Chapter Four

Accounting Framework and Sectoral Financial Statements

Introduction

4.1 Fundamental to understanding the financial condition of deposit-takers, other corporations, and households is information from the traditional financial statements on income and expense, and the stock of assets and liabilities—the balance sheet. Data series obtained from such statements can be used to calculate many of the FSI ratios for corporations and households.

4.2 This chapter begins by outlining the traditional accounting framework for which financial statements are drawn, before presenting detailed sectoral financial statements and defining the line-item series. The guidance is provided in order to assist in the compilation of the component series required to calculate the FSI ratios. It draws upon the relevant conceptual advice for other economic statistics, international accounting standards and supervisory guidance, and takes account of macroprudential requirements.

4.3 In addition to data reported by individual institutions consistent with the guidance in this chapter, some data are required to make adjustments at the sector-level primarily to eliminate transactions and positions among institutions within the same sector. While sector-level data are discussed in more detail in Chapter 5, where appropriate the series required for sector-level adjustments are noted in footnotes in this chapter.[38]

4.4 Also, it is recognized that the development of FSI data is a new initiative in many countries and so to compile these data in the short-term may well require reliance upon

[38] The *Guide* prefers the reporting of financial statement data by individual institutions on a basis that is internally consistent for each institution, with additional information provided by individual institutions to permit appropriate adjustments at the sector-level. This approach will not only provide more coherent information from the viewpoint of an individual institution but it also facilitates identification of intra-sector transactions and positions and is consistent with the approach to peer group and dispersion analysis as described in Chapter 13.

existing data from sectoral financial statements based on domestic accounting standards, particularly for cross-border consolidated-based deposit-takers' data. In this regard, the definitions provided in the *Guide* can be considered to be a benchmark or reference point to help guide the future development of sectoral financial data to be used to calculate FSIs.

Accounting Framework

4.5 Outlined ahead are the key elements of financial statements.

Income and expense statement

4.6 This statement includes income and expenses related to the operations of the entity. After expenses have been deducted along with any dividends paid or payable to shareholders, any remaining income is transferred to the capital and reserves as retained earnings. As noted in Chapter 3, in the *Guide* income and expenses are recorded on an accrual rather than a cash basis. As defined in the *Guide*, net income before dividends measures the increase or decrease in value during the period that arises from the activities of the deposit-taking sector.

Balance Sheet

4.7 The balance sheet is the statement of assets, liabilities, and capital at the end of each accounting period:

- Assets include both financial and nonfinancial assets.
- Liabilities include debt liabilities and financial derivatives.
- The difference between the value of assets and liabilities is known in the *Guide* as capital and reserves.[39] This represents the "cushion" to absorb any losses arising from

[39] Capital and reserves is the term used in the international accounting standards (IAS1.66), and is consistent with the terminology used in the list of FSIs. In the *1993 SNA* the equivalent terms are "shares and other equity" together with "net worth." In the *Guide*, the term "shares and other equity" is used to denote equity assets.

the income and expense statement, or for other reasons. If liabilities exceed assets, then the entity is technically insolvent.

4.8 Some liabilities and assets of corporations are contingent on a certain event(s) occurring and are recorded off-balance sheet (see paragraph 3.12). As noted in Chapter 3, such items require monitoring to assess the full financial risk exposure of the corporation.

4.9 Recorded measures of profitability and capital depend on the accounting definitions adopted. For instance, if valuation gains and losses on assets are recorded in the income and expense statement, they will affect the recorded profitability of corporations, or if some assets or liabilities are off- rather than on-balance sheet, this will affect measured capital. In developing the guidance on definitions set out ahead, to a varying extent three sources of accounting definitions are drawn upon. These are described in Box 4.1.

4.10 Appendix III provides a detailed reconciliation of the definitions set out in this chapter with those in both national and commercial accounting—the basic data sources most likely to be drawn upon. This appendix supplements the main text, and can be drawn upon for additional guidance.

Sectoral Financial Statements

4.11 Sectoral financial statements are set out ahead on an institutional sector basis. While the statements for the specific sectors have a considerable degree of overlap in terms of line-item series identified, particularly in the balance sheet, there are significant differences in presentation between the sectors. These differences have implications for the calculation of FSIs. For instance, the net interest margin is an important FSI series for deposit-takers, but not for the household sector, for which gross disposable income is a more relevant measure. The deposit-taking sector is presented first, because of its central role in the financial system and the wider range of series from the sectoral financial statements required to calculate FSIs for this relative to other sectors.

4.12 The line-item series in the financial statements ahead for which definitions are provided are those required to calculate the FSIs set out in Chapters 6 and 7, either directly, or as important building blocks in required aggregates. The advantage of defining these series within the framework of a financial statement is the accounting rigor that is imposed—the series are defined so as to ensure that the integrity of a double-entry recording system is maintained, while promoting a consistency of approach in the classification and coverage of transactions and positions. The conceptual guidance for the calculation of financial market FSIs is provided in Chapter 8.

4.13 Unless stated otherwise, each series is defined only once ahead, even if it appears in other sectoral financial statements. Most of the definitions are provided in the section covering the deposit-takers' financial statement. It is recognized that there may need to be a degree of flexibility in interpretation of this guidance when compiling data, not least in the short term when there will be reliance on existing national data sources. When disseminating data, compilers are encouraged to document any significant differences between national practice and the guidance ahead.

Deposit-takers

Income and expense

4.14 The sectoral financial statement for deposit-takers is set out in Table 4.1.

4.15 For deposit-takers the main source of revenue and expense is interest. **Interest income** is a form of income that accrues on debt instruments such as deposits, loans, debt securities, and other accounts receivable, and for the borrower is the cost (known as an interest cost) of the use of another entities' funds. As explained in Chapter 3 (paragraph 3.7) in the *Guide* interest is recorded as accruing continuously, so matching the use with the provision of funds. As can be seen in Table 4.1, the difference between interest expense and interest income is known **net interest income.**

4.16 A specific issue arises as to whether interest should accrue on nonperforming assets, and if so should this affect the net interest income line. The *Guide* recommends that interest income should not include the accrual of interest on nonperforming assets, because otherwise net interest income would be overstated relative to the actual interest earning capacity of the deposit-taker.[40]

4.17 But, to ensure consistency of approach between debtors and creditors, Table 4.1 includes the line-items for *gross interest income* including interest accrual on nonperforming assets, and *provisions for interest accrual* on nonperforming assets. The latter should be deducted from the former to eliminate the interest accruing on non-performing assets in the interest income line.[41] [42] If the debtor subsequently pays interest on nonperforming assets to the deposit-taker, interest income should increase through an adjustment to the provision in the period payments are received and, if significant, referred to in any accompanying explanatory documentation.[43] If any interest accrued before an asset was classified as nonperforming, given that such accrual would increase the value of the asset, a specific loan loss provision would be appropriate (see paragraph 4.29). If data are only available on interest income excluding interest accrual on nonperforming assets, then only the interest

[40] The *Guide* recognizes that while in many countries classification of an asset as nonperforming is strong evidence for it to be placed on a nonaccural basis, the provision of collateral or if there are other guarantees might lead the deposit-taker to consider that the debtor will continue to meet his obligations. While accepting that national practices do vary on this matter, for the purposes of developing international guidance for FSIs, the *Guide* considers classification as nonperforming is sufficient evidence to cease accruing interest on the asset and to only record interest income if the debtor subsequently makes an interest payment—that is, interest on a nonperforming asset is recorded on a cash payment not accrual basis.

[41] The BCBS in its paper *Sound Practices for Loan Accounting and Disclosure* (1999), page 29, notes the need for such an approach in countries where as a result of laws or regulations banks must accrue interest on impaired loans in accordance with the original terms of the contract. Nonetheless, the general guidance of the BCBS is that for impaired loans a bank should cease accruing interest in accordance with the contract.

[42] The approach of accruing at the contractual rate and including a provision for interest accrual could be adopted for an instrument not classified as nonperforming but on which part but not full payment of interest is expected in the coming period (s), or has occurred in the period being reported. In such instances, simply accruing interest at the contractual rate would likely overstate income.

[43] Where interest ceases to accrue on claims on other deposit-takers in the reporting population, to avoid asymmetric reporting of net income at the sector-level, additional information on the amounts involved should be reported—both the provisions and any amounts subsequently paid.

income line (line 1 in Table 4.1) should be reported. Appendix IV provides numerical examples of how to record interest on nonperforming loans.

4.18 **Noninterest income** is all other income received by the deposit-taker. Included are **fees and commissions** from the provision of services, **gains and losses on financial instruments**,[44] and **other income.** Net interest income together with noninterest income equates to **gross income**.

4.19 **Fees and commissions** cover such services as payment services; intermediary services (e.g., those associated with lines of credit, letters of credit, etc.,); services related to transactions in securities (e.g., brokerage fees, placements and underwriting of new issues, arrangement of swaps and other financial derivatives, security lending, etc.); and services related to asset management (e.g., portfolio management, safe-custody).

4.20 **Gains and losses on financial instruments** are those arising during the period under review. The *Guide* encourages the inclusion in this item of realized and unrealized gains and losses arising during each period on all financial instruments (financial assets and liabilities, in domestic and foreign currencies) valued at market or fair value in the balance sheet, [45] including investment account securities, but excluding equity in associates, subsidiaries, and any reverse equity investments.[46] [47] Gains and losses on financial derivative instruments, such as interest rate swaps, and on foreign exchange instruments are also included. Gains and

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44 Such gains and losses are not classified as income in the *1993 SNA*.

45 For data at the sector-level, gains and losses on any holdings of equity issued by other deposit-takers in the population should be excluded (see Box 5.1).

46 Associates and subsidiaries are defined in the next chapter.

47 Changes in the value of equity in associates, unconsolidated subsidiaries, and reverse equity investments are excluded from this income line because income would be double counted—the line *other income* includes the prorated share of profits and losses from associates, and unconsolidated subsidiaries and reverse equity investments. Also, if a deposit-taker sells a stake in a deposit-taking associate or subsidiary (or there is a disinvestment of a reverse investment) at a value greater than the proportionate value of the capital and reserves, the difference should not be included within income, but added to selling deposit-takers' capital and reserves, so ensuring symmetric treatment with that for goodwill, which is deducted from capital and reserves (see also paragraph 4.116).

losses on financial instruments exclude any interest included in the net interest income account as accrued for that instrument in the reporting period, as such amounts have been already accounted for in the income account as interest income.

4.21 Traditionally in deposit-takers' accounts, this item has covered gains and losses recorded on assets and liabilities held for a short-time period as deposit-takers seek to take advantage of short-term fluctuations in market prices. Coverage varies among the various accounting standards, but typically includes realized and unrealized gains/losses during the period on securities and derivatives held in the so-called dealing account[48](including gains and losses arising from on-selling of securities acquired under security repurchase agreements, securities lending, and sell/buyback arrangements—see paragraph 4.45); any realized gains/losses in the period on sales of securities held in the investment account; and gains or losses arising from the holding, and sale and purchase, of foreign exchange instruments (assets and liabilities, except for equity investments in associates and subsidiaries), including foreign exchange derivative contracts (assets and liabilities).

4.22 However, the *Guide* encourages the wider coverage of gains and losses on financial instruments outlined in paragraph 4.20 so that:

(1) ***Net income reflects current health and not past developments.*** In other words, changes in the value of financial instruments that can be reliably measured are recorded in sector income in the period they arise.[49] Experience has demonstrated that the build–up of hidden gains and losses unrecorded in the income statement until realized can be misleading for macroprudential analysis.

(2) ***Return on capital is reliably observed.*** Capital is employed by deposit-takers to generate net income primarily through activity in financial instruments. Excluding unrealized

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[48] Banks typically distinguish in their accounts between securities held for trading (dealing account or trading book) and those held for long-term investment (investment account or banking book) usually to maturity. IAS 39 distinguishes between financial instruments held for trading, financial assets held to maturity, loans and receivables, and financial assets available for sale.

[49] For nontraded instruments, reduction in value recognized by the deposit-taker is reflected in provisions.

gains and losses in financial instruments, whose value can be reliably measured, obscures in any one period the extent to which capital is efficiently employed. While immediate recognition of gains and losses might generate greater period-to-period volatility in the return on capital data than nonrecognition, understanding the causes of such volatility and observing the trend overtime provides a more robust basis for macroprudential analysis.

(3) ***The relative importance of gains and loses on those financial assets and liabilities valued at market or fair value can be monitored.*** Experience has shown that gains and losses on financial instruments can be a more volatile element in deposit-takers' earnings than other income items, perhaps reflecting potentially greater risk-taking. Identification of the size and sensitivity of deposit-taker's income and capital to changes in market conditions is best observed by time series data that captures the gains and losses on an on-going basis.

(4) ***To avoid asymmetric reporting of gains and losses at the sector-wide level.*** If individual deposit-takers record gains and losses on the same instrument at different times this will lead to inconsistent measures of net income at the sector-level.

4.23 Appendix IV provides numerical examples of how to record gains and losses on financial instruments.

4.24 It is acknowledged that coverage of gains and losses as set out in paragraph 4.20 may not be feasible for reporters at the time of writing, and that data collection systems may need to be developed.

4.25 For those financial instruments for which gains and losses can only be recorded when realized, the gain or loss should be measured as the difference between the transaction value and the market value recorded on the balance sheet at the end-previous period. Any unrealized gains or losses that developed over previous periods and included in the valuation adjustment should be transferred to retained earnings. In other words, so as not to distort measures of current health, or create adverse selection-type incentives described in paragraph 3.22, net income should not reflect the realization of gains or losses that have developed in the balance sheet valuation of financial instruments and been retained over a number of reporting periods. In addition, all gains or losses in the reporting period—that is, since the previous end-period—that are realized on any other financial assets (except for those related to associate, subsidiary and reverse equity investments, which are all recorded directly in capital and reserves) should also be included within the gains and losses on financial instruments line. This includes losses on loan sales. If these gains and losses are significant in any one period, compilers are encouraged to provide additional information so that their importance to the data disseminated can be judged.

4.26 **Other income** covers (1) the prorated share—on the basis of the share of equity owned—of net income after tax from associates, and unconsolidated subsidiaries [50] and reverse equity investments, and, for domestic-based data, foreign branches.[51] [Separate identification of this series as a line item in Table 4.1 would provide information on the extent to which earnings from investments in associates and subsidiaries were boosting or reducing income. IMF staff would welcome comments on the idea of such separate identification.]; (2) dividends declared payable by other corporations or cooperatives in which deposit-takers have an equity stake;[52] (3) gains or losses on sales of fixed assets in the current period (measured as the difference between the sale value and the balance sheet value at the previous end-period);[53] (4) rent, rental, and royalty income receivable (including on buildings, other structures, and equipment; from land and subsoil assets; and from other

[50] This item also covers income reflecting the withdrawal of income by the owner from a quasi-corporation. Only withdrawal of income from the net income earned by the quasi-corporation should be included.

[51] At the sector-level, any earnings from deposit-taking associates that are covered in the reporting population should be excluded from this line (see also Box 5.1).

[52] To avoid double counting of income before extraordinary income and tax, in the sector-level data, dividends receivable from other deposit-takers in the reporting population should be excluded from this item and instead included (with a negative sign) in the dividends payable line—so, the data for dividends payable by, and receivable from, other deposit-takers in the reporting population will net to zero in this line.

[53] At the sector-level, any gains or losses realized through a sale of a fixed assets to another deposit-taker in the reporting population should, in concept, be excluded from this item and not affect net income. This is because the valuation gain/loss remains unrealized by the sector as a whole. In concept, only when fixed assets are sold to an entity outside the sector should such gains or losses be recorded in the income account. While maintaining records of fixed assets by transactor might raise practical difficulties, it is recommended that at least significant gains and losses for the period under review arising from sales to another deposit-taker in the reporting population be identified subject to confidentiality constraints and deducted from sector -wide income.

produced and nonproduced assets) and (5) any amounts receivable by deposit-takers arising from compensation for damage or injury.

4.27 **Operating expenses** covers all expense other than interest expense. They include operating expenses relating to the ordinary banking business (other than interest expenses), such as personnel (or staff) costs (see ahead); expenses for property and equipment —ordinary and regular maintenance and repair,[54] rentals paid on building, other structures and equipment (and related depreciation),[55] and rents paid on land; other expenditures related to the operations—including purchases of goods and services, (e.g., advertising costs, staff training service expenses, etc.), and royalties paid for the use of other produced or nonproduced assets (excluding those expenses classified as personnel costs (see ahead)); and taxes other than income taxes—such as taxes on the ownership or use of land and buildings or on labor employed (including payroll and other employee related taxes payable by the employer)—less any subsidies received, such as from general government, related to operating activity. Also included are any fines and penalties imposed on deposit-takers, such as by courts of law, and any amounts payable by deposit-takers as compensation to other institutional units for injury and damage. For deposit-takers, operating expenses also include any premiums paid to a deposit insurance fund.

4.28 **Personnel costs** include the total remuneration, in cash or in kind, payable by the enterprise in return for work done by employees during the accounting period. Included are wages and salaries, including paid annual leave and paid sick leave, profit sharing and bonuses, allowances for housing and cars, as well as free or subsidized goods and services provided (except those required for employees to carry out their work); social security contributions, for such items such as medical care and pensions; [and possibly the value of stock options, depending upon methodological work elsewhere]. Also included are unfunded

[54] Such expenses are different in nature, and so recorded differently, from expenditures on gross fixed capital formation, which add to nonfinancial assets in the balance sheet.

[55] There are differences in principle between the national accounts and commercial accounts measurements of depreciation. The *Guide* does not make a judgment as to the preferred method. As explained in Appendix III, the national accounts approach is based on current market prices, whereas commercial accounts is based on historic prices, but allows for periodic reviews with adjustments to the schedule of depreciation as necessary.

employee social insurance benefits such as the continued payment of normal or reduced wages during periods of absence from work as a result of ill health and accidents, redundancy payments, etc.

Table 4.1: Deposit-Takers

Income and expense statement	Balance sheet
1. Interest income[1] (i) Gross interest income (ii) Less provisions for accrued interest on nonperforming assets 2. Interest expense[1] 3. *Net interest income* (= 1 minus 2) 4. Non-interest income (i) Fees and commissions receivable[1] (ii) Gains or losses on financial instruments (iii) Other income[1] 5. *Gross income* (= 3 + 4) 6. Operating expenses (i) Personnel costs (ii)Other expenses 7. Provisions (net) (i) Loan loss provisions (ii) Other financial asset provisions 8. *Net income (Before extraordinary items and taxes)* (= 5 minus (6 + 7)) 9. Extraordinary items 10. Income tax 11 *Net income after tax* (= 8 minus (9 +10)) 12. Dividends payable 13. *Retained earnings* (= 11 minus 12)	14. **Total assets** (= 15+16 = 31) 15. *Non-Financial Assets* 16. *Financial Assets* (=17 to 22) 17. Currency and deposits[1] 18. Loans (after specific provisions) (i) Gross loans[1] (i.i) Interbank loans[2] (i.i.i) Resident (i.i.ii) Nonresident (i.ii) Non-interbank loans (i.ii.i) Central bank (i.ii.ii) General government (i.ii.iii) Other financial corporations (i.ii.iv) Nonfinancial corporations (i.ii.v) Other domestic sectors (i.ii.vi) Nonresidents (ii) Specific provisions [3] 19. Debt securities[1] 20. Shares and other equity 21. Financial derivatives[1] 22. Other assets[1] 23. *Liabilities* (= 28 +29) 24. Currency and deposits (i) Customer deposits (ii) Interbank deposits[2] (ii.i) Resident (ii.ii) Nonresident (ii) Other currency and deposits 25. Loans 26. Debt securities 27. Other liabilities 28. *Debt* (= 24+25+26+27) 29. Financial derivatives 30. Capital and reserves (i) o/w narrow capital and reserves [4] 31. **Balance sheet total (=23+30 = 14)**

Memorandum series

Other series required to calculate the agreed FSIs

Supervisory series

32. Tier 1 Capital
33. Tier 2 Capital
34. Tier 3 Capital
35. Supervisory deductions
36. *Total net capital resources* (item 32 to item 34 minus item 35)
37. Risk-weighted assets
38. Number of large exposures

Series that provide a further analysis of the balance sheet

39. Liquid assets (core)
40. Liquid assets (broad measure)
41. Short-term liabilities

42. Nonperforming loans
43. Residential real estate loans
44. Commercial real estate loans
45. Geographic distribution of loans [5]
46. Foreign currency loans
47. Foreign currency liabilities
48. Net open position in equities

49 Net open position in foreign currency for on-balance sheet items

Balance sheet-related series

50. Total net open position in foreign currency
51. Exposures of largest deposit-takers to largest entities in the economy
52. Exposures to affiliated entities
53. Duration of assets
54. Duration of liabilities

Additional series

55 Shares and other equity investments in deposit-takers in the reporting population
   (i) Associates
   (ii) Other deposit-takers

56. Other nonperforming assets
57. Net liabilities of branches of foreign deposit-takers to their parents [6]
58. Assets transferred to special purpose entities
59. Guarantees
    Resident
    Nonresident
60. Credit commitments
    Resident
    Nonresident
61. Gross loans to public sector
62. Loan loss reserves
63. Arrears

[1] To understand the interconnections among deposit-takers, separate identification of income and claims on other deposit-takers in the reporting population is encouraged.
[2] Interbank loans and deposits comprise those loans to or deposits from any other deposit-taker (resident or nonresident).
[3] If gross loans data are only available including the accrual of interest on nonperforming loans, any provisions for accrued interest on nonperforming loans should be included in this line item, and if significant, separately identified.
[4] Funds contributed by owners plus retained earnings (including appropriations from retained earnings to reserves). Purchased goodwill is excluded. Only compiled if Tier 1 data are not available.
[5] While individual country circumstances will vary, data on the regional distribution of lending is encouraged, with additional country information where relevant.
[6] For domestic consolidated data only, if branches of foreign deposit-takers are located in the economy. Gross liabilities could also be identified.

4.29 **Loan loss provisions** are net new allowances that deposit-takers make in the period against bad or impaired loans, based on their judgment as to the likelihood of losses occurring.[56] General provisions are provisions not attributed to specific assets but the amount of potential losses that experience suggests may be in a portfolio of loans. Such provisions are sometime calculated as a percentage of total assets, or by applying progressively higher percentages for lower quality assets, reflecting the probability of losses. Specific provisions are charges against the value of specific loans (including a collectively assessed group of loans) and reflect identifiable losses.[57]

4.30 The *Guide* relies on national practices in identifying loan loss provisions and distinguishing between specific and general provisions, but recommends that such practices be clearly documented. Provisions for the accrual of interest on nonperforming assets should not be included under this item because they are identified within (and excluded from) net interest income.[58] While provisions for losses or future expenses reduce net income, subject to national practice, overprediction of expected losses or expenses in any one period could be

[56] At the sector-level, provisions against loans to other deposit-takers in the reporting population should be excluded from this item to avoid asymmetric reporting.

[57] See also the advice in the BCBS's *Sound Practices for Loan Accounting and Disclosure* (1999), notably on page 13.

[58] As noted in paragraph 4.17, for any interest that has accrued in earlier periods but is subsequently considered to be an expected identifiable loss, the provision for the loss should be included in this line item, and not as a provision for accrued interest on nonperforming assets.

reversed in subsequent periods, amongst other things, increasing income in those periods. An explanation of how provisioning affects assets and capital and reserves is provided in Box 4.3.

4.31 **Other financial asset provisions** include provisions against any other financial assets that can be valued reliably. If it is not feasible at this time to include unrealized gains and losses on securities—such as those in the investment account—within gains and losses on financial instruments (see paragraph 4.20), the same approach to loan provisioning should be adopted for these securities, so that losses on these assets are captured within net income.[59] This item also includes any new provisions made for supervisory purposes to take account of changes in the volatility of bid-ask spreads or other factors relating to closing out a position in a less-liquid tradable instrument.[60] Gross income less operating expenses and provisions[61] equates to **net income (before extraordinary items and tax)**.

4.32 **Extraordinary items** cover events that are extraordinary by the nature of the event or transaction in relation to the business ordinarily carried out by the enterprise. Such events would be rare and include catastrophic losses arising from a natural or other disaster. Extraordinary items can include income but will usually be expense items. **Income taxes** are those taxes that accrue in the period and are related to the income, profits and/or capital gains of deposit-takers. Once extraordinary items and taxes are deducted, the total equates to **net income after tax**.

4.33 **Dividends** are income, and are amounts declared payable in the period to the owners of deposit-takers after all other expenses have been met, leaving **retained earnings** to be posted to the retained earnings account of capital and reserves.

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[59] Specific provisions against the value of a security should reduce the value of the security in the balance sheet, as though it was being marked-to-market.

[60] See also paragraph 579 of the draft revised Basel Capital Accord (January 2001).

[61] For provisions and extraordinary items these items should usually represent a loss. However, if not in any one period, they add to income.

Balance sheet

Nonfinancial assets

4.34 Nonfinancial assets are all economic assets other than financial assets. A definition of these assets is provided in the discussion ahead of the sectoral balance sheet for nonfinancial corporations (paragraph 4.112).

Financial assets and liabilities

4.35 **Financial assets**[62] are those financial claims over which ownership rights are enforced, from which economic benefits may be derived by their owners and are a store of value. Financial claims arise out of contractual relationships between pairs of institutional units, and in many instances, such claims entitle the owner (i.e., the creditor), to receive one or more payments e.g., interest payments, from the institutional unit on whom they have the claim (the debtor). In addition, some financial assets generate holdings gains (and losses) for their owners. When a financial claim is created, a **liability** of equal value is simultaneously incurred by the debtor as the counterpart to the financial asset.

4.36 The identification and presentation of the different types of financial assets and liabilities can vary depending on analytical needs and national accounting practice. In the list of FSI ratios, the primary focus is on instruments by functional type, such as loans, equities, securities, and derivatives. Thus, in the *Guide*, the primary classification of financial assets and liabilities is: *currency and deposits*, *loans*, *debt securities*,[63] *shares and other equity (assets)*, *capital and reserves*, *financial derivatives*, and *other assets (liabilities)*.

4.37 **Currency** consists of notes and coins in circulation that are commonly used to make payments. They are usually (but not always) issued either by central banks or government

[62] In the *1993 SNA*, financial assets also include monetary gold and SDRs, financial assets for which there are no counterpart claims. But in the *1993 SNA*, by definition, only the official sector, typically the central bank, can be regarded as holding such assets.

[63] Known as “securities other than shares” in the *1993 SNA* and *MFSM*.

units and are liabilities of the units that issue them. Currency has a fixed nominal value. Gold and commemorative coins that are not in circulation as legal tender are classified as nonfinancial assets rather than currency.

4.38 **Deposits** include all non-negotiable financial claims represented by evidence of deposit. Deposits comprise transferable deposits and other deposits. Transferable deposits comprises all deposits in domestic or foreign currency that are (a) exchangeable, without penalty or restriction, on demand at par and (b) directly usable for making third-party payments by check, draft, giro order, direct debit/credit, or other direct payment facility.[64] Other deposits comprise deposits that have restrictions on the number of third-party payments that can be made per period and/or the minimum size of individual third-party payments and so are considered non transferable. These include:

- Sight deposits that permit immediate cash withdrawals but not direct third-party payments.
- Savings, and fixed-term deposits, including non-negotiable certificates of deposit.
- Nontransferable deposits denominated in foreign currency
- Shares or similar evidence of deposit issued by savings and loan associations, building societies, credit unions and the like, which are, legally or in practice, redeemable immediately or at relatively short notice.
- Repurchase agreements included in the national definition of *broad money* (see also paragraph 4.45).

[64] Shares of money market funds that offer unrestricted check-writing privileges can be regarded as functionally equivalent to deposits and maybe included in broad money. However, in the *Guide*, such assets and liabilities are classified as shares and other equity, because the nature, and hence regulation, of money market funds is different from that of deposit-takers.

4.39 **Customer deposits** are those considered to be more “stable,” less volatile, types of deposits that can be employed to fund long-term lending. It is a series required to calculate an encouraged FSI.

4.40 Volatility of deposits refers to how sensitive depositors are to events that could affect confidence in deposit-takers. More specifically, it refers to the likelihood that depositors will, at short notice, withdraw funds in response to a perceived weakness in an individual deposit-taker or in the banking system. Determining such a likelihood ex-ante is difficult, but typically the key factors taken into account are type of depositor, insurance coverage, and maturity (remaining maturity). Experience suggests that some types of depositors are less likely to move their funds than others; deposits covered by credible insurance schemes are more likely to be a stable form of funding than those not covered; while deposits with a long remaining maturity are likely to be more stable, although the penalties for withdrawal are relevant in that the lower the penalties the less relevant this factor to determining likelihood of withdrawal.

4.41 The *Guide* recommends that the type of depositor be the primary factor in defining customer deposits both because of its relevance and general applicability. Thus, customer deposits include all deposits (resident or nonresident) except those placed by other deposit-takers and other financial corporations. The depositors in the excluded sectors are more likely to monitor deposit-takers’ financial information, less likely to be covered by deposit insurance, and perhaps have a fiduciary responsibility to safeguard their assets—hence be more prone to shifting deposits as risks increase than other depositors. Perhaps because of deposit insurance, household depositors tend to be less aware of the risks, while commercial depositors may have other relationships with banks that make them more reluctant than institutional investors to move funds.[65] Provided it can be determined that the penalties for

[65] In discussions on the definition of customer deposits, the idea was raised that large nonfinancial corporations might well manage their liquidity similarly to other financial corporations. Given this, compilers might wish to distinguish deposit liabilities of deposit-takers into those held by publicly listed and unlisted nonfinancial corporations, excluding the former from the calculation of customer deposits. Any metadata accompanying the dissemination of FSI data should explain the coverage of customer deposits.

withdrawal are high, customer deposits could also include those from the excluded sectors that have a remaining maturity of over one year.[66]

4.42 **Loans** include those financial assets created through the direct lending of funds by a creditor to a debtor through an arrangement in which the lender either receives no security evidencing the transactions or receives a non-negotiable document or instrument. Collateral, in the form of either a financial asset (such as a security) or nonfinancial asset (such as land or building) may be provided under a loan transaction, though it is not an essential feature. Included are commercial loans, installment loans, hire-purchase credit, loans to finance trade credit and advances, financial leases, repurchase agreements not included in the national definition of broad money (see also paragraph 4.45)**,** and overdrafts. Trade credit and similar accounts receivable/payable are not loans. To meet the requirements of the agreed FSI list, in Table 4.1 loans to other deposit-takers (resident and nonresident) are distinguished from other loans, which are attributed by sector as defined in Chapter 2 on a residence basis.

4.43 If a loan becomes tradable and is, or has been, traded in the secondary market, the loan is reclassified as a debt security instrument. Given the significance of the reclassification, firm evidence of secondary market trading is needed before a debt instrument is reclassified from a loan to a security. Evidence of trading on secondary markets would include the existence of market makers and bid-offer spreads for the debt instrument. A transfer or one-time sale of a loan would not normally constitute a basis for reclassifying the loan as a security.

4.44 Two forms of loans require further discussion. A *financial lease* is a contract under which a lessee contracts to pay rentals for the use of a good for most or all of its expected economic life—so, de facto, the risks and rewards of ownership are transferred from the legal owner of the good, the lessor, to the user of the good, the lessee. The lessee is frequently responsible for the maintenance and repair of the good. Under statistical and accounting

[66] Another approach that could yield a similar outcome would be to determine customer deposits by type of deposit—that is, deposits known for their "stability" such as demand deposits, small scale savings, and time deposits, and/or covered by a (credible) deposit insurance scheme.

convention, the good is imputed to have changed ownership, and a loan liability of the lessee is created. The value of the loan at inception is equal to the value of the good. The loan is repaid through the payment of rentals (which comprise both interest and principal elements) and any residual payment at the end of the contract (or, alternatively, by the return of the good to the lessor).[67] The assets that have been leased should be removed from the balance sheet of the lessor.

4.45 A *securities repurchase agreement* (repo) is an arrangement involving the sale for cash of securities at a specified price with a commitment to repurchase the same or similar securities at a fixed price either on a specified future date (often a few days hence) or with an open maturity.[68] Because the risks and rewards of ownership of the security remain with the original owner, the economic nature of the transaction is that of a collateralized loan (or a deposit, depending on whether repos are included in the national definition of broad money)[69] In other words, the funds advanced by the security taker to the security provider are classified as a loan (or deposit) asset of the security taker (and a liability of the security provider), and the underlying securities remain on the balance sheet of the security provider, despite the legal change in ownership. A *gold swap*, under which gold is exchanged for other assets, usually foreign exchange, is similar in nature to repos and is to be recorded similarly. *Securities lending* is a similar arrangement to a repo except that noncash collateral in the form of securities provided, and so no loan is recorded. If the security taker provides cash as collateral, then the arrangement is treated in the same way as a repurchase agreement. The securities involved remain on the balance sheet of the security provider.

4.46 If securities acquired under a repo or securities lending arrangement are sold to third parties, the security taker should record on-balance sheet a negative security asset equal to the current market value of the security that was sold.

[67] Consistent with this statistical treatment, IAS regards the stream of payments associated with financial leases as substantially the same as blended payments of principal and interest under loan agreements.

[68] An open maturity exists when both parties agree daily to renew or terminate the agreement.

[69] Sell/buy backs are the same as repos in economic effect, but are less sophisticated operationally.

4.47 **Specific loan provisions** are the outstanding amount of provisions made against the value of individual loans (including a collectively assessed group of loans) (see also paragraph 4.29).[70]

4.48 **Debt securities** are negotiable[71] financial instruments serving as evidence that units have obligations to settle by means of providing cash, a financial instrument, or some other item of economic value. The debt security provides evidence that the claim exists, is traded or tradable in financial markets, and gives the holder an unconditional right to receive interest and/or principal payments. Examples of debt securities are

- Bills, such as treasury bills.
- Bonds and debentures, including bonds that are convertible into shares.
- Commercial paper.
- Negotiable certificates of deposit.
- Tradable depository receipts.
- Notes issued through revolving underwriting facilities and note-issuance facilities.
- Negotiable securities backed by loans or other assets.
- Loans that have become tradable de facto.
- Preferred stocks or shares that pay a fixed income but do not provide for participation in the distribution of the residual value of the corporation on dissolution.
- Bankers' acceptances.

[70] As it is recommended that interest on nonperforming loans should not accrue, specific provisions data should not include specific provisions for interest accrual on nonperforming loans.

[71] A negotiable financial instrument is one whose legal ownership is capable of being transferred from one unit to another unit by delivery or endorsement.

4.49 Some corporate bonds are convertible into shares of the same corporation at the option of the bondholder. If the conversion option is traded separately, then it is recorded as a separate asset, and classified as a financial derivative.

4.50 Table 4.1 includes all the above instruments under the heading of debt securities. However, it is recognized that national practice might separately identify certain types of instruments, such as government securities and/or securities considered to be of a liquid nature.

4.51 **Shares and other equity** comprise all instruments and records acknowledging, after the claims of all creditors have been met, claims on the residual value of a corporation. Ownership of equity is usually evidenced by shares, stocks, participation, or similar documents. Preferred stocks or shares, which also provide for participation in the distribution of the residual value on dissolution of an incorporated enterprise, are included. Buy-backs by a deposit-taker of its own equity securities reduce the number of shares outstanding.

4.52 Shares and other equity assets include equity investments in associates, unconsolidated subsidiaries and reverse equity investments, other equity investments in deposit-takers,[72] and, for domestic data, any share capital provided to foreign branches.

4.53 **Financial derivatives** are financial instruments that are linked to a specific financial instrument, indicator, or commodity, and through which specific financial risks can be traded in financial markets in their own right. Their value depends on the price of the underlying item. Unlike debt instruments, no principal is advanced to be repaid and no investment income accrues. Typical derivative contracts are futures (exchange traded forward contract), interest and cross-currency swaps, forward rate agreements, forward foreign exchange contracts, credit derivatives, and various types of options.[73] Gross market values for financial

[72] For sector-level data, the value of the investment in any other deposit-taker in the reporting population, should be excluded from this item, assets in total, and capital and reserves (see also Box 5.1).

[73] For additional information see *The Statistical Measurement of Financial Derivatives*, International Monetary Fund, Statistics Department, March 1998, available at www.imf.org.

derivative assets and liabilities should be recorded in the balance sheet and any valuation gains and losses in the income and expense statement.

4.54 Under a forward-type contract, the counterparties agree to exchange an underlying item—real or financial—in a specified quantity, on a specified date, at an agreed contract (strike) price or, in the specific instance of a swaps contract, the counterparties agree to exchange cash flows, determined with reference to price(s) of, say, currencies or interest rates, according to prearranged rules. At the inception of the contract, risk exposures of equal market value are exchanged and the contract normally has zero value. But as market prices change, asset and liability positions are created, which may change both in magnitude and direction over time.

4.55 Under an option contract, the purchaser of the option, in return for an option premium, acquires from the writer of the option, the right but not the obligation to buy (call option) or sell (put option) a specified underlying item—real or financial—at an agreed contract (strike) price on or before a specified date. Throughout the life of the contract the writer of the option has a liability and the buyer an asset, although the option can expire worthless; the option will be exercised only if settling the contract is advantageous for the purchaser.

4.56 The *Guide* prefers that if an instrument such as security or loan contains an embedded derivative that is inseparable from the underlying instrument, the instrument is valued and classified according to its primary characteristics, and the embedded derivative is not separately classified and valued.[74] Examples of instruments with embedded derivatives are bonds that are convertible into equity securities, and securities with options for the repayment of principal in currencies that differ from those in which the securities were issued.

4.57 **Other assets** (or **other liabilities** from the debtor perspective) cover trade credits and advances, prepayments of insurance premiums, and miscellaneous other items due to be

[74] If significant amounts of such securities are outstanding, there may be interest in their separate identification, particularly for securities that can be sold (put) back to the issuer.

received or paid. Miscellaneous other items receivable or payable include accrued but unpaid taxes, dividends (including dividends declared but not yet payable), purchases and sales of securities, rent, wages and salaries, social contributions, social benefits, and similar payments. Definitions of trade credit and advances, is provided in the discussion ahead of the sectoral balance sheets for nonfinancial corporations (paragraph 4.118). If significant provisions are made against these assets, particularly trade credit, compilers are encouraged to separately identify these provisions in the same manner as for loans (see above).

4.58 **Debt** is defined as the outstanding amount of those actual current, non-contingent, liabilities that require payments of principal and/or interest by the debtor at some point(s) in the future. Thus, debt comprises those financial liabilities that are currency and deposits, loans, debt securities, and other liabilities.

4.59 **Capital and reserves** is defined as the equity interest of the owners in an enterprise, and is the difference between total assets and liabilities.[75] It represents the amount available to absorb unidentified losses.

4.60 In the *Guide*, total capital and reserves include:

- *Funds contributed by owners*. This item comprises the total amount from the initial and any subsequent issuance of shares, stocks, or other forms of ownership of deposit-takers. This item is valued as the nominal amount of proceeds from the initial and subsequent issuances. It is not revalued.

- *Retained earnings*: Changes in this item reflects all after-tax profits that are not distributed to shareholders nor transferred to (reduce) and from (increase) the reserve and valuation accounts. Deducted (included) is any goodwill arising from the purchase (sale) of a stake in an associate or subsidiary (or reverse equity investment stake).[76] This item is also valued at the nominal amount of earnings that have been retained, and is not revalued.

[75] At the sector-level, the proportionate ownership share of a deposit-taker in the capital and reserves of an associate deposit-taker, and equity investments in other deposit-takers, that are also in the reporting population should be excluded from capital and reserves. See also Box 5.1.

[76] The deduction of goodwill is consistent with the approach in the Basel Capital Accord. See supervisory deductions ahead (paragraph 4.70).

- *General and special reserves*, are reserves that reflect appropriations from retained earnings. These reserves are also to be valued at nominal value and are not revalued.

- *Provisions* expensed in the income and expense statement (see paragraph 4.29) other than specific provisions. Specific provisions reduce the value of the relevant asset in the balance sheet.

- *Valuation adjustment* is the net counterpart to changes in the market or fair values of assets and liabilities on the balance sheet (excluding any such changes that impact on other items within capital and reserves, such as retained earnings). Unrealized gains or losses on assets or liabilities that have been reflected in the valuation adjustment and are realized should be transferred to retained earnings.[77] Following the *Guide* recommendations, in concept this item should only include valuation changes arising from nonfinancial assets, and in equity investments in associates, and unconsolidated subsidiaries and reverse investments that have not been reflected in retained earnings.

4.61 Tier 1 capital is the core measure of capital (see paragraph 4.67). In the absence of Tier 1 data, the data for funds contributed by owners together with retained earnings (including those earnings appropriated to reserves) could be identified.

4.62 Under consolidated reporting, when the parent has less than full ownership of a subsidiary, the capital and reserves attributable to **minority shareholders** in the subsidiary(ies) is included in capital and reserves, because the focus of FSIs is on the total capital and reserves of the deposit-takers in the reporting population.

[77] At the sector-level, for fixed assets, any gain or loss on sale to another deposit-taker in the reporting population should not affect retained earnings in capital and reserves because the gain/loss has not been realized by the sector. However, it is recognized that maintaining records of gains and losses on fixed assets by transactor and only transferring them to retained earnings once the asset is sold to another sector would raise considerable practical problems in that chains of sales, perhaps spread over years, would need to be monitored. So it is recommended that no sector-level adjustment be made to the components of capital and reserves for gains and losses on sales of fixed assets to other deposit-takers in the reporting population but that—subject to confidentiality constraints—any significant sales be identified and so that the impact on sector-level capital and reserves can be assessed.

Memorandum series

Other series required to calculate the agreed FSIs

4.63 Some of the series required to calculate the agreed FSIs are not directly available from the financial statements described above. They are included as memorandum items to the financial statement. These series fall into three categories: (1) supervisory based series; (2) series that provide a further analysis of the balance sheet; and, (3) balance sheet-related series. In addition, and beyond the series required to calculate the agreed FSIs, the memorandum items include additional series that in the discussions on the *Guide*, have been considered as particularly relevant for macroprudential analysis.

Supervisory-based series

4.64 These series are those to be directly sourced from supervisory information because the definitions adopted are those from supervisory guidance.

4.65 The Basel Committee on Banking Supervision has developed a specific **regulatory definition of capital** that is used as the numerator in its official regulatory capital adequacy ratio. The definition extends beyond purely capital and reserve account items identified above to include several specified types of subordinated debt instruments that need not be repaid if the funds are needed to maintain minimum capital levels.[78] All internationally active banks are expected to have regulatory capital of at least 8 % of a measure of **risk-weighted assets**. National supervisors may require a higher ratio, and have some leeway in establishing the specific standards for their country.[79]

[78] Basel Core Principle 6 states, "Banking supervisors must set prudent and appropriate minimum capital adequacy requirements for all banks. Such requirements should reflect the risks that the banks undertake, and must define the components of capital, bearing in mind their ability to absorb losses. At least for internationally active banks, these requirements must not be less than those established in the Basel Capital Accord and its amendments."

[79] At the time of the drafting of the *Guide*, a draft revised Basel Capital Accord is being discussed. So, this section provides an overview of the key aspects of the Accord rather than all the specific details. Information on the latter are available at the website of the BIS: http://www.bis.org

4.66 There are three tiers of regulatory capital. [80]

4.67 **Tier 1 capital** comprises paid up shares and common stock—issued and fully-paid ordinary shares/common stock and perpetual non-cumulative preference shares; and, disclosed reserves created or increased by appropriations of retained earnings or other surplus e.g., share premiums, retained profit, general reserves, and legal reserves, [81] and which are considered freely and immediately available to meet claims against the bank.[82]

4.68 **Tier 2 capital** consists of undisclosed reserves—that part of accumulated retained earnings that banks in some countries may be permitted to maintain as an undisclosed reserve; asset revaluation reserves—with regard to fixed assets, and long-term holdings of equities valued in the balance sheet at historic cost but for which there are "latent" revaluation gains; general provisions/general loan-loss reserves (up to 1.25 percent of risk assets);[83] hybrid instruments that combine the characteristics of debt and equity and are available to meet losses; and unsecured subordinated debt with a minimum original fixed term of maturity of over five years and limited-life redeemable preference shares. Tier 2 capitals nor subordinated debt cannot exceed 100 percent and 50 percent respectively, of tier 1 capital.

4.69 **Tier 3 capital** comprises medium-term debt of two-year or longer maturity with "lock-in provisions" that stipulate that neither principal or interest need be paid if the payment reduces the bank's overall capital to less than the minimum capital requirement. Tier 3 capital is intended to cover only market risk and is limited to 250% of Tier 1 capital.

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[80] Drawn from *Definition of Capital Included in the Capital Base* from Chapter 1, Annex 1 of *Compendium of Documents, Volume One*: *Basic Supervisory Methods* (1997), Basel Committee on Banking Supervision.

[81] They also include general funds, such as fund for general banking risk, subject to four criteria: allocations come from post-tax earnings or pretax earnings adjusted for potential tax liabilities; movements of funds in and out are separately disclosed in published accounts; the funds are available for unrestricted and immediate use against losses; and, losses must be taken through profit and loss account.

[82] Tax deferred assets should be accounted for consistent with the Basel Capital Accord.

[83] Provisions held against specific assets are excluded from being part of capital.

4.70 **Supervisory deductions** cover goodwill, as a deduction from Tier 1 capital, and, as a deduction from total capital, investments in unconsolidated banking and financial subsidiaries, and, at the discretion of national authorities, investment in capital of other banks and financial institutions.

4.71 **Risk-weighted assets** include currency and deposits, loans, securities, and other on-balance sheet assets. Assets are weighted by factors representing their riskiness and potential for default. Through the use of credit conversion factors, the credit risk of off-balance-sheet items, such as credit line commitments, letters of credit that serve as financial guarantees, etc., are also taken into account in determining regulatory capital requirements.[84]

4.72 **Large exposures** refers to one or more credit exposures to the same individual or group that exceed a certain percentage of regulatory capital, such as 10 percent.[85] The number of large exposures of deposit-takers is that identified under the national supervisory regime.

<u>Series that provided a further analysis of the balance sheet</u>

4.73 To calculate the agreed FSIs there is a need for a number of series that are subtotals of balance sheet totals, which provide a further analysis of the balance sheet beyond that presented in the main table.

4.74 **Liquid assets** are those assets that are readily available to an entity to meet a demand for cash. While it may be possible to raise funds through borrowing, conditions in the market may not always be conducive, and experience has shown the necessity for deposit-takers to maintain a prudent level of liquid assets. For a financial asset to be classified as a liquid asset, the holder must have the reasonable certainty that it can be converted into cash with speed and without significant loss.

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[84] As noted above, at the time of writing the Basel Capital Accord is being revised.

[85] See *Managing and Controlling Large Credit Exposures*, BCBS (1991).

4.75 To some extent, whether an instrument is liquid or not depends on judgment and is influenced by market conditions. For example, cash, transferable deposits, and deposits that permit immediate cash withdrawals are typically liquid, and included in liquid assets, while nontraded instruments with a long time until maturity are not. Other deposits provide certainty of value, but may not be readily convertible into cash because of restrictions on withdrawals prior to maturity. Conversely, tradable securities, particularly those issued by the government or the central bank might be readily converted into cash through sale on the secondary market, but their realizable value is dependent upon the market price at the time of sale.

4.76 In the *Guide*, *liquid assets* comprise (1) currency; (2) deposits and other financial assets that are available either on demand or within three-months or less (although deposit-takers deposits (and other nontraded claims) with other deposit-takers included in the reporting population are excluded[86]); and, (3) securities that are traded in liquid markets[87] (including repo markets) that can be readily converted into amounts of cash, with insignificant risk of change in value under normal business conditions. Typically, securities issued by the government and/or the central bank in their own currency meet the criteria to be classified as liquid assets, and if so, in a number of markets, high credit-quality private securities—both debt and equity securities—also. For instance, if a financial instrument is eligible for repurchase operations or for rediscount at the central bank, then it can be classified as a liquid asset in that economy. It is recommended that securities issued by private entities with less than an investment grade rating be excluded from the concept of liquid assets.

[86] This is recommended because while for individual deposit-takers such deposits are a form of liquid assets, and could be separately identified, for the deposit-takers as a sector as a whole, such deposits are not an "external" source of liquidity.

[87] Market liquidity is discussed in Chapter 8, but can be measured by the tightness—measured by the difference between prices at which a market participant is willing to buy and sell a security (bid-offer spread); depth—typically proxies by the ratio of average trading volume over a given period of time to the outstanding volume of securities (the *turnover ratio*); immediacy—the speed with which orders can be executed and settled; and, the resilience of a market—the speed at which price fluctuations resulting from trades are dissipated.

4.77 Because of the difficulty in defining and measuring liquidity, there is merit in compiling more than one measure; for instance, regarding the instruments in (1) and (2) above as **core liquid assets**, with those instruments in (3) added to provide a **broad measure of liquid assets**, as such instruments may lose their liquidity characteristics during times of financial stress. Also, distinguishing between foreign and domestic currency denominated liquid assets can be important, particularly in periods of financial stress.

4.78 The availability of foreign exchange in the local market may also be an important consideration in assessing the liquidity of an institutional unit or sector in some countries. For example, a currency mismatch between liquid assets and liabilities, particularly in an environment of restricted access to foreign exchange, can impede the ability to meet foreign currency denominated obligations with sales of liquid assets that are denominated in local currency.

4.79 **Short-term liabilities** are the short-term element of deposit-takers' debt liabilities (line 28) and the net (short-term, if possible) market value financial derivatives position (liabilities (line 29) less assets (line 21)). Preferably short-term should be defined on a remaining maturity basis, although original maturity is a (more limited) alternative.

4.80 The *Guide* recommends that loans (and other assets[88]) should be classified as **nonperforming** (NPL) when payments of principal and interest are past due by three months (90 days) or more, or interest payments equal to three months (90 days) interest or more have been capitalized (reinvested into the principal amount), refinanced, or rolled over (that is, payment delayed by agreement).[89] The 90-day criterion is the time period that is most widely

[88] Information on other (than loan) nonperforming assets is not required to calculate any FSI. However such information allows a complete picture of deposit-takers' nonperforming assets to be observed, and hence supports macroprudential analysis.

[89] It is recommended that a period of time elapse between payments being missed and the loan being classified as nonperforming loan, because payments might be missed for a number of reasons, and such a time period lapse helps indicate that orderly repayment of the debt is in jeopardy. The *Guide* recognizes that practice as to the time that passes before such classification differs among countries.

used by countries to determine whether a loan is nonperforming.[90] In addition, NPLs should also include those loans with payments less than 90-days past due that are recognized as nonperforming under national supervisory guidance—that is, evidence exists to classify a loan as nonperforming even in the absence of a 90 day past due payment, such as if the debtor files for bankruptcy. After a loan is classified as nonperforming, it (and/or any replacement loan(s)) should remain so classified until written off or payments of interest and/or principal are received on this or subsequent loans that replace the original loan. Replacement loans include loans arising from rescheduling or refinancing the original loan(s) and/or loans provided to make payments on the original loan. Other assets, including securities, should be similarly classified. The loan (and other assets) amount recorded as nonperforming should be the gross value of the loan as recorded on the balance sheet, not just the amount that is overdue.

4.81 **Residential real estate loans** are those loans that are collateralized by residential real estate. Residential real estate includes houses, apartments and other dwellings (such as houseboats and mobile homes), and any associated land, intended for occupancy by individual households. **Commercial real estate loans** are those loans that are collateralized by commercial real estate, loans to construction companies, and to companies active in the development of real estate (including those companies involved in the development of multi-household dwellings). Commercial real estate includes buildings, structures, and associated land used by enterprises for retail, wholesale, manufacturing or other such purposes.

4.82 The **geographic distribution of loans** refers to an attribution of loans on the basis of the residence of the immediate counterpart that is, the country of residence of the debt or. While country circumstances will differ, a regional classification of lending is encouraged, with perhaps additional detail on lending to residents of other countries that are of particular relevance, such as perhaps neighboring countries. The regional groupings provided in the

[90] See Cortavarrria, Dziobek, Kanaya, and Song, *Loan Review, Provisions, and Macroeconomic Linkages,* page 11, IMF Working Paper (WP/00/195).

dissemination framework in Chapter 12 are based on the IMF's World Economic Outlook classification.

4.83 For deposit-takers, **foreign currency loans** and **foreign currency liabilities** are those assets and liabilities that are payable in a currency other than the domestic currency or are payable in domestic currency but with the amounts to be paid linked to a foreign currency. For financial derivative liabilities it is recommended that the net market value position (liabilities less assets) be included rather than the gross liability position because of the market practice of creating offsetting contracts, and the possibility of forward-type instrument switching from asset to liability positions and vice versa from one period to the next. Domestic currency is defined in paragraph 3.45.

4.84 A deposit-taker's **net open position in equities** is described in more detail in Chapter 6 (paragraphs 6.52 to 6.56).

4.85 The **net open position in foreign currency for on-balance sheet items**, and the **total net open position in foreign currency** is calculated by summing the net position for each foreign currency and gold into a single unit of account (the reporting currency). The calculation is described in more detail in Chapter 6 (paragraphs 6.42 to 6.48).

<u>Balance sheet related series</u>

4.86 To compile the agreed FSIs there is also a need for a number of series that are derived from the balance sheet but require additional information or calculation.

4.87 **Exposures of the largest deposit-takers to the largest entities in the economy** is the total exposure of the five largest deposit-takers to the five largest resident entities by asset size (including all branches and subsidiaries) in both the other financial corporations sector and nonfinancial corporations sector, together with that to the general government. Total exposures include all forms of debt assets of the deposit-taker, equity securities owned, and the net asset position in financial derivatives. Preferably, the value of contingent liabilities of the type described in Chapter 3 (paragraph 3.12 to 3.17) should also be included, consistent with the supervisory approach. The focus is on gross exposures and the concept of maximum loss, again consistent with the supervisory approach. However, deposit-takers might take steps to reduce the credit risk (so-called credit risk mitigation), such as through requiring the provision of collateral.

4.88 **Exposure to affiliated entities** is otherwise known as connected lending. It is to be calculated by summing the total exposures of each deposit-taker to their affiliated entities (including parent entities, such as an insurance corporations) in other sectors, including nonresident entities. The definition of exposures is the same as in the previous paragraph.

4.89 **Duration of assets and liabilities** is their weighted average life, with the weights being the present value of each cash flow as a percentage of the value of the assets or liabilities. In other words, duration adjusts maturity to take account for the size and timing of payments between now and maturity. So, for instance, the duration of a zero-coupon bond is equal to its maturity, while a coupon-paying bond will have duration of less than its maturity. A more detailed discussion of the algebraic formula for calculating duration is provided in paragraphs 3.51 to 3.52.[91]

Additional series

4.90 The remaining series described below for deposit-takers are not series used directly to calculate the agreed FSIs but are either required as input into such series or, in discussions on the *Guide*, have been raised as relevant for macroprudential analysis.

4.91 **Shares and other equity investments in deposit-takers in the reporting population** is the balance sheet value of such investments in associates (including reverse equity investments by associates) and other deposit-takers that are also in the reporting population. These data are excluded from shares and other equity investments (assets) and

[91] As an alternative to calculating duration, in Chapter 6 discusses and provides a table for the use of gap analysis.

capital and reserves at the sector-level (see Box 5.1). As a memorandum series, such information indicates ownership links within the sector.

4.92 **Net liabilities of branches of foreign deposit-takers to their parents** could be collected where it is considered relevant. This series is intended to provide information on the funding of branches from their parents in the domestically consolidated data because typically such branches are funded by interbank deposits from their parent rather than having their own capital—their capital requirements being indistinguishable from that of the parent deposit-taker as a whole. Gross liability data may be additional relevant information. Some host countries require branches to have "donation" capital as a sign of the bank's commitment to the country and to help equalize competitive conditions between these branches and domestically incorporated deposit-takers. If considered relevant for analysis of domestic conditions, amounts of donation capital could be separately identified. However, in practice, this capital might be in a form that can be moved abroad quickly.

4.93 **Assets transferred to special purpose entities** are the value of those assets, which are still outstanding, that the originating deposit-taker has removed from its balance sheet by transferring them to a Special Purpose Entity (SPE) or as often called a Special Purpose Vehicle (SPV). In the discussions involved in the preparation of this *Guide*, information on the scale of assets that had been transferred from deposit-takers' balance sheets was considered by a number of commentators to be relevant for macroprudential analysis, although not required to calculate the agreed FSIs. For assets to be removed from the balance sheet of the deposit-taker a change of ownership needs to have occurred.

4.94 To highlight potential vulnerabilities, there may be analytical interest in disaggregating the data in this memorandum item between those assets transferred to SPEs where a clean break has occurred and those where it has not occurred. Such a distinction is made in the draft revised Basel Capital Accord to help determine capital adequacy requirements. A clean break is defined as arising when (1) the transferred assets have been legally isolated from the transferor; and (2) the transferor does not maintain effective or indirect control over the transferred assets. A transferor has maintained effective control over the transferred assets if the transferor is able to repurchase from the transferee the assets in order to realize their benefits and is obligated to retain the risk of the assets. The retention of servicing rights to the asset does not necessarily constitute indirect control.

4.95 In discussions on the draft *Guide*, monitoring developments in contingent positions such as **guarantees and credit commitments** was considered to be relevant for macroprudential analysis, although not required to calculate the agreed FSIs.

4.96 **Guarantees** cover contingent liabilities arising from an irrevocable obligation to pay a third party beneficiary when another party, such as a client of the guarantor, fails to perform some contractual obligation. It covers loan and other payment guarantees, letters of credit, and performance bonds. These are described in Chapter 3 (paragraphs 3.14 and 3.15). The intention of this item is to be consistent with the definition of guarantees used in the BIS's International Banking Statistics (IBS) and so should include contingent liabilities of deposit-takers as protection sellers of credit derivatives—that is, payments need to be made in the event of a default of the credit on which the derivative is written. If the guarantee data include such information on credit derivatives, it is suggested that it be separately identified and that separate data on deposit-takers' purchases of protection through credit derivatives also be collected data. Such information would allow the net and gross positions on protection bought and sold through credit derivatives to be identified. Guarantees should be valued in terms of the maximum potential loss—that is, assuming 100 percent of the amount guaranteed will need to be paid.[92] A resident/nonresident disaggregation is suggested where necessary to allow reconciliation with the BIS's IBS data.

4.97 **Credit commitments** cover commitments that irrevocably oblige a deposit-taker to extend credit. They include lines of credit, other types of loan commitments, note issuance facilities and commitments to purchase securities such as under NIFs. These are described in Chapter 3 (paragraphs 3.16 and 3.17). Again the intention is to be consistent with the

[92] Valuing at the maximum potential loss has an obvious limitation: there is no information on the likelihood of the contingency occurring. But calculating the likelihood of losses can be difficult, and international standards are still evolving.

definition of credit commitments used in the BIS's IBS data. Credit commitments should be valued in terms of the maximum amount that could be advanced under the commitment. A resident/nonresident disaggregation is suggested where necessary to allow reconciliation with IBS data.

4.98 **Gross loans to the public sector** are those made to general government, the central bank, and entities that are public corporations (see paragraph 2.17). Information on lending to the public sector can be of macroprudential analysis and is identified in the BIS's consolidated IBS data.

4.99 **Loan loss reserves** are the outstanding amount of reserves that are intended to absorb potential but unidentified losses arising from the deposit-takers' loan portfolio. Additions, or reductions, to the amount of loan loss reserves (excluding any net write-offs[93]) are made through the general loan loss provisions included in the income and expense account. During discussions on the *Guide* some commentators have considered that the size of such reserves in relation to nonperforming loans can be an indication of the adequacy of provisioning policy but the series is not directly required to calculate the agreed FSIs.

4.100 **Arrears** are amounts past due for payment on loans or other instruments held as assets. Arrears can arise through the late payment of principal and/or interest on debt instruments as well as through the late payment for other types of transactions, such as failure to meet the payment terms for goods and services provided. If arrears are significant, distinguishing them by different type of instrument—loans and securities in particular—is encouraged, as is separately identifying principal and interest arrears. These series are not required to calculate the agreed FSIs.

[93] If all or part of a loan is considered uncollectible, this amount can be "written (charged)-off" against the loan loss provision rather than recording a specific provision reducing the value of the loan, with any subsequent recovery credited to the provision. Practices as to the timing of write-offs vary among countries; for instance, in some countries, a loan cannot be written-off until all legal procedures have been completed.

Other Financial Corporations

4.101 The sectoral balance sheet statement for *other financial corporations* is set out in Table 4.2. The definition of balance sheet series presented in this table is the same as for the corresponding series in Table 4.1.

Table 4.2: Other Financial Corporations

Balance sheet	
1.	**Total Assets** (=2+3)
2.	*Non-Financial Assets*
3.	*Financial Assets* (= 4 to 10)
4.	Currency and deposits[1]
5.	Loans[1]
6.	Debt securities[1]
7.	Shares and other equity
8.	Insurance technical reserves[1]
9.	Financial derivatives[1]
10.	Other assets[1]
11.	*Liabilities*(= 17+18)
12.	Currency and deposits
13	Loans
14.	Debt securities
15.	Insurance technical reserves
16.	Other liabilities
17.	*Debt* (=12 to 16)
18.	Financial derivatives
19.	Capital and reserves
20.	**Balance sheet total** (=11+19 = 1)
Memorandum series	
Additional series	
21.	Shares and other equity investments in other financial corporations in the reporting population
	(i) Associates
	(ii) Other other financial corporations
[1] To understand the interconnections among *other financial corporations*, separate identification of claims on other *other financial corporations* in the reporting population is encouraged.	

4.102 The sectoral balance sheet for *other financial corporations* includes the separate identification of **insurance technical reserves**. Such reserves include net claims of households on life insurance and pension fund reserves—although held and managed by these entities, these reserves are considered to be owned by households; prepayments of premiums by policy holders; and reserves for outstanding, valid, claims—such amounts are considered to be claims of the policy holder.

4.103 Regarding coverage, **shares and other equity** assets include such claims on associates, unconsolidated subsidiaries and reverse equity investments,[94] and, for domestic data, any share capital provided to foreign branches.

4.104 As with deposit-takers, the memorandum series **shares and other equity investments in other financial corporations in the reporting population** provides information on the ownership links within the sector.

Non Financial Corporations

4.105 Table 4.3 set out the sectoral financial statement for nonfinancial corporations.

Income and expense

4.106 **Operating income** of a nonfinancial corporation is the revenue from the **sales of goods and services** (excluding taxes on goods and services) less the **cost of those sales**. The cost of sales include personnel (staff) costs (defined in paragraph 4.28); costs of materials purchased for the production process; fixed and variable production overheads (including depreciation expense or an allocation thereof); rentals paid on building, other structures, and equipment, rents paid on land and subsoil assets, and royalties paid for the use of other produced or nonproduced assets; distribution costs including all costs to deliver products to customers, including transportation expense, advertising expense, and depreciation and maintenance of any retail shops; any other costs attributed to sales, such as professional fees, insurance, and research and development costs; taxes other than income taxes—such as taxes on the ownership or use of land and buildings or on labor employed; and any fines and penalties imposed, such as by courts of law, and any amounts payable as compensation to other institutional units for injury and damage.

[94] For sector-level data, the value of the investment in any other other financial corporation in the reporting population, should be excluded from this item, assets in total, and capital and reserves (see also Box 5.2).

4.107 In order to provide a better measure of current health and soundness, the *Guide* prefers that provisions for estimated costs related to product warranties when they can be measured reliably (see paragraph 3.18) be included as a cost of sales and as a general reserve in capital and reserves.[95]

4.108 When inventories are sold their value is recognized as an expense in the cost of sales line in the period in which the related revenue is recognized (see also paragraph 4.114). All losses on goods held in inventory—whether through normal wastage or exceptional losses—are also recorded as an expense.

4.109 In addition to operating income, other sources of income include net **interest income** (interest income less income expense) and **other income (net)**. Other income (net) encompasses rents, rentals, and royalties receivable (payable); income from holdings of shares and other equity; gains or losses arising during the period on financial instruments, and on the sales of fixed assets; and any amounts receivable (payable) by nonfinancial corporations arising from compensation for damage or injury.

4.110 **Rents, rentals, and royalty income receivable** (payable) is income arising from rents received for the use of land, and the right to extract (or explore for) subsoil assets; rentals from buildings, other structures, and equipment; and royalties for the use of other produced and nonproduced assets (e.g., films and music). **Income from holdings of shares and other equity** includes dividends declared payable in the period by other corporations or cooperatives in which nonfinancial corporations have shares and other equity stakes, [96] and

[95] In the *1993 SNA*, potential costs are not recognized as expenses, or in any other item in the system.

[96] To avoid double counting of income before extraordinary income and tax at the sector level, dividends receivable from other nonfinancial corporations in the reporting population should be excluded from this item and instead included (with a negative sign) in the dividends payable line—so, the data for dividends payable to, and receivable from, other nonfinancial corporations in the reporting population will net to zero in this line.

Table 4.3: Nonfinancial corporations

Income and expense statement	Balance sheet
1. Revenue from sales of goods and services (excluding indirect sales taxes) 2. Cost of sales 3. *Operating income* (= 1 minus 2) 4. Interest income 5. Interest expense 6. Other income (net) 7. *Net Income (Before extraordinary items and taxes)* (= 3 + 4 – 5 + 6) 8. Extraordinary items 9. Corporate income taxes 10. *Net Income After Taxes* (= 7 minus (8-9)) 11. Dividends payable 12. *Retained Earnings* (= 10 minus 11)	13. **Total Assets** (=14+17) 14. *Non-Financial Assets* 15. Produced o/w (i) fixed assets (ii) inventories 16. Non-produced 17. *Financial Assets* 18. Currency and deposits 19. Debt securities[1] 20. Shares and other equity 21. Trade credit[1] 22. Financial derivatives[1] 23. Other assets[1] 24. *Liabilities*(=29+30) 25. Loans 26. Debt securities 27. Trade credit 28. Other liabilities 29. *Debt* (= 25 to 28) 30. Financial derivatives 31. Capital and reserves (i) o/w narrow capital [2] 32. **Balance sheet total** (= 24+31=13)

Memorandum series

Other series required to calculate the agreed FSIs

33. Interest income receivable from other nonfinancial corporations
34. Earnings before interest and tax (item 3 plus 4 plus 6 less 33)
35. Debt service payments
    (i) interest
    (ii) principal
36. Debt service receipts (interest and principal) from other nonfinancial corporations
    (i) interest
    (ii) principal
37. Corporate net foreign exchange exposure for on-balance sheet items
38. Total corporate net foreign exchange exposure

Additional series

39. Shares and other equity investments in nonfinancial corporations in the reporting population
    (i) Associates
    (ii) Other nonfinancial corporations
40 Liquid assets (core measure)
41. Liquid assets (broad measure)
42. Variable rate debt

[1] To understand the interconnections among nonfinancial corporations, separate identification of claims on other nonfinancial corporations in the reporting population is encouraged.

[2] Funds contributed by owners plus retained earnings (including appropriations from retained earnings to reserves). Purchased goodwill is excluded.

the prorated share—on the basis of the share of equity owned—of net income after tax from associates, unconsolidated subsidiaries and reverse equity investments, and, for domestic data, foreign branches. [97] [98] **Gains and losses on financial instruments** is defined as for deposit-takers (see paragraph 4.20), however for unlisted companies, gains and losses on financial instruments that relate only peripherally to a firm's primary operating activities can be measured as the difference between the sale value and the balance sheet value at the previous end-period. **Gains (or losses) from sales of fixed assets** are gains/losses arising from the sale of fixed assets. These are measured as the difference between the sale value and the balance sheet value at the previous end-period.

4.111 As with deposit-takers, **extraordinary items** cover events that are extraordinary, and rare, by the nature of the event or transaction in relation to the business ordinarily carried out by the enterprise. **Corporate income taxes** are those taxes payable by the nonfinancial corporations that are related to its income.[99] The amount of income subject to tax is usually less than total income because various deductions are permitted. After taxes are deducted, the total is **net income after tax,** and after dividends payable, **retained earnings** are left to be posted to capital and reserves.

Balance sheet

Nonfinancial assets

4.112 By definition, nonfinancial assets provide benefits to their owners, but do not represent claims on other units. Most nonfinancial assets provide benefits either through their use in the production of goods and services or, in the form of property income. Nonfinancial assets can come into existence as outputs from a production process (e.g., machinery), be

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[97] See also Box 5.2 as the treatment of associates in the accounts of nonfinancial corporations is the same as for deposit-takers.

[98] Income from holdings of equity and other shares also covers withdrawal of income by the owner from a quasi-corporation. Only withdrawal of income from the net income earned by the quasi-corporation should be included.

[99] Tax payable is not necessarily the same as tax expense, as the latter includes deferred tax.

naturally occurring (e.g. land), or be constructs of society (e.g., patented entities). Fixed assets, inventories, and valuables are all forms of **produced assets**, while examples of **nonproduced assets** include land, and patented entities.

4.113 *Fixed assets* are produced assets that are used repeatedly or continuously in processes of production for more than one year. Included are tangible fixed assets (such as dwellings and other buildings and structures, machinery and equipment, and cultivated assets such as livestock and orchards) and intangible fixed assets (such as the "capitalization" of mineral exploration expenses, and computer software), whose use in production is restricted to the units that have established ownership rights over them or to other units licensed by the latter.

4.114 *Inventories* are goods held by the institutional unit for sale, use in production, or use at a later date. They can be materials and supplies, work-in-progress, finished goods and goods for resale. The *Guide* prefers that inventories be valued at market value—current purchasers price—with any valuation gains included in the valuation adjustment and then retained earnings when sold. However, it recognizes the difficulties in implementing such an approach, and that in this complex field, compilers may need to follow commercial accounting practices when recording inventories as assets as well as sales.

4.115 *Valuables* are produced assets that are not used primarily for the purpose of production or consumption but are held as stores of value over time. They can be precious metals and stones, antiques and other art objects, and other valuables such as collections of jewelry.

4.116 *Nonproduced assets* are assets needed for production that have not been produced, such as land, subsoil assets, water resources, and certain intangible assets such as patented entities, leases and other transferable contracts relating to nonfinancial assets. Nonpatented know-how is not recognized as an asset in the *Guide* because there is no legal evidence of ownership rights. This treatment may differ from commercial accounting, where know-how that is not patented can be included on the balance sheet if value can be reliably measured, on the grounds that by keeping that the know-how secret, an enterprise controls the benefits that are expected to flow from it. The value of patent protection is amortized over time following commercial accounting standards. Goodwill acquired on purchasing an associate or unconsolidated subsidiary stake (or adding to it)—that is, the excess of the cost of an acquired entity over the market or fair value of the net assets acquired—is deducted from capital and reserves (narrow capital and reserves) and is not an asset of the acquirer[100] (and so, as a consequence, no goodwill is amortized in income).

Financial assets and liabilities

4.117 The definitions of balance sheet series presented in this table are the same as for the corresponding series in Table 4.1.

4.118 The sectoral balance sheet for nonfinancial corporations separately identifies **trade credit**. Trade credits and advances include (1) trade credit extended directly to purchasers of goods and services and (2) advances for work that is in progress or to be undertaken, such as progress payments made during construction, or for prepayments of goods and services. Trade credit does not include loans, debt securities, or other liabilities that are issued to finance trade credit. So, trade-related loans provided by a third party, such as a deposit-taker, to an exporter or importer, are not included in this category but under *loans*.

4.119 Regarding coverage, **shares and other equity** assets include such claims on associates, unconsolidated subsidiaries, any reverse equity investments, and, for data compiled on a domestic basis, any share capital provided to foreign branches.[101]

4.120 **Capital and reserves** is otherwise known as equity. As with the deposit-takers, funds contributed by owners plus retained earnings (including those earnings

[100] It is possible that the cost of the acquired entity is less than the market or fair value of the net assets—negative goodwill. If so, it should be determined whether all assets and liabilities being acquired are identified and appropriately valued. If any excess remains after such a determination, the negative goodwill increases capital and reserves (narrow capital and reserves).

[101] For sector-level data, the value of the investment in any other nonfinancial corporation in the reporting population, should be excluded from this item, assets in total, and capital and reserves (see also Box 5.2).

appropriated to reserves) could be identified as a narrow measure. However, in many countries there is a paucity of sectoral information on nonfinancial corporations, and in calculating FSI data for this sector, preference is given to total capital and reserves.

Memorandum series

Other series required to calculate the agreed FSIs

4.121 **Interest receivable from other nonfinancial corporations** is that amount of interest income (line 4) that is receivable from other nonfinancial corporations that are also in the reporting population.

4.122 **Earnings before interest and tax** (EBIT) is defined as operating income (item 3) plus interest income (item 4) plus other income (net) (item 6) less interest receivable from other nonfinancial corporations (item 33). Interest expenses are excluded by definition. Interest receivable from other nonfinancial corporations is deducted from earnings before interest and tax data to ensure that sector earnings are not boosted by such intra-sector income.

4.123 **Debt service payments** are interest and principal payments made on outstanding debt liabilities within the specified time period of the statement. Such payments always reduce the amount of debt outstanding: interest payments are those periodic payments[102] that meet interest costs arising from the use of another entity's funds; and principal payments are all other payments that reduce the amount of principal outstanding.

[102] For long-term debt instruments, interest costs paid periodically are defined as those to be paid by the debtor to the creditor annually or more frequently; for short-term instruments, i.e., with an original maturity of one year or less, interest costs paid periodically are defined as those to be paid by the debtor to the creditor before the redemption date of the instrument.

4.124 **Debt service receipts from other nonfinancial corporations**[103] are a subset of the total debt service payments (line 35) and with these two series, both intra-sector debt service payments and those to other sectors can be identified.

4.125 The **corporate net foreign exchange exposure for on-balance sheet items**, and the **total corporate net foreign exchange exposure** is calculated by summing the net position for each foreign currency and gold into a single unit of account (the reporting currency). The calculation is described in more detail in Chapter 6 (paragraphs 6.42 to 6.48).

Additional series

4.126 As with deposit-takers and other financial corporations, the memorandum series **shares and other equity investments in other nonfinancial corporations in the reporting population** provides information on the ownership links within the sector.

4.127 For nonfinancial corporations, the core and broad measures of **liquid assets** are defined as for deposit-takers, except that deposits at deposit-takers available on demand or within three-months or less should be included in the core measure. These series are not required for the calculation of FSIs, but liquidity can be relevant for macroprudential analysis of nonfinancial corporations

4.128 **Variable rate debt** is the total value of debt instruments on which interest costs are linked to a reference index , e.g., Libor, or the price of a specific commodity, or the price of a specific financial instrument that normally changes over time in a continuous manner in response to market pressures. All other debt instruments should be classified as fixed-rate. When the value of the principal is indexed, the change in value resulting from indexation—periodically and at maturity—is classified as interest. So, if principal only is indexed, such debt is to be classified as variable-rate regardless of whether interest is fixed or variable, provided the reference index meets the criterion above: it normally changes over

[103] It is proposed that receipts from, rather than payments to, other nonfinancial corporations be presented given that if tradable bonds are issued, the payer might not know the identification of the creditor. But of course, debt service receipts from the creditor perspective are debt service payments from the debtor perspective.

time in a continuous manner in response to market pressures. While not required to calculate an agreed FSI, such data are considered of use for macroprudential analysis because an attribution of debt by type of interest provides an indication of the exposure of nonfinancial corporations to interest rate movements. Nonetheless, interest rate derivative contracts, which are widely employed, can modify these risk characteristics, thus information on the notional amounts[104] of such contracts and whether they receive fixed or variable rate would also be useful (see also paragraph 6.40).

Households

4.129 The financial statement for households is set out in Table 4.4.

Income and expense

4.130 The main **source of income** for households is **wages and salaries** (gross of any income tax) from employment. These are payable in cash or kind, and are a component of compensation for employment (see also paragraph 4.28).[105] Other major sources of income include **property income receivable** (interest, dividends, and rent), and **current transfers** including from general government. **Other** income sources include operating income from production activity (gross of consumption of fixed capital).[106] **Gross disposable income** includes these sources of income less current taxes on income and wealth, and contributions for social insurance e.g., for old-age insurance, paid by households to general government, and less other current transfers such as payments of fines and penalties, and of subscriptions to NPISHs.

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[104] The notional amount—sometimes described as the nominal amount—is the amount underlying a financial derivatives contract that is necessary for calculating payments or receipts on the contract.

[105] The other component of compensation of employees is the value of social contributions payable by the employer, but such contributions do not affect personal income and so are not included in the sources of income.

[106] Production within the household sector takes place within enterprises that are directly owned and controlled by members of households, either individually or in partnership with others. When members of households work as employees for corporations, quasi-corporations, or government, the production to which they contribute takes place outside the household sector.

Balance sheet

4.131 The financial assets and liabilities series in Table 4.4 are defined the same as in Table 4.1.

Table 4.4: Households

Income and expense statement	Balance sheet
Sources of income of which 1. Wages and salaries from employment 2. Property income receivable 3. Current transfers e.g., from government 4. Other 5. Less taxes including social security contributions, and other current transfers made 6. *Gross disposable income*	7. **Total assets** (= 8+11) 8. *Non-Financial Assets*(= 9+10) 9. Residential and commercial real estate 10. Other 11. *Financial Assets*(= 12 to 16) 12. Currency and deposits 13. Debt securities 14. Shares and other equity 15. Financial derivatives 16. Other assets 17. *Liabilities* (= 20+21) 18. Loans 19. Other liabilities 20. *Debt* 21. Financial derivatives 22. *Net worth* 23. **Balance sheet total** (= 17 +22 = 7)
Memorandum series ***Other series required to calculate the agreed FSIs*** 24. Debt service payments (interest and principal) ***Additional series*** 25. Debt collateralized by real estate	

Memorandum series

4.132 As noted above in paragraph 4.123, **debt service payments** are interest and principal payments made on outstanding debt liabilities within the specified time period of the statement. **Debt collateralized by real estate** covers all debt for which real estate is used as a form of collateral. This includes borrowing for the purchase, refinancing, or construction of buildings and structures (including alterations and additions to such), and for land (see paragraph 4.81). This series is not required to calculate an agreed FSI.

Chapter Four: Accounting Framework and Sectoral Financial Statements

Box 4.1: Measurement Frameworks

In determining those accounting rules most relevant for the compilation of FSIs, two basic measurement frameworks can be drawn upon—national and commercial accounting, with banking supervision guidance also relevant for deposit-takers. This box helps place these frameworks in context, explain their analytical purposes, describe their key characteristics, and provide references for further reading are outlined ahead.

National Accounts-based data

The System of National Accounts (*SNA*) consists of a coherent, consistent and integrated set of macroeconomic accounts, balance sheets, and tables based on a set of internationally agreed concepts, definitions, classifications and accounting rules. The *SNA* provides a comprehensive accounting framework within which economic data can be compiled and presented in a format that is designed for purposes of economic analysis, decision making, and policy making. Its intention is to provide comprehensive coverage of economic activities within an economy.

Central to the development of national accounts and the related methodologies is the concept of residence. The *SNA* groups resident institutional units into five resident institutional sectors, and nonresident units into the rest of the world sector. It groups the related economic events both flows and stocks, into three broad accounts. The current accounts and the accumulation accounts cover economic flows (transactions and other flows), and the balance sheet accounts cover stocks. These three broad sets of accounts are fully integrated through sequential accounts that range from production up to balance sheet accounts.

The main source of information on national accounting is the *1993 SNA*. Other related methodologies include the fifth edition of the IMF's *Manual on Money and Financial Statistics* (2000), the IMF's *Balance of Payments Manual* (1993), the IMF's *Government Finance Statistics Manual*, 2001 and the *External Debt Statistics: Guide for Compilers and Users* (2001).

International Accounting Standards

The international accounting standards (IAS) are a series of standards that provide concepts that underlie the preparation and presentation of financial statements of commercial, industrial, and business reporting enterprises, whether in the public or the private sector.[1] The objective of financial statements is to provide information about the financial position and performance, and changes in financial position, of an enterprise, including on a consolidated basis. Consolidated reporting provide information on the group as whole, which is usually the concern of users of financial statements. A reporting enterprise is an enterprise for which there are users who rely on financial statements as their main source of financial information about the enterprise. Users include investors, employees of the enterprise, lenders, suppliers and other trade creditors, customers, governments and their agencies, and the public.

The financial statements portray the financial effects of transactions and other events by grouping them into broad categories according to their economic characteristics. The so-called elements directly related to the measurement of the financial position in the balance sheet are assets, liabilities, and equity. The elements directly related to performance in the income statement are income and expenses. Like the *1993 SNA*, the presentation of these elements in the balance sheet and income statements involves a process of sub-classification. For example, assets and liabilities may be classified by their nature and function in the business of the enterprise in order to display information in the manner most useful for purposes of making economic decisions.

The International Accounting Standards are available from the International Accounting Standards Board.

[1] IAS are not a universal set of standards in that they apply principally to large corporate who issue debt securities that are publicly traded, and some countries have accounting standards that are presently different from IAS.

Banking Supervision

The Basel Committee on Banking Supervision in 1988 agreed supervisory regulations governing the capital adequacy of international banks. These regulations, which were amended in 1996, provide a framework for the measurement of capital in relation to the perceived credit and market risk of the assets owned by the bank. Two fundamental objectives lie at the heart of the Committee's work. First, the framework is intended to strengthen the soundness and stability of the international banking system; and second that the framework is intended to be fair and through a high degree of consistency in its application to banks in different countries, diminish sources of competitive inequality among international banks.

The agreement reached was applied to banks on a consolidated basis, including subsidiaries undertaking banking and financial business. Consolidated reporting captures the risks within the whole banking group. The constituents of capital are divided into three tiers, and described in more detail in Box 4.2. While banking supervisors rely on commercial accounting standards for financial statements from banks, and so do not provide the comprehensive framework that is available from either the national and commercial accounting sources, over the years they have developed various guidance rules with regard to capital adequacy for activities that directly affect banks capital, e.g., on provisioning.

The main sources of information on the Basel Committee's capital adequacy requirements is the International Convergence of Capital Measurement and Capital Standards, 1988, and the Amendment to the Capital Accord to Incorporate Market Risks. There is also other related documentation, which have been published in 2001 by Basel Committee as a Compendium of Documents.[2]

[2] Available on the Bank for International Settlements website: http://www.bis.org

Box 4.2

The Basel Capital Adequacy Ratio

The Basel capital adequacy ratio was adopted in 1988 by the Basel Committee on Banking Supervision as a benchmark to evaluate whether banks operating in the G-10 countries have sufficient capital to survive likely economic shocks. The ratio calls for minimum levels of capital to (i) provide a cushion against losses due to default arising from both on- and off-balance sheet exposures; (ii) demonstrate that bank owners are willing to put their own funds at risk; (iii) provide quickly available resources free of transactions and liquidation costs; (iv) provide for normal expansion and business finance; (v) level the playing field by requiring universal application of the standard; and (vi) encourage less risky lending.

The original Basel capital ratio, along with subsequent amendments, requires international banks to have a specific measure of capital greater than or equal to 8 percent of a specific measure of assets weighted by their estimated credit risk. The ratio is an analytical construct with complex definitions of the numerator (capital) and the denominator (risk-weighted assets) that cannot be derived directly from standard financial statements. The formula states that a banking enterprise must have capital on a worldwide consolidated basis equal to 8

$$\textit{Risk-based Capital Adequacy Ratio} = \frac{\textit{Capital x 100}}{\textit{Risk-weighted Assets}} \geq 8$$

percent or more of its risk-weighted assets, which includes off-balance sheet positions.

where: Capital = (Tier 1 Capital - Goodwill) + (Tier 2 Capital) + (Tier 3 Capital) - Adjustments

Tier 1 capital, or "core capital" consists of equity capital and disclosed reserves that are considered freely available to meet claims against the bank.

Tier 2 capital consists of financial instruments and reserves that are available to absorb losses, but which might lack permanency, have uncertain values, might entail costs if sold, or which otherwise lack the full loss-absorption capacity of Tier 1 capital items.

Tier 3 capital consists of subordinated debt with an original maturity of at least two years for use, if needed, against market risk exposures associated with fluctuations in the market value of assets held. Neither interest nor principal on its debt may be paid if such payments mean that the bank falls below or remains below its minimum capital requirement.

Goodwill is subtracted because the value of goodwill may fall during crises, and various adjustments are made to capital to prevent possible double counting of value.

Risk-weighted assets, the denominator, are the weighted total of each class of assets and off-balance-sheet asset exposures, with weights related to the credit risk associated with each type of asset. In the example below, the market value of assets is 940, but the value of risk-weighted assets is 615.

Example of estimation of risk-weighted assets

Type of asset	Value of holdings	Risk-weight	Risk-weighted assets
U.S. Treasury bonds	200	0 %	0
Mortgage loans	250	50 %	125
Corporation bonds	120	100 %	120
Consumer loans	370	100 %	370
Total	940	--	615

Capital adequacy ratios are often not directly comparable between countries because national supervisors have some leeway in defining weights and adjustments, and even more importantly, national practice may vary in the valuation of assets, recognizing loan losses, and provisioning, which can significantly affect the ratio. Also, an aggregate measure of capital adequacy potentially disguises information on individual institutions, and thus for macroprudential analysis, it is useful to supplement the aggregate ratio with information on the dispersion of ratios for individual institutions or subsectors of the banking system.

Recent developments in the ratio include attempts to refine the weighting system. In particular, the Basel Committee has a proposal to revamp the standard to permit greater differentiation between assets based on their risk, including the possibility of using—under specified conditions—internal model-based measures of risk exposures.

Box 4.3

The approach to valuation and provisioning in the *Guide*

This box explains how the various recommendations regarding valuation and provisioning in the detailed line-by-line description of the items in the financial statement fit together.

The *Guide* prefers valuation methods that can provide the most realistic assessment at any moment in time of the value of an instrument or item. For tradable instruments, nonrecognition of market value gains, and particularly losses, can lead to misleading judgments as to the financial health and soundness of deposit-takers. For nontradable instruments, the *Guide* acknowledges that nominal value may provide a more realistic assessment of value than the application of market or fair value, but appropriate provisioning policy is essential. While the *Guide* relies on national practices in identifying such provisions, nonrecognition of losses when they arise would overstate the health and strength of the deposit-taker. A distinction is made between specific provisions for losses that are identifiable, and general provisions for potential losses that experience suggests is in a portfolio.

The rest of this box explains how the approach to market valuation and provisions affects the income and expense statement, assets, and capital and reserves. A short section on arrears is also included.

Income and expense

The income and expense statement is directly affected by the approach taken on valuation and provisioning.[1]

- Interest income should not include the accrual of any interest on nonperforming assets; in other words, interest income should not be overstated relative to the actual circumstances.

- Provisions for loan losses (and other assets) should reduce net income so recognizing losses when they become apparent.

- Gains or losses, unrealized and realized, on financial assets and liabilities valued at market or fair value in the balance sheet should be included in income—a rise in value tending to boost net income, while a loss of value tending to reduce net income.[2] To avoid double counting, any accrued interest recorded for the period is excluded from calculations of gains and losses on financial instruments.

- Gains or losses on any other assets or liabilities that arise and are realized in the period should be included in income, and any revaluation gains and losses already included in the valuation adjustment from previous periods switched to retained earnings.[3]

The *Guide* considers that capturing interest income and expense together with the holding gains and losses on financial assets and liabilities for which market or fair value is established is appropriate for measuring the return on assets and on capital and reserves—two core FSIs. For the other financial assets and liabilities, in order that current health is monitored, the *Guide* encourages, through provisions, that losses be recorded when they become apparent, and that realized gains or losses arising during the current reporting period only are recorded in current period income.

Assets

In the *Guide*, changes in the market or fair value of financial assets (and liabilities) are reflected on-balance sheet, as are changes in value of nonfinancial assets. For loans and other

[1] The treatment of intra-deposit-takers transactions and positions is discussed in the Text Annex to Chapter 5.

[2] Changes in the market value of equity in associates and unconsolidated subsidiaries, and reverse equity investments, are excluded, so as to avoid the potential for double counting income (see paragraph 4.20).

[3] For unlisted nonfinancial corporations, the same approach can be taken for all financial instruments that relate only peripherally to a firm's primary operating activities.

assets valued at nominal value, their balance sheet value is reduced by specific provisions[4] or by writing down the value of the asset.

It might be considered appropriate to also value loans excluding general provisions, so that probable losses not attributable to specific instruments are recognized as reducing capital and reserves. While the *Guide* recognizes the need to reduce net income to reflect potential losses that experience suggests may be in a portfolio, it is not evident that the soundness of the deposit-taker has been weakened by such provisioning. So general provisions are included in the capital and reserves (but in narrow capital and reserves). This is in line with the BIS capital adequacy requirements, which recognize general provisions in capital, up to a limit of 1.25 per cent of (risk-weighted) assets in Tier 2 capital.

Capital and reserves

Changes in market or fair valuation of assets and liabilities impacts on capital and reserves. Increases in asset values tend to increase capital and reserves, while increases in the value of liabilities tend to decrease capital and reserves. Provisioning can also impact on capital and reserves. While both specific and general provisioning reduce net income, and so potentially retained earnings, general provisions, as noted above, are posted to capital and reserves.

Arrears

The *Guide* encourages the identification of arrears as a memorandum item to the balance sheet. This statistic provides the actual amounts owed to deposit-takers that have not been paid or written off. If time series data are disseminated, this statistic provides the user with an indication of difficulties, or not, on the asset side of the balance sheet, and how they have developed overtime, irrespective of valuation or provisioning policy.

[4] In Table 4.1, loans data are presented both before and after adjustment for specific provisions.

Box 4.4

Islamic Financial Institutions and Financial Soundness

Islamic Financial Institutions (IFIs) operate under the Islamic principles of prohibition of ex-ante interest payments, sharing of profits and losses of underlying transactions, and lending based on Islamic ethical principles. They present an unique profile of financial risk and soundness that fundamentally affects the structures of the income accounts and balance sheet, which in turn affects the compilation and meaning of financial soundness indicators. The differences are beginning to be addressed by financial accountants and supervisors of financial institutions, but it may be some time before the full range of issues are identified and appropriate accounting and supervisory standards developed and adopted.[1] This box describes some of the unique elements of IFIs and how key FSIs might be affected.

Although variations in practice exist, commonly prevailing principles of Islamic banking include the prohibition of interest and the promotion of trade. Reliance on Islamic principles sets IFIs apart from other institutions in numerous ways, but perhaps foremost is the prohibition of receipt or payment of interest. For example, loans or deposits with prefixed rates are prohibited, a fundamental difference from nonIslamic banks that borrow in exchange for payments of interest in order to acquire assets that can earn interest. Thus, the two core FSIs that focus on the margin between interest receipts and payments apply to nonIslamic banks but not to Islamic banks.

IFIs accept deposits under the Mudarabah concept and invest in permissible and Shariah-compliant investments and financing arrangements. In such a manner, IFIs are undertaking a financial intermediary function. However, in principle depositors are not guaranteed a pre-fixed return nor the principal amount. Rather depositors act as fund providers, bearing losses

[1] The Accounting and Auditing Organization for Islamic Finance (AAOIFI) was created in 1991 in Bahrain to set accounting, auditing and governance standards that are presently being followed by IFIs in a number of countries. Also, in November 2002, the Islamic Financial Services Board (IFSB) was established in Malaysia as an association of central banks and monetary authorities, and other institutions that are responsible for the regulation and supervision of the Islamic financial services industry.

alone, as the IFI has incurred ‘loss’ in the form of entrepreneurial efforts. Profits generated are shared between the IFIs and the depositors based on a pre-agreed profit-sharing ratio. As for the operation of the accounts, it is similar to deposit operations under conventional banking. Under a second form of depositing, IFIs hold funds for safe-keeping with a guarantee of full repayment of principal but with no interest.

Also, IFIs can operate through profit and loss sharing (PLS) arrangements that do not guarantee full repayment of principal and do not have fixed profit returns. IFIs earn income by charging fees for services, by engaging in profit sharing and PLS arrangements, and most importantly from activities such as trade-related financing, hire purchase, and leasing. In some countries, these constitute the primary activities of IFIs.

Under PLS arrangements, the resources of the IFI and investors are often pooled to undertake specific commercial ventures and the total returns are divided between the IFI and the investors based on a predetermined profit sharing arrangement. Profits earned could be disbursed during the life of the venture as well as at its conclusion. Depending on the outcome, both may gain or lose on their investments. To this end, IFIs issue securities called PLS certificates that do not provide for either capital certainty or prefixed positive returns. Some of these instruments are defined as “unrestricted investment accounts” that give the IFI latitude to make the investments as it sees fit, much in the way as nonIslamic banks invest the funds provided by depositors.

PLS arrangements and unrestricted investment accounts result in a somewhat different role for capital in IFIs from that in other types of banks. For instance an IMF Working Paper[2] concluded that “it may be reasonable to conclude that the assessment of capital adequacy for Islamic banks should be based not only on a thorough evaluation of the degree of risk in each bank’s portfolio, but also an assessment of the mix of PLS and non-PLS assets.” Also, there

[2] *Islamic Financial Institutions and Products in the Global Financial System: Key Issues in Risk Management and Challenges Ahead*, V. Sundararajan and Luca Errico, IMF Working Paper (WP/02/192).

also appears to be ambiguity regarding identification and valuation of nonperforming loans and provisioning, and for their disclosure.

In constructing IFI balance sheets, it can be ambiguous whether the contributions of investors in PLS certificates and unrestricted investment accounts are liabilities of the IFI. Often, the IFI will act as a fiduciary or asset manager, placing the funds in off-balance-sheet trust accounts, and provide investment advice in order to either receive fees or a distribution of net profits. Some IFIs are known to handle substantial portions of their business through off-balance sheet accounts, under the assumption that they are performing a fund management role for the investor, which affects leverage ratios and the Basel capital adequacy calculations.[3] At present, national practices in recording such arrangements differ, with both on- and off- balance-sheet treatments used. One opinion, by the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) held that unrestricted investment accounts are part of the balance sheet of the IFI, classified between a liability and equity capital. The *Guide* follows the advice of the *MFSM*[4] and classifies such instruments as deposits unless they are part of the permanent capital base of the IFI or have the characteristics of a tradable instrument.

The asset structure of IFIs is characterized by a diverse spectrum of Islamic financing structures ranging from the low-risk leased-based to the higher-risk equity-based modes of finance. As each mode has its own distinct features, different degrees of credit risk, market risk and operational risk are entailed.

To date, IFIs have tended to be heavily involved in shorter-term commercial credits and project finance that will normally be resolved within a year or two, which permits the redistribution of the net proceeds. This arises in part from the absence of Islamic money markets that permit the ready transfer of short-term liquidity between IFIs and act to establish

[3] The AAOIFI has stated that its aim is to follow the Basel methodology as closely as possible.

[4] A detailed description of Islamic instruments and their classification is provided on pages 126 and 127 of the *MFSM* and this text should be consulted in determining the classification of instruments for the purposes of compiling data for FSIs.

market-based rates of return for such borrowing. There has been some difficulty in developing instruments, such as interbank instruments, monetary policy instruments, and longer term instruments such as mortgages, although examples of all these exist. In part, this stems from difficulty in devising suitable means to measure and distribute net returns on credits to governments, ongoing firms, or noncommercial institutions rather than in project-type finance.

The above pattern has important implications for FSIs—the balance sheets of IFIs differ from those of nonIslamic banks and estimates of rates of return of IFIs may prove hard to develop and compare.[5] Also, instruments are under continuing development and in some instances, Islamic banking principles may be mixed with standard banking practices. Against this background, accounting practices for IFIs are still developing and until this work is further advanced, and standard practices can begin to be identified within markets, the *Guide* considers that it is premature to attempt to link FSIs to specific accounting series used by IFIs. [Developments will be monitored and the *Guide* updated before it is finalized.]

There is recognition of the need for generally agreed guidance for IFIs on accounting presentations for income statements, balance sheets, fiduciary and trust activity, and other disclosures. Several organization are working on various aspects, such as the AAOIFI—which has published a revision of the Basel Capital Adequacy Ratios customized for IFIs[6]—the Institute of Islamic Banking and Insurance in London, the International Association of Islamic Banks in Saudi Arabia, and the new Islamic International Rating Agency in Bahrain. Moreover, from a prudential viewpoint, bank supervisors seek effective prudential oversight of IFIs and international practice is developing: The newly formed Islamic Financial Services Board (IFSB) in Malaysia is intended to help develop an effective system for supervision and

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[5] Bank Negara Malaysia has developed a structured framework in the determination of the rate of return for Islamic banking operations. This framework addresses the issue of uniformity, reducing the potential for distortion in the rate of return.

[6] AAOIFI. Statement on the Purpose and Calculation of the Capital Adequacy Ratio for Islamic Banks. (Bahrain: March 1999). There is some supervisory opinion that the more flexible risk-weighting algorithms that will be available under Basel II might prove effective in more precisely describing the types of financial risk facings IFIs.

regulation of IFIs and provide guidance on the appropriate monitoring, measuring, and management of risks in Islamic financial products.

Finally, because of their heavy involvement in fiduciary activity, project finance, and profit/loss sharing, many IFIs have characteristics of mutual funds or other nonbank financial institutions, but the prevailing statistical practice is to classify Islamic financial institutions as deposit-takers.[7]

[7] This practice is described in more detail in the *MFSM* (paragraph 488).