

XIII THE BALANCE SHEET

A. Introduction

13.1 A balance sheet is a statement, drawn up at a particular point in time, of the values of assets owned and of the financial claims - liabilities - against the owner of those assets. A balance sheet may be drawn up for institutional units, institutional sectors and the total economy.

13.2 For an institutional unit or sector, the balance sheet provides an indicator of economic status - i.e., the financial and non-financial resources at its disposal that are summarized in the balancing item net worth. For the economy as a whole, the balance sheet shows what is often referred to as national wealth - the sum of non-financial assets and net claims on the rest of the world.

13.3 The balance sheet completes the sequence of accounts, showing the ultimate result of the entries in the production, distribution and use of income, and accumulation accounts. As explained in the general introduction to the accumulation accounts and balance sheets in chapter X, the accumulation accounts record the changes in the value of assets, liabilities and net worth that take place during the accounting period. A basic accounting identity links the opening balance sheet and the closing balance sheet for a given asset:

- (a) The value of the stock of a specific type of asset in the opening balance sheet;

plus

- (b) The total value of the assets acquired, less the total value of those disposed of, in transactions that take place within the accounting period: transactions in non-financial assets are recorded in the capital account and transactions in financial assets in the financial account;

plus

- (c) The value of other positive or negative changes in the volume of the assets held for example, as a result of the discovery of a subsoil asset or the destruction of an asset (as a result of war or a natural disaster): these changes are recorded in the other changes in the volume of assets account;

plus

- (d) The value of the positive or negative nominal holding gains accruing during the period resulting from a change in the price of the asset: these

are recorded in the revaluation account where they may be further decomposed into neutral holding gains that reflect changes in the general price level and real holding gains that reflect changes in the relative price of the asset;

is identical with

(e) The value of the stock of the asset in the closing balance sheet.

13.4 The existence of a set of balance sheets integrated with the flow accounts encourages analysts to look more broadly in monitoring and assessing economic and financial conditions and behaviour. Balance sheets provide information necessary for analysing a number of topics. For example, in studies of the factors determining household behaviour, consumption and saving functions have often included wealth variables to capture the effects of such factors as price fluctuations in corporate securities or the deterioration and obsolescence of stocks of durable consumer goods on households' purchasing patterns. Further, household balance sheets are needed in order to assess the distribution of wealth and liquidity.

13.5 For corporations, balance sheets permit the computation of widely used ratios that involve data on the level of the item. Banks and other financial institutions, for example, observe specific reserve ratios. Non-financial corporations also pay heed to certain ratios - for instance, current assets in relation to current liabilities and the market value of corporate shares in relation to the adjusted book value. Data on the stocks of fixed assets owned by corporations, as well as by other institutional units, are useful also in studies of their investment behaviour and needs for financing.

13.6 Balance sheet data on the mineral deposits, land and similar natural resources owned by the institutional units in the economy are of interest for monitoring the availability and exploitation of these resources and for formulating environmental policies. Balance sheet data on the level and the composition of tangible and financial assets also are of considerable interest as indicators of the economic resources of a nation and for assessing the external debtor or creditor position of a country.

13.7 Information on stocks of fixed assets are used in the analysis of production and productivity. For this purpose, however, data are needed for industries, rather than for sectors. The System provides for data on stocks of fixed assets and inventories by industry, as described in chapter XV, as part of the use table.

1. Structure of the account

13.8 The balance sheet records assets on the left and liabilities and net worth on the right, as do the accumulation accounts for changes in these items. In table 13.1, Account IV, two categories of non-financial assets are distinguished: produced assets, which have come into existence as outputs from production processes, and non-produced assets, which either are naturally occurring or are devised by man outside the production boundary. A more detailed balance sheet can be

derived using the full detail of the classification of assets, which is given in the annex to this chapter.

Table 13.1. Account IV: Balance sheets

13.9 In addition to non-financial assets, the balance sheet also includes financial assets and liabilities. Most financial assets are matched by a liability; they come into existence by the establishment of a claim on another institutional unit. However, financial assets also include monetary gold, special drawing rights (SDR) of the International Monetary Fund (IMF), shares in corporations (which their holders treat much the same as financial claims) and certain financial derivatives; there are no liabilities outstanding with respect to monetary gold and SDRs, while the System treats both shares and these derivatives as liabilities by convention.

13.10 The balancing item in the balance sheet is net worth, which is defined as the value of all the assets owned by an institutional unit or sector less the value of all its outstanding liabilities. Changes in net worth can thus be explained fully only by examining the changes in all the other items that make up the balance sheet.

13.11 A balance sheet relates to the values of assets and liabilities at a particular moment of time. The System provides for balance sheets to be compiled at the beginning of the accounting period (the same as the end of the preceding period) and at its end. The System then provides for a complete recording of the changes in the values of the various items in the balance sheet between the beginning and end of the accounting period - i.e., over the same time period as that to which the flow accounts of the System relate. The recording of these changes in the changes in balance sheets account is discussed in section C below.

2. Main categories of assets: their scope and characteristics

13.12 An economic asset, as described in the general introduction to the accumulation accounts and balance sheets paragraph 10.2 of chapter X, is an entity functioning as a store of value:

- (a) Over which ownership rights are enforced by institutional units, individually or collectively; and
- (b) From which economic benefits may be derived by its owner by holding it, or using it, over a period of time.

The economic benefits consist of primary incomes derived from the use of the asset and the value, including possible holding gains/losses, that could be realized by disposing of the asset or terminating it.

13.13 The coverage of each asset category is set out in the annex to this chapter. The discussion that follows here only sketches the content of the categories of assets and liabilities in the balance sheet.

Non-financial produced assets (AN.1)

13.14 Produced assets are non-financial assets that have come into existence as outputs from production processes.

13.15 The classification of produced assets is designed to distinguish among assets on the basis of their role in production. It consists of fixed assets, inventories and valuables. Fixed assets - buildings and other structures, machinery and equipment, cultivated assets and certain intangible assets - are used repeatedly or continuously in production. Inventories are used up in production as intermediate consumption, sold or otherwise disposed of. Valuables are not used primarily for production or consumption, but are instead acquired and held primarily as stores of value.

13.16 As explained in chapter X, paragraphs 10.69 to 10.74, two kinds of durable goods used by producers - namely, small tools and certain kinds of military equipment - are excluded from gross fixed capital formation so that there are no corresponding fixed assets. In addition, transport equipment and other machinery and equipment acquired by households for final consumption are not considered fixed assets, although they are included in the memorandum item "consumer durables" in the balance sheet.

Non-financial non-produced assets (AN.2)

13.17 By definition, non-produced assets come into existence other than through processes of production. The classification is designed to distinguish assets on the basis of the way they come into existence. Some of these assets occur in nature; others, which may be referred to as constructs devised by society, come into existence by legal or accounting actions.

13.18 Tangible non-produced assets are natural assets - land, subsoil assets, non-cultivated biological resources and water resources - over which ownership may be established and transferred. The natural asset boundary in the System is determined, in compliance with the general definition of an economic asset, by whether the assets are subject to effective ownership and are capable of bringing economic benefits to their owners, given the existing technology, knowledge, economic opportunities, available resources, and set of relative prices. Environmental assets over which ownership rights have not, or cannot, be established, such as open seas or air, are excluded.

13.19 Intangible non-produced assets include patented entities, transferable contracts, purchased goodwill, etc. Entities not evidenced by legal or accounting actions - i.e., such actions as the granting of a patent or the conveyance of some economic benefit to a third party - are excluded.

Financial assets and liabilities (AF.)

- 13.20 Financial assets are entities meeting the general criteria for economic assets - i.e., they are entities over which ownership rights are enforced by institutional units, individually or collectively, and from which economic benefits may be derived by their owners by holding them, or using them over a period of time - that differ, except for monetary gold and SDRs, from other assets in the System in that there is a counterpart liability on the part of another institutional unit.
- 13.21 The classification of financial assets and liabilities is designed to distinguish types of instruments according to the liquidity of the instrument and the legal characteristics of the instrument that describe the form of the underlying creditor/debtor relationship. On this basis it distinguishes monetary gold and SDR, currency and deposits, securities other than shares, loans, shares and other equity, insurance technical reserves and other accounts receivable/payable. A more detailed level of classification is recommended in the case of instruments for which information about the class of debtor or creditor is of particular importance analytically and is feasible to gather, such as liabilities to, and claims on, non-residents.
- 13.22 Two major exclusions should be noted. First, contingent assets or liabilities are treated as financial assets and liabilities only if the claim or liability is unconditional to both parties and/or the arrangement has an observable value because it is tradable. Otherwise, contingent assets or liabilities are not treated as financial assets or liabilities in the System, as discussed in chapter XI. Secondly, sums set aside in business accounting to provide for transactors' future liabilities, either certain or contingent, or for transactors' future expenditures generally are not recognized in the System. (The only "provision" recognized in the System is accumulated consumption of fixed capital.) Only actual current liabilities to another party or parties are explicitly included. When the anticipated liability becomes actual - for example, a tax lien - it is included.

3. Financial leasing

- 13.23 A financial lease is a contract between lessor and lessee whereby the lessor purchases a good that is put at the disposal of the lessee and the lessee pays rentals that enable the lessor, over the period of the contract, to cover all, or virtually all, costs, including interest. Financial leases may be distinguished by the fact that all the risks and rewards of ownership are, de facto, transferred from the legal owner of the good (the lessor) to the user of the good (the lessee). The System's treatment of financial leasing is designed to move away from the legal arrangements to capture the economic reality of such arrangements, by treating goods under a financial lease as if they were purchased by the user. The transactions involved were described in chapter X, paragraph 10.44, and in chapter XI, paragraphs 11.31 and 11.82.
- 13.24 In the System, goods under a financial lease - in practice, almost exclusively machinery and equipment - are treated as if purchased and owned by the user. The acquisition of a fixed asset by the lessee is treated as being financed by a financial claim, classified as a loan. For example, if a bank leases a railway car

to a railroad, at the time the railroad is deemed to take ownership of the railway car, the market value of the railway car is recorded as an asset and the loan is recorded as a liability in the balance sheet of the railroad. The loan also appears as an asset in the balance sheet of the bank. Subsequent balance sheets reflect the value of the railway car less the accumulated consumption of fixed capital and the amount of the loan less the accumulated part of the rental that is considered a repayment, in instalments, of the loan.

4. General principles of valuation

13.25 For the balance sheets to be consistent with the accumulation accounts of the System, a particular item in the balance sheet should be valued as if it were being acquired on the date to which the balance sheet relates, including any associated costs of ownership transfer in the case of non-financial assets. This implies that assets and liabilities (and thus net worth) are to be valued using a set of prices that are current on the date to which the balance sheet relates and that refer to specific assets.

13.26 Ideally, these prices should be observable prices on markets whenever such prices are available for the assets and liabilities in question. Prices at which assets may be bought or sold on markets are the basis of decisions by investors, producers, consumers and other economic agents. For example, investors in financial assets (such as securities) and tangible assets (such as land) make decisions in respect of acquisitions and disposals of these assets in the light of their values in the market. Producers make decisions about how much of a particular commodity to produce and about where to sell their output by reference to prices on markets. For a given asset, the price is the same for purchaser and seller, and, in the case of financial assets, for creditor & Debtor.

13.27 When there are no observable prices because the items in question have not been purchased/sold on the market in the recent past, an attempt has to be made to estimate what the prices would be were the assets to be acquired on the market on the date to which the balance sheet relates. In estimating the current market price for balance sheet valuation, a price averaged over all transactions in a market can be used if the market is one on which the items in question are regularly, actively and freely traded.

13.28 In addition to prices observed in markets or estimated from observed prices, current prices may be approximated for balance sheet valuation in two other ways. In some cases, prices may be approximated by accumulating and revaluing acquisitions less disposals of the asset in question over its lifetime; this generally is the most practical and also the preferred method for fixed assets, but it can be applied to other assets as well. In other cases, market prices may be approximated by the present, or discounted, value of future economic benefits expected from a given asset; this is the case for a number of financial assets, natural assets and intangible assets. With good information and efficient markets, the values of the assets obtained by accumulating and revaluing transactions should equal, or at least approximate, both the present, or discounted, values of the remaining future benefits to be derived from them and their market values when active secondhand markets exist. These three price bases are discussed below in general terms.

Value observed in markets

- 13.29 The ideal source of price observations for valuing balance sheet items is a market, like the stock exchange, in which each asset traded is completely homogeneous, is often traded in considerable volume and has its market price listed at regular intervals. Such markets yield data on prices that can be multiplied by indicators of quantity in order to compute the total market value of different classes of assets held by sectors and of different classes of their liabilities. These prices are available for nearly all financial claims, existing real estate (i.e., existing buildings and other structures plus the underlying land), existing transportation equipment, crops, and livestock as well as for newly produced fixed assets and inventories.
- 13.30 For securities quoted on a stock exchange, for example, it is feasible to gather the prices of individual assets and of broad classes of assets and, in addition, to determine the global valuation of all the existing securities of a given type. In some countries, another example of a market in which assets may be traded in sufficient numbers to provide useful price information is the market for existing dwellings.
- 13.31 In addition to providing direct observations on the prices of assets actually traded there, information from such markets may also be used to price similar assets that are not traded. For example, information from the stock exchange also may be used to price unquoted securities by analogy with similar, quoted securities, making some allowance for the inferior marketability of the unquoted securities. Similarly, appraisals of tangible assets for insurance or other purposes generally are based on observed prices for items that are close substitutes, although not identical, and this approach can be used for balance sheet valuation. For a discussion of the special valuation problems associated with direct investment enterprises, see chapter XIV, paragraphs 14.49 and 14.159.

Values obtained by accumulating and revaluing transactions

- 13.32 For some assets, initial acquisition costs (appropriately revalued) are written off - amortized - over the asset's expected life. For this method, a pattern of decline must be chosen, and reference may be made to tax laws, accounting conventions, etc. The value of such an asset at a given point in its life is given by its current acquisition price less the accumulated value of these write-offs. This valuation is typically used for non-produced intangible assets, such as purchased goodwill and patented entities.
- 13.33 In addition, most fixed assets are recorded in the balance sheets at current written-down value - i.e., at current purchasers' or basic prices written-down for the accumulated consumption of fixed capital, a valuation frequently referred to as "written-down replacement cost". When fixed assets are valued in this way, the balance sheet values are consistent with the measures of consumption of fixed capital elsewhere in the System.

Present value of future returns

13.34 In the case of assets for which the returns either are delayed (as with timber) or are spread over a lengthy period (as with subsoil assets), although normal prices are used to value the ultimate output, a rate of discount must, in addition, be used to compute the present value of the expected future returns. It is thus necessary to derive a capitalization factor - a factor that works back from the present value of the expected future return to the value of the asset - from information about the market. The rate of discount and the capitalization factors should be derived from information based on transactions in the particular type of assets under consideration - forest lands, mines and quarries - rather than using a general rate of interest, such as one derived from the yield on government bonds.

Assets in foreign currencies

13.35 Assets and liabilities denominated in foreign currencies should be converted into the national currency at the market exchange rate prevailing on the date to which the balance sheet relates. This rate should be the mid-point between the buying and selling spot rates for currency transactions. Valuation when a multiple exchange rate system is in operation is discussed in chapters XIV and XIX.

B. The entries in the balance sheet

13.36 Definitions of the assets in the balance sheet at the most detailed level of the classification of assets are in the annex to this chapter. Definitions are repeated in this section only to the extent needed to provide the context for information on valuation specific to particular assets and other specialized topics.

1. Produced assets (AN.1)

Fixed assets (AN.11)

Tangible fixed assets (AN.111)

13.37 Tangible fixed assets include buildings and other structures (including historic monuments); transportation equipment and other machinery and equipment; and cultivated assets in the form of livestock and plantations of trees yielding repeat products, orchards, vineyards, etc.

13.38 In general, tangible fixed assets have to be recorded at current written-down values - i.e., at the current purchasers' prices (or basic prices in the case of own-account production) of new assets written down by the accumulated consumption of fixed capital on the assets. Purchasers' costs of ownership transfer associated with these assets, appropriately written down, are included in the balance sheet values (see chapter X for a numerical example). The common method of making these estimates is the perpetual inventory method (PIM), which is described in chapter VI. When the PIM is used, the value of the stock of fixed assets on a given date is based on estimates of fixed capital formation, classified by type of asset and year of acquisition, that have been accumulated

(after deduction of the accumulated consumption of fixed capital) and revalued over a long enough period to cover the acquisition of all fixed assets in the stock in question. Where there exists an active market for a particular existing asset, the PIM calculation of consumption of fixed capital should take into account the observed prices on markets for these assets when they are actively traded (see chapter X).

13.39 Because dwellings are traded in the normal course of events, prices observed in the real estate market may also be used to supplement the valuation at written-down replacement cost. Markets for existing automobiles, aircraft, and other transportation equipment also may be sufficiently representative to yield useful price observations to supplement the valuation at written-down replacement cost. For assets for which prices exist on markets, a valuation at these prices may be shown as a memorandum item in addition to the current written-down value in order to preserve the record of these prices.

13.40 In the case of existing industrial plant and equipment, however, observed prices on markets may not be suitable for determining values for use in the balance sheets, however, because many of the transactions involve assets that for some reason are not typical - i.e., they embody specialized characteristics, they are obsolete or they are being disposed of under financial duress.

13.41 Historic monuments are included in the balance sheets only when their significance has been recognized by someone other than the owner, as evidenced by a sale or by a formal appraisal. They should be valued at the most recent sale price, updated, if need be, by a general price index.

13.42 For balance sheet purposes, livestock (including fish) that continue to be used in production year after year should be valued on the basis of the current purchasers' prices (or basic prices in the case of own-account) for animals of a given age. Such information is less likely to be available for trees (including shrubs) cultivated for products they yield year after year; they should then be recorded at the current written-down value of the cumulative capital formation.

Intangible fixed assets (AN.112)

13.43 Mineral exploration should be valued either on the basis of the amounts paid under contracts awarded to other institutional units for the purpose or on the basis of the costs incurred for exploration undertaken on own account. That part of exploration undertaken in the past that has not yet been fully written off should be revalued at the prices and costs of the current period.

13.44 Computer software should be valued on the basis of the purchasers' price paid for the software or, in the absence of such prices, on the basis of costs of production when produced in-house. Software acquired in previous years and not yet fully written down should be revalued at current prices or costs (which may be less than the original price or cost).

13.45 Entertainment, literary or artistic originals and other intangible fixed assets should be valued at the acquisition price when these intangible assets are actually traded on markets. In the case of intangible assets that have been

produced on own-account, it may be necessary to value them on the basis of their costs of production, appropriately revalued at prices of the current period and written down. Otherwise, it may be necessary to use estimates of the present value of the expected future receipts to be received by the owners of such assets.

Inventories (AN.12)

- 13.46 Inventories are stocks of goods and services held by producers that are intended for sale, use in production or other use at a later date.
- 13.47 With respect to the time of recording, it should be emphasized that inventories produced as outputs or intended for intermediate consumption in production should be valued at the prices prevailing on the date to which the balance sheet relates, and not at the prices at which the products were valued when they entered inventory. In the balance sheets, figures for inventories frequently have to be estimated by adjusting figures of book values of inventories in business accounts, as described in chapter VI.
- 13.48 As is the case elsewhere in the System, inventories of materials and supplies are valued at purchasers' prices, and inventories of finished goods and work-in-progress are valued at basic prices. Inventories of goods intended for resale without further processing by wholesalers and retailers are valued at prices paid for them, excluding any transportation costs incurred by the wholesalers or retailers. For work-in-progress inventories, the value for the closing balance sheet can be calculated by applying the fraction of the total production cost incurred by the end of the period to the basic price realized by the finished product on the date to which the balance sheet relates. If the basic price of the finished product is not available, it can be estimated by the value of production cost with a mark-up for expected net operating surplus or estimated net mixed income, as explained in chapter X, paragraphs 10.108 to 10.115. This approach can be used, for example, for partially completed structures, machinery and equipment, software and architectural and design services with long production periods, which are included in work-in-progress inventories to the extent that no transfer of ownership to the intended user is deemed to have taken place. (Own-account production of buildings and structures produced under a contract of sale/purchase agreed in advance are treated as gross fixed capital formation because the transfer of ownership to the intended user is deemed to have taken place.)
- 13.49 Growing single-use crops (including timber) cultivated by human activity and livestock being raised for slaughter are also counted as work-in-progress inventories. The conventional way of valuing standing timber is to discount the future proceeds of selling the timber at current prices after deducting the expenses of bringing the timber to maturity, felling, etc. For the most part, other crops and livestock can be valued by reference to the prices of such products on markets.

Valuables (AN.13)

13.50 Valuables are items that are not used primarily for production or consumption, that are of significant value, that are expected to appreciate or at least not to decline in real value, that do not deteriorate over time in normal conditions, and that are acquired and held primarily as stores of value.

13.51 Given their primary role, it is especially important to value works of art, antiques, jewellery, precious stones and metals at current prices. To the extent that well-organized markets exist for these items, they should be valued at the actual or estimated prices that would be paid for them were they purchased on the market, including any agents' fees or commissions, on the date to which the balance sheet relates.

13.52 An approach in the absence of organized markets is to value these items using data on the values at which they are insured against fire, theft, etc., to the extent information is available.

2. Non-produced assets (AN.2)

Tangible non-produced assets (AN.21)

13.53 Tangible non-produced assets are assets that occur in nature and over which ownership rights have been established. Environmental assets over which ownership rights have not, or cannot, be established, such as the high seas or air, are excluded because they do not qualify as economic assets.

Land (AN.211)

13.54 Land is defined in the System as the ground itself, including the covering soil and any associated surface waters over which ownership rights are enforced. Excluded are any buildings or other man-made structures situated on it or running through it; cultivated crops, trees and animals; subsoil assets; non-cultivated biological resources and water resources.

13.55 The value of land includes the value of the stock of major improvements that cannot be physically separated from the land itself. Thus, although expenditures on land improvements are treated as gross fixed capital formation in the System, they do not lead to tangible assets that can be shown in the balance sheets separately from the land itself. Land is valued at its current price paid by a new owner, including written-down costs of ownership transfer.

13.56 Because the current market value of land can vary enormously according to its location and the uses for which it is suitable or sanctioned, it is essential to identify the location and use of a specific piece or tract of land and to price it accordingly. In a number of instances it may be difficult, if not impracticable, to separate the value of land from that of the buildings erected on it, because in the market for real estate, as well as in the accounting records of transactors, distinctions are often not made between the buildings and the land on which they stand.

13.57 For land underlying buildings, the market will, in some instances, furnish data directly on the value of the land. More typically, however, such data are not available and a more usual method is to calculate ratios of the value of the site to the value of the structure from valuation appraisals and to deduce the value of land from the replacement cost of the buildings or from the value on the market of the combined land and buildings. When the value of land cannot be separated from the building, structure, or plantation, vineyard, etc. above it, the composite asset should be classified in the category representing the greater part of its value.

13.58 It is usually much easier to make a division between land and buildings for the total economy than for individual sectors or sub-sectors. Separate figures are needed for studies of national wealth and environmental problems. Fortunately, combined figures are often suitable for purposes of analysing the behaviour of institutional units and sectors.

Subsoil assets (AN.212)

13.59 Subsoil assets are proven reserves of mineral deposits located on or below the earth's surface that are economically exploitable given current technology and relative prices. Mine shafts, wells and other extraction sites are included with structures rather than with the subsoil asset.

13.60 The value of the reserves is usually determined by the present value of the expected net returns resulting from the commercial exploitation of those assets, although such valuations are subject to uncertainty and revision. As the ownership of subsoil assets does not change frequently on markets, it may be difficult to obtain appropriate prices which can be used for valuation purposes. In practice, it may be necessary to use the valuations which the owners of the assets place on them in their own accounts.

Other natural assets (AN.213 and AN.214)

13.61 Non-cultivated biological resources and water resources are included in the balance sheet to the extent that they have been recognized as having economic value that is not included in the value of the associated land. As observed prices are not likely to be available, they are usually valued by the present value of the future returns expected from them.

Intangible non-produced assets (AN.22)

13.62 Intangible non-produced assets entitle their owners to engage in certain specific activities or to produce certain specific goods or service and to exclude other institutional units from doing so except with the permission of the owner. The owners of the assets may be able to earn monopoly profits by restricting the use of the assets to themselves. Included are patented entities, leases and other transferable contracts, and purchased goodwill.

13.63 Whenever possible, intangible assets should be valued at current prices when they are actually traded on markets. Otherwise, it may be necessary to use estimates of the present value of the expected future returns to be received by

the owners of such assets. For purchased goodwill, valuation should be at acquisition cost less accumulated amortization (appropriately revalued).

3. Financial assets/liabilities (AF.)

13.64 In line with the general valuation principles described above, financial assets and liabilities should be valued at current prices whenever they are regularly traded on organized financial markets, and they should also be assigned the same value in the balance sheets whether they appear as assets or liabilities. The prices should exclude service charges, fees, commissions and similar payments for services provided in carrying out the transactions. Financial claims that are not traded on organized financial markets should be valued by the amount that a debtor must pay to the creditor to extinguish the claim.

Monetary gold and SDR (AF.1)

13.65 Monetary gold is to be valued at the price established in organized markets or in bilateral arrangements between central banks. The value of the SDR is determined daily by the IMF on the basis of a basket of currencies, and rates against domestic currencies are obtainable from the prices in foreign exchange markets; both basket and weights are revised from time to time.

Currency and deposits (AF.2)

13.66 For currency, the valuation is the nominal or face value of the currency. For deposits, the values to be recorded in the balance sheets of both creditors and debtors are the amounts of principal that the debtors are contractually obliged to repay the creditors under the terms of the deposits when the deposits are liquidated. Any margin payments related to options or futures contracts are included in other deposits.

Securities other than shares (AF.3)

13.67 In principle, short-term securities, and the corresponding liabilities, are to be valued at their current market values. Such a valuation is particularly important under conditions of high inflation or high nominal interest rates. If market values are not available, short-term bonds issued at par should be valued at the face value plus accrued interest not due for payment or not paid, and discounted bonds should be valued at the issue price plus accrued interest. The longer the original maturity of a security issued at a discount, however, the less acceptable it becomes to value such a security at its face or par value. It is recommended, therefore, that the use of par values should be restricted to bills issued at a discount whose original maturities do not exceed three months and to short-term bills or bonds issued at par that carry a stated rate of interest.

13.68 As a general principle, long-term securities, and the corresponding liabilities, are to be valued at the current prices of the securities on financial markets when they are regularly traded.

13.69 Long-term securities should always be valued at their current prices on markets, whether they are bonds on which regular payments of interest are paid or deep-discounted or zero-coupon bonds on which little or no interest is paid.

Although the nominal liability of the issuer of a long-term security may be fixed in money terms, the market prices at which fixed interest securities are traded may vary considerably in response to variations in general market rates of interest. As the issuer of a long-term security usually has the opportunity to refinance the debt by repurchasing the security on the market, valuation at market prices is generally appropriate for both issuers and holders of long-term securities, especially financial transactors who actively manage their assets or liabilities. Deep-discounted and zero-coupon bonds should always be valued in the balance sheets at their current market values. When general market rates of interest fluctuate, the market value of such bonds may diverge significantly from their face or par values reduced by the remaining actual and/or imputed interest payments which are still due to be paid on them.

13.70 The treatment of derivatives is discussed in chapter XI. Traded financial options, traded financial futures and warrants should be included in the balance sheets at market value. Depending on how margin systems operate, it may be appropriate to enter zero for the value of the option, as any profits (losses) will have been received (paid) daily by the holder. The counterpart of these asset entries should be entered as a liability.

13.71 Other financial options should be valued in the balance sheets as either the current value of the option, if this is available, or the amount of the premium paid. A liability should be entered in the sector of the writer of the option to represent, by convention, either the current value of buying out the rights of the option holder or the accrual of a holding gain.

Loans (AF.4)

13.72 The values to be recorded in the balance sheets of both creditors and debtors are the amounts of principal that the debtors are contractually obliged to repay the creditors when the loans mature.

Shares and other equity (AF.5)

13.73 Shares and other equities should be valued in the balance sheets at their current prices when they are regularly traded on stock exchanges or other organized financial markets. The value of shares in corporations that are not quoted on stock exchanges or otherwise traded regularly should be estimated using the prices of quoted shares that are comparable in earnings and dividend history and prospects, adjusting downward, if necessary, to allow for the inferior marketability or liquidity of unquoted shares. Equity in quasi-corporations should be valued as equal to the value of the quasi-corporations' assets less the value of their liabilities.

13.74 As noted in the discussion of net worth paragraph 13.83 below, shares and other equities are liabilities of corporations, and even though a corporation is wholly owned by its shareholders collectively, it is seen to have a net worth - derived in the same way as for all other institutional units - in addition to the value of the shareholders' equity. By convention, reinvested earnings of direct investment enterprises are considered to be distributed in property income and subsequently reinvested, and the net worth of those resident direct investment

enterprises that are branches of non-resident enterprises, which are treated as quasi-corporations in the System, is zero. Direct investment enterprises may receive or pay capital transfers, incur holding gains/losses, etc., so that their actual change in net worth is not the same as the change in shares and other equity recorded in the financial account.

Insurance technical reserves (AF.6)

- 13.75 Insurance technical reserves consist of net equity of households in life insurance reserves and in pension funds, prepayment of premiums and reserves against outstanding claims. These reserves are invested in various other kinds of assets such as land, buildings, financial assets, valuables, etc. The assets of which the reserves are composed are valued in the balance sheet at their actual or estimated current prices.
- 13.76 In the case of net equity of households in life insurance, the covered individuals have claims to the future payment of a capital sum on the occurrence of death, and it is possible to ascertain the present value of the individuals' actuarially determined claims to the payment of capital or income. This value is the liability of life insurance enterprises for reserves against outstanding risks and reserves for with-profit insurance that add to the value on maturity of with-profit endowments or similar policies; this amount is counterbalanced by an equivalent amount of assets. In the case of with-profit insurance, the reserves include various types of gains distributed to the insured as deferred profits. The usual accounting practice of mutual insurance enterprises - i.e., where the policyholders are the owners - is to transfer realized and perhaps unrealized holding gains to policyholders' reserves when they become large and are considered to be permanent.
- 13.77 In the case of net equity of households in pension funds, the covered individuals have claims to the future payment of income on the attainment of a specified age and/or period of coverage. The nature of liability of the funds - and asset of households - depends on the kind of pension plan.
- 13.78 Defined benefit pension plans are those in which the level of pension benefits promised to participating employees is guaranteed. Benefits are related by some formula to participants' length of service and salary and are not totally dependent on the assets in the fund. A case can be made that a defined benefit pension fund can have a net worth, positive or negative, if assets of the fund exceed or fall short of the fund's liability for the guaranteed benefits. Whether assets of the fund exceed the fund's liability for the guaranteed benefits - i.e., if the plan is over-funded - or fall short the fund's liability - i.e., if the plan is under-funded - there is some expectation that the situation will be temporary, typically by adjusting contributions. Further, national law, especially with respect to over-funding, varies with respect to the question to whom, employers or households, a surplus or short-fall is to be attributed. The System, in this situation, allows a defined benefit pension plan to have a net worth. The liability of a defined benefit pension plan is equal to the present value of the promised benefits.

13.79 Money purchase plans are those for which the level of contributions to the fund is guaranteed, but benefits are directly dependent on the assets of the fund. The liability of a money purchase plan is the current market value of the funds' assets.

13.80 The value of the prepaid premiums component of insurance technical reserves is determined on the basis of the proportion of the risks involved in relation to time for the time remaining on the contract - in other words, premiums payable less premiums earned, which are recorded as a transaction in the financial account. Reserves against outstanding claims are the present value of the amounts expected to be paid out in settlement of claims, including disputed claims.

Other accounts receivable/payable (AF.7)

13.81 Trade credit and advances and other items due to be received or paid (such as taxes, dividends, rent, wages and salaries, and social contributions) should be valued for both creditors and debtors at the amount of principal the debtors are contractually obliged to pay the creditors when the obligation is extinguished. Interest accrued on securities other than shares is recorded as increasing the value of the underlying asset, but interest accruing on deposits and loans may have to follow national practices and be classified here if it is not capitalized in the underlying asset. As discussed in chapter XI, paragraph 11.102, no separate entry is needed for interest in arrears because it is already recorded under the appropriate asset or under this category.

4. Net worth (B.90)

13.82 Net worth is the difference between the value of all assets - produced, non-produced, and financial - and all liabilities at a particular moment in time. For this calculation, each asset and each liability is to be identified and valued separately. As the balancing item, net worth is calculated for institutional units and sectors and for the total economy.

13.83 Shares and other equities are liabilities of corporations, and by valuing them at current market prices it is possible to arrive at the net worth of a corporation in the same way as for all other institutional units by subtracting the total value of all its liabilities - including equities - from the total value of its assets. Thus, even though a corporation is wholly owned by its shareholders collectively, it is seen to have a net worth (which could be positive or negative) in addition to the value of the shareholders' equity. In the case of quasi-corporations, net worth is zero, because the value of the owners' equity is assumed to be equal to its assets less its liabilities. In the case of financial corporations, the net worth of pension funds includes an amount that is positive or negative if the assets of defined benefit pension funds exceed or fall short of the funds' liability for the guaranteed benefits - i.e., the plans are over- or underfunded. Some defined benefit pension funds (unsegregated funds) are not autonomous financial corporations; in this case it is the net worth of the employer that is increased or decreased if the plan is over- or underfunded.

5. Memorandum items

13.84 The System allows for two memorandum items to the balance sheets in order to show items not separately identified as assets in the central framework that are of more specialized analytic interest for particular institutional sectors. These two - consumer durables and direct foreign investment - are discussed below, along with two other items that may be usefully included as memorandum items in some cases.

Consumer durables (AN.m)

13.85 Consumer durables - i.e., durable goods used by households for final consumption - are to be included in the balance sheets only as memorandum items. As explained in chapter IX, their inclusion in the balance sheet would be appropriate if the System postulated that the durables were gradually used up in production processes whose outputs consist of services. The System does not treat consumer durables in this way. The stocks of consumer durables held by households - transport equipment and other machinery and equipment - are to be valued at current prices, both gross and net of accumulated charges equivalent to consumption of fixed capital. The figures shown as memorandum items in the balance sheet should be net of these accumulated charges.

13.86 Durable goods owned by owners of unincorporated enterprises may be used partly by the enterprise for production and partly by members of the household for final consumption. The values shown in the balance sheet for the enterprise should reflect the proportion of the use that is attributable to the enterprise, but this may not always be known in practice.

Direct foreign investment (AF.m)

13.87 Financial assets and liabilities that constitute direct investment are to be recorded under the appropriate categories listed in the classification of assets, i.e., shares and other equity, loans, and other accounts receivable and payable. However, the amounts of direct investment included within each of those categories should also be recorded separately as a memorandum item.

Net equity of households in unfunded pension schemes

13.88 Unfunded occupational pension schemes, which include some classified as social security funds, are by definition defined benefit schemes. There is no pool of assets accumulated from which to pay benefits, however. It is recommended that the present value to households of promises by these schemes to pay future pension benefits be shown as a memorandum item in the balance sheets as assets of households. Liabilities of equivalent amount may also be shown as memorandum items for the employer sectors liable to pay these benefits.

Alternative valuations for long-term debt and corporate equity

13.89 Alternatives to current market values in valuing long-term bonds and corporate equity securities may be shown as memorandum items in the balance sheets for corporations. Examples of alternative valuation include nominal (face) value

for long-term bonds and revalued paid-in and equivalent value for corporate equity. These valuations refer to the same date for each issue of a security and would be meaningful in the analysis of both liabilities and financial assets.

C. The changes in balance sheets account

13.90 In both opening and closing balance sheets, assets and liabilities, as previously explained, are valued at the prices prevailing on the date to which the balance sheet relates. Net worth, the difference between assets and liabilities, is the balancing item. It is equivalent to the present value of the stock of economic claims a unit or a sector holds. In more detailed presentations of balance sheets, the various types of assets and liabilities are shown using the detailed classification of assets and liabilities.

13.91 For each element or group of assets and liabilities, changes between the opening and closing balance sheets result from the entries recorded in the accumulation accounts, including changes in classification of assets and liabilities. Changes in net worth are equal to changes in assets less changes in liabilities. The changes in balance sheets account shown in table 13.1 summarizes these entries both by major groups of assets and liabilities and by the summary element in each of the accumulation accounts.

13.92 The change in the value of any individual item between the opening and closing balance sheets may be decomposed into the following elements:

- (a) Changes due to transactions in the item in question - acquisitions or disposals of non-financial assets; consumption of fixed capital; the creation, transfer, or extinction of financial claims, etc.;
- (b) Changes in the volume of assets that are not due to transactions - discoveries of assets or recognition of their value; the unanticipated destruction or disappearance of assets; changes in classification; etc.;
- (c) Nominal holding gains/losses on assets due to changes in their prices, which may be decomposed into
 - (i) “Neutral” holding gains/losses, which are due to changes in the general price level; and
 - (ii) “Real” holding gains/losses, which are due to changes in the price of the asset relative to the prices of other goods, services, or assets.

13.93 The changes in balance sheets account recapitulates the total changes in assets by major group and in total liabilities and then recapitulates the changes in net worth in terms of saving and capital transfers, other changes in volume of assets and nominal holding gains/losses (subdivided between neutral and real holding gains/losses). Saving, capital transfers, other changes in volume of assets, and real holding gains/losses contribute to changes in real net worth.

13.94 The changes in balance sheets account shows the relation in the System between saving (net) and changes in net worth. Because saving is a source of changes in

real net worth, it follows that all current transactions, of which saving is the final balancing item, make real net worth vary either positively (resources) or negatively (uses). Saving (net) is equal to changes in net worth less net capital transfers received, less other changes in volume of assets, less nominal holding gains/losses. Considering only changes in real net worth, saving (net) is equal to changes in real net worth less net capital transfers received, less other changes in volume of assets, and less real holding gains/losses.

13.95 The accounting link between the opening and closing balance sheets via the sequence of accumulation accounts holds at the level of an individual asset or liability or at any higher level of aggregation. The links are displayed schematically in table 13.2.

Table 13.2. Balance sheets and accumulation accounts

13.96 Each row of table 13.2 refers to individual assets or groups of assets following the classification of assets and liabilities used in the System. The full classification is given in the annex to this chapter, in which the characteristics of the various assets or liabilities are described in more detail. (The basis of this classification is type of asset; the basis of the classifications used in the accumulation accounts, however, is type of transaction, volume change, or holding gain/loss.) The last row of table 13.2 shows the components of net worth or changes in net worth.

13.97 Each column of table 13.2 refers to a particular balance sheet or account, arranged in sequence to follow the basic accounting identity described earlier.

13.98 The codes recorded in the various cells of table 13.2 are the standard classification codes used in the System to identify particular kinds of transactions or other entries. They therefore indicate which kinds of transactions or other entries in the accounts may appear for the various assets and liabilities.

13.99 Consider, for example, the row for dwellings. The entry in the column for the capital account should record the value of gross fixed capital formation less consumption of fixed capital in dwellings, the other items in the capital account being irrelevant to this type of asset. The cell at the intersection of the row for dwellings and the column for the financial account must be empty. The cell at the intersection with the column for the other changes in the volume of assets account might also be empty, but might well record the consequences of some happening such as an earthquake or other natural disaster. The entries at the intersection with the columns for the revaluation account should record the value of any neutral and real holding gains/losses on dwellings due to changes in prices during the accounting period.

13.100 Subsoil assets provide a less familiar example. The entry in the column for the capital account should record the value of acquisitions and disposals, which

redistribute the ownership of these assets among sectors but balance for the total economy. The cell for the financial account is again empty. The cell for the other changes in the volume of assets account would record depletion of subsoil deposits and new discoveries of proven reserves, among other possible entries. The cell for the revaluation account should record the value of any neutral and real holding gains/losses due to changes in the prices of the assets.

13.101 The accounting for the change in the value of other non-produced assets between opening and closing balance sheets is worth detailing. For land, for example, the following elements may be involved:

- (a) Gross fixed capital formation in the form of land improvements and costs of ownership transfer; consumption of fixed capital on those land improvements and costs of ownership transfer; and acquisitions less disposals of land, which transfer land among domestic residents and may, as well, change the boundary of the economic territory if the transactions involving non-residents affect the size of territorial enclaves - all of which are recorded in the capital account;
- (b) Economic appearance of land (for example, reclaiming land from the sea), economic disappearance (degradation and other negative quality changes resulting from economic activity), catastrophic losses, uncompensated seizures, volume changes in non-financial assets not elsewhere classified, and changes in classification and structure - all recorded in the other changes in the volume of assets account;
- (c) Neutral holding gains/losses and real holding gains/losses, recorded in the revaluation account.

For an intangible non-produced asset, such as a patented entity, the following elements may be involved:

- (a) Acquisitions less disposals of patented entities, which transfer these assets among sectors and the rest of the world and are recorded in the capital account;
- (b) Creation (economic appearance) of patented entities, economic disappearance - i.e., the exhaustion of patent protection, catastrophic losses, uncompensated seizures, volume changes in non-financial assets not elsewhere classified, and changes in classification and structure - all recorded in the other changes in the volume of assets account;
- (c) Neutral holding gains/losses and real holding gains/losses, recorded in the revaluation account.