finance for the day-to-day living expenses of the recipients. From the perspective of the recipients, therefore, those receipts have the characteristics of income. However, in part at least, they usually represent the run-down of an asset held by the recipient with the institution making the payment. This conflict is resolved in the ICW Framework by treating the receipt as income and then making an adjustment to the value of wealth that records the decrease in wealth due to the dissaving that has actually taken place (see below).

Receipts excluded from income

Receipts that are not intended to support ongoing consumption and that are not likely to be available on a regular and on-going basis are not included in income, especially if they are large. They include inheritances, large gifts from family and other people, large gambling winnings, and similar windfall gains. If such receipts are large, and it is unlikely that similar amounts are received in the periods before and after the period being examined, the recipient is likely to use those resources to support consumption over several periods at least. Compensation and other benefits from accident insurance policies (non-life insurance policies, excluding those regarded as social insurance) are also excluded from income. In some cases, benefits paid from accident insurance may compensate for short-term costs incurred because of an accidental event. While they may not be available for spending over several time periods, neither would they be expected to boost the overall well-being of the recipient household beyond what it would have been if the accident had not taken place.

The impact of such receipts on economic well-being in the period in which they are received is generally not as large as in the case of receipts that are regular and on-going, and they are therefore excluded from the concept of income. Instead, they are regarded either as additions to wealth, and are referred to as capital transfers received, or as offsets to expenditure, and are referred to as negative consumption expenditure.

Capital transfers received refer to the acquisition of assets when the receiving party makes no payment to the provider of the asset. Conversely, cash received from the sale of a capital item is not income. Rather, the capital item has been exchanged for wealth in the form of cash.

Negative consumption expenditure refers to benefits received from accident insurance and small lottery and other gambling winnings. In both cases, the recipient has previously made a payment without knowing whether anything will be received in return. Therefore, both the payments and the receipts could be considered as transfers. However, it is useful to consider the net figure, which can be derived by subtracting the value of insurance benefits and gambling winnings from the insurance premiums and gambling outlays. On average, the net amount is likely to be positive, representing the return to the insurance company or the gambling promoter for organising the activity. It is appropriate to consider the net figure as consumption expenditure, because it is payment for providing a service. To achieve this, receipts from accident insurance and small receipts from gambling are treated in the ICW Framework as negative consumption expenditure, while insurance premiums and gambling outlays are treated as positive consumption expenditure. They are discussed further in this chapter.

It is not always clear whether the receipt of certain economic resources should be treated as income, as capital transfers, or as negative consumption expenditure, and more detail is provided later in this chapter. There are other economic flows that may benefit a person's economic well-being but are not regarded in the ICW Framework as income. These include volume changes in wealth not associated with transactions, and holding gains and losses, and are discussed further.

Income aggregates

The components of income can be aggregated in a number of ways, reflecting differences in analytic purposes and data availability. *Total income* is the sum of all the income elements described above, excluding social transfers in kind (STIK). STIK is omitted from this major aggregate because of measurement difficulties, as discussed earlier.

Total income can be split into primary income and current transfers received excluding STIK. *Primary income* is income from employment and income generated from the ownership of non-financial and financial assets. On the other hand, *current transfers received* refer to income obtained without the recipient directly providing labour or usage of assets in exchange for that income.

Not all the income received by people is available to them to spend as they wish. In order to evaluate the ongoing economic resources available to people to support their current consumption, it can be useful to consider *disposable income*, i.e. total income less current transfers paid.

Current transfers paid (which are described more fully in the next section) are subtracted from total income because they comprise payments that do not directly support the current consumption of the person making the payment. Moreover, to a varying extent, they are obligatory. The degree of obligation varies with the type of payment and the context in which it is paid. For example, payment of taxes is fully mandatory. Contributions to social insurance is mandatory in some countries but less so in others. Current transfers to other households, especially relatives, are socially obligatory in some societies, especially where there are minimal social insurance and social assistance benefits available. Other current transfers, including to non-profit institutions, are usually the least obligatory of the various categories of current transfers paid; however, since these non-obligatory payments are not available to support the current consumption of the payer, and

are not available to add to wealth that may be drawn on to support future consumption, they are also considered as current transfers and deducted when deriving disposable income.

Adjusted disposable income is disposable income plus STIK.

Consumption and other uses of economic resources

In the same way that a differentiation is made between income and non-income receipts of economic resources, it is necessary to differentiate between current expenditure, including consumption, and other ways that economic resources are used and disbursed.

Current expenditure includes only current payments, i.e. the acquisition of consumption goods and services and other payments that tend to be regular and on-going. It excludes large payments that are likely to be made only infrequently, unless they are payments for consumption goods and services such as a holiday.

Consumption relates to the usage of goods and services to satisfy a person's wants and needs in the time period under consideration. The goods and services may be purchased using money from the person's economic resources. Alternatively, they may be goods or services that have been received directly (in kind) as income in-kind, such as wages and salaries from employers; goods and services received in exchange as bartered income; in-kind current transfers received from family, friends, government or other organisations; or goods and services produced by the person themselves for their own consumption. The total value of consumption goods and services purchased or received as income in kind, excluding social transfers in kind is referred to as *consumption expenditure*.

If the goods and services included in consumption expenditure were produced by the person themselves or were received from elsewhere as income in kind, the notional market value of the goods and services is included as consumption expenditure. However, not all goods and services produced for own use or obtained as income in kind are consumption goods and services. Some may be used as intermediate inputs to the person's productive activities, and some may be capital goods.

Consumption expenditure can be negative. One way in which this can occur is if someone sells *consumption* goods that had previously been obtained by them. More importantly, some gambling winnings and benefits from accident insurance are treated as negative consumption expenditure, as discussed below.

In addition to consumption expenditure, current expenditure includes current transfers paid and interest paid on consumer credit. It can be difficult to determine the boundaries between consumption expenditure, acquisition of capital items, current transfers paid, capital transfers paid, saving, etc. Some of the issues are discussed in more detail in this chapter

Acquisition of capital items

Consumption expenditure includes only the acquisition of consumption items, i.e. items that are expected to be used up immediately or in a relatively short time. Acquisition of an item that is expected to provide a service to its owner over a relatively long period is regarded as the acquisition of a capital item, or asset, and is not included in current expenditure. It is sometimes known as investment expenditure or capital expenditure. Assets include non-financial assets such as dwellings, cars and other consumer durables (electrical goods, clothing), and financial assets such as shares. If they are acquired as

income in kind, they are a component of saving and an addition to wealth. If they are acquired as a capital transfer received, they are an addition to wealth but are not a component of saving. If an asset is purchased, the wealth used to fund the purchase may be from assets held at the beginning of the period under consideration, or from saving undertaken during the period. Alternatively, the purchase may be made by taking out a loan, i.e. by incurring a financial liability that constitutes negative wealth. Regardless of the funding source for the purchase, the net worth of the owner has not changed, but there has been a change in the asset classes comprising that wealth.

Current and capital transfers paid

Economic resources received or owned by a person may be disbursed in ways that do not directly increase the person's own economic well-being. These include, for example, provision of economic resources to family members or other people, and the payment of direct taxes.

If the payments can be expected to be regular and on-going or are intended to support the current consumption of the recipient, they are referred to as *current transfers paid* and are included in current expenditure and as a deduction in deriving disposable income.⁴

If the payments are large and irregular in nature, or associated with a capital transfer received (such as an inheritance tax), they are called *capital transfers paid*. Capital transfers paid refer to the disposal of assets when the receiving party makes no payment to the provider of the asset. As explained in the next subsection, some payments that might be considered as transfers are treated in the ICW Framework as consumption expenditure because they are offset by receipts that are treated as negative consumption expenditure.

Negative consumption expenditure

When making outlays for accident insurance premiums (other than for dwellings, consumer durables or business assets) or for gambling, the payers do not know whether they will receive any return. If they do receive a return, the return will not directly reflect the size of the original payment that was made. In effect, the payers are putting money into a pool of funds that is redistributed between the payers on the basis of the occurrence of prescribed accidental events (in the case of accident insurance) or chance and perhaps other factors (in the case of gambling).

Viewed in this way, the outlays and receipts might be regarded respectively as transfers paid and transfers received. However, not all the money is paid into a pool of funds for redistribution, because the insurance companies and gambling promoters retain some money to finance their operations and pay relevant taxes. This is a service charge that conceptually should be regarded as consumption expenditure by the insured or the gambler. The approach taken in the ICW Framework is to treat the outlays as positive consumption expenditure and the *minor* receipts as *negative consumption expenditure* to reflect the reality that householders face in making such payments and in receiving claims settlements. Irregular and one-time lump-sum receipts from large winnings (lottery prizes, gambling winnings) are recorded as capital transfers and excluded from both the definition of income and from negative consumption.

There are several advantages to the approach adopted in the ICW Framework for treating these smaller flows as consumption/negative consumption. First, as described previously, disposable income is the result of subtracting current transfers paid from total

income. Therefore an increase in current transfers paid lowers disposable income. If payments for accident insurance premiums or gambling expenditure are treated as consumption expenditure and not transfers paid, they are regarded as being paid from disposable income. Second, survey participants sometimes know the net amount they pay for goods or services only after making a claim for accident insurance. While it is desirable to collect both gross and out-of-pocket expenses relating to expenditure following an accident covered by insurance, aggregate expenditure data will not be affected if only net expenses are recorded. In this case it would not have been possible to derive the net expenditure on insurance. In other cases, such as claiming for the value of the lost content of a freezer due to power failure, capturing the proceeds of the claim as negative expenditure, and the subsequent purchase of replacement food as current consumption expenditure, allows consumption expenditure to be meaningful in its own right as an aggregate for a household, and by expenditure class in well-being analysis. Also, for some gambling activities there are frequent small winnings that the gambler often also spends on the same activity. In this case, the net expenditure on gambling is likely to be a better reflection of the expenditure choice made by the gambler, and the gross flows are unlikely to be measurable at the micro level.

While treating windfall gains from accident insurance benefits or small gambling winnings as negative consumption expenditure instead of as current transfers received, the framework records a large windfall gain as a capital transfer. Issues of differentiating between small gambling winnings and large windfall gains are considered in a separate section of this chapter, as part of a wider discussion on differentiating between current and capital transactions. While the SNA treats all lottery and gambling winnings as current transfers, such a treatment at the household level would be highly misleading, distorting saving measures.

It is important to note that accident insurance and gambling are unlikely to result in a redistribution of economic resources *between* groups that are of analytic interest, since those who receive benefits are likely to be more or less a random subset of those who make these expenditures.

Negative consumption expenditure also includes the sales of any consumption goods that have been acquired, have not been used, and are then sold or transferred to another household, such as a non-profit institution. However, the second-hand sale of a consumer durable is not considered as negative consumption expenditure, but as the disposal of one form of wealth (the asset) in return for another form (cash).

Insurance

The treatment of the payment of insurance premiums and the receipt of insurance benefits poses a number of specific problems. These are discussed in the following paragraphs, with the treatments adopted in the ICW Framework summarised in Table 3.2 at the end of this subsection. As emphasised in the following paragraphs, premium payments and benefit receipts should be treated symmetrically where appropriate.

Payments of premiums for most *life insurance policies* and contributions to *private pension schemes* are not regarded as current expenditure but as a form of saving, because the contributor or the contributor's nominees are guaranteed to receive a benefit from the policy, and the value of that benefit normally reflects the cumulative payments that have been made to the financial institution operating the scheme.⁵ The payment of a premium

or other contribution to a life insurance or private pension scheme is in effect the purchase of a financial asset. The purchase of an annuity is an analogous transaction. Since the entitlements held in these funds are assets, expenditure financed by payments received from these assets should be viewed as dissaving. However, if payments from such sources are received on a regular basis, they are commonly regarded as income (and indeed, are established to smooth life-time incomes and consumption), and the ICW Framework adopts that approach. To compensate for the lack of symmetry in the treatment of payments and receipts associated with these schemes, a fully articulated set of income, consumption and wealth statistics requires a specific adjustment to the wealth estimates.

Term insurance provides a benefit if an insured person dies, or dies under certain specified conditions such as before reaching a given age, but provides few if any other benefits. It is therefore primarily a pooling of risk similar to accident insurance, and not a saving and investment vehicle in the same way as life insurance. As in the case of accident insurance, the payment of term insurance premiums is regarded as consumption expenditure. However, since the benefits received from term insurance are usually large and irregular, the benefits are regarded as capital transfers received rather than negative consumption expenditure.

Premiums paid to insure *dwellings and their contents* are regarded as costs incurred in the household production of services for own consumption from the ownership of dwellings and consumer durables. They are therefore netted from the gross value of the services provided when deriving the income generated from providing those services. Correspondingly, any benefits received from the policies offset costs incurred in providing the services. The benefits compensate for a destruction of capital that would be recorded as a negative “other change in capital” (see below), and are regarded as a capital transfer received offsetting the capital loss in the stock of wealth.

Payments for *social insurance* are payments into mandatory or employment-related schemes that provide benefits in the case of unemployment, illness or old age. They are included as a component of current transfers paid. Correspondingly, most benefits received are included in current transfers received, and are part of income. However, large and irregular payments (such as lump-sum retirement benefits and lump-sum payments received as compensation for work-related injuries) are capital transfers received.

Other voluntary insurance schemes protecting against unemployment or illness and other insurance protecting against such things as disruptions to travel are referred to as *accident insurance*. Premiums might be regarded as current transfers because they are primarily contributions to a pool of funds that are redistributed to those policy holders who experience the circumstances that trigger a benefit being paid. The receipt of benefits would then be included with transfers received. However, as explained in the previous subsection describing negative consumption expenditure, premiums paid for accident insurance are regarded as consumption expenditure with benefits received treated as negative consumption expenditure.

Interest payments

Interest payments are a form of current expenditure that is separate from both consumption expenditure and transfers paid. If the interest payments relate to loans used to purchase income-generating assets, the payments are netted off the income generated by those assets. In the case of assets such as unincorporated businesses, owner-occupied

Table 3.2. **Treatment of payments to and from insurance schemes**

Scheme	Payments to scheme	Receipts from scheme
Life insurance schemes, annuities, private pension schemes	Regarded as saving and therefore not directly recorded in the ICW Framework.	Income, for regular receipts. Capital transfers received, for lump-sum receipts.
Term insurance	Consumption expenditure.	Capital transfers received.
House and contents insurance	Input cost to be deducted when deriving value of income from production of services for own consumption from the ownership of dwellings and consumer durables.	Capital transfers received.
Social insurance	Current transfers paid.	Mostly included in current transfers received Lump-sum benefits are capital transfers received.
Accident insurance	Consumption expenditure.	Negative consumption expenditure.

homes and consumer durables, the value of interest payments (along with other current costs) is subtracted from the value of the business revenue or in-kind services provided by the asset in order to derive a net value of income or “profit”. It is the net value that is included in income receipts.

Loans may also be used for purposes other than purchasing income-producing assets. Generally, these loans are known as consumer credit, although they may be used in ways not normally regarded as consumer purchases. They include *inter alia* education loans and loans for financing transfers to other households. Interest payments on all these loans are included in current expenditure.

Expenditure aggregates

Non-consumption current expenditure is the aggregate formed by adding current transfers paid and interest on consumer credit. *Total current expenditure* is derived by adding consumption expenditure and non-consumption expenditure. Note that in the same way that social transfers in kind (STIK) are often omitted from estimates of income because of measurement difficulties, they are correspondingly often omitted from consumption estimates. Total current expenditure does not include STIK, since STIK is excluded from consumption expenditure. Consumption expenditure plus STIK is referred to as *actual final consumption*.

Saving

Saving is the net difference between total current expenditure and total income (excluding STIK) over the period under analysis. The same value can be derived by subtracting actual final consumption and interest on consumer credit from adjusted disposable income, or by subtracting consumption expenditure and interest on consumer credit from disposable income.

Saving may be positive or negative. If positive, there has been a net addition to wealth. If negative, there has been a net subtraction from wealth.

Wealth

Wealth, or *net worth*, is the net value of economic resources held at a point in time, with the value of liabilities being subtracted from the value of assets.

An *asset* can be viewed as a store of value that provides a benefit or series of benefits accruing to the owner by holding or using the entity over a period of time. *Non-financial*

assets include dwellings, land and other property, artwork and other valuables. *Financial assets* include cash, bank deposits, shares, equity in family trusts, equity in unincorporated enterprises, pension fund entitlements and the like. Pension fund entitlements include entitlements in both employment-based social insurance pension schemes and private pension schemes. Liabilities are always financial and include credit card debt, mortgages and other loans.

A person's assets and liabilities include those relating to any unincorporated business owned by the person. Such businesses are those where the owner and the business are the same legal entity. The owner is personally liable for any business debts that are incurred, and the business can be engaged in virtually any kind of productive activity. Unincorporated enterprises are usually best valued on the basis of how much they could be sold for. Since their operations may utilise non-financial and financial assets in an integrated way that cannot readily be separated and valued independently, the ICW Framework values unincorporated enterprises on a net equity basis, and treats the net equity as a financial asset equivalent to shares in an incorporated enterprise.

The composition of the stock of wealth may change through investment transactions that take place when one asset is exchanged for another of equal value. The exchange may be a purchase or a sale for cash, or it may be an exchange for some other type of asset. Most exchanges will result in a change in the mix of asset classes constituting the stock of wealth.

Changes in wealth

The stock of wealth between the beginning and the end of a period may change for a number of reasons.

- First, positive saving occurs when current expenditure is less than income. The difference is a net addition to wealth. Alternatively, current expenditure may be greater than income. Then there is negative saving, or dissaving, and wealth has been run down to finance the extra expenditure.
- Second, there may be capital transfers received, adding to wealth, or capital transfers paid, subtracting from wealth.
- Third, there can be volume changes not associated with saving/dissaving or capital transfers. These *other volume changes* occur when an asset with economic value materialises or disappears without transactions taking place. Economic value can materialise, for example, when something previously considered as of negligible value becomes recognised as having value, such as a mineral deposit being discovered, or a known mineral deposit becoming economically viable because of changed technology. Conversely, an artwork may lose value because it is discovered to be a fake. More commonly, the economic value of existing assets is destroyed by events such as natural disasters, war, civil disturbance or accidents. The growth of natural forests may contribute to other volume changes, but the growth of cultivated trees is considered a production process and is not included here.
- Finally, there are *holding gains or losses*. The values of assets change continuously as prices change over time. The price changes reflect both changes in the general price level (overall inflation rate) and changes in the prices of individual asset types. For assets whose value is denominated in the currency of other countries, exchange rate changes contribute to price changes. A holding gain occurs in a period if the market price of an

asset increases, whereas a holding loss reflects a market price fall. Some types of asset may pay no direct returns, but are structured in a way designed to increase the value of the asset so that the investment returns can be realised through holding gains. Holding gains and losses are included in changes in a person's wealth regardless of whether the assets concerned are sold in the period or not. Issues affecting holding gains and losses are further discussed below.

Adjustment to pension, annuity and life insurance entitlements

The changes in wealth represented by changes in pension, annuity and life insurance entitlements are not fully accounted for by the sources described above, and therefore a special adjustment needs to be made when reconciling income, consumption and wealth concepts and measures. The adjustment captures a number of separate impacts flowing from the concepts of income, consumption and wealth adopted in the ICW Framework.

- Contributions to employment-related social insurance pension schemes are treated as current transfers paid. Therefore, they are subtracted from income when deriving disposable income, and are not reflected in the derived measure of saving or in any other source of increase in wealth.
- Regular withdrawals from pension schemes, annuities and life insurance funds are treated as income. Therefore they are not regarded as negative saving reflecting a decrease in wealth.
- The managers of pension, annuities and life insurance schemes normally charge scheme participants a fee for managing the schemes, and the fee is conceptually consumption expenditure. But households are not necessarily aware of this implicit fee, because scheme managers levy it by withholding investment income earned from participants' entitlements or withdrawing it directly from the entitlements. Therefore the fee is not included in household expenditure in the ICW Framework.
- Funds held in pension, annuity and life insurance schemes change in value because of investment income earned and retained in the fund, because of other volume changes relating to the funds' investments, and because of holding gains and losses relating to the funds' investment. Because households do not perceive these flows directly, they are not included in the ICW Framework.
- There is a separate form of holding gains and losses relevant to entitlements in defined-benefit pension schemes, annuities and some life insurance schemes. The value of these entitlements is determined by the contributions or payments into the schemes but also by demographic factors such as the actuarially determined life expectancies of the participant and any other beneficiaries. Therefore the value of the entitlement changes over time simply because the beneficiaries are aging.

In light of these factors, it is necessary to have an *adjustment to pension, annuity and life insurance entitlements* to reconcile the income, consumption and change in wealth concepts. The adjustment accounts for all changes in the value of entitlements not included elsewhere in the ICW Framework, and is equal to:

- the change in the value of pension, annuity and life insurance entitlements between the beginning and end of the period, less
- contributions into private pension schemes and payments of life insurance premiums, less

- purchase of annuities that are not paid for by lump-sum payments that have been rolled over from pension or life insurance schemes, *plus*
- lump-sum withdrawals from pension, annuity and life insurance schemes that are not treated as income and are not rolled over into new annuities.

The funds invested by non-life insurance companies also earn income, which might be conceived of as the income of the policy holders. This income is held by the insurance companies as additional premium payments. However, ignoring these implicit transactions does not create an imbalance in the ICW Framework in the same way as for life insurance. Holders of non-life insurance are not regarded as holding an asset that is included as wealth, and therefore there is no need to reconcile changes in wealth with the income and expenditure measures defined in the ICW Framework.

Income in kind and its relationship to consumption and wealth

Conceptually, it is not essential to separate income in kind from cash income. However, whenever it is likely to be significant for some households, it is good practice to separate income in-kind for a number of reasons:

- First, it highlights that income is included in income.
- Second, the measurement of income in kind is more difficult than the measurement of cash income, and it is likely to require special methodologies or instructions to respondents in household surveys.
- Third, differentiating between the two income components may be important for analytic purposes, especially where subsistence agriculture is significant.
- Fourth, it facilitates the estimation of consumption, as consumption of goods and services needs to include those consumption goods and services received in kind.

Income in kind from employment, including self-employment, and from the ownership of property can take any form. It may include goods and services for consumption, assets, or goods and services that are used as intermediate inputs to the own-account production activities of the household.

In contrast, income from household production of services for own consumption and income in kind included in transfer income can comprise only goods and services for consumption. Transfers of assets to households are capital transfers.

The gross value of any consumption goods and services received as in-kind income is by definition part of household current expenditure. If the household passes any of those consumption goods and services to other households or to non-profit organisations, they are also part of current transfers in kind paid to other households or to non-profit organisations.

The gross value of any assets received as in-kind income is included in income but not in current expenditure. It therefore contributes to saving and is an addition to wealth.

If income in kind includes goods and services used as intermediate inputs for own account production of the household, a corresponding value needs to be added to the value of other inputs and the total deducted when deriving the net value of income for that own account production.

In the ICW Framework, several elements relate only to income in kind because of the potential importance or distinct characteristics of those elements. Some other elements include both income in kind and cash income.

Table 3.3 lists the main income elements that include income in kind and summarises the various types of receipts that are relevant. If there is income in kind received in any other income elements, the same principles apply.

Distinguishing between current and capital transactions

In considering both the economic resources received and the payments made by households, a distinction is drawn between current and capital transactions.

On the receipts side, income is defined as those receipts that are received on a regular and recurring basis, and are therefore available to support consumption and other ongoing obligations. Receipts that are large and irregular cannot be expected to be available on an ongoing basis, and therefore it is expected that, in part at least, they will be saved and used to support consumption and other current expenditure in future periods. Such receipts are termed capital transfers received.

Similarly, consumption expenditure is the acquisition of goods and services that are used up instantly or in a relatively short period of time, and is regarded as a component of current expenditure. Goods that are not likely to be used up in a short period of time are capital goods. They are assets that are expected to provide services to their owners over a period of time. Current transfers paid and interests paid on consumer credit are the other components of current expenditure, as they are likely to be made regularly. On the other hand, capital transfers paid are large payments that are not likely to be paid regularly.

Table 3.3. **Summary of main income elements that include income in kind**¹

Code	Element	Income elements which include income in kind:			
		Consumption goods and services	Assets	Goods and services for intermediate usage	Cash receipts
11.1.5	Shares offered as part of employee remuneration	No	Financial asset	No	No
11.1.9	Free or subsidised goods and services from employers	Yes	Yes ²	Unlikely	No
11.2.1	Profit/loss from unincorporated enterprise	Yes	Yes	No	Yes
11.2.2	Goods and services produced for barter, less cost of inputs	Yes	Yes	Yes	No
11.2.3	Goods produced for own use, less cost of inputs	Yes	Yes	No	No
12.1.3	Income from shares and other equity, net of expenses	Yes	Yes	Yes	Yes
12.1.7	Income from other financial assets, net of expenses	Yes	Yes	Yes	Yes
12.2	Rent from real estate other than owner-occupied dwellings, net of expenses	Yes	Yes	Yes	Yes
12.3	Royalties and other income from other non-financial assets, net of expenses	Yes	Yes	Yes	Yes
13.1	Net value of housing services provided by owner-occupied dwellings	Yes	No	No	No
13.2	Value of unpaid domestic services	Yes	No	No	No
13.3	Net value of services from household durables	Yes	No	No	No
14.4.2	Current transfers in kind received from other households	Yes	No	No	No
15.1	Social transfers in kind from government	Yes	No	No	No
15.2	Social transfers in kind from non-profit organisations	Yes	No	No	No

1. The income elements shown in this table are taken from Annex A.

2. This includes the benefit of loans at below-market interest rates. Such a benefit is best described as a financial asset, since it is neither a good nor a service but a reduction in a financial obligation.

While the need to differentiate between current and capital transactions is clear, the boundary between them is difficult to define. First, terms such as “regular” and “recurring” are imprecise and lie on a continuous spectrum, somewhere between the extremes of “at least once a day” and “only once in a lifetime”. Second, the classification of transactions can be viewed differently in different contexts. For example, wages and salaries are normally received on a regular and ongoing basis. But some individuals may only be employed once for a very short period; for these individuals, wages and salaries are not a regular and ongoing receipt. Similarly, what might be considered large for one household may not be thought large for another household that has more economic resources available. Third, the definitions used above do not explain how small but irregular transactions should be treated.

Receipts for provision of labour or use of property

There is inevitably therefore some arbitrariness in distinguishing between current and capital transactions. The following paragraphs provide some additional guidelines to help implement the underlying concepts in specific circumstances. Relevant factors vary between types of transaction.

As discussed earlier in this chapter, if a transaction is payment for labour provided by a household member or for use of household property in the current period, the transaction is always regarded as a current transaction and is classified as income. This is the case even if the transaction is not regular for an individual recipient, for example, i.e. they worked only for a short period of time. It is also the case if the transaction is in kind, and the in-kind payment is in the form of capital goods. The key aspect of these transactions is that the provision of labour or the use of property is inherently a current activity, and the reward for that activity is regarded as a current receipt.

Sometimes payments are received for labour that had been provided in previous periods. If the amounts are relatively small, such as payments for recreation leave accrued in previous periods, they are included in wages and salaries as income from employment. However, lump-sum retirement payments are likely to have been earned during employment that occurred in previous periods, and they are significant in size. Therefore they are regarded as capital transfers.

Receipt of social benefits

Most social benefits are treated as current transactions and therefore income. The main exceptions are if a capital item is provided in kind (e.g. a consumer durable such as a wheelchair), or if a large lump-sum payment is made. There are two situations, in particular, where large lump-sum payments may be made; both are employment-related:

- First, termination and redundancy payments, which are primarily designed to compensate employees for losing their current employment by providing income replacement for a period of time after wage and salary payments cease. The size of these payments is often determined on the basis of employees’ length of service. Some employees may receive lump-sum payments greater than the wages and salaries they would have received if they had been employed for the remainder of the current accounting period. In that case, at least the excess part of the lump-sum payment should be regarded as a capital transfer. In practice, it may be necessary to use a simple approximation, for example, treat any amount greater than the equivalent of three or six months wages and salaries as a capital transfer.

- Second, disability support payments paid to injured workers by employers or under a disability insurance scheme, and primarily designed to compensate employees for lost income, for medical expenses and sometimes for the pain and suffering resulting from the injuries sustained in the course of their employment. Compensation may be in lump-sum form to cover impacts of the injury in periods prior to the current accounting period and in periods after the current period. Any amount in excess of income lost and medical expenses incurred in the current period should be regarded as a capital transfer. Again, in practice, it may be necessary to use a simple approximation, e.g. to treat any amount greater than the equivalent of three or six months wages and salaries as a capital transfer regardless of medical expenses that may or may not have been incurred in the current year.

Transfers between households

If one household transfers resources to another with the primary intention of supporting the consumption of the receiving household, the transaction is regarded as a current transfer paid by the donating household and as transfer income by the recipient household, regardless of whether or not the transaction is made on a regular basis. As for social benefits, irregular transfers may be made if the recipient household does not have a regular source of income for a short period of time because of unemployment or similar reasons. Alternatively, irregular transfers may be made if the recipient household has a short-term need for additional consumption, e.g. because of the birth of a child, illness, ceremonial obligations when a family member gets married or dies.

On the other hand, if the resources received by the household are in the form of a non-cash asset (e.g. a consumer durable or financial asset) or are intended to support the purchase of an asset, a capital transfer has been received. For example, one household may help another household to purchase a vehicle or other consumer durable, or contribute to the purchase of a dwelling.

Gifts of cash from one household to another can be particularly difficult to classify, because they may not be intended for any specified purpose. If gifts of approximately the same magnitude have been or are expected to be received regularly, they qualify as current transfers paid by the donating household and as transfer income for the recipient household. But if gifts for unspecified purposes are atypical, their classification needs to be determined according to the relative size of the gift.

From the perspective of the donating household, the transfer should be regarded as a capital transfer if it is large enough to be considered a rundown in the wealth of the donor rather than being paid out of the donor's income. From the perspective of the recipient household, the gift should be regarded as a capital transfer if the household is likely to save a significant proportion of it. The determination of "large enough" is arbitrary, but 5 or 10% of annual household income might be used as a threshold for this purpose. Importantly, a transaction treated as a current transfer paid with respect to a donating household may be treated as a capital transfer with respect to the recipient household. Such asymmetry is not possible in macro data, but it is acceptable for micro data, because micro-data analysis is primarily interested in transactions from the perspective of individual households; hence, there is no requirement that transactions "balance" when aggregated across households.

Lottery and other gambling winnings

Minor lottery prizes and other winnings from gambling are regarded as negative consumption expenditure. However, large winnings are regarded as windfall gains and are treated as capital transfers received. The boundary between minor receipt and windfall gain is arbitrary. One approach, if gross expenditure and gross receipts are both available, would be to determine the boundary in terms of the total gross expenditure on gambling. For example, a windfall gain might be defined as any amount of winnings greater than 5 or 10 times the expenditure on gambling. Alternatively, the boundary might be determined on the basis of household income, with 5 or 10% of household income used as a threshold.

Other transfers paid by households

Similar considerations apply to classifying other transfers paid by households as current transfers or capital transfers.

Income tax relates to current receipts and is always regarded as a current transfer paid, as are regular wealth taxes such as land tax. In contrast, inheritance taxes relate to capital transfers received and are regarded as being paid from those capital transfers, i.e. as capital transfers paid. Taxes on holding gains, often known as capital gains tax, are often levied as complementary to income taxes, since holding gains are an addition to economic resources similar to income. However, the taxes are normally levied only when the holding gains are realised, i.e. when the asset is sold or disposed of. Therefore the tax normally relates to holding gains that have accumulated over a number of years, rather than just the current year, and in micro data it is appropriate to consider the tax as a capital transfer.⁶ Social insurance contributions are always regarded as current transfers paid.

Transfers may also be made to non-profit organisations. If transfers of approximately the same size are made regularly, then they are regarded as current transfers paid. If they are larger than any transfers regularly made, they should be regarded as capital transfers if they are significant in terms of the donating household's income. As for transfers to other households, an arbitrary threshold is required, such as 5 or 10% of household income. When evaluating whether transfers to non-profit organisations are current transfers or capital transfers, they should be considered in aggregate. For example, a household may make significant contributions to charities every year. If the aggregate amount is approximately the same every year, they should be regarded as current even if different charities are supported each year.

Statistical units

Individuals can receive income, consume goods and services, and own wealth. If they do any of these things in partnership with anyone else, it is conceptually conceivable to share the amounts between the individuals concerned. For simplicity, when developing basic concepts, the discussion in previous sections of this chapter was mostly presented in terms of the income, consumption and wealth of persons. However, collecting a full set of income, consumption and wealth data for each individual in a data collection is both difficult and often meaningless.

Take, for example, the situation of families with young children. The children usually do not have significant, if any, monetary income or wealth, but they do consume, usually the goods and services provided by their parents. Therefore from an individual perspective the economic resources they receive are almost exclusively transfers in kind, with their

parents paying in-kind current transfers of an equal value. Measuring the value of such in-kind transfers received and paid is difficult. However, if the income, consumption and wealth information of the family are consolidated and considered on a net basis, the intra-family transactions that take place do not need to be measured. The transfers received by some members of the family are offset by transfers paid by other members of the family, and so disposable income, consumption and wealth are the same whether summed across the individual members of the family or whether calculated directly at the family level.

Similar situations can arise with adults. Couples will usually pool at least part of their income to make provision for day-to-day living expenses, especially if one is employed and the other is not. Home-owners may provide free or subsidised accommodation to adult children or aged relatives. In these cases, significant current transfers are taking place, and it is difficult to collect data about the value of those transfers.

Unrelated adults sharing a dwelling may pool resources to pay for food and other household items. In this case, there may not be any significant current transfers taking place, but because some of their consumption is arranged jointly (notably accommodation, usually the largest component of consumption), it is difficult to collect data directly about the consumption of each individual. In addition, there are usually economies of scale when people share a dwelling, and they therefore receive an economic benefit from the sharing. This aspect is discussed further in the consideration of equivalence scales later in this chapter and in Chapter 8.

There may be significant transfers in kind between people living in separate dwelling units. For example, people may live rent-free or at below-market rent in a dwelling owned by a family member or by another individual who does not live in the dwelling. Again, it is likely to be difficult to collect data on the value of such transfers, although not as much as in the case of measuring many intra-household transfers.

As illustrated above, there is considerable practical advantage in collecting and analysing micro-statistics on income and consumption with respect to statistical units that comprise groupings of individuals between whom there are significant current transfers, especially if those transfers are in kind.

Households

The household has been chosen as the primary unit to be used for analysing income, consumption and wealth micro data.⁷ A *household* is either an individual person or a group of persons who live together under the same housing arrangement and who combine to provide themselves with food and possibly other essentials of living. All persons living in a country belong to one, and only one, household. A person's place of usual residence is the basis for determining household membership. However, all members of a household must be residents of the same country. The following paragraphs elaborate on these aspects of the definition of a household.

There are three categories of household: private households, institutional households and other households. In most countries most people live in private households, but some live in institutional or other households. Micro-data collection and analysis is usually confined to private households or private households not residing in collective living quarters. A *private household* is:

- a one-person household residing in a housing unit, i.e. a person who lives alone in a separate housing unit or who occupies, as a lodger, a separate room (or rooms) of a housing unit

but does not join with other occupants of the housing unit to form part of a multi-person household; or

- a multi-person household residing in a housing unit, i.e. a group of two or more persons who combine to occupy the whole or part of a housing unit and to provide themselves with food and possibly other essentials for living. Members of the group may or may not pool their income or wealth and they may or may not be related to each other; or
- a one-person or multi-person household residing in collective living quarters other than an institutional household. These private households live in hotels, boarding or lodging houses, camps, or employee quarters at institutions.

This definition of a private household is based on the housekeeping concept. It does not assume that the number of private households is equal to the number of housing units. Within this concept, “boarders” are distinguished from “lodgers”. Boarders take meals with the household, are generally allowed to use the household facilities, and are considered to be members of the household in which they live. Lodgers have hired part of the housing unit for their exclusive use and are considered to belong to a different household.

Domestic staff living in the same dwelling as their employers may be boarders or lodgers. If employers and staff share food and meals, the members of staff are boarders. In this case neither in-kind income nor any cash income paid by the employers to staff is included as household income, because the payments are transactions internal to the household. If employers and staff do not share food and meals, the members of staff are lodgers and constitute a separate household or households. The accommodation and any other goods and services provided by the employers to the staff for free are then treated as income in kind.

An *institutional household* comprises persons whose need for shelter and subsistence are being provided by an institution. An institution is a separate and independent set of premises comprising all or part of a permanent building or set of buildings that are designed for long-term inhabitation and provision of services to a group of persons. These persons are subject to a common authority or regime or are bound by a common objective or personal interest. Institutions usually have common facilities shared by the occupants. The great majority of institutional households fall under the following categories: a residence for students; a hospital, convalescent home, establishment for the disabled, psychiatric institution, old people’s home or nursing home; an assisted-living facility or welfare institution, including for the homeless; a military barrack; a correctional and penal institution; a religious institution; or a workers’ dormitory. Employees of an institution who live alone or with their family at the institution should be treated as members of private households.

An “*other household*” refers to a person who does not live in a private or institutional household, specifically the homeless with no usual place of residence.

Household membership is determined by a person’s place of usual residence. *Place of usual residence* is the geographic place within a country at which a person spends most of his or her daily night-rest. In some cases it may be difficult to determine this place, e.g. persons who work away from home and return at weekends, students who are away from home during school term, persons who are currently inmates of an institution, and persons – including children – regularly living in more than one residence during the year. The approach to be taken with these cases is described in Box 3.1.

All members of a household must have the same *country of residence*. As explained in Box 3.2, the country of residence is usually but not always the same as the country in which the place of usual residence is located. If they are different, micro-survey data collection and analysis in a country may exclude households that have a different country of residence. Examples are tertiary students studying abroad and people seeking medical treatment abroad. Both these groups may have a usual residence in a host country but continue to be residents of their home country. Also, some people are highly mobile and their place of usual residence may change frequently; if they move between two or more countries, their country of residence is the country in which they spend most of their time.

Box 3.1. **Place of usual residence**

Place of usual residence is the geographic place within a country at which a person spends most of his or her daily night-rest. In some special cases where it may be difficult to determine this place, the treatment is as follows.

- For persons who work away from home and return at weekends, the usual residence is the family home.
- For school students who are away from home during school term, the usual residence is the family home.
- For inmates of institutions such as hospitals, nursing homes, prisons, etc., who have spent or are likely to spend 12 months or more in the relevant institution, their usual residence is the institution.
- For persons – including children – regularly living in more than one residence during the year, their usual residence is the one where they spend the majority of the year.
- For tertiary students who are away from home while at college or university, the usual residence is their term-time address, except in specified circumstances (detailed below) where the family home is regarded as that place. The term-time address of tertiary students living away from home while studying at college or university may be a housing unit (such as a rented house or apartment that is shared with others), an institution (such as a college hall of residence that accommodates large numbers of students), or some other type of collective living quarters (such as a boarding or lodging house). However, if the student is living away from home but in the same country and receives sufficient financial support from parents to maintain himself or herself without other income (e.g. the student does not take on a job to provide income support while studying) and/or the student returns to the family home for long periods (e.g. longer than would be considered a family reunion), then the family home is regarded as the place of usual residence.

Housing arrangement

A *housing arrangement* is a classification of the type of housing at a person's place of usual residence. This differs slightly from the household category classification and is useful for some analysis. The whole population can be classified into three types of housing arrangement: occupants of housing units; occupants of collective living quarters; and homeless people with no place of usual residence.

A housing unit is a separate and independent place of abode intended for habitation by a single household or one not intended for habitation but used as a usual residence by a

Box 3.2. Country of residence

The country of residence of a household is the economic territory of a country in which its members maintain or intend to maintain a dwelling or dwellings that are treated and used by them as their principal residence. If there is uncertainty about which dwelling is the principal residence, it is identified from the length of time spent there. Being present for one year or more in a territory or intending to do so is generally sufficient to qualify as having a principal residence there. For most households, their country of residence is the same as the country in which their place of usual residence is located, although this is not always so.

All members of the same household have the same country of residence as the household itself, even though they may cross borders to work or spend periods of time abroad. If they work and reside abroad so long that they acquire a centre of economic interest abroad, they cease to be members of their original household. Likewise, if a person lives with others in their principal dwelling but maintains his or her own principal dwelling in a foreign country, that person is a resident of the foreign country and is not regarded as a member of the same household as the others, even though income and expenses may be shared or assets jointly held.

Additional guidance is provided for a number of specific cases: students who go abroad for full-time study continue to be residents of the territory in which they were resident prior to studying abroad; patients who go abroad for the purpose of medical treatment maintain their predominant centre of interest in the territory in which they were resident prior to the treatment; crews of ships, aircraft and similar equipment that operate outside a territory or across several territories are treated as being resident in the territory of their home base; national diplomats, military personnel, etc., employed abroad in government enclaves and their households are considered to be residents of the territory of the employing government; cross-border workers have their residence in the territory where their principal dwelling is located; refugees have their residence in the economy where they stay or intend to stay for a year or more; and highly mobile individuals having no principal dwelling or two or more principal dwellings in different economies have their residence determined on the basis of the territory in which the predominant amount of time is spent in the year. Examples where a household's country of residence may differ from the country of location of its place of usual residence include the following:

- *Tertiary Students Studying Abroad* continue to be residents of their home country. However, their place of usual residence is their term-time address in the foreign country where they are studying, unless their specific circumstances satisfy the conditions for an exception. That is, if the student has sufficient financial support from parents to maintain himself or herself without other income and/or the student returns to the family home for long periods, then the family home is regarded as the place of usual residence. From the perspective of the home country, when the student's place of usual residence is the term-time address abroad, then the student constitutes or is part of a resident household unit of the home country that is physically located in a foreign country. If the student is sharing their term-time accommodation with non-residents of the home country, the student needs to be separated from those non-residents when delineating a resident household unit. For both private and institutional households, this implies that two or more households need to be identified at the same foreign address: one consisting of home country residents and one or more others consisting of non-residents.

Box 3.2. **Country of residence** (cont.)

- *Persons Undergoing Medical Treatment Abroad* continue to be residents of their home country, but their place of usual residence may be an institution in a foreign country (rather than their home in the home country) if they spend 12 months or more in the relevant institution. Again, two or more institutional households may need to be delineated at the one address to ensure that resident households can be separated from non-resident households.
- *Diplomats, Military Personnel and Similar Staff Serving Abroad*, as well as their households, are considered to be residents of the territory of the employing government. In addition, the physical enclaves in which they work and sometimes live are considered part of the territory of the employing government, not the host country. This reflects the fact that such enclaves, which are clearly demarcated land areas located within the geographical boundaries of the host country, are outside the legal jurisdiction of the host country. If such households live outside the territorial enclaves, their country of residence will differ from the country of location of their usual residence, whereas if they live inside the enclaves both these countries will be the same.

household. These units cover: i) conventional dwellings; and ii) other types of housing units such as mobile, semi-permanent and improvised dwellings.

Collective living quarters comprise premises designed for habitation by large groups of individuals or several households and used as the usual residence of at least one person. These premises cover: i) hotels and boarding or lodging houses; ii) institutions; and iii) camps (e.g. military camps, refugee camps and camps for housing workers).

Assumptions underlying the use of an aggregated statistical unit

While the use of an aggregated statistical unit avoids some difficult problems with data collection and valuation, it implies that all the people in a household have the same level of economic well-being. The validity of this assumption is likely to be high if the household comprises only a family with small children, but much lower if it is a group of unrelated people.

Also, the assumption that all people in a household have equal access to the economic resources of the household is likely to be less valid for wealth than for income, since the owners of wealth usually accumulate it during the middle stages of their lifecycle, in anticipation of running it down in the later stages, or bequeathing it. The composition of households changes over time. In most cases, if members of a household leave and become part of another household, they will not directly take a proportionate share of the first household's wealth with them, even though they may have the same contingent asset (based on wills defining bequests or through legal rights established in the country concerned) that they had when residing under the same roof as the legal owner of the assets. When adult children leave their parents' home, they are likely to receive some ongoing benefit from their parents' wealth through gifts, cheap loans and eventually inheritance, but the extent of the benefit will vary widely. When unrelated household members leave a household, it is unlikely that there will be any further sharing of the benefits of wealth between the departing household members and those remaining.

Family economic units

Statistics on the distribution of income, consumption and wealth compiled using the household as the statistical unit may be supplemented by statistics compiled using smaller statistical units that are defined more narrowly. The primary reason for doing so is to create units that have a higher likelihood of equally sharing the economic resources between members of the unit.

For example, “family economic units” (sometimes known as “income units”) can be defined, with the units being: i) couples without children; ii) couples with dependent children; iii) single parents with dependent children; and iv) individuals. The assumption that all members of these units have the same level of economic well-being is stronger than for the household, since the definition of the family economic unit is narrower. If a household contains more than one family economic unit, then measures of income, consumption and transfers for each family economic unit need to include all transfers received from and paid to other family economic units within the household. Similarly, measures of wealth are needed separately for each family economic unit within the household.

The definition of family economic units or similar sub-household units is often determined on the basis of institutional and legal arrangements within the country where the units are being used. For example, they may be defined using the same rules that govern the administration of social assistance payments, especially in the definition of “couple” and “dependent children”. Such units are of particular importance when analysing social “safety nets” in the country concerned.

Individual person data

While a full set of income, consumption and wealth data is to be collected with respect to households, it is useful to collect selected data items, including components of income and wealth, with respect to individuals within the household.

In some analysis, characteristics (e.g. age) are adopted from a selected reference person as a proxy of the household. Regarding household income, the longest period of time for which anyone in the household had control of the housing arrangements or the highest income are usually considered the best options to serve as a reference person. To identify a member of the household as having the highest income, it is necessary to have a concept of personal income. A definition of personal income is also useful for other reasons, e.g. to calculate the contribution of the individual household members to total household income.

Most importantly, wealth data should be collected with respect to individuals as well as households. The wealth of a household is of relevance to analysing the capacity of the household to consume in the current time period. However, when considering wealth in terms of potential consumption in the future and long-term economic well-being, the current composition of the household will normally be less relevant as the composition of the household is likely to change. As noted above, when the composition of a household changes, it is unlikely that the wealth of the household is shared equally between remaining and departing members. This is certainly the case if the members are unrelated or not closely related. It will probably happen to some extent when children become adults and leave the family home, although they are still likely to benefit from parental wealth in the future, first through assistance from parents and then from inheritances. If a couple divorce or otherwise separate, the extent of sharing will depend on country customs and law.

For some analysis, it is necessary to categorise the household according to the characteristics of multiple individuals in the household, rather than just a reference person. For example, there may be interest in identifying households according to the number of children not yet of school age. For gender studies, the number of women and men in a household is of relevance.

Person-weighted estimates

As discussed above, it is recommended that the household is the most appropriate statistical unit for analysing some aspects of income, consumption and wealth. However, users of micro data are often more interested in analysing the number of people, broken down by household characteristics, rather than the number of households as such. Therefore, it is recommended that micro data output report both the number of households with the characteristics of interest, and the number of people who live in those households. The latter are sometimes known as “person-weighted” statistics. It is recommended that distributional summary statistics such as quantile ratios and Gini coefficients are always person-weighted. Similarly, data relating to family economic units or any other statistical units that combine individuals should also be person-weighted.

Equivalence scales

When income is used as a measure of economic well-being to compare units, the choice of income measure is critical. Gross income is one measure used for a variety of purposes, but it fails to establish clear relativities because not all gross income is available to support consumption. Disposable income is a more appropriate measure, since it excludes income that brings no direct benefits to the household.

However, income relativities should also reflect some measure of the needs to be met from that income. The needs of a household grow with each additional member, and therefore a larger household normally requires more economic resources than a smaller household if the two are to enjoy the same standard of living. Looking at income alone and ignoring the role of wealth, one way of adjusting for this difference in household size might be to divide the income of the household by the number of its members, so that all income is presented on a per-capita basis. Such a simple adjustment assumes that there are no economies of scale derived from living together. However, it is unlikely that a household with three members needs three times as much housing space, electricity, etc., as does a lone-person household.

The needs of households may differ for other reasons also. It may be considered that children have fewer needs than adults, or that people in the labour force have greater needs than those not in the labour force because of the cost of travel to work and of suitable clothing.

Various calibrations, or equivalence scales, have been devised to make adjustments to the actual incomes of households in a way that recognises the economies that flow from sharing resources and the differences in the needs of individuals. The scales differ in their detail and complexity, but all recognise that the extra level of resources required by larger groups of people living together is not directly proportional to the number of people in the group. Many scales also assume that children have fewer material needs than adults.

When household income is adjusted according to an equivalence scale, the equivalised income can be viewed as an indicator of the economic resources available to a

standardised household, assuming equal levels of wealth. When using a lone-person household as the reference point, its equivalised income is equal to the actual income recorded. For a household comprising more than one person, the equivalised income is an indicator of the household income that would be needed by a lone-person household to enjoy the same economic well-being as the household in question.

Alternatively, equivalised household income can be viewed as an indicator of the economic resources available to each individual in a household. This view underpins the calculation of income distribution measures using person-weighted estimates, i.e. estimates based on the number of people rather than on the number of households.

There are many different ways in which equivalence scales have been derived. The simplest merely reflect the number of people in the dwelling. Others are more complex. Chapter 8 provides more detail.

Equivalence scales and statistical units

Equivalence scales are applied primarily because of the economies of scale available when people share housing and other consumption. Normally, the greatest economies of scale are achieved through sharing housing. The basic unit of housing is the dwelling, rather than the household or other statistical unit such as the family economic unit. Therefore it is most appropriate that the equivalence scale reflects the number of people who live in the dwelling, even if the dwelling contains more than one household.

Equivalence scales and measures of wealth

The existing equivalence scales have income and consumption as their focus. In principle, the same concept of economies of scale could be applied to wealth when the focus is on the potential of household wealth to support the current consumption of the current household. However, household composition changes over time, and an individual's wealth is typically accumulated during their working life and then used to support consumption during retirement. Moreover, the ownership and availability of wealth may be specific to particular individuals within a household. Therefore equivalence scales are of less relevance when analysing the long-term economic well-being of the individuals of a household, especially if the household comprises multiple generations or contains unrelated persons.

Reference period

The choice of the time period to be considered when analysing income, consumption and wealth has an impact on the detailed definition of the various flows and the practicalities of collecting the required data.

Income is broadly defined as receipts of economic resources that are regular and on-going. Such receipts should be available to a household in most time periods because they normally support the on-going consumption of the household. If the reference period used for analysis is too short, income may be available only in a relatively small number of periods, and there is likely to be an imbalance between income and consumption, with significant saving in periods in which income is received, and significant dissaving in periods in which income is not received. Data from just one of these periods are unlikely to provide a good representation of the overall economic well-being of the household concerned.

The preferred reference period for implementing the ICW Framework is one year, since some types of income are received only once a year or may fluctuate substantially between seasons. Agricultural production often has an annual cycle, and many jobs provide higher incomes in some seasons of the year than in others. Some income, such as dividends from shares owned by the household, may be received only once or twice a year. Households that operate their own businesses may only calculate their profit, i.e. the income accruing to the household, once a year.

Similarly, some current expenditure may be seasonal in nature or occur only once a year. Power bills are likely to fluctuate with the seasons, at least in colder climates. Land taxes, insurance premiums and similar payments may only be made once a year.

Use of other reference periods

The use of a full year as the reference period is most appropriate for the full implementation of the ICW Framework and for compiling statistics on income, consumption and wealth that are consistent with each other. Nevertheless, there are some drawbacks.

Over time, new households are created, and existing households change their size and composition, or cease to exist altogether. Changes in household size and composition may lead to significant changes in the economic well-being of the household, e.g. as an employed person joins or leaves a household. Even without changes in household composition, the economic well-being of a household can change markedly during the year, e.g. because a member obtained or lost a job.

More meaningful and timely indicators for some purposes may be derived if income and expenditure data are collected with respect to the most recent period that might be considered regular and recurrent for the item concerned. For employee income, this could be the last wage or salary payment they received, perhaps with some supplementary information about overtime or any other unusual characteristics of that payment. For income from social assistance and social insurance, it would similarly focus on the most recent payment. For income from agricultural production and business activity, it is still likely to be annual income, i.e. the reference period would remain one year. The various elements refer to different time periods, but they all need to be expressed in terms of a common periodicity, such as income per week or income per year. They can then be added together to give an estimate of aggregate income, which is referred to as “current period income”.

Estimates of current period income may be collected as a supplement to full-year estimates but cannot replace them, especially when comparisons with consumption and wealth data are required. In particular, estimates of the saving of an individual household should not be made using current expenditure estimates for a short current period that is significantly affected by seasonality or irregular influences, nor by using current income estimates that are similarly affected. Saving is a residual value derived by subtracting current expenditure from income and is sensitive to any short-term differences between the two. Estimates of saving derived from annual data will be less volatile but may be subject to high recall error, especially for current expenditure measures.

On the other hand, when deriving estimates on the basis of annual data, it may be necessary to exclude those households that did not exist in their current form, or in close

to their current form, for the whole year, since meaningful annual data may not be available for them. Households that no longer exist will always be excluded.

Valuation issues

Cash versus accrual accounting

In analysing the well-being of households, it is desirable to examine the underlying economic flows and stocks relevant to the households, since these better reflect the likely basis of households' economic decision-making. This implies that measures on an accrual basis are preferred to measures on a cash basis, i.e. transactions are to be measured with respect to the moment when economic value is created, transformed, exchanged, transferred or extinguished rather than when the associated cash flows occur.

In the context of micro data and for practical purposes, it can be assumed that cash measures approximate accrual measures for many elements in the ICW Framework. However, there are some elements where this is not the case. The following paragraphs discuss two specific elements: holding gains and losses, and income tax. The same principles can be applied to other elements, as appropriate.

The difference between a cash- and an accrual-basis measurement is likely to be greatest for holding gains and losses. If a cash basis were adopted, holding gains and losses would be measured only when realised, i.e. when the relevant assets were sold or otherwise disposed of. However, if the underlying value of assets is changing over time, this should be reflected in measures of household wealth, especially for assets that may be owned for long periods of time.

For some sources of income, income tax may be paid a significant time after the associated income was earned, and the transactions could be recorded in different time periods. A significant difference can therefore arise between income tax measured on an accrual- and on a cash-basis, since income tax actually paid can vary between years because of annual variations in income, changes in taxation deductions, disputes with tax authorities and so on. While households are unlikely to be able to report income tax on an accrual basis, it is possible to model the income tax liability on reported income, thereby reducing any possible mismatch between income received and current transfers paid and the consequent distortion to disposable income.

Establishing market prices

Under accrual accounting, the valuation of all flows and stocks included in income, consumption and wealth micro data should reflect the market prices relevant at the time the flow took place or the stock was measured. However, it is sometimes difficult to define which "market" is relevant. This subsection highlights some of the areas of particular difficulty.

A market may be dominated by barter transactions, with few, if any, transactions involving cash. In this case the market does not have typical prices established in cash terms. Prices that could be used for imputation may be available only from markets some distance away and may not be relevant due to factors such as significant transport costs that preclude goods moving between markets.

Also, there can be a number of difficulties with valuing transactions that are internal to a household. By definition, the prices underlying these valuations must be imputed, since the household both provides and consumes the goods and services produced. There

are a number of issues to be considered in making such imputations. These are discussed briefly below.

In some economies, there is significant subsistence production and other production of goods for own use. While the quantity of goods produced is likely to be known, there may be difficulties in establishing appropriate prices for these goods as there are for bartered goods.

The value of housing services that owner-occupiers of dwellings provide to themselves is the most common of these transactions included in income and consumption micro data. In some regions, there may not be a significant rental market and therefore no established market prices to use as a basis of imputation. Even where there is a significant rental market, there can be uncertainty about the imputation because the “average” rented dwelling is of a different quality than the “average” owner-occupied dwelling of the same size and age, since owner-occupiers are more likely to adapt the dwelling to their tastes and needs.

There are even greater difficulties in imputing values to the services provided by consumer durables, since a significant rental market for them is unlikely to exist, and there is likely to be a significant difference between the quality of the “average” rented item, if it exists at all, and the “average” item owned by a household. An alternative approach is to value these services on the basis of the cost of providing the services. The costs of relevance will normally be depreciation, repair costs, and a return to capital invested, which would have to be modelled.

The valuation of unpaid domestic services presents a particular conceptual challenge in establishing both the price and the quantity of the services. While it may be possible to establish the wage rate that would have to be paid to someone to cook meals, clean house, care for children, etc., it is not clear that this is the most appropriate price to use – e.g. a very small proportion of such services are provided through the commercial market, household members do not necessarily value their own time at such prices, etc. It is also not clear what quantity of the services the price should be applied to; the services are often provided concurrently, and services such as cooking, gardening and child care may be carried out in part as a recreational or other pleasurable activity, etc.

Establishing market prices for some assets also raises some valuation issues. For an unincorporated enterprise owned by a household, it may be difficult to establish how much would be obtained if the business were sold because there have been no recent sales of directly comparable businesses. In the stock market, there may be no relevant price if sales of the shares have been suspended for some reason and they could be expected to trade at a significantly different price when trading resumes. Dwellings may have unique features that make it difficult to identify “directly comparable” sales on which to base a valuation. In addition, there is an issue in identifying the market of interest with respect to the perspectives of sellers or buyers. The problem is illustrated by the difference in price that the owner of a business or dwelling would need to be offered to persuade them to sell when previously they had not considered selling, and the price that the same owner would accept if placed in the situation of being forced to make a “fire sale”.

For other assets, in particular financial assets such as shares, recent market prices may be known. But because such markets can experience extreme volatility, it is not clear that it is always useful to show resultant large holding gains or losses as changes in wealth, since they may be sensitive to the timing of the valuations and quite short-lived.

Care should be taken when establishing values that are based on future flows. Consider, for example, a large lottery prize comprising a stream of payments over more than one year. The lottery prize is a capital transfer received when the lottery prize is won. However, the prize includes an asset that is a financial obligation from the lottery promoter to provide a payment stream in the future. The value of that financial obligation should be derived as the nominal value of the future payments discounted to a present value using an appropriate discount rate.

Valuation based on discounted future value

Some assets such as entitlements in defined-benefit schemes, annuities and life insurance are not determined entirely by the value of funds currently held in the scheme but also by factors such as the salary of the participant and the life expectancy of the participant and any other beneficiaries. As the entitlements cannot be traded in the market, it is not possible to establish a market price for them either. However, they do represent future receipts, in the form of an income stream and/or lump sums to be received under specified conditions in the future. They are therefore valued on the basis of the expected future receipts adjusted by an appropriate discount rate to obtain a present value. The expected future receipts need to be derived on the basis of the rules governing the payment of entitlements, such as salary level and actuarially determined life expectancies. In essence, models need to be developed that reflect the benefits which would be obtained if the beneficiaries died in the coming year, in the following year, in the year after that, and so on, multiplied by the actuarial probability that the beneficiary will die in each of those years.

Managing price differences over time and across geography

The prices that underlie the measures of income, consumption and wealth change continually and can vary between places. There are variations in the overall price level, and there are variations in the prices of items relative to each other. The variations have a number of implications.

First, the change over time in the price of an asset directly changes the value of wealth, without any income, consumption or other transactions taking place. Therefore the item “holding gains and losses” is explicitly included as a flow in the ICW Framework.

Second, changes in general price levels over time (inflation) will impact on some micro-data analysis comparing one period with another. Consideration needs to be given to whether the CPI or some other deflator is the most appropriate to use to adjust for inflation. If comparisons are being made between different subpopulations over time (e.g. comparing retirees from the rest of the population), it may be appropriate to use deflators specifically constructed for those subpopulations if they tend to consume different goods and services.

Third, comparisons between different regions may need to take account of different price levels in those regions. If the regions under consideration are different countries, it is also necessary to account for differences between currencies. Purchasing power parities (PPPs) should be used to standardise data when making comparisons between countries. If the comparisons are within a country, it may be necessary to use spatial price indexes, although very few countries have developed indexes for this purpose.

Micro and macro statistics

The ICW Framework has been developed to provide concepts and definitions for the compilation of statistics on the income, consumption and wealth of individual households and their members. Such data can be used to compare the economic well-being of different groups within the population of interest, including distributional measures, and to understand household level economic behaviours. These are referred to as micro statistics.

In contrast, macro statistics on household income, consumption and wealth relate to aggregate data for the household sector as a whole and to understand average household economic behaviours. They are compiled as part of a broader set of statistics that shows relationships between all sectors in the economy. The System of National Accounts (SNA) is the main international framework used to guide the compilation of macro statistics for the household sector.

In principle, the micro and macro frameworks have the same underlying concepts of income, consumption and wealth. In practice, however, there are differences, for a variety of reasons. Because the micro framework focuses exclusively on the household sector, it views transactions from a household perspective. In contrast, the SNA has a broader perspective, and sometimes transactions can be viewed in different ways by different sectors. For example, the payment of an accident insurance benefit is viewed as a current transfer from the perspective of the insurance company, which is the treatment adopted in the SNA. However, from an individual household's perspective, the receipt of such benefit is not regular. Therefore the ICW Framework treats such claims paid to households as negative expenditures.

Some transactions recognised in the SNA as important for some sectors are not obvious to households, and are neither important for household sector analysis nor relevant to household-level economic behaviour. Therefore they do not need to be included in a micro framework. The SNA's concept of financial intermediation services indirectly measured (FISIM) is an example. Financial institutions normally finance their operations, at least in part, by paying lower interest rates for deposits made with them than the rates charged for loans made by them. The SNA treats as a service charge the difference between each of these rates and a notional "true" interest rate lying somewhere in between. By imputing the notional "true" rate, it is possible to indirectly estimate the embedded service charges made, on average, by financial institutions that cannot be known to householders. FISIM is an important form of income to financial institutions and therefore needs to be derived for macro accounts that include the financial sector. However, from a household's perspective, the existence of such service charges is not relevant, since they will make their decisions on the basis of the interest rates paid and levied. In addition, most of the interest paid or received by households is related to earning income (through investment in dwellings, consumer durables or other assets), and all the costs of earning this income are netted off the gross flows, regardless of notional splits of the flows into pure interest and related banking services. It is therefore unnecessary to include FISIM paid by households in a micro-data framework.

Both micro and macro frameworks are influenced by the practicalities of collecting data relevant to the concepts to be measured. However, the different uses of micro and macro statistics may influence the way those practicalities are considered. The data sources likely to be available to compile micro and macro data are also likely to have an impact on the frameworks, especially considering the requirement for macro data to be

compiled at least annually as part of a country's national accounts. For example, according to the concepts underlying both the micro and macro frameworks, consumer durables should be considered as a form of wealth. Nevertheless, because of limited data availability in most countries, SNA 2008 treats the purchase of consumer durables by households as consumption expenditure. The ICW Framework for micro data includes consumer durables as assets yielding services to their owning households, in analogy to the treatment of owner-occupied households. The difference in treatment reflects the particular importance of consumer durables in the wealth of poorer households and the focus of micro data on providing distributional information. It also reflects the likelihood of wealth micro data being collected directly from household surveys that can provide the required information. Similarly, this framework includes the value of unpaid domestic services as an element of household income. Time-use data can be collected in household surveys to provide a basis for estimating this variable.

The populations covered by micro and macro data are likely to vary due to their different focuses. National accounting statistics cover the total economy, and so the income, consumption and wealth of all residents need to be included in the relevant aggregates. In contrast, the micro data are focused on obtaining distributional measures, and to explain economic behaviour at the household level. People living in institutional households may be omitted from the micro data because of the difficulty in obtaining relevant data and also, because they may not be the focus of the policy development that is to be informed by the micro data. Also, people living in households that did not exist for the whole reference year may be excluded, because it is difficult to obtain meaningful annual data for such households. Differences between the ICW Framework and the SNA are outlined in Annex B of this publication.

Bringing micro and macro data together

While there are a number of conceptual and practical reasons for the differences between micro and macro data on the household sector, it can be useful to bring the two data streams together. Indeed, if the two data streams appear to be inconsistent for no obvious reason, it is likely to be of concern to users of both data streams.

To the extent that the differences are conceptual, the two data streams can in principle be reconciled and the conceptual differences quantified. In practice, differences are also likely to reflect the use of different data sources, unless the micro data have been used to compile the macro aggregates. Confrontation of the two data sources can point to data differences between the sources and to possible ways to improve them.

Even if the aggregates in the data sets are not fully reconciled, the distributional information contained in micro data can be applied to macro data to give richer data sets. The development of social accounting matrixes are an example of such an extension.

As a more general development in bringing together micro and macro information, and in parallel to the development of the ICW Framework, the OECD established an Expert Group to Measure Disparities in a National Accounts Framework. The Expert Group had terms of reference to consider how existing micro data could be used to produce measures of disparities between groups of households that are consistent with SNA concepts and averages for the household sector. This was to include: i) a stocktaking of available information on household income, consumption and wealth, i.e. a description and comparison of micro and macro sources; and ii) proposals for new indicators on income,

consumption and wealth disparities that are consistent with national accounts aggregates, thereby enabling a breakdown of the National Accounts household sector totals by groups within the sector.

Existing international frameworks and standards

The ICW Framework has been developed to provide an integrated guide for the compilation of household income, consumption and wealth statistics. It is the first international framework to comprehensively cover all three dimensions of economic well-being. Previous international frameworks in the area have focused on data on income and, to a lesser extent, on consumption. The most recent of these is the *Canberra Group Handbook* (UNECE, 2011). That edition updated the first edition, which had been published in 2001, and was consistent with the resolution on standards for household income and expenditure statistics adopted by the International Conference of Labour Statisticians (ICLS) in December 2003.

This ICW Framework does not replace the 2011 *Canberra Group Handbook* but provides a more complete picture of the relationship of income statistics to consumption and wealth statistics. The ICW Framework adds clarity for treating as current transfers any receipts or payments that may not be made regularly but are intended to support current consumption. In parallel with the development of the ICW Framework, *Guidelines for micro statistics on household wealth* has been prepared as a separate publication.

There has been a long tradition of international standards for macro data. The most recent is the 2008 System of National Accounts (SNA). The development of concepts and practices for micro data has been assisted by the work previously done for macro data, but as explained in the previous section, there are reasons for them to differ.

A number of international classifications have been developed that are relevant to household income, consumption and wealth data. They provide standard ways of classifying households, persons (e.g. educational attainment, labour force status), commodities, industries, etc. The use of standard classifications facilitates the comparability of data sets within countries and between countries.

Summary

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

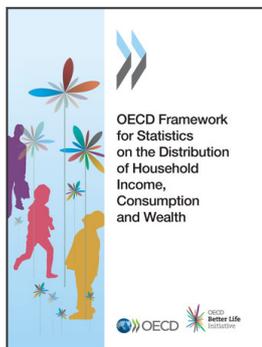
- The concepts adopted and presented in this chapter have been chosen as the most suitable foundation for compiling micro statistics on household income, consumption and wealth that are comprehensive and that can be integrated with each other. They provide a sound basis for examining each of the various dimensions of economic well-being and the relationships between those dimensions.
- Everything else being equal, people with higher levels of consumption can be regarded as having a higher level of current economic well-being than those with lower levels of consumption. However, for a fuller understanding of economic well-being, it is necessary to consider the income and wealth that enable consumption to take place now and in the future.
- Economic resources received over a period of time are regarded as either income or capital transfers received. In general terms, income comprises those receipts that can be expected on a regular basis. On the other hand, capital transfers are not received on a regular basis, they tend to be large, and they are often described as windfall gains.

- Economic resources can be used or disbursed by purchasing consumption goods and services, by using consumption goods and services obtained as income in kind, by undertaking non-consumption expenditure such as the payment of taxes or other current transfers, by paying interest on consumer credit, or by paying capital transfers.
- Wealth is the stock of economic resources held by a person at any point of time. Wealth comprises non-financial assets such as dwellings and financial assets such as cash and stocks (shares) in corporations. Financial assets may contain negative elements in the form of loans taken out and other liabilities; therefore wealth is sometimes known as net worth.
- Saving is the excess of income over current expenditure and adds to wealth, while dissaving is the decrease in wealth resulting when current expenditure exceeds income. Other flows contributing to changes in the stock of wealth over time include capital transfers received or paid, other volume changes, and holding gains and losses.
- The household is the primary unit to be used for analysing micro data on income, consumption and wealth, reflecting the significant sharing of resources that occurs in most households. However, smaller units such as the family economic unit or the individual may be appropriate for some forms of analysis.
- It is recommended that micro data output report both the number of households with characteristics of interest and the number of people who live in those households. The latter are sometimes known as person-weighted statistics. It is recommended that distributional summary statistics such as quantile ratios and Gini coefficients are always person-weighted.
- To provide the same standard of living for household members, larger households normally require more resources than smaller households, but larger households also usually experience greater economies of scale in providing for the needs of their members. Equivalence scales provide a way of adjusting household income to a standardised basis. They may also be used for consumption estimates and for wealth estimates when focusing on the potential of household wealth to support the current consumption of the current household.
- The preferred reference period for implementing the ICW Framework is one year, since there are significant types of income that are received only once a year or that may fluctuate substantially between seasons.

Notes

1. In this statement it is assumed that there are no differences in terms of security of employment, expectations about future income flows, or expectations of future wealth changes such as the receipt of an inheritance, and so on.
2. Social assistance, social insurance, other insurance and related concepts are described in detail in Annex C.
3. A housing loan is a loan taken out by household members primarily for the purpose of purchasing, building or renovating an owner-occupied dwelling. It is often in the form of a mortgage on the dwelling, but may be a mortgage on another property, or another form of loan. Conversely, housing loans exclude mortgages taken out on the dwelling if the primary purpose of the mortgage is to finance investment in some other asset or to finance consumption expenditure.
4. Note that the ICW Framework clarifies that payments intended to support the current consumption of recipients should be treated as current transfers paid.

5. Private pensions are schemes that are not regarded as social insurance, i.e. pension schemes which are not mandated by government and are not employment-related. Social assistance, social insurance, other insurance and related concepts are described in detail in Annex C.
6. Conversely, in the SNA, capital gains taxes are treated as current transfers, even though holding gains and losses are not included in income.
7. The definitions of “household”, “household categories”, “housing arrangements” and “place of usual residence” are based on the UNECE/CES population census standard. The definition of “country of residence of household” is based on the SNA (which in turn follows the *IMF Balance of Payments Manual*, 6th Edition), since this standard presents the internationally agreed basis for distinguishing residents from non-residents of a country.



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