

## Chapter 14: Balance sheet

### (OLD Chapter 13: The balance sheet)

Please note that the order of this chapter in the 2008 SNA has been slightly changed, mainly because of the revised classification of non-financial assets, from distinguishing between produced and non-produced non-financial assets to having a breakdown into (i) produced non-financial assets (excluding natural capital); (ii) non-produced non-financial assets (excluding natural capital); and (iii) natural capital. This affects the order in Section C, where these re-allocations have not been shown in the form of track changes.

### A. Introduction

14.1 This chapter is concerned with measuring the stocks of assets, both non-financial and financial, and liabilities. Assets and liabilities can be aggregated across all types so as to show the total value of assets less liabilities, or net worth, of an institutional unit [or a sector](#). Alternatively, the total value of a given type of asset across all units in the economy can be derived. Tables depicting the first sort of aggregation are called balance sheets; those depicting the second sort are called asset accounts. For both balance sheets and asset accounts, it is also important to show how the transactions and other flows recorded during the course of an accounting period explain the changes in value of the stock in question between the start and end of the period. The value of the stock at the start of the period is referred to as the opening stock and the value at the end of the period is referred to as the closing stock. Sometimes a stock level is referred to as a position, especially in the [case of financial assets and liabilities](#)~~balance of payments context~~.

#### 1. Balance sheets

14.2 A balance sheet is a statement, drawn up in respect of a particular point in time, of the values of assets owned ~~and of the liabilities owed~~ by an institutional unit or ~~group of units~~[sector and of liabilities incurred by this institutional unit or sector](#). A balance sheet may be drawn up for institutional units, institutional sectors and the total economy. A similar account is drawn up showing the stock levels of assets and liabilities originating in the total economy held by non-residents and of ~~foreign~~[external](#) assets and liabilities held by residents. In BPM76 this account is called the international investment position (IIP) but is drawn up from the point of view of residents whereas in the SNA it is drawn up from the point of view of the rest of the world with the rest of the world being treated in the same way as domestic sectors.

14.3 Assets appear in the balance sheet of the unit that is the economic owner of the asset. In many cases this unit will also be the legal owner but in the case of a financial lease, the leased asset appears on the balance sheet of the lessee, while the lessor has a financial asset of similar amount and a corresponding claim against the lessee. ~~On the other hand~~[Furthermore](#), when a natural resource is the subject of a resource lease, the asset [is recorded in the accounts of the legal owner, often government, and the extractor, in line with the estimated appropriation of future resource rents; as such the economic ownership of the natural resource is split between the original owner and the extractor](#)~~continues to appear in the balance sheet of the lessor even though most of the economic risks and rewards of using the asset in production are assumed by the lessee~~. A fuller description of the treatment of leases is given in [part 5 of chapter 1727](#) and of the distinction between legal and economic owner is given in chapter [34](#).

14.4 The financial and non-financial resources at the disposal of an institutional unit or sector shown in the balance sheet provide an indicator of economic status. These resources are summarized in the balancing item, net worth. Net worth is defined as the value of all the assets owned by an institutional unit or sector less the value of all its outstanding liabilities [\(including shares and other equity\)](#). For the economy as a whole, the balance sheet shows the sum of non-financial assets and net [financial](#) claims on the rest of the world. This sum is often referred to as national wealth [or national net worth](#).

14.5 The balance sheet completes the sequence of [economic](#) accounts, showing the ultimate result of the entries in the production, distribution and use of income, and accumulation accounts.

14.6 The existence of a set of balance sheets integrated with the flow accounts encourages analysts to look more

broadly when 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 often include 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, balance sheets for groups of households are needed in order to assess the distribution of wealth and liquidity.

- 14.7 Balance sheets allow economists to assess the financial status of a sector and permit risk analyses by a central bank, for example. For corporations, balance sheets permit the computation of widely used ratios that involve data on the level of the different items on the balance sheet. Banks and other financial institutions, for example, are required to maintain specific reserve ratios that can be monitored via a balance sheet. Non-financial corporations check certain ratios such as 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 in studies of their investment behaviour and needs for financing. Balance sheet information on financial assets held by, and liabilities owed to, non-residents are of considerable interest as indicators of the economic resources of an [economy nation](#) and for assessing the external debtor or creditor position of a country. [For more details on analysing financial risks and vulnerabilities, see chapter 37.](#)

## 2. Asset accounts

- 14.8 As well as drawing up a balance sheet showing the values of all assets ([and liabilities](#)) held by an institutional unit, it is possible to draw up a similar account for the value of a single type of asset (or liability) held by all institutional units in the economy. This is called an asset account. A basic accounting identity links the opening balance sheet and the closing balance sheet for a given asset [or liability](#)):

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

*plus* the total value of the same type of asset acquired, less the total value of the same type of asset disposed of, in transactions that take place within the accounting period: transactions in non-financial assets are recorded in the capital account (including [consumption of fixed capital, depreciation and depletion](#)) and transactions in financial assets are recorded in the financial account;

*plus* the value of other positive or negative changes in the volume of these assets held, for example, as a result of the [discovery/coming into existence](#) 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* 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 changes are shown in the revaluation account;

*equals* the value of the stock of the asset in the closing balance sheet.

- 14.9 Although balance sheets are more familiar to those used to working with commercial accounts, asset accounts are particularly useful for some types of analyses. One example is in connection with environmental accounting where the asset account provides a particularly revealing picture of whether an asset is being used sustainably or not. Another example is in connection with the development of capital stock series for fixed assets. Many financial statistics describe the evolution of an individual financial asset, for example showing how the level of lending has changed over the period.

## 3. Structure of the balance sheet

- 14.10 The balance sheet records assets on the left-hand side and liabilities and net worth on the right-hand side, as do the accumulation accounts for changes in these items. In table [143.1](#), only a limited number of classes of assets are shown, though in principle the table can include all the detailed non-financial assets described and

defined in chapter 40.11 and the full set of financial assets and liabilities described and defined in chapter 41.12. A balance sheet relates to the values of assets and liabilities at a particular point in time. The SNA provides for balance sheets to be compiled at the beginning of the accounting period (with the same values as at the end of the preceding period) and at its end. The SNA 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 to which the flow accounts of the SNA relate. The balancing item in the balance sheet is net worth, which, as noted earlier, 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.

**Table 143.1: Opening and closing balance sheets with changes in assets**

**Table 143.1 (cont): Opening and closing balance sheets with changes in liabilities and net worth**

- 14.11 Table 143.1 consists of three sections. The first shows the opening balance sheet and net worth for each institutional sector and the total economy. For the rest of the world, the only relevant entries are for ~~contracts, leases and licences~~, financial assets and liabilities, and net worth. In addition, changes in the ownership between residents and non-residents of non-produced non-financial assets are recorded in the capital accounts, albeit that changes in ownership of natural resources typically do not give rise to an international transaction, because notional resident units are generally identified as the owners of these immovable assets.
- 14.12 The second part of table 143.1 consists of a summary of the entries in the capital, financial, other changes in volume of assets and revaluation accounts grouped by type of asset. The entries for fixed assets, for example, show the totals of the entries for fixed assets in each of the capital account, the other changes in volume of assets account and the revaluation account. Under these entries there is a breakdown showing how much of the change in net worth is due to saving and capital transfers, other changes in the volume of assets and holding gains. There is no entry carried forward from the financial account because the changes in net worth due to saving and capital transfers are completely exhausted by changes in transactions in financial and non-financial assets.
- 14.13 The third section of table 143.1 shows the closing balance sheet which is numerically equal, cell by cell, to the sum of the corresponding cells in the first two parts of the table. In practice, though, these figures will be determined independently and a reconciliation exercise needed to ensure the identities inherent in the table are satisfied.

#### 4. Structure of asset accounts

- 14.14 An example of a set of asset accounts is given in table 143.2. The same data for the stock levels in the opening and closing balance sheets are given for the same range of assets, but instead of the breakdown by sectors, the columns show the entries for each type of asset coming from the capital and financial account, the other changes in the volume of assets account and the revaluation account.

**Table 134.2: Asset accounts for the total economy**

- 14.15 Unlike table 143.1, table 143.2 does not include any entries for assets held by or due to the rest of the world because it focuses on the holding by resident units of particular assets and liabilities. However, by comparing the figures for financial assets and liabilities of the same instrument, it is possible to derive the balance with the rest of the world. For example, in the opening balance sheet figures, the value of financial assets for currency and deposits is 1 482 and of liabilities is 1 471. This implies that the rest of the world has a net liability with the national economy of 11. Table 143.1 shows that the asset position of the rest of the world is 105 and the liability position 116.

## B. General principles of valuation

- 14.16 For the balance sheets to be consistent with the accumulation accounts of the SNA, every item in the balance sheet should be valued as if it were being acquired on the date to which the balance sheet relates. This implies that when they are exchanged on a market, assets and liabilities 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. In the case of non-financial assets, other than land, the value includes any associated costs of ownership transfer. ~~Financial claims that are not traded on organized financial markets are valued at the amount the debtor must pay to the creditor to extinguish the claim. This section contains a concise overview of the main principles and methodologies for valuing assets and liabilities; more details are provided in the annex to chapter 4.~~
- 14.17 The 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 natural resources (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, there is a clear relationship between the price paid by the purchaser and the price received by the seller. For non-financial assets other than land, the price paid by the purchaser exceeds that received by the seller by the costs of ownership transfer. In the case of financial assets, the value is the same for creditor and debtor because the costs of transferring financial assets and liabilities are treated as consumption rather than accumulation.
- ~~14.18 Ideally, observable market prices should be used to value all assets and liabilities in a balance sheet. However, 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. When there are no observable prices because the items in question have not been purchased or 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.~~
- ~~14.19~~
- ~~14.20 In addition to values observed in markets or estimated from observed prices, values may be approximated for balance sheet valuation in two other ways. In some cases, values may be approximated by accumulating and revaluing acquisitions less disposals of the type of asset in question over its lifetime and adjusted for changes such as depreciation; 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, values 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 resources and even for fixed 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, value of the remaining future benefits to be derived from them and their market values when active second-hand markets exist. These three price bases are discussed below in general terms.~~
- ~~14.21~~
- 14.18 Ideally, observable market prices should be used to value all assets and liabilities in a balance sheet. It is important though to make a distinction between the initial recognition of assets, and the subsequent valuation of assets. Regarding the initial recognition, i.e., the time at which the asset (or liability) enters the balance sheet, the relevant transaction value, in the case of financial assets adjusted for commissions and fees, should generally be used. For subsequent valuation, if there are no observable market or near-market prices because the items in question have not been purchased or sold on the market in the recent past, alternative valuation methods need to be applied 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. This is likely to be the case for most non-financial assets, particularly when considering the second-hand nature and the partial depreciation of these assets, and also for certain financial instruments.

- 14.19 For valuing non-financial assets, two basic approaches can be distinguished, the first one based on the market prices for similar (second-hand) assets, and the second one based on the contribution of capital services, including depreciation, to the production process in the remaining service life of the asset. The latter approach is usually approximated by accumulating and revaluing acquisitions less disposals over its lifetime and adjusted for changes such as depreciation. Similar valuation issues may exist in the case of, for example, natural resources, the stocks of which are generally not traded in the market, so any values derived from occasionally traded stocks cannot be used for the valuation of similar assets, also because of the heterogeneity of the resources in question. In these cases, the value on the balance sheet can be approximated by the net present value of future benefits derived from these resources, which represent an alternative way of estimating the capital services to the production process.
- 14.20 Many financial assets are traded in markets on a regular basis and therefore can be valued by directly using the price quotations from these markets. Valuation according to market-value equivalent is needed for valuing financial assets and liabilities that are not traded in financial markets or are traded only infrequently. For these assets and liabilities, it will be necessary to estimate fair values that, in effect, approximate market prices. The present value of future cash flows can also be used as an approximation to market prices, provided an appropriate discount rate is used.
- 14.21 Non-tradable financial assets, particularly those with a face value applicable at some point in the future (e.g., loans, deposits, and other accounts receivable and payable) are valued at nominal value (i.e., the amount the debtor must pay to the creditor to extinguish the claim, including any accrued interest). For a restricted group of financial instruments, however, the above valuation methods cannot be applied. Examples relate to unlisted equity and defined benefit pension entitlements. While for the latter the present value of future pension benefits is the generally accepted method for valuation, various approaches can be considered in the case of unlisted equity (see paragraphs 14.81 to 14.86).
- 14.22 Below, three basic methods for valuing stocks of assets and liabilities are described. These are (i) values observed in markets, (ii) values obtained by accumulating and revaluing transactions, and (iii) values obtained by applying the net present value of future benefits. More detailed information on the valuation of assets and liabilities, including methods such as the valuation at nominal value, can be found in the annex to chapter 4.

## 1. Value observed in markets

- 14.2214.23 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 negotiable financial assets, regularly traded in active market with price quotations, existing transportation equipment, crops, and livestock as well as for newly produced fixed assets and inventories.
- 14.2314.24 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.
- 14.25 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 unlisted shares by analogy with similar, listed shares, making some allowance for the inferior marketability of the unlisted shares. Similarly, expert estimates such as appraisals of 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 chapters 2430 and 2633.

## 2. Values obtained by accumulating and revaluing transactions

14.26 Most non-financial assets change in value year by year reflecting changes in market prices. At the same time, initial acquisition costs are reduced by ~~consumption of fixed capital~~depreciation (in the case of fixed assets) or other forms of ~~depreciation~~deterioration over the asset's expected life. The value of such an asset at a given point in its life is given by the current acquisition price of an equivalent new asset less the accumulated depreciation. This valuation is sometimes referred to as the "written-down replacement cost". When reliable, directly observed prices for used assets are not available, this procedure gives a reasonable approximation of what the market price would be were the asset to be offered for sale.

~~14.24~~14.27 For the purpose of valuing assets using this method, the perpetual inventory method is usually applied. The method can be considered superior to market(-equivalent) prices, if the market prices for second-hand assets cannot be considered as representative for the future capital services, which can be derived from the continued use of the asset in production. A problem in the application of this method relates to the information needed for the application of this estimation method. Most importantly, apart from long time series on past expenditures on the purchases, including price developments, of the assets in question, information is needed on the service life; the age-price or the age-efficiency profile; and discard patterns. More detailed guidance is provided in the OECD Manual on Measuring Capital (2009, 2<sup>nd</sup> edition).

### 3. Present value of future benefits~~returns~~

~~14.28~~ In the case of assets for which the returns either are delayed (as with forests) or are spread over a lengthy period (as with subsoil assets), although market 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. For some assets, mainly relating but not necessarily confined to natural resources, the most suitable method for valuation is the net present value of future benefits associated with the use of the relevant asset. This method can only be used if there is a direct link between the future benefits and the asset in question, in the sense that one can assume that there are no other assets which may have generated the benefits. Furthermore, it is also important to acknowledge that, because it may be difficult to determine the future earnings with the appropriate degree of certainty, and given that assumptions are also needed about the asset's life length and the discount factor to be applied, other possible sources of valuation should be exhausted before resorting to this method.

~~14.25~~14.29 When estimating the future benefits related to natural resources, the residual value method, i.e., the output generated with the exploitation of the resources minus all costs associated with the exploitation, is typically used. Exploitation rights are often provided by government for a series of rent payments. The (present value of) actual rent payments may not account for the full value of benefits, or resource rents, that can be derived from these assets, and the asset in question may clearly generate a future stream of resource rents, going well beyond the payments of rent to the legal owner. The unit having the rights to exploit the resources thus appropriates part of the resource rents, reflecting the future capital services derived from these assets by the unit having the exploitation rights. In these cases, the value of the resources in question is split between the legal owner and the unit exploiting the resources.

### 4. Assets denominated in foreign currencies

~~14.26~~14.30 Assets and liabilities denominated in foreign currencies should be converted into the domestic 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.

## C. The entries in the balance sheet

~~14.27~~14.31 Definitions of the assets in the balance sheet at the most detailed level of the classification of assets are given in chapter ~~10~~11 for non-financial assets and in chapter ~~11~~12 for financial assets. 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. More details on the principles and methodologies for valuing assets are provided in the annex of chapter 4.

## 1. Produced non-financial assets (excluding natural capital)

### Fixed assets

~~14.28~~14.32 In principle, fixed assets should be valued at the prices prevailing in the market for assets in the same condition as regards technical specifications and age. In practice, this sort of information is not available in the detail required and recourse must be had to valuation by another method, most commonly the value derived by adding the revaluation element that applied to the asset during the period covered by the balance sheet to the opening balance sheet value (or the time since acquisition for newly acquired assets) and deducting the ~~consumption of fixed capital depreciation~~ estimated for the period as well as any other volume changes and the value of disposals. In the case of anticipated terminal costs, the value of these costs should be added to the value of the relevant assets, with a corresponding entry under provisions; see also the section on supplementary items below. In calculating the value of ~~consumption of fixed capital depreciation~~, assumptions have to be made about the decline in price of the asset and even where full market information is not available, partial information should be used to check that the assumptions made are consistent with this.

~~14.29~~14.33 Estimates of ~~consumption of fixed capital depreciation~~ must include the decline in value of the purchasers' costs of ownership transfer on acquisition and disposal associated with these assets. These are to be written off over the period the purchaser expects to own the asset. In many cases, this period may coincide with the expected life length of the asset but for some types of asset, particularly vehicles, the purchaser may intend to sell them after a certain period, for example, in order to acquire a newer model with a higher level of specification and lower maintenance costs. Installation costs should be treated in a similar manner. Where possible, the estimates of ~~consumption of fixed capital depreciation~~ should also allow for anticipated terminal costs such as decommissioning or rehabilitation. Further explanation of these adjustments can be found in chapters ~~4011~~ and ~~4917~~. More detail on the application of a perpetual inventory method (PIM) of estimating the value of capital stock of fixed assets can be found in the OECD Manual on Measuring Capital (2009, 2nd edition).

~~14.30~~14.34 For dwellings, there may be adequate information available from the sale of both new and existing buildings to assist in making balance sheet estimates of the total value of dwellings. However house prices depend to a considerable extent on location and the geographical pattern of sales in the period may not cover all areas adequately, in which case a technique such as a PIM will have to be used. This technique will probably also apply to many other buildings and structures since their characteristics are often specific to the structure concerned.

~~14.31~~14.35 The value of land improvements is shown as the written down value of the improvements as originally carried out, suitably revalued. This will always be equal to the difference in value between the land concerned in an unimproved or natural state, and its value after the improvements have been effected, though both the land and the land improvements will be subject to price changes over time.

14.36 Markets for existing automobiles, aircraft, and other transportation equipment may be sufficiently representative to yield useful price observations for valuation of these stocks or at least to use in conjunction with a set of PIM assumptions. 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, either because many of the transactions involve assets that for some reason are not typical, or because they embody specialized characteristics, or because they are obsolete or because they are being disposed of under financial duress.

~~14.32~~14.37 Military weapons systems comprising vehicles and other equipment such as warships, submarines, military aircraft, tanks, missile carriers and launchers, etc. can be valued by accumulating and revaluing transactions. Depreciation is typically based on its use in providing deterrence in periods of peacetime. Destruction in war times and other decreases beyond expectation, which should be recorded as other changes in the volume of assets, may significantly affect the value of weapons systems.

~~14.33~~14.38 Research and development expenditure carried out on contract is valued at the contract price. If carried out on own account, it is valued as cumulated costs. ~~If it is carried out by a market producer, the costs, which should~~ include a return to capital. ~~Both~~The valuation estimates need to be increased for changes in prices and reduced because of ~~consumption of fixed capital depreciation~~ over the life of the asset.

~~14.34~~14.39 Even though costs of ownership transfer on non-produced assets (other than land) are shown separately in the capital account, and treated as gross fixed capital formation, in the balance sheets these costs are incorporated in the value of the asset to which they relate even though the asset is non-produced. Thus there are no costs of ownership transfer shown separately in the balance sheets. The costs of ownership transfer on financial assets are treated as intermediate consumption when the assets are acquired by corporations or government, final consumption when the assets are acquired by households and exports of services when the assets are acquired by non-residents.

~~14.35~~14.40 Mineral exploration and evaluation 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. These costs should include a return to the ~~fixed~~ capital used in the exploration activity. 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.

~~14.36~~14.41 Originals of intellectual property products, such as computer software (including artificial intelligence), data and databases, and entertainment, literary or artistic originals should be entered at the written down value of their initial cost, revalued to the prices of the current period. Since these products will have often been produced on own account, the initial cost may be estimated by the sum of costs incurred including a return to capital ~~on the fixed assets~~ used in production. If value cannot be established in this way, it may be appropriate to estimate the present value of future ~~returns~~benefits arising from the use of the original in production.

~~14.37~~14.42 Subsequent copies may appear as assets (i) if the original owner has subcontracted the duties of reproducing and providing support to users of the copies, or (ii) if a copy is being used under a contract that is effectively a financial lease. In these cases, market prices should be available to use for valuation.

## Inventories

~~14.38~~14.43 Inventories 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 [67](#).

~~14.39~~14.44 As is the case elsewhere in the SNA, 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 that have been separately invoiced to the wholesalers or retailers and included in their intermediate consumption.

~~14.40~~14.45 For inventories of work-in-progress, the value for the closing balance sheet should be consistent with the value of the opening balance sheet, plus any work put in place during the current period, less any work completed and reclassified as finished goods. In addition, an allowance for any necessary revaluation for changes in prices in the period must be included. As explained in chapter [67](#) and chapter [1917](#), the time series of the value of work-in-progress put in place over a period of time should reflect the increase in value of work put in place earlier as the delivery date approaches.

## Valuables

~~14.41~~14.46 Given their primary role as stores of value, 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 to the owner were they sold on the market, excluding any agents' fees or commissions payable by the seller, on the date to which the balance sheet relates. On acquisition they are valued at the price paid by the purchaser including any agents' fees or commissions.

~~14.42~~14.47 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 non-financial assets (excluding natural capital)

### **Contracts, leases and licences**

~~14.48~~ 14.48 Contracts, leases and licences may be marketable operating leases, licences to use certain natural resources, permits to undertake specific activities and entitlement to future goods and services on an exclusive basis. Non-fungible tokens that grant limited commercial rights are also included. As explained in ~~part 5 of~~ chapter ~~14.27~~, these sorts of contracts are regarded as assets only if the existence of the legal agreement confers benefits on the holder in excess of the price paid to the lessor, ~~owner of the natural resource~~ or permit issuer and the holder can realize these benefits legally and practically. It is recommended that such assets be recorded only when the value of the asset is significant and is realized, in which case a suitable market price necessarily exists. The asset does not exist beyond the length of the contract agreement and its value must be reduced accordingly as the remaining contract period shortens.

### Crypto assets without a corresponding liability designed to act as a medium of exchange

~~14.43~~14.49 Crypto assets without a corresponding liability designed to act as a medium of exchange are completely homogeneous assets which are often traded in considerable volume and have their market prices 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.

### Purchased Goodwill and marketing assets

~~14.44~~14.50 The balance sheet entry for purchased goodwill and marketing assets is the written-down value of the entry that appears in the financial account when an enterprise is taken over or when a marketing asset is sold. These entries are not revalued.

## 2.3. ~~Non-produced assets~~Natural resources

### **Land**

~~14.45~~14.51 In principle, the value of land to be shown under natural resources in the balance sheet is the value of land excluding the value of improvements, which is shown separately under fixed assets, ~~and~~ excluding the value of buildings on the land which is also to be shown separately under fixed assets, and also excluding the value of any other natural resources above or below it. Land is valued at its current price paid by a new owner, excluding the costs of ownership transfer which are treated, by convention, as gross fixed capital formation and part of land improvements and are subject to ~~consumption of fixed capital~~depreciation.

~~14.46~~14.52 Because the current market value of land can vary considerably 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.

~~14.47~~14.53 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 natural resource~~plantation, vineyard, etc.~~, above or below it, the composite asset should be classified in the category representing the greater part of its value. Similarly, if the value of the land improvements (which include site clearance, preparation for the erection of buildings or planting of crops and costs of ownership transfer) cannot be separated from the value of land in its natural state, the value of the land may be allocated to one category or the other depending on which is assumed to represent the greater part of the value.

~~14.48~~14.54 It is usually much easier to make a division between land and buildings for the total economy than for individual sectors or subsectors. 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.

~~14.49~~14.55 Land appears on the balance sheet of the legal owner except when it is subject to a financial lease as may most often occur in connection with a financial lease over a building or plantation on the land. By convention, an exception is made for cases where the legal owner of a building is not the legal owner of the land on which the building stands but the purchase price of the building includes an upfront payment of rent on the land beneath without any prospect of further payments being due in future. In such a case, land is recorded on the balance sheet of the owner of the building on the land.

## Mineral and energy resources

~~14.50~~14.56 As the ownership of non-renewable mineral and energy resources does not change frequently on markets, it may be difficult to obtain appropriate prices that can be used for valuation purposes. Therefore, the value of subsoil non-renewable mineral and energy resources is usually determined by the present value of the expected net returns/benefits, or the residual value, resulting from the commercial exploitation of those resources, although such valuations are subject to uncertainty and revision. As the ownership of mineral and energy resources does not change frequently on markets, it may be difficult to obtain appropriate prices that can be used for valuation purposes. In practice, it may be necessary to use the valuations that the owners of the assets place on them in their own accounts.

14.57 It is frequently the case that the enterprise extracting a resource is different from the legal owner of the resource. In many countries, for example, oil resources are the property of government/the state. However, it is the extractor who determines how fast the resource will be depleted and since the resource is not renewable on a human time-scale, it appears as if there has been a change of economic ownership to the extractor even if this is not the legal position. Nor is it necessarily the case that the extractor may/will have the right to extract until the resource is exhausted. Whatever the case, as the lessor often does not appropriate the full resource rent which can be derived from the exploitation of mineral and energy resources, the asset should be allocated to the lessor and the extractor in line with the estimated appropriation of future resource rents. As such, the economic ownership is split between the original (legal) owner and the extractor. More details on the recording of this split-asset approach are provided in chapter 27. Because there is no wholly satisfactory way in which to show the value of the asset split between the legal owner and the extractor, the whole of the resource is shown on the balance sheet of the legal owner and the payments by the extractor to the owner shown as rent. (This is therefore an extension of the concept of a resource rent applied in this case to a depletable asset.)

~~14.51~~14.58 For renewable energy resources, the recording and valuation is similar to that recommended for non-renewable mineral and energy resources. However, there are two additional issues to take into consideration. Firstly, where the residual value method is inappropriate due to subsidisation or other market distortions, an alternative approach, known as the “least-cost alternative” method could be applied. This latter approach attempts to identify resource rents by comparing the cost of electricity generation with and without renewable resources. Secondly, the possibility of double-counting needs to be acknowledged. Especially in the case of privately owned land, the market value of land may already capture the additional value related to a permission to exploit for example wind energy. On the other hand, the double-counting problem does not exist in cases where the relevant land is not valued, or no land is involved (e.g., wind turbines on open seas).

## ~~Non-cultivated b~~Biological resources, water resources and other natural resources

~~14.52~~14.59 For biological resources, a distinction can be made between resources yielding repeat products and resources yielding once-only products. Regarding the first category, For balance sheet purposes, livestock that continue to be used in production year after year should be valued on the basis of the current purchasers’ prices for animals of the same age. For valuing work-in-progress, for example relating to animals yielding repeat products that are not yet mature, market prices may also be available. Such information is less likely

to be available for trees (including shrubs) cultivated for products they yield year after year; in this case they should then be recorded at the current written-down value of the cumulated capital formation. [Such capital formation, including work-in-progress, may have to be valued using the sum-of-costs method when produced on own account. However, the net present value of future benefits from exploiting these resources may be an alternative and more appropriate method for approximating the value of these resources.](#)

[14.60](#) [Regarding biological resources yielding once-only products, a distinction can be made between cultivated resources, mainly consisting of livestock raised for slaughter, agricultural crops and resources such as trees for timber production, and non-cultivated resources, mainly consisting of resources such as fish in open seas.](#)

[14.61](#) [Regarding livestock raised for slaughter and agricultural crops, the asset only consists of work-in-progress, and can usually be valued by reference to the prices of such products on markets.](#)

~~[14.53](#)~~[14.62](#) [In the case of trees for timber production and similar cultivated resources, standing single-use crops \(including timber\) cultivated by human activity and livestock being raised for slaughter are also counted as inventories in work-in-progress. The conventional way of valuing these resources 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. However, this value will typically include two types of assets, which need to be recorded separately under the relevant asset categories: \(i\) the work-in-progress representing the growth of trees to maturity; and \(ii\) the resource rent captured by the underlying asset, i.e., the forest land which is typically not separately valued, and thus not included in the value of land.](#)

~~[14.54](#)~~[14.63](#) [Non-cultivated biological resources, water and other natural 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. An example relates to fish in open seas, which are subject to some form of quota regime. As observed prices are not likely to be available, they are usually valued by the present value of the future benefits/returns expected from them.](#)

### **3.4. Financial assets and liabilities**

~~[14.55](#)~~[14.64](#) [In line with the general valuation principles described above, whenever financial assets and liabilities are regularly traded on organized financial markets, they should be valued at current prices. 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. Financial claims should 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. There is more detailed discussion on the definition of financial assets and their recording in chapters \[12 and 25\]\(#\) and part 4 of chapter 17.](#)

#### **Monetary gold and SDRs**

~~[14.56](#)~~[14.65](#) [Monetary gold is to be valued at the price established in organized markets or in bilateral arrangements between central banks.](#)

~~[14.57](#)~~[14.66](#) [The value of the SDR is determined daily by the IMF on the basis of a basket of currencies. Rates against domestic currencies are obtainable from the prices in foreign exchange markets; both the basket and the weights are revised from time to time.](#)

#### **Currency and deposits**

~~[14.58](#)~~[14.67](#) [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. The amount of principal outstanding includes any interest and service charge/implicit financial services on loans and deposits due but not paid. Currency and deposits in foreign currency are converted to](#)

domestic currency at the mid-point of the bid and offer spot exchange rates prevailing on the date of the balance sheet. Repayable margin payments in cash related to financial derivatives contracts are included in other deposits.

## Debt securities

~~14.59~~14.68 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.

~~14.60~~14.69 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. The price should always be that including accrued interest (the so-called “dirty” price, which is considered suitable for valuation of items in the balance sheet). In contrast, the market price of a debt security excluding the accrued interest not yet payable is called the “clean price” and requires accrued interest not yet paid to be added for use in the balance sheet. 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.

~~14.61~~14.70 An index-linked debt security is also valued at its market price in the balance sheet whatever the nature of the index to which the security is linked.

~~14.62~~14.71 If both the principal and coupons of a debt instrument are indexed to a foreign currency, the security should be treated as if it is denominated in that foreign currency with conversion to domestic currency at the mid-point of the rates prevailing on the date of the balance sheet.

~~14.63~~14.72 For analytical purposes, it is encouraged to compile, as supplementary items, statistics on the nominal value of liability positions in debt securities.

## Loans

~~14.64~~14.73 The values of loans to be recorded in the balance sheets of both creditors and debtors are the amounts of principal outstanding, i.e., the nominal value. This amount should include any accrued interest that has been earned but not been paid. It should also include any amount of ~~indirectly measured service charge~~implicit financial services on loans and deposits (the difference between bank interest and SNA interest) due on the loan that has accrued and not been paid. In some instances, accrued interest may be shown under accounts receivable or payable but inclusion in loans is ~~to be~~ preferred if possible. In addition to specific transactions, such as debt forgiveness or restructuring, the value of loans may be affected by value resets recognized by the creditor, such as in cases of bankruptcy, liquidation, or other factors. The other factors should be restricted to re-assessments in view of a formal, publicly known process.

~~14.65~~14.74 The value of a loan does not reflect the consequences of any interest payments due after the date of the balance sheet, even if these were specified in the original loan agreement.

~~14.66~~14.75 If there is evidence of a secondary market for a loan, and frequent market quotations are available, the loan is reclassified as a security. A loan that is traded once only and for which there is no evidence of a continuing market is not reclassified but continues to be treated as a loan. The valuation rules for debt securities and loans then apply.

~~14.67~~14.76 Loans where the principal is index-linked, or both principal and interest are indexed to a foreign currency, should be treated in the manner described above for debt securities with these characteristics.

## Non-performing loans

~~14.68~~14.77 Despite the fact that loans are to be recorded in the balance sheets at nominal values, certain loans that have not been serviced for some time should be identified and [memorandum supplementary](#) items concerning them should be included in the balance sheet of the creditor. These loans are termed non-performing loans. A common definition of such a loan is as follows. A loan is non-performing when payments of interest or principal are past due by 90 days or more, or interest payments equal to 90 days or more have been capitalized, refinanced, or delayed by agreement, or payments are less than 90 days overdue, but there are other good reasons (such as a debtor filing for bankruptcy) to doubt that payments will be made in full. [This definition of a non-performing loan is to be interpreted flexibly, taking into account national conventions on when a loan is deemed to be non-performing.](#) Once a loan is classified as non-performing, it (or any replacement loans) should remain classified as such until payments are received or the principal is written off on this or subsequent loans that replace the original.

~~14.69~~14.78 Two [memorandum supplementary](#) items are recommended relating to non-performing loans. The first is the nominal value of the loans so designated, including any accrued interest and service charge. The second is the market equivalent value of these loans. The closest approximation to market equivalent value is fair value, which is “the value that approximates the value that would arise from a market transaction between two parties”. Fair value can be established using transactions in comparable instruments, or using the discounted present value of cash flows, or may sometimes be available from the balance sheets of the creditor. In the absence of fair value data, the [memorandum supplementary](#) item will have to use a second best approach and show nominal value less expected loan losses.

~~14.70~~14.79 These [memorandum supplementary](#) items should be standard for both the government sector and the financial corporations sector. If they are significant for other sectors, or for loans with the rest of the world, they should be shown as supplementary items.

## Equity and investment funds [shares/units](#)

### Equity

~~14.71~~14.80 Listed shares are regularly traded on stock exchanges or other organized financial markets. They should be valued in the balance sheets at their current prices.

~~14.72~~14.81 For unlisted shares, there may be no observable market prices for positions in equity not listed on a stock exchange. This situation often arises for direct investment enterprises, private equity, equity in unlisted and delisted companies, listed but illiquid companies, joint ventures, and unincorporated enterprises.

~~14.73~~14.82 When actual market values are not available, an estimate is required [for measuring the equity of unlisted corporations at market-equivalent prices. The following methods for approximating market values are preferred, as also illustrated in figure 14.1: Alternative methods of approximating market value of shareholders' equity in a direct investment enterprise follow. These are not ranked according to preference, and each would need to be assessed according to the circumstances and the plausibility of results.](#)

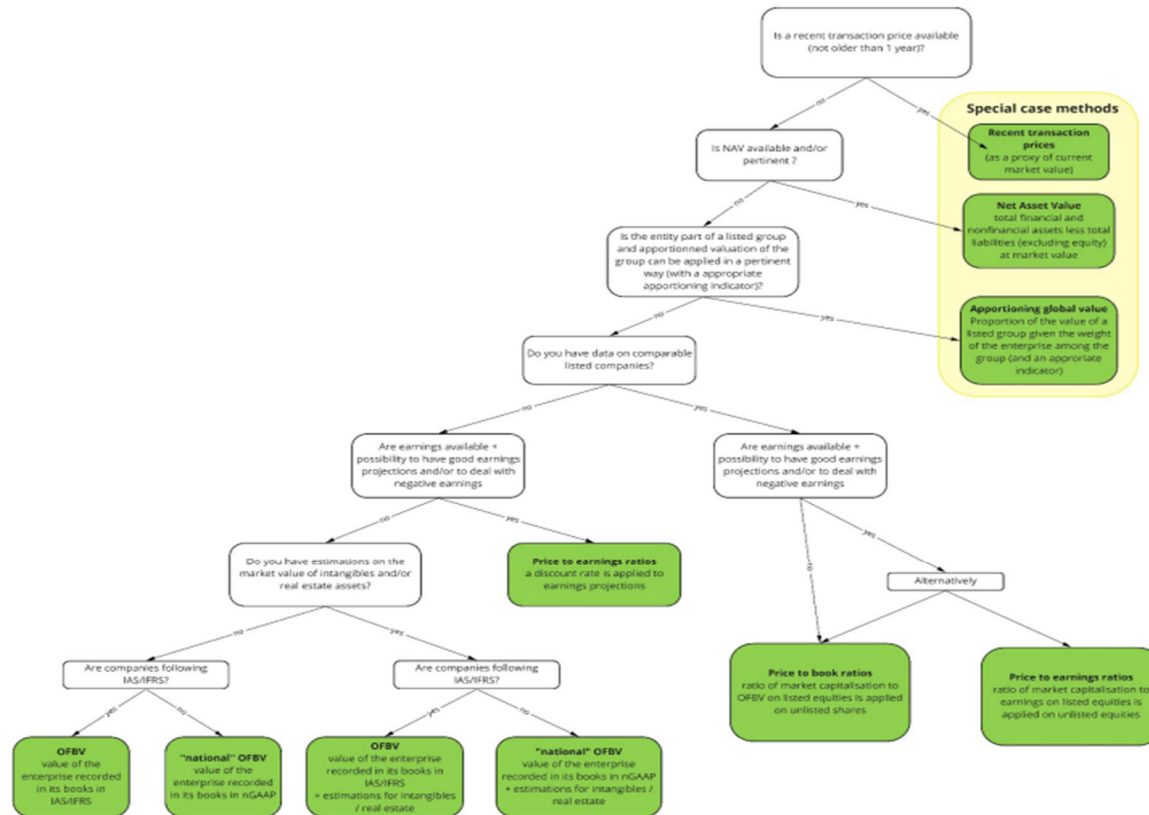
- a. *Own funds at book value.* This method for valuing equity uses the value of the enterprise recorded in the books of the direct investment enterprise, as the sum of (i) paid-up capital (excluding any shares on issue that the enterprise holds in itself and including share premium accounts); (ii) all types of reserves identified as equity in the enterprise's balance sheet (including investment grants when accounting guidelines consider them company reserves); (iii) cumulated reinvested earnings; and (iv) holding gains or losses included in own funds in the accounts, whether as revaluation reserves or profits or losses. The more frequent the revaluation of assets and liabilities [\(at least, on an annual basis\)](#), the closer the approximation to market values. Data that are not revalued for several years may be a poor reflection of market values.
- b. *Recent transaction price.* Unlisted instruments may trade from time to time, and recent prices, within the past year, at which they were traded may be used. Recent prices are a good indicator of current market values to the extent that conditions are unchanged. This method can be used as long as there has been no material change in the corporation's position since the transaction date. Recent transaction prices become increasingly misleading as time passes and conditions change.

- c. *Market capitalisation or Price to book Value (P/B) method.* Book values reported by enterprises with macrolevel adjustments by the statistical compiler. For untraded equity, information on “own funds at book value” can be collected from enterprises, then adjusted with ratios based on suitable price indicators, such as prices of listed shares to book value in the same economy with similar operations. Alternately, assets that enterprises carry at cost (such as land, plant, equipment, and inventories) can be revalued to current period prices using suitable asset price indices.

~~14.74~~14.83 In the case the above methods cannot be applied, for example due to the unavailability of relevant source data, the following methods could be used as an alternative:

- a. *Net asset value.* Appraisals of untraded equity may be conducted by knowledgeable management or directors of the enterprise, or provided by independent auditors to obtain total assets at current value less total liabilities (excluding equity) at market value. Valuations should be recent (within the past year).
- b. *Present value/price to earnings ratios.* The present value of unlisted equity can be estimated by discounting the forecast future profits. At its simplest, this method can be approximated by applying a market or industry price-to-earnings ratio to the (smoothed) recent past earnings of the unlisted enterprise to calculate a price. This method is most appropriate where there is a paucity of balance sheet information but earnings data are more readily available.
- c. *Apportioning global value.* The current market value of a global enterprise group can be based on the market price of its shares on the exchange on which its equity is traded, if it is a listed company. Where an appropriate indicator may be identified (for example, sales, net income, assets, or employment), the global value may be apportioned to each economy in which it has direct investment enterprises, on the basis of that indicator, by making the assumption that the ratio of net market value to sales, net income, assets, or employment is a constant throughout the transnational enterprise group. (Each indicator could yield significantly different results from the others.)

**Figure 14.1: Decision tree for valuing unlisted equity**



14.75 14.84 In cases where none of the above methods is feasible, less suitable data may need to be used. For example, cumulated flows or a previous balance sheet adjusted by subsequent flows may be the only sources available. Since these sources use the prices of previous periods, they should be adjusted for subsequent price developments, for example by using aggregate share price or asset price indices, and taking into account exchange rate movements, where relevant. The use of unadjusted summing of past transactions is not a recommended practice. Equity represents owners' funds. The means through which equity can be generated may take various forms, such as share issues, equity injections without any commensurate issue of shares (sometimes called "contributed surplus" or "capital contributions"), share premiums, accumulated reinvested earnings, or revaluation. While these should be taken into account when cumulated flows need to be used as a starting point to measure the value of equity, the different categories are all components of equity and need not be identified separately in other cases.

14.76 If the current market price is not directly observable, the decision about the method to adopt should take into account the availability of information as well as judgments as to which available method best approximates market values. Different methods may be suitable for different circumstances and a standard ranking of the alternative methods is not proposed for valuing instruments when current market prices are not directly observable. Compilers should be transparent and should state clearly the method(s) used. Methods for valuation of direct investment equity positions are discussed in more detail in the OECD Benchmark Definition of Foreign Direct Investment, fourth edition (Organisation for Economic Co-operation and Development, 2008) referred to as the BD.

14.77

14.85 Other equity covers equity in any corporation or quasi-corporation that does not issue shares or units. Such corporations include public enterprises, the central bank, some special government units, partnerships, unlimited liability companies and quasi-corporations whenever they are institutional units without shares. Other equity should be valued as equal to the value of the unit's assets less the value of its liabilities.

Alternatively, equity in quasi-corporations may be valued using one of the three preferred methods for valuing unlisted equity mentioned above.

14.86 The valuation methods for unlisted equity recommended in the above can lead to negative values. This is in particular true for those methods which are based on the balance sheet items of the corporation in question. In the case of unlimited liability entities, it is recommended to always record the resulting negative equity positions. In the case of limited liability entities, however, it is recommended to record negative equity positions as the default option and only zeroing out negative positions in specific cases where the shareholder's and its affiliates' liability is strictly limited.

14.87 In respect of the latter, strictly limited liability is referring to a situation where the shareholder would not suffer any other direct economic losses than the existing equity investment in case of bankruptcy and would not be likely to take on any financial obligations in the absence of implicit guarantees or significant reputational risks. Examples of other direct economic losses would include loan losses and the realization of guarantees, while the willingness to assume new financial obligations could be related to reputational, societal, or other reasons.

~~14.78~~14.88 Generally, it can be assumed that implicit guarantees or significant reputational risks exist when a shareholder's ownership share is at least 10%. This implies that negative direct investment equity positions should not be zeroed out unless the direct investor has no legally binding economic obligations, except for the existing equity investment, and a history of not assuming any new financial obligations in the event of bankruptcy or termination of its direct investment enterprises. Following this recommendation, negative equity positions in public corporations including central banks should never be zeroed out.

~~14.79~~14.89 Countries are encouraged to show negative equity positions as supplementary "of which" items under the relevant equity assets and liabilities.

### *Investment fund shares or units*

~~14.80~~14.90 Shares (or units) in money market funds or in other investment funds should be valued in a manner similar to the proposals under equity. Listed shares should be valued using the market price of the share. Unlisted shares should be valued according to one of the methods described above for unlisted equity.

## **Insurance, annuities, pension and standardized guarantee schemes**

### *Non-life insurance technical reserves*

~~14.81~~14.91 The amount of the reserves for non-life insurance to be recorded in the balance sheet covers actual premiums paid but not earned at the date for which the balance sheet is drawn up plus the amount set aside to meet outstanding claims. This latter amount represents the present value of the amounts expected to be paid out in settlement of claims, including disputed claims, as well as allowances for claims for incidents which have taken place but have not yet been reported.

### *Life insurance and annuities entitlements*

~~14.82~~14.92 The amount to be recorded under the stock values for life insurance and annuities entitlements is similar to that for non-life insurance technical reserves in that it represents reserves sufficient to meet all future claims. However, in the case of life insurance, the level of the reserves is considerable and represents the present value of all expected future claims. In the commercial accounts of insurance corporations, some of these will be described as provisions for bonuses and rebates. These are the result of the insurance industry's practice of smoothing benefits over time and possibly retaining some benefits until the policy matures.



### *Pension entitlements*

~~14.83~~14.93 The entitlements due under pension schemes comprise two elements; one when the formula determining the amount of the pension is agreed in advance (as under a defined benefit scheme) and one where the amount of the pension depends on the performance of ~~financial~~ assets acquired with the future pensioner's contributions (a defined contribution scheme). For the former, an actuarial estimation of the liabilities of the pension provider is used; for the latter the value is the ~~market~~-value of the ~~financial~~ assets held by the pension fund on behalf of the future beneficiaries. The basis on which pension entitlement is calculated and the alternative means of representing these in the accounts of the SNA are described in detail in chapter ~~17~~24.

### *Claims of pension funds on pension managers*

14.94 When a pension manager is responsible for meeting the liabilities of a defined benefit pension fund, the pension fund has a claim on the pension manager equal to the shortfall of the assets accumulated in the pension fund as compared to the pension entitlements. In the case of a surplus, a claim with a negative value is recorded. In this way, the net worth of the pension fund remains equal to zero at all times.

### *Provisions for calls under standardized guarantees*

14.95 The value to be entered in the balance sheet for provisions for calls under standardized guarantees is the expected level of claims under current guarantees less any expected recoveries. Strictly speaking, these amounts will represent a degree of double counting in the assets of the units benefiting from the guarantees. For example, if financial institutions make 1 000 loans of 20 each that are covered by guarantees and 10 are expected to default, the value of the loans made is still shown as 20 000 and in addition the lenders have an asset of 200 in respect of the expected calls under the guarantee. However, the unit offering the guarantee has a liability of 200 with no matching asset so the net worth for the whole economy is not overstated.

## **Financial derivatives**

~~14.84~~14.96 The treatment of derivatives is discussed in chapter ~~14~~25. Financial derivatives should be included in the balance sheets at market value. If market value data are unavailable, other fair value methods to value derivatives, such as options models or present values, may be used.

### *Options*

~~14.85~~14.97 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 payable. A liability should be entered in the sector of the writer of the option to represent either the current cost of buying out the rights of the option holder or the accrual of a holding gain. Depending on how margin systems operate, it may be appropriate to enter zero for the value of an option, as any profits (losses) will have been received (paid) daily by the holder. The counterpart of these asset entries should be entered as liabilities.

### *Forwards*

~~14.86~~14.98 A forward is recorded at market value. When payments are effected, the value of the asset and associated liability is amortized and subsequently reflected in the balance sheet value on the appropriate accounting date. The market value of a forward contract can switch between an asset position and a liability position between accounting dates depending on price movements in the underlying item(s). All price changes, including those that result in such switches, are treated as revaluations.

## *Employee stock options*

~~14.87~~14.99 Employee stock options (ESOs) should be valued by reference to the fair value of the equity instruments granted. The fair value of equity instruments should be measured at grant date using a market value of equivalent traded options (if available) or using an option pricing model (binomial or Black-Scholes) with suitable allowance for particular features of the options. The IASB gives detailed recommendations on how ESOs may be valued and their recommendations are likely to be followed by corporations using ESOs as a form of ~~compensation~~remuneration for their employees. The value of the ESO alters between grant date and vesting date and then between the vesting date and exercise date as the value of the shares covered changes. ~~Part 6 of e~~Chapter ~~17~~25 covers ESOs in more detail.

## **Other accounts receivable or payable**

~~14.88~~14.100 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 outstanding amount ~~of principal~~ the debtors are contractually obliged to pay the creditors when the obligation is extinguished. Interest due but not paid on other accounts receivable or payable may be included here but, in general, interest due but not paid on deposits, debt securities and loans is recorded as increasing the value of the asset concerned. Interest accruing on deposits and loans may have to follow national practices and be classified here if it is not incorporated into the principal-outstanding amount of the relevant loan or deposit.

~~14.89~~14.101 Emission permits are treated as prepaid taxes on production. As such, they are also recorded as part of other accounts receivable and payable. They should be valued at their nominal value, despite the fact that they may be tradable and have a market price which is different from the prepaid taxes on production at issuance prices.

## **4.5. Net worth**

~~14.90~~14.102 Net worth is the difference between the value of all financial and non-financial assets and all liabilities (including shares and other equity) at a particular point 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.

~~14.91~~14.103 For government, households and NPISHs, the value of net worth is clearly the worth of the unit to its owners. 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. For other corporations, the situation is less clear-cut.

~~14.92~~14.104 In the SNA, net worth of corporations is calculated in exactly the same way as for other sectors, as the sum of all assets less the sum of all liabilities. In doing so, the value of shares and other equity, which are liabilities of corporations, are included in the value of liabilities. Shares are included at their market price on the balance sheet date. 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.

~~14.93~~14.105 An alternative calculation is similar to the treatment of quasi-corporations. This calculates the value of the shareholders' equity in such a way that net worth is zero. This calculation of shareholders' equity is called own funds and is calculated as the sum of its assets less the sum of its liabilities other than shares.

~~14.94~~14.106 A non-zero value of own funds comes about through a number of factors. One reason is the existence of "assets" that are not recognized as such in the SNA such as purchased goodwill and marketing assets. Another is that the view in the SNA that the value of some financial assets, such as bonds and non-performing loans, may not coincide with a fair value approach. Some or all of these items may be available from the balance sheet of the corporation and it may be useful to compare the sum of these with the amount derived as the difference between net worth and the value of owner's equity. (For unlisted shares, indeed, this may be one way to value these shares.) Further, the market value of shares reflects market sentiment about future income streams which may fluctuate with much more volatility than the underlying value of the corporation.

~~14.95~~14.107 Own funds include accumulation over time of retained and reinvested earnings. Once current transfers receivable are added to entrepreneurial income and current transfers payable (and the pension entitlement adjustment) are deducted, what remains is available for distribution in the form of dividends. Retained earnings are the amount of a corporation's income available for distribution as dividends that is not so distributed. This amount may be negative on occasion, representing a withdrawal from own funds. In the case of a direct investment enterprise a proportion of retained earnings is treated as reinvested earnings, the proportion depending on the extent of the direct investor's ownership of the corporation. These earnings are recorded in the financial account as being reinvested in the corporation and form part of own funds at that time.

~~14.96~~14.108 From time to time, some of own funds may be assigned to (or withdrawn from) either general or special reserves. They may be augmented by an injection of capital by the owners or by the receipt of investment grants.

## **5.6. Memorandum Supplementary items**

~~14.97~~14.109 In addition to the ~~memorandum supplementary~~ items on non-performing loans, the SNA ~~allows for two~~ encourages the compilation of ~~memorandum supplementary~~ items to the balance sheets in order to show items not separately identified as assets in the ~~central framework~~ sequence of economic accounts that are of more specialized analytic interest for particular institutional sectors. These ~~two~~ relate to consumer durables, concessional lending, and foreign direct investment, and provisions.

### **Consumer durables**

~~14.98~~14.110 Households acquire durable goods such as cars and electrical goods. However, these are not treated as being used in a production process giving rise to household services. They therefore do not constitute fixed assets and are not shown as such in the balance sheet. Nevertheless, it is useful to have data on these goods and so consumer durables are included in the balance sheets as a ~~memorandum supplementary~~ item. The stocks of consumer durables held by households are to be valued at current prices, both gross and net of accumulated depreciation equivalent to consumption depreciation of fixed asset capital. The figures shown as ~~memorandum supplementary~~ items in the balance sheet should be net of these accumulated charges.

~~14.99~~14.111 Durable goods held 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 same holds for durable goods such as vehicles which are partly used by self-employed to offer taxi services to third parties. The values shown in the balance sheet for the enterprise, or self-employed, should reflect the proportion of the use that is attributable to the enterprise, but this may not always be known in practice.

### **Concessional lending**

14.112 Institutional units may lend to other units under conditions in which the contractual interest rate is intentionally set below the market interest rate that would otherwise apply. The degree of "concessional" can be enhanced with grace periods, frequencies of payments and a maturity period favourable to the debtor. Since the terms of a concessional loan are more favourable to the debtor than market conditions would otherwise permit, concessional loans effectively include a transfer from the creditor to the debtor. In the sequence of economic accounts, adjustments are only made for concessional loans provided by employers to employees, whereby the difference between the market interest rate and the concessional rate is recorded as remuneration of employees.

14.113 In view of its importance for various analytical purposes, it is encouraged to compile, as supplementary items, statistics on concessional loans provided by governments and international organisations. The supplementary items consist of the nominal value of such loans in the sequence of economic accounts, as well as the adjusted nominal value of these loans. The latter value is to be calculated by adjusting the original nominal value with the net present value of the future concessional elements. Alternatively, the adjusted nominal value could be estimated by the net present value of future payments discounted with the market interest rate. The difference

between the two nominal values is considered to be a capital transfer at inception. The latter is recommended, because the decision to provide a lower interest rate for a certain period of time at the start of the loan, or the decision to change the conditions of a loan, is an explicit policy decision at the time of inception or at the time of changing the conditions.

## **Foreign direct investment**

14.114 Just as flows of foreign direct investment are shown in the financial account, so it is interesting to have similar items in the balance sheets showing the stock of assets and liabilities invested in the country by non-residents and invested abroad by residents. All sectors may have foreign direct investment abroad; only financial and non-financial corporations (excluding non-profit institutions within them) may receive foreign direct investment from abroad.

## **Accounting for provisions**

14.115 To arrive at a better understanding of (potential) financial vulnerabilities, it is encouraged to compile supplementary items for (changes in) three types of provisions, as follows:

- a. *Financial assets related provisions.* This category concerns provisions which have a clear relationship with financial assets. They include provisions for losses on loans and other financial assets. Provisions for calls under standardized guarantees are not included, as these provisions are recognised as liabilities in the sequence of economic accounts.
- b. *Non-financial assets related provisions.* This category concerns provisions which have a clear relationship with non-financial assets such as mineral and energy resources. They include but are not necessarily confined to anticipated terminal costs (e.g., future obligations to remove offshore oilrigs and to restore sea beds), and potential compensation payments for damages caused by process of extracting natural resources (e.g., damages caused by oil spills or damages to neighbouring dwellings and other structures resulting from mining activities).
- a-c. *Provisions unrelated to asset ownership.* This category includes, for example, provisions made in respect of warranties, customer refunds, and the like. Provisions for major compensation payments related to, for example, health damages caused by produced goods and services, are also included.