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Monetary and Financial Statistics:

Compilation Guide

Chapter 2. Source Data for Monetary and Financial Statistics

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Introduction

2.1 This chapter describes the linkages between the stock and flow data in an institutional unit's information system and the source data reported to compilers of monetary and financial statistics. *This guide recommends that the source data for the monetary and financial statistics should be obtained, to the extent possible, from the accounting records of institutional units, as based on the accounting rules of the country in which the units have their center of economic interest.*

2.2 Only data reported by institutional units in the financial corporations sector are extensively covered in this chapter. These constitute the data for the monetary statistics and a subset of data for the financial statistics. Other data for the financial statistics, which are obtained from institutional units outside the financial corporations sector, are covered in Chapter 8 of this guide.

2.3 In this guide, accounting rules that have been imposed by national law or regulation are called the *national financial reporting standards* of a country.[1] The financial reporting standards of many countries apply only to listed corporations—those that issue equity shares traded on organized exchanges. Unlisted corporations and other business enterprises in these countries may be subject to less stringent accounting rules or may be permitted to follow the commonly accepted accounting practices on an informal basis. In addition to the financial reporting standards for corporations, separate standards may apply to a specific sector or subsector—for example, the central bank, central government, state and local government, nonprofit institutions serving households, or foreign-owned enterprises.

2.4 The general and subsidiary accounting ledgers[2] of an institutional unit are constructed in accordance with a *chart of accounts* (also called *plan of accounts*)—a presentation of the accounting codes and corresponding descriptors for all categories and subcategories of assets and liabilities (all balance-sheet accounts) and revenue and expense items (all profit-or-loss accounts).[3] The ledgers are designed to facilitate the application of double-entry bookkeeping.

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[1] This terminology has been adopted to mirror the more widely recognized terminology of International Financial Reporting Standards. Depending on the country, the standards may be referred to as financial reporting standards, accounting standards, or generally accepted accounting principles.

[2] Traditionally, the ledgers were bound volumes in which the accounting entries were handwritten. The ledgers now are computerized, even in many small enterprises.

[3] A separate set of accounting codes and descriptors for off-balance-sheet items often is shown after the chart of asset, liability, revenue, and expense accounts.

2.5 In implementing the *MFSM* methodology, a financial corporation will need to expand its information system to include data that conform to the economic sectorization (Chapter 3) and financial asset classifications (Chapter 4) recommended in the *MFSM* and this guide. These data requirements can be met through expansion of the general and subsidiary accounting ledgers or through creation of stand-alone databases that, though part of the information system, are not integrated into the chart of accounts of the institutional unit. The latter approach is applicable when expansion of the accounting ledgers is impractical and, in particular, when source data for the monetary statistics are to be obtained by estimation methods.

2.6 Data from a financial corporation's accounting records may be directly usable as source data for the monetary statistics, or may need to be adjusted for conformity with the accounting rules for the monetary and financial statistics, as described in Chapter 5 of this guide. The same types of adjustments may apply to the accounting data of listed and unlisted corporations, or additional data adjustments may be required for unlisted corporations that do not apply the national financial reporting standards.

2.7 From a financial corporation's perspective, the source data consist of all data that must be reported to the monetary statistics compilers. These may include (1) accounting data, (2) accounting data that have been adjusted for conformity with the *MFSM* methodology, (3) estimated data obtained from outside the accounting system and directly usable in the monetary statistics, and (4) other reported data that are inputs to data adjustments and estimations performed by the compilers.

2.8 From a compiler's perspective, the source data consist of all data needed for the compilation of the monetary statistics, including the data reported by the financial corporations and other data suppliers,[4] if applicable, and adjusted or estimated data that are produced by the compilers themselves.

2.9 This chapter emphasizes the source data that would be obtainable from a financial corporation's accounting records, if the accounting system of the financial corporation were expanded to meet the specific data needs of the monetary statistics compilers. However, major expansions of financial corporations' accounting systems are not always practical, particularly for small financial corporations and for those for which the reporting of monetary data is a new activity. The last major section of this chapter describes the use of data estimation techniques and other practical aspects of source data collection.

2.10 *This guide recommends that the compilers of the monetary and financial statistics provide report forms and instructions on the specific data to be reported by financial corporations, but that each financial corporation be given latitude in determining the*

[4] For example, source data may be provided by trade associations or regulatory/supervisory agencies to which other financial corporations (insurance corporations, pension funds, etc.) report.

information management processes for data production through expansion of its accounting system or other means.[5]

International Financial Reporting Standards

2.11 This guide focuses on the International Financial Reporting Standards (IFRSs), issued by the International Accounting Standards Board (IASB),[6] to illustrate the relationship between financial corporations' accounting data and the source data for the monetary and financial statistics. Spurred by the globalization of financial markets, many countries have been adopting the IFRSs as their accounting standards, or have been harmonizing their accounting standards with the IFRSs.

2.12 The broad objectives of the IASB are summarized in its Mission Statement:

> The International Accounting Standards Board is an independent, privately-funded accounting standard-setter based in London, UK. The Board members come from nine countries and have a variety of functional backgrounds. The IASB is committed to developing, in the public interest, a single set of high quality, understandable and enforceable global accounting standards that require transparent and comparable information in general purpose financial statements. In addition, the IASB co-operates with national accounting standard-setters to achieve convergence in accounting standards around the world.

2.13 The IASB uses the term *International Financial Reporting Standards* (*IFRSs*) in a collective sense to encompass its *Framework for the Preparation and Presentation of Financial Statements* (*IASB Framework*), *International Accounting Standards (*IASs) and appendices, *Implementation Guidance for IAS 39*, and supporting interpretations issued by its International Financial Reporting Interpretations Committee (or its predecessor, the Standing Interpretation Committee). The term *IFRSs* also subsumes the newest individual Standards issued by the IASB—each of which is designated as an *International Financial Reporting Standard* (*IFRS*).

2.14 The main IASB reference for the preparation of this guide was the *International Financial Reporting Standards (IFRSs) 2005* (see International Accounting Standards Board, 2005a) containing the *Framework for the Preparation and Presentation of Financial Statements*, *IFRS 1* through *IFRS 6*, and *IAS 1* through *IAS 41* (excluding *IAS 3* through *IAS 6*, *IAS 9*, *IAS 13*, *IAS 15, IAS 22*, *IAS 25*, and *IAS 35*, which have been superseded by other Standards). The *IASB Framework* (¶8) states that the IFRSs are applicable to all types of business enterprises:

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[5] This recommendation, in addition to practicality, has a legal dimension for countries in which the statistical authorities are not authorized to mandate expansions or other revisions in corporations' information systems.

[6] The IASB was preceded by the Board of the International Accounting Standards Committee (1973-2001). The IASB is authorized to amend or withdraw International Accounting Standards and Interpretations issued under previous Constitutions, as well as issue new Standards and Interpretations. For additional information on the IASB and a chronology of IASB activities since 2001, see http://www.iasb.org.

> The *Framework* applies to the financial statements of all commercial, industrial, and business reporting entities, whether in the public or the private sectors. A reporting entity is an entity for which there are users who rely on the financial statements as their major source of financial information about the entity.

2.15 The IFRSs cover some types of financial transactions of governments (e.g., *IAS 20 - Accounting for Government Grants and Disclosure of Government Assistance*) but do not include standards to address the many special issues within public sector accounting. Financial reporting for central governments, regional and local governments, related governmental agencies, and their constituencies is covered in the International Public Sector Accounting Standards (IPSASs) issued by the International Federation of Accountants (IFAC), which strives to harmonize the IPSASs with the IFRSs and other ongoing work of the IASB.[7]

2.16 Although references are made to other Standards in the IFRSs, the focus in this guide is the IFRSs and IASs that pertain to the financial assets and liabilities of financial corporations, including:[8]

- *IFRS 7—Financial Instruments: Disclosures* and *Guidance on Implementing IFRS 7—Financial Instruments: Disclosures* (August 2005)[9]
- *IAS 19—Employee Benefits*
- *IAS 26—Accounting and Reporting by Retirement Benefit Plans*
- *IAS 32—Financial Instruments: Presentation* (December 2003, as amended in August 2005)
- *IAS 39—Financial Instruments: Recognition and Measurement* and *Guidance on Implementing IAS 39—Financial Instruments: Recognition and Measurement* (December 2003, incorporating *Amendment to IAS 39—Financial Instruments: Recognition and Measurement. The Fair Value Option,* June 2005).

The IFRSs and *MFSM* methodology

Overview

2.17 The IFRSs focus on the data and other information for the preparation and dissemination of financial statements. The *IASB Framework* (¶12) states:

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[7] The IPSASs and information on the IFAC and its activities are available on-line at http://www.ifac.org.

[8] The versions of these Standards used in preparing this guide include amendments resulting from new and amended IFRSs issued through 2005.

[9] IFRS 7 supercedes *IAS 30. Disclosures in the Financial Statements of Banks and Similar Financial Institutions* and the disclosure requirements in *IAS 32—Financial Instruments: Disclosure and Presentation.*

> The objective of financial statements is to provide information about the financial position, performance and changes in financial position of an entity that is useful to a wide range of users in making economic decisions.

2.18 The financial statements are listed in IAS 1.8:

> A complete set of financial statements comprises:
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> (a) a balance sheet;
>
> (b) an income statement;
>
> (c) a statement of changes in equity showing either:
>
> (i) all changes in equity, or
>
> (ii) changes in equity other than those arising from transactions with equity holders acting in their capacity as equity holders;
>
> (d) a cash flow statement; and
>
> (e) notes, comprising a summary of significant accounting policies and other explanatory notes.

2.19 The objective of the monetary and financial statistics is to provide information on financial positions and changes in financial positions of the financial corporations sector and subsectors or, in the case of the financial statistics, of all sectors and subsectors of the economy.

2.20 The monetary statistics consist of (1) the *sectoral balance sheets* of the central bank, other depository corporations, and other financial corporations; (2) the *Central Bank Survey* (*CBS*), *Other Depository Corporations Survey* (*ODCS*), *Other Financial Corporations Survey* (*OFCS*), *Depository Corporations Survey* (*DCS*), and *Financial Corporations Survey* (*FCS*); and (3) memorandum items that accompany the sectoral balance sheets. The framework for the sectoral balance sheets and the surveys encompasses the data for both financial positions (stocks) and changes in financial positions (flows).

2.21 The financial statistics include changes in financial positions (flows) —the *financial account* and *flow-of-fund accounts*, the *other changes in the volume of assets account*, and the *revaluation account*—and financial positions (stocks) as presented in balance sheets for all economic sectors.[10]

2.22 The balance sheets in the financial statements, as specified in the IFRSs, and the balance sheets in the monetary and financial statistics have many characteristics in common. In each case, the balance-sheet data are compiled through double-entry accounting, the accrual principle is used in accounting for revenues and expenses, and valuations for assets

[10] See the *1993 SNA* (Chapters XI-XIII); the *MFSM* (Chapter 8); and this guide (Chapter 8).

and liabilities in some major categories are based on market prices or fair values. However, the presentation of assets and liabilities is standardized in the monetary and financial statistics, compared with the IFRS guidance that introduces a substantial degree of flexibility in the classification of assets and liabilities on the balance sheet.[11]

2.23 In the *IASB Framework* (¶25-43), criteria for assessing the quality of the data in the financial statements include understandability, relevance, reliability, comparability, and timeliness. These criteria are compatible with the IMF criteria for macroeconomic statistics, as contained in the IMF's *Data Quality Assessment Framework* (*DQAF*), summarized in Box 2.1. The *DQAF* quality dimensions that are most directly relevant for assessing the source data for the monetary and financial statistics are methodological soundness, accuracy and reliability, serviceability, and accessibility.

2.24 The data quality criteria in the *IASB Framework* are consistent with the criteria for the source data for the monetary and financial statistics. The data quality criteria in the *IASB Framework* pertain to the uniform application of *internationally accepted accounting standards* by individual enterprises within a country and across countries. Uniform application of concepts, definitions, asset and liability classification, and economic sectorization in accordance with *internationally accepted statistical guidelines* is outside the scope of the data quality criteria of the *IASB Framework.*

2.25 The main groups of users of the financial statements, as categorized in the *IASB Framework* (¶9), are investors, employees, lenders, suppliers and other trade creditors, customers, governments and their agencies, and the public. The *IASB Framework* states:

> Governments and their agencies are interested in the allocation of resources and, therefore, the activities of entities. They also require information in order to regulate the activities of entities, determine taxation policies and as the basis for national accounts and similar statistics. [*IASB Framework*, ¶9(f)]

[11] See *IAS 1- Presentation of Financial Statements*.

Box 2.1. Data Quality Assessment Framework (DQAF) of the IMF [1]

0. Prerequisites of quality

- **Legal and Institutional environment.** *The environment is supportive of statistics.*
- **Resources.** *Resources are commensurate with needs of statistical programs.*
- **Relevance.** *Statistics cover relevant information on the subject field.*
- **Other quality management.** *Quality is a cornerstone of statistical work.*

1. Assurances of integrity. ***The principle of objectivity in the collection, processing, and dissemination of statistics is firmly adhered to.***

- **Professionalism.** *Statistical policies and practices are guided by professional principles.*
- **Transparency.** *Statistical policies and practices are transparent.*
- **Ethical standards.** *Policies and practices are guided by ethical standards.*

2. Methodological soundness. ***The methodological basis for the statistics follow internationally accepted standards, guidelines, and good practices.***

- **Concepts and definitions.** *Concepts and definitions accord with internationally accepted statistical frameworks.*
- **Scope.** *The scope is in accord with internationally accepted standards, guidelines, and good practices.*
- **Classification/sectorization.** *Classification and sectorization systems are in accord with internationally accepted standards, guidelines, and good practices.*
- **Basis for recording.** *Flows and stocks are valued and recorded according to internationally accepted standards, guidelines, and good practices.*

3. Accuracy and reliability. ***Source data and statistical techniques are sound and statistical outputs sufficiently portray reality.***

- **Source data.** *Source data available provide an adequate basis to compile statistics.*
- **Assessment of source data.** *Source data are regularly assessed.*
- **Statistical techniques.** *Statistical techniques employed conform to sound statistical procedures.*
- **Assessment and validation of intermediate data and statistical outputs.** *Intermediate results and statistical outputs are regularly assessed and validated.*
- **Revision studies.** *Revisions are tracked and mined for the information they may provide.*

4. Serviceability. ***Statistics, with adequate periodicity and timeliness, are consistent and follow a predictable revision policy.***

- **Periodicity and timeliness.** *Internationally accepted dissemination standards are followed.*
- **Consistency.** *Statistics are consistent within the dataset, over time, and with major datasets.*
- **Revision policy and practice.** *Data revisions follow a major and publicized procedure.*

5. Accessibility. ***Data and metadata are easily available and assistance to users is adequate.***

- **Data accessibility.** *Statistics are presented in a clear and understandable manner, forms of dissemination are adequate, and statistics are made available on an impartial basis.*
- **Metadata accessibility.** *Up-to-date and pertinent metadata are made available.*
- **Assistance to users.** *Prompt and knowledgeable support service is available.*

[1] For detailed information, see IMF's Data Quality Reference Site at www.imf.org.

2.26 The accounting data in the financial statements may be appropriate for statistical reporting on the financial positions and activities of an individual enterprise,[12] but are not sufficient for statistical reporting on the aggregate financial positions and on the totality of

[12] Individual financial corporations and other enterprises may be required to report data for purposes of government regulation, supervision, or policymaking. Such data are outside the scope of the monetary and financial statistics.

activities of all institutional units within a subsector of an economy. The IFRSs and the *MFSM* methodology differ in several areas:

- *Periodicity and timeliness*. In the IFRSs, timely preparation of annual financial statements is specified as within 6 month after the reference date/period—a much longer lag than is deemed appropriate for the reporting of monetary statistics.

- *Sectorization of financial assets and liabilities*. In the *MFSM* methodology, stock and flow data for financial corporations need to be disaggregated into separate categories for the central bank, ODCs, OFCs, central government, state and local government, public nonfinancial corporations, other nonfinancial corporations, other resident sectors (households and nonprofit institutions serving households), and nonresidents. Sectoral disaggregation is not specified in the IFRSs.

- *Symmetry of debtor/creditor recording*. The *MFSM* methodology specifies that debtor and creditor's records should agree in amount and time of recording of all transactions and revaluations. These issues do not arise in the IFRSs, which focuses exclusively on the financial records of an individual enterprise.

- *Balance-sheet presentation of loans on a gross or net basis.* Both *IAS 39* and the *MFSM* account for reductions in realizable values of loan portfolios, arising from non-performing loans. In *IAS 39*, loan asset values are directly adjusted for expected loan losses, or are presented as gross loans *less* allowances for loan losses. In the *MFSM* methodology, loan asset values are presented on a gross basis, but supplementary data on expected loan losses are to be provided so that the realizable values of loans can be calculated.

Accrual accounting

2.27 The *IASB Framework* states:

> In order to meet their objectives, financial statements are prepared on the accrual basis of accounting. Under this basis, the effects of transactions and other events are recognised when they occur (and not as cash or its equivalent is received or paid) and they are recorded in the accounting records and reported in the financial statements of the periods to which they relate. {IASB Framework, ¶22)

2.28 The *MFSM* (¶227) states:

> Accrued interest on deposits, loans, and securities other than shares should be incorporated into the outstanding amount of the financial asset or liability, rather than being treated as part of other accounts receivable/payable.

2.29 Most national financial reporting standards follow the accrual accounting principle, but many standards do not specify that the accrued interest should be included in the outstanding amounts of the financial assets or liabilities that give rise to the accrued interest earning or expense. *In the methodology of the MFSM and this guide, accrued interest*

earnings recorded in other accounts receivable needs to be reclassified as part of the outstanding amounts of the financial assets, and accrued interest expenses recorded in other accounts payable need to be reclassified as part of the outstanding amounts of the liabilities, in using the enterprise's accounting data as source data for the monetary statistics.

2.30 The *1993 SNA* (¶11.101) states that interest accruing on securities other than shares should be recorded as part of the outstanding amount of the securities. For loans and deposits, the *1993 SNA* (¶11.101) provides two options: (1) inclusion of accrued interest in the outstanding amounts of loans and deposits or (2) inclusion of accrued interest in the *Other* subcategory of *Other accounts receivable/payable*. *This guide recommends that the accrued interest be included in the outstanding amounts of loans and deposits.* This approach results in uniform treatment of accrued interest across all categories of interest-bearing assets and liabilities.

2.31 In the IFRSs and the *MFSM* methodology, the accrual principle also applies to non-interest types of revenue and expense—e.g., accrued wages and salaries, accrued taxes, and valuation changes (i.e., unrealized gains or losses) on financial assets and liabilities. In the IFRSs and the *MFSM* methodology, dividends are also recorded on an accrual basis, as a payable at the time when the dividend is declared.

Going concern

2.32 *IAS 1 – Presentation of Financial Statements* (¶23) states:

> When preparing financial statements, management shall make an assessment of an entity's ability to continue as a going concern. Financial statements shall be prepared on a going concern basis unless management either intends to liquidate the entity or to cease trading, or has no realistic alternative but to do so.

2.33 The valuation principles and other accounting rules for the monetary and financial statistics are based on the treatment of institutional units as going concerns, except for the treatment of financial corporations in the process of liquidation or reorganization (see Chapter 6 in this guide).

Periodicity and timeliness

2.34 *IAS 1 – Presentation of Financial Statements* (¶49) states: "Financial statements shall be presented at least annually."

2.35 *IAS 34 – Interim Financial Reporting* (¶1) states:

> The International Accounting Standards Committee encourages publicly traded entities to provide interim financial reports that conform to the recognition, measurement, and disclosure principles set out in this Standard. Specifically, publicly traded entities are encouraged:
>
> (a) to provide interim financial reports at least as of the end of the first half of their financial year; and
>
> (b) to make their interim reports available not later than 60 days after the end of the interim period.

The source data for the monetary and financial statistics are reported and compiled on a more frequent basis, and the reporting lags are shorter,[13] compared with the standards for financial statement preparation in *the IFRSs.*

2.36 This guide, unlike the *MFSM*, contains explicit recommendations on the periodicity of the monetary and financial statistics. *This guide recommends the following periodicity for source data reporting (in the format of the sectoral balance sheet) and compilation of the monetary and financial statistics:*

- *Monthly monetary statistics for the central bank (CB), other depository corporations (ODCs), and depository corporations (DCs) on a consolidated basis. Reporting of source data and compilation of the CB Survey, ODC Survey, and DC Survey on a monthly basis.*

- *Quarterly monetary statistics for other financial corporations (OFCs). Reporting of source data and compilation of the OFC Survey on a monthly or quarterly basis . Quarterly monetary statistics for all financial corporations (FCs) on a consolidated basis. Compilation of the FC Survey on a monthly or quarterly basis, depending on whether the OFCS is compiled on a monthly or quarterly basis.*

2.37 Financial statistics. Reporting of source data and compilation of the financial statistics on a quarterly or annual basis, depending on which basis agrees with the periodicity of the data reporting and compilation for the current account and capital account of the national accounts statistics for the country.

2.38 Most countries have longstanding experience with the compilation of balance-sheet (stock) data for the CB and ODCs on a monthly basis,[14] and some countries presently compile balance-sheet data for some or all categories of OFCs on a quarterly or annual basis or, for a few countries, on a monthly basis. Countries may experience difficulties with the development of quarterly data reporting for OFCs on a timely basis, given that insurance corporations, pension funds, and financial auxiliaries often report only annual data and only with lengthy reporting lags. Such data are often reported to supervisory authorities or other government agencies that have not been involved with the reporting of source data for monetary or financial statistics. For these countries, quarterly data reporting for the OFCs

[13] Paragraph 52 of the 1997 version of *IAS 1* specified that "An enterprise should be in a position to issue its financial statements within six months of the balance sheet date." This specification does not appear in the amended version (2004).

[14] In many countries, depository corporations are required to report additional data on a daily, weekly, or bi-weekly basis. Such data, though important for economic policy formulation in some countries, are outside the scope of the monetary statistics as defined in the *MFSM* and this guide.

may need to be developed over the medium term, possibly entailing the establishment of direct reporting of data from OFCs to the compilers of the monetary statistics.

2.39 Compilation of the financial statistics on a quarterly basis is applicable to countries that already have quarterly data for the current account and capital account of their national accounts statistics, or are currently working on migration from annual to quarterly national accounts statistics. *It is recommended that a country's program for developing the quarterly data for the national accounts statistics encompass the development of quarterly financial statistics.*

2.40 This guide does not make specific recommendations on the timeliness of the reporting of the source data for the monetary and financial statistics. In many countries, DCs are required to provide the source data to the compilers of the monetary statistics within the month immediately following the reference month for the data. In other countries, somewhat shorter or longer maximum reporting lags for the monetary data are stipulated. A somewhat longer period—often between a calendar quarter and one year—may be required for the reporting of quarterly or annual data for the OFCs subsector in the monetary statistics and for the components of the financial statistics.

2.41 The financial statements for enterprises in some countries may be prepared on the basis of a fiscal year that differ from the calendar year. In addition, IAS 1 (¶50) states:

> Normally, financial statements are consistently prepared covering a one-year period. However, for practical reasons, some entities prefer to report, for example, for a 52-week period. This Standard does not preclude this practice, because the resulting financial statements are unlikely to be materially different from those that would be presented for one year.

For the monetary and financial statistics, all stock data are end-of-period amounts for a calendar month, quarter, or year; all flows are measured over a calendar month, quarter, or year. Data that do not meet this requirement need to be adjusted to a calendar-year basis.

Terminology

2.42 The IFRSs and the methodology for the monetary and financial statistics contain numerous differences in concepts and terminology. These differences do not create difficulties, if the reporters and compilers of the source data for the monetary and financial statistics are familiar with both sets of terminology.[15]

2.43 The IFRSs use the term *financial assets and financial liabilities*, whereas the *MFSM* and this guide uses *financial assets and liabilities*.[16] In the IFRSs, the original entry of an

[15] A minor difference involves spelling; the IFRSs are written in British-standard English, and the *MFSM* and this guide use American-standard English. In this guide, quotations from the IFRSs retain the British-standard spelling as contained in the Standards themselves.

[16] The methodology of the monetary and financial statistics concerns only liabilities of a financial nature.

asset or liability into the balance-sheet accounts is called the *initial measurement* of the asset or liability. *Revaluation* of an asset or liability, as defined for the monetary and financial statistics, is termed *remeasurement* of the asset or liability in the IFRSs. In the IFRSs, the *equity* of an enterprise is classified separately from its *liabilities*, whereas the equity account is designated as the *liability account for shares and other equity* in the monetary and financial statistics (consistent with the *1993 SNA* framework). Chapters 4 and 5 of this guide include numerous references to *provisions for losses on impaired assets*, which in the IFRSs are referred to as *allowances for losses on impaired assets.*

2.44 In the *MFSM* and this guide, *market value* and *fair value* are separate concepts. "The fair value of a financial asset or liability refers to an approximation of the value that would arise from a market transaction between unrelated parties." (*MFSM*, ¶219). Fair value is the estimated value that must be used when a market price quotation for a financial asset or liability is unavailable. IAS 32.11 states: "*Fair value* is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction". In the IFRSs, the concept of *fair value* encompasses both (1) market values based on price quotations in active markets and (2) fair values that, in the absence of market price quotations, are estimated to approximate market values.[17]

> The value of a domestic currency loan should be the amount of the creditor's outstanding claim (equal to the debtor's obligation), which comprises the outstanding principal amount plus any accrued interest (i.e., interest earned but not yet due for payment). Such valuation is herein referred to as the *book value* of a loan. Loans denominated in foreign currency should be recorded at their book values when expressed in the foreign currency and, for conversion to domestic currency units, should be valued on the basis of the market exchange rates that prevailed on the transaction or balance sheet date.
> ***MFSM*, ¶205**

2.45 For the monetary statistics, several categories of financial assets and liabilities are recorded at *book value*, a concept that does not appear in the IFRSs. The counterpart in the IFRSs is valuation at *amortized cost*, which is defined in IAS 39.9:

> The amortised cost of a financial asset or financial liability is the amount at which the financial asset is measured at initial recognition minus principal repayments, plus or minus the cumulative amortization using the effective interest method of any difference between the initial amount and the maturity amount, and minus any reduction (direct or through the use of an allowance account) for impairment or uncollectibility.
>
> The effective interest rate is a method of calculating the amortised cost of a financial asset or financial liability (or group of financial assets or financial liabilities) and of allocating the interest income or interest expense over a relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument, or

[17] *The Fair Value Option*, IAS 39 Amendment (see International Accounting Standards Board, 2005b) states: "The best evidence of fair value is quoted prices in an active market." (¶48A) In this guide, *fair value* is used when quoting the IFRSs, and *market or fair value* in the context of the monetary and financial statistics.

> when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability.

Valuation of financial assets and liabilities at *amortized cost*, as specified in IAS39, is consistent with the valuation at *book value* in the *MFSM* methodology. In the absence of accrued interest, the valuation of a loan or deposit at amortized cost is equivalent to the book value.

2.46 The *book value of a domestic currency loan* is specified in the *MFSM* as the loan principal plus accrued interest, but *principal* is not defined therein. In this guide, *original principal* is defined as the amount borrowed and to be repaid, excluding all interest (due or accrued). The o*utstanding principal* (also called *remaining principal*) is defined as the original principal *less* any non-interest payments that the debtor has made to reduce the *original principal*.

2.47 In this guide, the *book valu*e *of a domestic currency deposit* is defined as the outstanding balance in the deposit account (inclusive of interest already recorded and remaining in the account) *plus* accrued interest. If desired, the book value of a deposit can be stated in terms of a *deposit principal*—the outstanding balance in the account—and an accrued-interest component.

2.48 *Book value* is used in the *MFSM* and this guide to denote the valuation method for various components of other accounts receivable/payable, insurance technical reserves, and liabilities within the shares-and-other-equity account. These are assets and liabilities that are non-interest- bearing and therefore do not have an accrued interest component.

2.49 To avoid ambiguity, this guide minimizes the use of the term *principal* in referring to the outstanding amounts for securities other than shares. For most securities, the amount of borrowing—the debtor's proceeds from issuing the securities—is referred to as the *issue price* or *market price at time of issue*. During the life of the securities, the outstanding amount for the securities is referred to the *market price* (or fair value), which reflects any accumulation of accrued interest. The amount paid to discharge the debtor's obligation at the maturity of the securities is referred to as the *face value* (also called *redemption value*) of the securities. For coupon-type securities, the face value excludes any final coupon payment made at the time of redemption. For discount-type securities, the face value includes the interest which has accrued over the life of the securities, which is measured as the difference between the issue price and face value of the securities.

2.50 The term *principal* cannot be avoided in descriptions of securities for which principal is an integral characteristic, including those with indexed principal and pass-through and other asset-backed securities. The terms *principal* (meaning *face value*) and *notional principal* are used in describing the valuation of financial derivatives. Usage of the term *principal* is apparent from the descriptions of these financial instruments in Chapters 4 and 5 of this guide.

Financial asset classifications and valuation rules

The classification scheme of the *1993 SNA* should be used to classify financial assets. This classification scheme is based primarily on two criteria: (1) the liquidity of the asset and (2) the legal characteristics that describe the form of the underlying creditor/debtor relationship. ***MFSM*, ¶120.**

2.51 The classification scheme for the financial assets and liabilities in the sectoral balance sheets in the monetary statistics is shown in Box 2.2. A single valuation rule—either book value or market/fair value—is applied to each category of financial assets and liabilities.

Box 2.2. Financial Asset and Liability Classifications in the Monetary Statistics

Classification	**Valuation method**[1]
Monetary gold (central bank)	Market value
SDRs (central bank)	Market value
Currency	Book value (In currency of denomination)
Deposits	Book value (In currency of denomination)
Securities other than shares	Market or fair value
Loans	Book value (In currency of denomination)
Shares and other equities	Market or fair value (asset); book value (liability)
Insurance technical reserves	Market or fair value[2]
Financial derivatives	Market or fair value
Other accounts receivable/payable	Book value

[1] All foreign-currency-denominated assets and liabilities converted to currency units at market exchange rates.
[2] Except for *Prepayments of insurance premiums* and *Reserves against outstanding claims* which are recorded at book value.

2.52 In contrast, *IAS 39—Financial Instruments: Recognition and Measurement* has a separate set of classifications that specify the rules for financial asset revaluation on the basis of an enterprise's motivations for acquiring the financial assets, either for trading or for holding to maturity. These classifications are shown in Box 2.3. The general rules for the revaluation of securities are that (1) those in the held-for-trading category are to be revalued at market or fair value and (2) those in the category of held-to-maturity investments are to be revalued at amortized cost. However, major exceptions to the general rules recently have been introduced.

2.53 A separate clause specifies the general rules for revaluation of liabilities. IAS 39.47 states:

> After initial recognition, an entity shall measure all financial liabilities at amortized cost using the effective interest method, except for:
>
> (a) financial liabilities at fair value through profit or loss. Such liabilities, including derivatives that are liabilities, shall be measured at fair value except for a derivative liability that is linked to and must be settled by delivery of an unquoted equity instrument whose fair value cannot be reliably measured, which shall be measured at cost.
> (b) financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or is accounted for using the continuing involvement approach. . . .

2.54 The IFRSs have evolved toward broad application of valuation at fair value through profit or loss. The revised IAS 39 (December 2003) states: *"Any financial asset or financial liability within the scope of this Standard may be designated when initially recognised as a financial asset or financial liability at fair value through profit or loss except for investments in equity instruments that do not have a quoted market price in an active market, and whose fair value cannot be reliably remeasured."*(¶9). In IAS 39 as subsequently amended,[18] the general rule for revaluation at fair value was replaced by specific rules. However, the new rules impart the potential for relatively broad applicability of valuation at fair value and, in particular, can be used to justify the valuation of loans or deposits at fair value in some circumstances. Appendix A of the amendment to the Standard contains several examples of assets or liabilities that, though generally revalued at amortized cost, can be revalued at fair value. For example, in the case of loans, revaluation at fair value can be justified under IAS 39 when "...the entity has financed a specific group of loans by issuing traded bonds whose changes in fair value tend to offset each other." [19]

2.55 Deposits are included in the category of liabilities that, in some circumstances, may be valued at fair value. Regarding liabilities with demand (i.e., callability) features, IAS 39.49 states: "The fair value of a financial liability with a demand feature (e.g., a demand deposit[20]) is not less than the amount payable on demand, discounted from the first date that the amount could be required to be paid."

2.56 The classifications in Box 2.3 have no a counterpart in the *MFSM* and this guide, where a single valuation rule applies to a particular category of financial instrument, whether held as an asset or incurred as a liability. The exception in the monetary statistics is the valuation of shares and other equity. Valuation of assets in the category of shares and other equity is at market or fair value; valuation of liabilities in the category of shares and other equities is at book value on the sectoral balance sheets of financial corporations. However, data on market values or fair values of shares-and-other-equity liabilities are contained in memorandum items that accompany the sectoral balance sheets.

2.57 For the monetary and financial statistics, all securities holdings are valued at market or fair value, and all loans and deposits are at book value. For financial corporations that apply IAS 39, security portfolios held for trading are valued consistent with the *MFSM* methodology, whereas valuation of other security portfolios are not.

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[18] *Amendment to IAS 39 – Financial Instruments: Recognition and Measurement. The Fair Value Option,* June 2005.

[19] *The Fair Value Option, Appendix A,* ¶AG4E (d) (ii).

[20] This statement is somewhat confusing with regard to demand deposits, which are transferable and therefore immediately payable. The current day is the "first date that the amount could be required to be paid," discounting does not apply to the amount payable, and the valuation in terms of amortized cost is at book value.

Box 2.3. IFRS Classification of Assets and Liabilities – Valuation and Accounting for Gains and Losses

***IAS 39* - Financial Instruments: Recognition and Measurement**[1]

¶9 (excerption). The following terms are used in the Standard with the meanings specified:
. . .

Definitions of Four Categories of Financial Instruments[2]

A financial asset or financial liability at fair value through profit or loss is a financial asset or financial liability that meets either of the following conditions.
(a) It is classified as held for trading. A financial asset or financial liability is classified as held for trading if it is:
- (i) acquired or incurred principally for the purpose of selling or repurchasing it in the near term;
- (ii) part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit-taking; or
- (iii) a derivative (except for a derivative that is a designated and effective hedging instrument).

(b) Upon initial recognition it is designated by the entity as at fair value through profit or loss. An entity may use this designation only when permitted by paragraph 11A [pertaining to embedded derivatives], or when doing so results in more relevant information, because either
- (i) it eliminates or significantly reduces a measurement or recognition inconsistency...that would otherwise arise from measuring assets or liabilities or recognising the gains and losses on them on different bases; or
- (ii) a group of financial assets, liabilities or both is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy...

Held-to-maturity investments are non-derivative financial assets with fixed or determinable payments and fixed maturity that an entity has the positive intention and ability to hold to maturity...other than:
(a) those that the entity upon initial recognition designates as at fair value through profit or loss;
(b) those that the entity designates as available for sale; and
(c) those that meet the definitions of loans and receivables.
. . .

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market, other than:
(a) those that the entity intends to sell immediately or in the near term, which shall be classified as held for trading, and those that the entity upon initial recognition designates as at fair value through profit or loss;
(b) those that the entity upon initial recognition designates as available for sale; or
(c) those for which the holder may not recover substantially all of its initial investment, other than because of credit deterioration, which shall be classified as available for sale.

An interest acquired in a pool of assets that are not loans or receivables (for example, an interest in a mutual fund or a similar fund) is not a loan or receivable.

Available-for-sale financial assets are those non-derivative financial assets that are designated as available for sale or are not classified as (a) loans and receivables, (b) held-to-maturity investments or (c) financial assets at fair value through profit or loss...[3]

[1] Issued in December 2003; amended in April 2004 and June 2005.
[2] A separate category is not include for deposits, which are subsumed within *loans and receivables*.
[3] Equity shares account for most available-for-sale financial assets. Equity shares, which by definition do not have maturities, cannot qualify for inclusion in *held-to-maturity investments*.

Stocks and flows denominated in foreign currency should be converted to national currency values at the market exchange rate prevailing at the moment they are entered in the accounts, that is, the moment when the transaction or other flow occurs, or at the point in time to which the balance sheet applies. ***MFSM*, ¶203.**

2.58 In the IFRSs, foreign-currency-denominated financial assets and liabilities are to be revalued at market exchange rates, as specified in *IAS 21 – The Effects of Changes in Foreign Exchange Rates.* IAS 21.23 states:[21]

> At each balance-sheet date:
>
> (a) foreign currency monetary items shall be reported using the closing rate;
>
> (b) non-monetary items that are measured in terms of historical cost in a foreign currency shall be translated using the exchange rate at the date of the transaction; and
>
> (c) non-monetary items that are measured at fair value denominated in a foreign currency shall be translated using the exchange rates at the date when the fair value was determined.

2.59 The IFRS requirements for revaluation of foreign-currency-denominated financial assets and liabilities are consistent with the monetary and financial statistics methodology in which the guiding principles can be simply stated: (1) all foreign-currency-denominated financial assets and liabilities should be valued at market exchange rates and (2) adjustment is required for any valuation data based on national financial reporting standards in which other rules for conversion of foreign-currency-denominated assets and liabilities to national currency units have been applied.

2.60 In the monetary and financial statistics, revaluation is not conditioned on whether an asset or liability is part of a hedging relationship[22] or other type of risk-offset between assets/liabilities in a portfolio, as applied in the amended version of IAS 39. In the *MFSM* methodology, revaluation is strictly based on the valuation rules in Box 2.2. To obtain the data for the monetary and financial statistics, some components of the data based on IAS 39 need to be adjusted:

- Securities other than shares in the category of held-to-maturity investments, if valued at amortized cost, need to be revalued at market or fair value.

[21] In IAS 21.8, *monetary items* are defined as "...units of currency held and assets and liabilities to be received or paid in a fixed or determinable number of units of currency."

[22] Hedging relationships, which are described in Chapter 5 of this guide, play not part in the accounting rules for the monetary and financial statistics.

- Equity shares in the category of available-for-sale financial assets, if valued at amortized cost, need to be revalued at market or fair value.[23]
- Loans and deposits, if valued at market or fair value under *The Fair Value Option* of the IAS 39, need to be restated at book value.

2.61 In the IFRSs, specific rules are applied for the recording of gains or losses arising for revaluations, either through recording in the profit and losses accounts (wherein gains are recorded as income, and losses as expenses) or recording directly in shares and other equity. IAS 39.55 states:

> A gain or loss arising from a change in the fair value of a financial asset or financial liability that is not part of a hedging relationship ... shall be recognized, as follows:
>
> (a) A gain or loss on a financial asset or financial liability classified as at fair value through profit or loss shall be recognised in profit or loss.
>
> (b) A gain or loss on an available-for-sale financial asset shall be recognized directly in equity, through the statement of changes in equity (see IAS 1 *Presentation of Financial Statements*), except for impairment losses ... and foreign exchange gains and losses..., until the financial asset is derecognized [sold or otherwise liquidated], at which time the cumulative gain or loss previously recognised in equity shall be recognized in profit or loss.

IAS 39.56 states:

> For financial assets and financial liabilities carried at amortized cost ..., a gain or loss is recognised in profit or loss when the financial asset or financial liability is derecognised or impaired, and through the amortization process.

2.62 Specific rules also apply to accounting for the holding gains or losses from the three categories of hedging relationships permitted under IAS39: (1) fair-value hedges, (2) cash flow hedges, and (3) hedges of a net investment in a foreign operation. For the fair value hedge, "...the gain or loss on the hedged item attributable to the hedged risk shall adjust the carrying amount of the hedged item and be recognised in profit or loss." [IAS 39.89(b)] For the other two types of hedges, "... (a) the portion of the gain or loss on the hedging instrument that is determined to be an effective hedge...shall be recognised directly in equity through the statement of changes in equity (see IAS 1); and (b) the ineffective portion shall be recognised in profit or loss. (IAS 39.95 and IAS 39.102).

2.63 For the monetary and financial statistics, fully accounting for gains and losses arising from the revaluation of financial assets and liabilities is an important part of the methodology, given that the total gain or loss—referred to as the *valuation change*, or *revaluation*, in each reporting period for a category of financial assets or liabilities—is a

[23] For the financial statistics, the same type of adjustment applies to both assets and liabilities in the form of shares and other equity. For the monetary statistics, liabilities in the form of shares and other equity are measured at book value.

major component of the flow data in the statistics.[24] However, this methodology does not prescribe whether the contra-entry for an gain or loss arising from asset/liability revaluation is to be recorded in the profit-or-loss accounts or directly in shares and other equity. *This guide recommends that the recording of gains and losses arising from the revaluation of assets and liabilities be recorded as prescribed by the national financial reporting standards, either in the profit and loss accounts or directly in equity.*[25]

2.64 Recording of the contra-entries for such gains and losses in the profit-or-loss accounts, rather than in the shares-and-other-equity liability account, has a direct impact on the income statement and statement of changes in equity for an enterprise, as prepared in accordance with national financial reporting standards based on, or similar to, the IFRSs. This issue does not arise for the monetary statistics, which do not contain income statements or statements of changes in equity.

2.65 Gains and losses arising from revaluation of financial assets and liabilities have an impact on the shares-and-other-equity account in the monetary statistics. The impact is direct, if the gains or losses are recorded in share and other equity; the impact is indirect, if the gains or losses pass through the profit-or-loss accounts and are reflected in shares and other equity only when the profit for the period is transferred to shares and other equity in the form of an increase or decrease in retained earnings (a subcategory of shares and other equity) at the end of the reporting period. Consider alternative recordings of a valuation gain on a financial asset:

- Alternative A. The gain is recorded as revenue in the profit or loss accounts, which results in an increase in profit and, therefore, in retained earnings (within the category of shares and other equity) for the reporting period.

- Alternative B. The gain is recorded as an increase in *valuation adjustment* (within the category of shares and other equity) for the reporting period.[26]

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[24] *Valuation changes* and the other two major categories of flow data—*transactions* and *other changes in the volume of assets*—in the monetary statistics are covered in Chapters 4 and 7 (monetary statistics) and Chapter 8 (financial statistics) in this guide.

[25] This recommendation pertains to the recording of unrealized gains or losses, which arise from the revaluation of assets and liabilities that are still on the balance sheet. Realized gains or losses—those resulting selling or otherwise liquidating assets—are recorded in the revenue (gains) or expense (losses) categories of the profit or loss accounts. The issue of recording unrealized gains/losses in the profit-or-loss accounts or in equity does not arise for the financial statistics. The methodology of the financial account in the *1993 SNA* deals with only the total market value of *shares and other equity*, rather than to the value of individual components of shares and other equities, as described in the *MFSM*, ¶166 and ¶214.

[26] *Retained earnings*, *valuation adjustment*, and the other component of shares and other equity are described in the *MFSM*. Chapter IV: "Retained earnings constitute all after-tax profits that have not been distributed to shareholders or appropriated as general or special reserves...Valuation adjustment shows the net counterpart to changes in the value of assets and liabilities on the balance sheets of financial corporations **[to the extent that**

(continued)

2.66 Alternative A results in an increase in *retained earnings* and no change in *valuation adjustment*, whereas Alternative B leads to an increase in *valuation adjustment* and no change in *retained earnings*. The increase in *shares and other equity* is of the same amount, when either alternative is applied. The total amount of revaluations is needed for the monetary statistics. However, the monetary statistics methodology imposes no rules with respect to recording of gains or losses through the profit-or-loss accounts or directly into *valuation adjustment* within *shares and other equity*.

2.67 To obtain source data for the monetary and financial statistics, the securities valued at amortized cost need to be restated at market or fair value. The fair value replaces the amortized cost in the recording of the outstanding amount of the securities, and a contra-entry in the amount of the difference between the fair value and the amortized cost (positive for a gain and negative for a loss) needs to be recorded as a valuation adjustment, either as an increase/decrease in *retained earnings* or as an increase/decrease in *revaluation adjustment* in shares and other equity. Similarly, a loan may be valued at fair value in accordance with the provisions of *The Fair Value Option* amendment to IAS 39. For the monetary statistics, the loan will need to be restated at book value, and a contra-entry (amounting to the positive or negative difference between the book value and the fair value of the loan) would need to be recorded, either in *retained earnings* or *valuation adjustment*. *The recommendation in this guide is that, in all such cases, the contra-entry be recorded in either retained earnings or revaluation adjustment, whichever recording is practical and in accordance with national policy.*

Data from an information system

2.68 The general ledger provides a summary of all entries in the balance sheet and profit-or-loss accounts of the institutional unit. More disaggregated data are contained in subsidiary ledgers that are linked to the general ledger. A major function of the general and subsidiary ledgers is to provide information for the day-to-day management and control of a corporation. The general and subsidiary ledgers also support (1) preparation and auditing of the corporation's financial statements, in accordance with the accounting standards, and (2) compliance with reporting requirements of regulatory/supervisory agencies and national statistical agencies.

2.69 Each account in the general and subsidiary ledger has an accounting code, or reference number, and a descriptor. Large and complex enterprises have thousands of account codes in their general and subsidiary ledgers. The accounting codes and descriptors are obtained from the enterprise's chart of accounts, or plan of accounts. The charts of accounts of financial and nonfinancial corporations reflect both the complexity of their activities and the multi-purpose nature of the data.

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such changes in value have not been routed through the profit or loss accounts]. (***MFSM*, ¶166**, bolded text in brackets added for clarification)

2.70 As a matter of national policy in some countries, a chart of accounts is standardized across institutional units within an individual subsector of the economy. For example, ODCs may be required to use the same chart of accounts. However, statistical authorities in other countries are not authorized to mandate expansions or other revisions in corporations' charts of accounts. In these countries, each corporation designs its own charts of accounts, subject only to the requirements that financial statements are prepared in accordance with the national financial reporting standards and that accurate and timely data are reported to the appropriate authorities.

2.71 The ordering of assets and liabilities within a chart of accounts is somewhat arbitrary, but two general principles usually apply—asset/liability ordering by (1) relative liquidity of the asset/liability and/or (2) relative importance of the asset/liability to the operation of the enterprise. Different orderings of accounts for financial and nonfinancial corporations are based on dissimilarities of their operations and their balance sheets. The ordering of financial corporations' assets is usually by relative liquidity, whereas the ordering of nonfinancial corporations' assets usually is by relative importance. Deposit, loan, and securities holdings are major asset categories for depository corporations, whereas such investments may constitute relatively minor accounts in a manufacturing firm, when compared with its holdings of nonfinancial assets such as equipment, raw material, and unfinished and finished inventory.

2.72 The profit-or-loss accounts within a chart of accounts consist of revenue, cost-of-goods-sold, and expense accounts. The category of *cost of goods sold* is used to account for the production and/or sale of goods by nonfinancial corporations engaged in the manufacture and/or sale of goods at the wholesale or retail levels. *Cost of goods sold* usually does not appear, or is a relatively minor item, in charts of accounts of corporations that specialize in the sale of financial or nonfinancial services.

2.73 *Double-entry accounting* can be implemented in the compilation of the source data for the monetary and financial statistics, when the data for the monetary statistics are incorporated in, or linked directly to, the general and subsidiary ledgers. The double-entry accounting rule requires that every entry in the expanded information system must be accompanied by a contra-entry or set of contra-entries that will ensure that the balance-sheet identity—assets equal liabilities (inclusive of shares and other equity)—is always satisfied. Double-entry accounting ensures that, by construction, the balance-sheet accounts and the profit-or-loss accounts in the accounting system are reconciled. Double-entry accounting is also the framework for the monetary and financial statistics, if all stock and flow data are to be reconciled.

2.74 The flow data in an accounting system are defined by debits and credits to the accounts. The *trial balance* is a summary of all debits and credits recorded in the general ledger of the accounting system. If are entries in the accounts are accurate, the sum of all debits always equals the sum of all credits. If debits do not equal credits, the resulting error will be revealed in a trial balance that does not balance.

2.75 The effects of debits and credits to the various categories of accounts are shown in Box 2.4. In some cases, a single debit entry and a single credit entry are needed to record a transaction. For example, suppose an ODC extends a loan of 100 to a borrower who is also its depositor. The ODC will record the claim by debiting the loan account in the amount of 100 and will record the borrower's receipt of the loan proceeds by crediting the borrowers deposit account (a liability of the ODC) in the amount of 100. This transaction involved only an asset account (loans) and a liability account (deposits). In other cases, a transaction involves two entries in the asset accounts. For example, suppose a financial corporation purchases 100 of securities from a nonresident and provides payments from a transferable deposit account in a overseas (non-resident) depository corporation. The financial corporation debits an asset account (*securities - nonresident*) in the amount of 100, and credits another asset account (*transferable deposits - nonresident*) in the amount of 100.

Box 2.4. Debits and Credits to the Accounts

Account Type	Debit	Credit
Assets	**Increases**	**Decreases**
Liabilities[1]	**Decreases**	**Increases**
Revenue	**Decreases**	**Increases**
Expenses	**Increases**	**Decreases**

[1] Includes shares and other equity.

2.76 Some transactions involve debits to both (1) an asset or liability account and (2) a revenue or expense account. An example is the recording of accrued interest in the amount of 10 for a loan held by a financial corporation. The accrued-interest subaccount associated with the asset account (loan) is debited (10), and the revenue account for accrued interest on loans is credited (10). Instead, suppose that accrued interest of 10 is to be posted for a deposit liability. The accrued-interest subaccount associated with the deposit account is credited (10), and the expense account for accrued interest on deposits is debited (10).

2.77 Debits and credits to the asset/liability accounts, when aggregated and compiled on a net basis, provide transactions data for the net purchase or sale (or other form of partial or total liquidation) of a category of assets and the net incurrence or repayment of a category of liabilities. Credits and debits to the revenue and expense accounts provide a rich source of flow data for gains and losses on financial assets and liabilities.[27] Suppose a financial

[27] Assuming the gains/losses are recorded through the profit-or-loss accounts. If recorded directly in equity, source data for the gains and losses are contained in the *valuation adjustment* subaccount within *shares and other equity*.

corporation sells securities to one of its depositors, who agrees to pay 900 for the securities. Suppose the securities are currently valued at 850 in the accounts of the financial corporation. The sales transaction entry in the accounts of the financial corporation would be a credit (850) in the asset account for the securities (removing the securities from the accounts), a debit (900) in the liability account for the customer's deposits (remunerating the financial corporation for the sale), and a credit (50) in the revenue accounts to record the gain realized on the securities sale.

2.78 Instead, suppose that the financial corporation intends to continue to hold the securities, but needs to revalue them from a market price of 850 to the market price of 900 that prevailed at the end of the reporting month. The financial corporation posts a debit (50) in the asset account to show an increased value for the securities, and a credit (50) in revenue to account for the holding gain on the securities. Suppose that, instead of increasing during the month, the market value of the securities declined from 850 to 800. The financial corporation records a credit (50) to the asset account to reflect the reduced value for the securities, and records a debit (50) in the expense account for holding losses on securities.

2.79 Flow data for the monetary statistics can be based on the debit/credit entries to the balance-sheet and profit-or-loss-accounts in the financial corporation's ledgers. A general or subsidiary ledger account appears for each line item in the sectoral balance sheet of the financial corporation (see Table 7.1 in the *MFSM*, pp. 80-86). Separate asset/liability accounts appear for currency, deposits, securities other than shares, loans, shares and other equity, insurance technical reserves, financial derivatives, and other accounts receivable/payable. The general and subsidiary ledgers contain a hierarchy of accounts that correspond to all types of data disaggregation in the sectoral balance sheet—i.e., disaggregation by denomination of currency (national or foreign), type of deposit (transferable or other), and type of other accounts receivable/payable (trade credit and advances or other). Asset accounts are further subdivided by economic sector of debtor, as specified in the sectoral balance sheet. A similar hierarchy of accounts and subaccounts is used for the disaggregation of liabilities, including separation of deposits and securities other than shares into separate categories for *Included in broad money* and *Excluded from broad money*.

2.80 General or subsidiary ledger subaccounts can be used to account for accrued interest on each category of interest-bearing asset or liability—specifically, loans, securities other than shares, and deposits (other than non-interest-bearing transferable deposits). These subaccounts would track the *additions* to accrued interest—interest earned but not yet due for payment—and *reductions* in accrued interest that result when accumulated accrued interest becomes due for payment and is paid (see Box 2.5).[28] The amounts of accrued interest in the

[28] The monthly data for the monetary statistics include accrued interest in the outstanding amounts of interest-bearing deposits. The monthly statement that a depository corporation provides to a depositor usually does not include accrued interest, but rather show only the amount of interest recorded in the depositor's account at the time when the interest became due for payment. Separate subaccounts for accrued interest on deposits facilitate the reconciliation of the deposit data in which accrued interest are included and excluded, respectively.

subaccounts would be incorporated into the outstanding balances for the interest-bearing assets and liabilities, as well as in the accrued-interest data in the *Memorandum Items* accompanying the sectoral balance sheet (see Chapter 7 of this guide). Illustrative sets of subaccounts for accrued interest are shown in Annex 2.1.

Box 2.5. Accounting for Accrued Interest: Examples

Loan

Loan amount: **1000** Contract date: March Maturity: 2 years
Interest payable semi-annually. Repayment of all principal at maturity.
Interest: 6% per annum.
Interest amount: **30** per payment period (5 per month)
Borrower is a depositor who will make loan payments from a transferable deposit account at the lender

Accrued interest, End July (five months): **25**

Loan account (assets)	**1000**	
Accrued interest account (assets)	**25**	
Outstanding amount (carrying amount)	**1025**	
Accounting entries for interest accrual:		
Accrued interest (assets):	Debit	**25**
Accrued interest revenue (profit or loss):	Credit	**25**

Interest payment (August 31): **30**

Loan account (assets)	**1000**	
Accrued interest Account (assets)	**0**	
Outstanding amount (carrying amount)	**1000**	
Accounting entries for interest payment:		
Accrued interest (assets)	Credit	**25** (from payment of accrued interest)
Accrued interest revenue (profit or loss)	Credit	**5** (from payment of August interest)
Deposit withdrawal (liabilities)	Debit	**30** (payment by borrower)

Deposit similar to the loan in the above example

Time deposit amount: **1000** Contract date: March Maturity: 2 years
Interest payable semi-annually. Repayment of all principal at maturity.
Interest: 6% per annum.
Interest amount: **30** per payment period (5 per month)

Accrued interest, End July (five months): **25**

Deposit account (liabilities)	**1000**	
Accrued interest account (liabilities)	**25**	
Outstanding amount (carrying amount)	**1025**	
Accounting entries for interest accrual:		
Accrued interest (liabilities):	Credit	**25**
Accrued interest expense (profit or loss):	Debit	**25**

Interest payment (August 31) **30**

Deposit account:	**1000**	
Accrued interest:	**0**	
Outstanding amount (carrying amount):	**1000**	
Accounting entries for interest payment:		
Accrued interest (liabilities)	Debit	**25** (from payment of accrued interest)
Accrued interest expense (profit or loss)	Debit	**5** (from payment of August interest)
Deposit (liabilities)	Credit	**30** (payment to depositor)

2.81 Profit-or-loss accounts in the general and subsidiary ledgers can disaggregated to provide gain-or-loss data for the monetary and financial statistics. For the monetary and

financial statistics, gains and losses in the profit-or loss accounts do *not* need to be disaggregated on the basis of whether the gains/losses have been realized or are unrealized (i.e., are holding gains/losses),[29] or on the basis of whether the gains/losses resulted from price changes or from exchange rate changes. However, source data for gains and losses in the monetary statistics need to be disaggregated in accordance with the line items in the sectoral balance sheet in Table 7.1 (pp. 80-86) of the *MFSM*. The principal disaggregations of gains/losses are by (1) asset/liability category,[30] (2) national/foreign currency of denomination, and (3) economic sector of creditor/debtor. No similar gain-or-loss subaccounts are needed for national-currency-denominated loans and deposits, given that these categories of assets and liabilities are recorded at book value in the *MFSM* methodology. Illustrative profit-or-loss subaccounts for gains and losses (*Valuation changes* in the context of the monetary statistics) are shown in Annex 2.2.

2.82 For the monetary and financial statistics, all revaluations (gains or losses) that have been recorded directly in the equity account need to be included in the data for the total valuation changes for individual categories of assets and liabilities. The subaccounts for gains and losses recognized directly in equity, illustrated in Annex 2.2, have the same classifications—by asset/liability category, national/foreign currency of denomination, economic sector, etc.—as the subaccounts for gains and losses through the profit-or-losses accounts.[31] Having disaggregated the data for gains and losses in each set of subaccounts, the total valuation change (gain or loss) for a particular category of assets or liabilities is given by the *sum* of (1) the net gain or loss through profit or loss and (2) the net gain or loss that has been recorded directly in equity.

2.83 In the monetary statistics, net profit or loss for the period is shown as the *change in retained earnings*, and accumulated profit or loss as of the beginning and end of the period are referred to as the *opening balance of retained earnings* and *closing balance of retained earnings*, respectively. In principle, profit or loss can be officially transferred to retained earnings at the end of each period. However, under national financial reporting standards in many countries, profit or loss is transferred to retained earnings on a quarterly or annual basis only. In the periods between the transfers to retained earnings, profit or loss is recorded on a cumulative basis in a separate account which has a descriptor such as a*ccumulated profit/loss for the period* or *results for the period*, where *period* refers to the entire period since

[29] For an individual category of asset or liability in the monetary and financial statistics, the net gain or loss (i.e., *Valuation change*) for a period is equal to the *sum* of (1) unrealized gains and losses from revaluing assets/liabilities still in the accounts at the end of the period and (2) realized gains and losses on assets/liabilities that, by virtue of having been sold or otherwise liquidated, are not in the accounts at the end of the period.

[30] For deposits and securities (other than shares) issued by depository corporations, disaggregation based on the liability categories of *Included in broad money* and *Excluded from broad money*, as well disaggregation by national/foreign currency of denomination and by economic sector, is needed.

[31] In the context of the sectoral balance sheet of a financial corporation, *Valuation adjustment* within *Shares and other equity*, shown in the *MFSM*, Table 7.1 (p. 85) is the account that needs to be disaggregated.

profit/loss was last transferred to retained earnings. In the data reported for the monetary statistics, *retained earnings* is defined as the total amount of net profit or loss that has accumulated in the current and previous periods, including the amount in an account such as *results for the period*, which has not yet been officially transferred to the retained earnings account.[32]

2.84 The profit or loss for the period, inclusive of the net amount of gain or loss, is disaggregated in the flow categories of *transactions* (*T*) and *valuation changes* (*V*) within *shares and other equity*. These are the contra-entries for the transactions (e.g., revenue received, expenses paid, and accrued revenue and expense items) and valuation changes, on a net basis, for all financial assets and all liabilities outside the shares-and-other-equity account. Within the shares and other equity account, the net amount of all *transactions* (other than transactions arising from issuance or redemption of equity) is recorded in the *transactions* column of the retained-earnings line, and the net amount of gain/loss through the profit-or-loss accounts is recorded in the *valuation changes* column of the retained-earnings line. A separate *OCVA* column of retained earnings is used for any OCVA that are recorded through profit or loss. The *shares and other equity account* contains a separate account, *valuation adjustment*, for the recording of the net gain/loss recognized directly in equity.

2.85 The net amount of gain/loss (*valuation change*) through the profit-or-loss accounts is calculated as the sum of the gains and losses in the valuation subaccounts, as illustrated in Annex 2.2. The net amount of transactions for the period is equal to the net profit or loss for the period *minus* the *sum* of (1) net amount of gain/loss through profit or loss and (2) OCVA.

2.86 A numerical example of the stock and flow data for the *shares and other equity account* of a financial corporation (other than the central bank) is provided in Box 2.6. Shown are postings for (1) *Transactions* and *Valuation changes* that are flow components of the change in retained earnings and (2) *Valuation changes* in the subaccount for *Valuation adjustment* within shares and other equity. Also shown are entries associated with (1) issuance of additional equity shares (a transaction), (2) expense from an addition to *Provisions from losses on impaired financial assets*, and (3) appropriation of retained earnings to *General and special reserves*. Each of the latter two categories is classified as an *Other change in the volume of assets* (OCVA).[33]

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[32] "Retained earnings constitute all after-tax profits that have not been distributed to shareholders or appropriated as general or special reserves." (*MFSM* ¶166)

[33] In the *1993 SNA* and *MFSM* methodology, OCVA entries are used to record asset/liability changes that do not rise from transactions or valuation changes. The OCVA account is described in the *MFSM*, ¶193-195. Appropriations from retained earnings to general and special reserves do not appear within the framework of the *1993 SNA*, which does not include the components of the shares and other equity. In the monetary statistics, the retained-earnings appropriation to general and special reserves is treated as an OCVA within the category of *changes in the classification of assets and liabilities*. OCVA entries arising from other events are described in Chapters 5 and 7 of this guide.

Box 2.6. Shares and Other Equity Account: Example of the Stock and Flow Data for a Period

Stocks: **OB** = Opening balance **CB** = Closing balance
Flows: **T** = Transactions **VC** = Valuation Changes **OCVA** = Other changes in volume of assets

Profit for the period = 425
(1) T = transactions (other than new issue of shares) = **400**
(2) VC1 = Gain or loss through profit or loss = **100**
(3) OCVA1 = Expense from increase in *provisions for losses on impaired financial assets* = **- 75**
(4) VC2 = Gain or loss recognized directly in equity = **– 50**
(5) EQ = Issuance of equity shares= **3,200**
(6) OCVA2 = Appropriation of retained earnings to increase *General and Special Reserves* = **300**

	OB	T	VC	OCVA	CB
Shares and other equity[2]	1,013,000	**3,600**	**50**	**-75** (5)	1,016,575
Funds contributed by owners	1,000,000	**3,200**(5)			1,003,200
Retained earnings	10,000	**400**(1)	**100**(2)	**– 375**(3), (6)	10,125
General and special reserves	1,000			**300**(6)	1,300
Valuation adjustment	2,000		**– 50**(4)		1,950

Notes: (a) Not shown is the contra-entry to OCVA1, which appears in *provisions for losses on impaired financial assets* within *other accounts payable – other*.
(b) Not shown is the line item for *SDR allocations*, which appears only in *shares and other equity* of the central bank.

Other source data

Systematic identification of data reporting requirements

2.87 Compilers need to ensure that the data for the monetary and financial statistics are reported by financial corporations, while respecting the government's concerns and data reporter's interests in statistical reporting burdens that are minimized to the extent possible. Many countries have instituted administrative procedures to ensure that new and existing regulatory burdens, including those arising from statistical reporting, are monitored and subjected to reassessment on a regular basis. For example, Regulation 2533/98 concerning the collection of statistical information by the European Central Bank (ECB) requires that the ECB, without prejudice to the fulfillment of its statistical reporting requirements, *"...shall minimise the reporting burden involved, including by using existing statistics as far as possible."* [34] Similarly, the Bank of England Statistical Code of Practice states that *"Data suppliers' costs will be contained, subject to the need to produce statistics that are fit for their purpose."* [35] Compilers need to make judgments about the most efficient means of implementing the data reporting requirements, striking an appropriate balance between the imposition of reporting costs and the quality of the data obtained.

2.88 An approach to evaluation of reporting requirements is application of cost-benefit analysis (CBA). Standard cost-benefit techniques, as applied in public-sector project

[34] European Communties (1998).

[35] Bank of England (2004).

appraisals, are designed for quantification of the costs and benefits of alternative options and for selection of the option that has the maximum social value. Application of CBA to statistical reporting requires some adaptation of the techniques, given the inherent subjectivity in valuing the benefits of producing data that meet the quality standards.[36]

2.89 Components of a CBA for the reporting of monetary and financial statistics include:

- Systematic identification of all potential statistical reports
- Estimation of reporting costs for each statistical report
- Assessment of benefits measured as the incremental contribution of each statistical report to the overall quality of official statistics
- Formulation of decision rules for determining which statistical reports are to be approved on the basis of costs and benefits.

2.90 Surveys of reporting entities are used to identify the available data in their general and subsidiary accounting ledgers and additional required data that, though necessary for the monetary and financial statistics, are not required for compliance with national financial reporting standards or existing data reporting requirements imposed by regulatory and supervisory authorities. Defining the additional data needs is the starting point for identifying the incremental costs of statistical reporting that are directly attributable to the requirements for the monetary and financial statistics.

2.91 The objective for the statistical authorities is the establishment of data reporting requirements that are efficient in terms of the lowest reporting costs for achievement of specified standards of data quality. Efficiency of data reporting implies that overlapping data reporting is to be avoided through elimination of double reporting of the same or similar data.

2.92 Techniques for estimation of statistical reporting costs recognize that aggregate reporting costs depend on the number of reporting entities and the reporting burden on each reporter. Statistical reporting compliance costs can be estimated through the use of periodic surveys of a data reporters, who are asked to estimate the total staff time spent and non-staff costs incurred in complying with statistical reporting requirements. Staff-time estimates can be provided for individual employment grades and earnings levels so that representative estimates of total staff costs of statistical reporting can be calculated.

2.93 Statistical reporting costs include both recurrent costs and fixed costs. Consideration of recurrent costs only may lead to underestimation of the total costs of imposing new or expanded requirements for statistical reporting, given the significant costs that statistical reporters may incur in establishing internal systems for meeting the reporting requirements. Estimates of recurrent-cost savings alone may provide sufficient information for decisions

[36] For descriptions of recent developments in the application of CBA to statistical reporting, see Holder (2005) and Holder (2006).

about reduction or elimination of existing reporting requirements, given that programming and other costs that financial corporations incur for the streamlining of data reporting may be relatively small.

2.94 Assessment of the benefits of reported data, though subjective, is amenable to systematic analysis. Surveys of monetary and financial statistics users such as the central bank, central government, academics, media, and financial-sector analysts can be used to identify of the most highly valued statistics. The contribution of each reporting requirement to the derivation of a major statistical output also can be assessed. Importance can be judged by the incremental impact of the reported data on the accuracy, reliability, and other qualitative dimensions of the major statistical outputs derived from the underlying data.

2.95 To ensure consistency in the benefit assessment of data collections, compilers may consider the adoption of standardized evaluation tools such as numerical scoring that is weighted by various criteria that encompass the principal benefits from compliance with national and international statistical reporting requirements.

2.96 Decision rules need to be structured so as to recognize that costs and benefits are unlikely to be assessed in the same quantitative terms. One approach is to set a budget ceiling for reporting compliance costs and choose from a ranked set of potential data collections so as to maximize total benefits for a predetermined limit on total compliance costs. An alternative approach is to impose minimum quality standards that the reported data must meet or exceed.

Institutional coverage of the monetary statistics

2.97 The quality and analytical usefulness of the monetary statistics depend on the institutional coverage of the *Other Depository Corporations Survey* (*ODCS*) and the Other Financial Corporations Survey (*OFCS*). *The recommendation in this guide is that the institutional coverage of the monetary statistics include all large financial corporations and as many smaller ODCs and OFCs as is consistent with the benefits and compliance costs of data reporting in the national context.*

2.98 The institutional coverage of monetary data reporting by ODCs and OFCs is likely to depend on the (1) number and size distributions of ODCs and OFCs in a country, (2) the range of OFCs' activities, (3) the assortment of stock and flow data that ODCs and OFCs are required to report, and (4) the periodicity of the data and frequency of data reporting.

2.99 The requirement of monthly data reporting by ODCs may apply to all ODCs in the financial sector, or may exclude the smallest ODCs. Reporting by all ODCs (sometimes called universal reporting, or census reporting—provides the most comprehensive data for the subsector, but imposes the highest total costs of obtaining the aggregate data. If the size distribution of the ODCs is highly skewed, a substantial reduction in reporting costs may be obtainable without significant loss of data accuracy and comprehensiveness, if the smallest ODCs are excluded from some or all requirements for relatively frequent reporting.

2.100 Exemption of small institutional units from the reporting requirements is known as "truncated reporting," "top-slicing," or "cutting the tail." The truncation can be defined (1) explicitly, by setting a minimum-size threshold for reporting institutions, or (2) implicitly, by setting a minimum institutional coverage, measured as a percentage of the estimated total for a key data aggregate such as total assets of the ODC subsector. The latter approach has been adopted by the European Union. Regulation (EC) No. 2423/2001 of the ECB of 22 November 2001 concerning the consolidated balance sheet of the monetary financial institutions sector (ODC subsector), which requires that each national central bank in the Eurosystem ensure 95 percent coverage, by balance-sheet size, of their ODC subsectors.

2.101 Exemption of small OFCs from reporting requirements may be especially cost effective for countries that have large numbers of small OFCs for which detailed reporting on a frequent basis would create substantial reporting burdens. For both ODCs and OFCs, truncated requirements for high-frequency reports can be combined with universal reporting at less frequent intervals. For example, small ODCs could be exempted from monthly reporting, while being required to comply with requirements for quarterly data reporting. Similarly, large OFCs could be required to report quarterly data, whereas small OFS in the "tail" could be subjected to annual data reporting only.

2.102 If truncated reporting is adopted, compilers will need to conduct periodic reviews of the minimum-size threshold in relation to the financial corporations that have been exempted from reporting. The need for such reviews is prompted by the evolution of the financial corporations sector, resulting from growth (or decline) of individual units and structural changes imparted by mergers, acquisitions, reorganizations, and failures of financial corporations.

2.103 Census surveys—i.e., data questionnaires sent to all ODCs and all OFCs, respectively—provide information that is useful in determining the institutional coverage of data reporting for the monetary statistics. If truncated reporting is adopted, the census surveys can be repeated at specified intervals to obtain the information needed for periodic revisions in the list of financial corporations excluded from the data reporting requirements. Data from the census surveys are used in implementing the decision rules pertaining to the conditions for adding or deleting ODCs and OFCs from the respective groups of data reporters.

Data adjustment and estimation

2.104 Alternative methods of data adjustment and estimation need to be evaluated to determine those that are the most efficient and cost effective for completion of the datasets for the monetary statistics. *This guide recommends that, at an initial stage, the monetary statistics compilers identify each type of data adjustment/estimation that is appropriate for completion of the entire dataset for the monetary statistics. For each category of data*

adjustment/estimation, a decision is needed as to whether the monetary statistics compilers or the financial corporations should produce the adjusted/estimated data.

2.105 In addition to the basic trade-offs between compliance costs imposed on data reporters and costs borne by the monetary statistics compilers, consideration needs to be given to the efficiency of the data production and the resulting quality of the data. *This guide recommends that data reporters undertake all data adjustments/estimations that can be efficiently implemented at the level of the individual reporters.* Examples might include (1) restatement at market or fair value for securities that have been valued at amortized cost in financial corporations' accounting systems and (2) estimation of fair values for financial derivatives that are not traded in active markets. By performing the adjustments/estimations, each reporting institution can incorporate the adjusted/estimated data (and corresponding contra-entries) in its reported data in a manner that preserves the balance-sheet identity—total assets equal to total liabilities—for the reported data. Inclusion of the adjusted/estimated data in the reported data imposes a quality check on the reported data, which must satisfy the balance-sheet identity after the adjusted/estimated data have been incorporated.

2.106 Some data adjustments/estimations may be delegated to the monetary statistics compiler, particularly when the adjustments/estimations can be made more efficiently (and sometimes more accurately) using aggregated data rather than the separate data reported by each financial corporations. Such procedures may be especially cost effective for (1) disaggregation by economic sector for a particular category of financial assets or liabilities[37] and (2) estimation of flow data, using stock data.

2.107 Monetary statistics compilers are responsible for data interpolation in circumstances in which not all data reporters provide data with the regular periodicity specified for the monetary statistics. For example, using a modified form of truncated data reporting, most ODCs may be required to report monthly data, but some small ODCs may report quarterly data only. The compilers would be responsible for estimation of monthly data for all ODCs, which would include monthly estimates that have been interpolated from the quarterly data reported by the small ODCs. Similarly, the compilers would be responsible for using annual data, as reported by small OFCs, to produce quarterly data estimates based interpolation, when quarterly is the standard periodicity for the OFC data.

Flow data estimation

2.108 In the *MFSM* and this guide, financial flows—period-to-period changes in the outstanding amounts of financial assets and liabilities—are composed of transactions,

[37] For example, a financial corporations has data on its total issuances, if any, of bearer-type securities. However, it does not to have data disaggregated by economic sector of creditor (i.e., current holder of the securities), if some of its bearer-type securities have been traded in secondary markets. The monetary statistics compilers are in a position to estimate the disaggregated data with more efficiency and more accurately than the individual reporters, using information available only at the aggregate level of securities holdings. On bearer-type securities, see Chapter 5, ¶5.114-5.119).

revaluations, and other changes in the volume of assets (OCVA).[38] Disaggregation of stock data into the separate flow components is a major area for application of estimation techniques. The sophistication of a financial corporation's information system may be such that some or all flow data may be compiled and reported directly from its financial records. For some or all financial corporations (particularly, for many OFCs), flow data may need to be estimated. Data reporters may be required to provide some flow data, but the monetary statistics compilers are likely to be delegated responsibility for estimation of a substantial part of the flow data, through use of the reported data and estimation techniques.

2.109 Flow data can be compiled directly from stock data for financial assets and liabilities that are not subject to revaluation.[39] Either more detailed data or the application of estimation techniques is required, when flow data for a financial asset or liability must be decomposed into transactions and revaluations (as well as, possibly, OCVA).[40] This decomposition can be based in estimation methods that utilize simplifying assumptions about the behavior of the market price or (fair value) of a financial asset/liability and, for a foreign-currency-denominated financial asset/liability, the behavior of the exchange rate during the period.

2.110 The assumptions of a basic technique for estimating the flow components for a asset or liability denominated in national currency is contained in the *1993 SNA*, ¶12.95:

> The simplest and most convenient assumptions to make are that both prices and quantities of the asset change at constant linear rates between the beginning and end of the accounting period; i.e., that the sequence of prices and quantities linking the opening and closing levels are simple arithmetic progressions. . . .[41]

2.111 Simplifying assumptions can also be used in the estimation of transactions and revaluations (in the presence or absence of OCVA) for financial assets and liabilities for which valuation changes arise from exchange-rate changes during the period. These estimation methods are described in Chapter 5 (¶5.22-5.33).[42]

Validation and plausibility testing of reported data

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[38] The flow data are described in the *MFSM*, Chapter V (¶191), and this guide, Chapter 5 (¶5.8-5.21).

[39] See Chapter 5, ¶5.14.

[40] On data requirements for direct compilation of transactions and revaluations, see Chapter 5, ¶5.3-5.21.

[41] See the continuation of ¶12.95 of the *1993 SNA* for the estimation equations, which are based exclusively on the beginning-of-period, end-of period, and period-average prices and quantities of the asset.

[42] On the estimation of flow data for monetary financial institutions (ODCs) in the Eurosystem, see European Central Bank (2006a) and European Central Bank (2006b).

2.112 Efficient and reliable mechanisms for ensuring the quality of source data reported by financial corporations are fundamental to the compilation of monetary and financial statistics. In their capacity as data analysts, compilers need to maintain the quality standards required for aggregate outputs by checking for large or unusual movements in reported source data. Quality control is exercised through *data validation* and *plausibility testing*, which are the principal stages of *data cleansing*—the control process through which reporting errors are identified and corrected to the point where the statistical outputs are fit for the analytical purposes for which the data are intended.[43]

2.113 Data validation can begin as soon as data are received. Validation checks can be largely automated where reported data are in electronic form.[44] Validation provides basic checks on the integrity of source data by: (1) confirming that all required data cells have been completed; (2) checking that all balance-sheet accounting identities are satisfied; and (3) ensuring that subtotals and totals sum correctly.[45]

2.114 Plausibility testing may commence as soon as validation checks have been completed. This phase of data cleansing is aimed at identifying those data items that have suspicious characteristics that may reflect reporting errors, even though the validation checks have shown the data to be internally consistent. Plausibility testing can be viewed as a three-phase process:

- *Phase 1*. *First-round, often automated, filtering* is used to identify source data that exhibit behavior that may deserve more detailed investigation.
- *Phase 2*. *Diagnostic testing* is used to determine which data from among those identified in Phase1 should be directly edited or queried with the data provider.
- *Phase 3*. *A second round of diagnostic testing* may be used after compilation and initial analysis of the data from all reporters to reveal outlier behavior relative to peer group norms.

2.115 First-round filtering may be based on a variety of pre-specified criteria determined by the data analyst. Filters may have single or multiple criteria that are linked through either an "and" rule or an "or" rule. Commonly applied criteria trigger an alert if a

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[43] On data quality control and related issues, also see Bank of England, (2006), Chapters 11 and 12.

[44] For reporters who send standardized report forms, the data submission can be automated through electronic data transmission and storage. Data transmission can be via private networks or over the Internet (subject to secure precautions including encryption, if necessary). Some central banks have compulsory systems of electronic data transmission, at least for large reporting institutions. Validation checks specified by the compilers can be built into the software for preparing and transmitting the reported data, thereby allowing each reporter to perform the basic validation prior to transmitting the data.

[45] If the reported data include both flows and stocks, summing-up tests may be applied separately to the stock and flow data, as well as to relationships between the flow data and the stock data.

period-to-period change in a balance sheet position exceeds a specified absolute value; exceeds a specified percentage movement; or causes the reported position to show, or cease showing, a zero position.

2.116 Diagnostic testing of the Phase 1 alerts may be based entirely on an analyst's judgment or can utilize specified computational tests. An example of the latter would be an examination of the relationship between the data under review and another data item(s), elsewhere in the same reporter's submission, where some form of stable relationship would normally be observable.

2.117 Second-round diagnostic testing is used to review the data from the individual reporter in relation to the market data (i.e., data for all reporters). The testing in Phases 1 and 2 assesses the plausibility of the reporter's data on the basis of the reporter's own past performance. In the second round, the diagnostic testing is concerned with whether the reporter's performance is unusual relative to that of a peer group. Though extremely valuable, second-round testing requires the availability of reported data from all reporters or a major subset of the reporting population. Depending on the sequencing and timing of the reporting, Phase 3 testing may need to be delayed until all or nearly all reporting for a given period has been completed.

2.118 Plausibility testing can be subjected to cost/benefit analysis. The objective is to expend resources only insofar as the testing is used to identify data inaccuracies that materially affect the analytical content of aggregate outputs. Plausibility testing is carried out to protect the quality of the aggregate data through investigation of the behavior of each reporter's data. However, pursuit of potential reporting errors without regard to materiality can impose reporter and compiler costs that have few, if any, offsetting benefits and, in particular, may lead to an overabundance of first-round filtering alerts and follow-up testing. Efficient decision rules for specifying and applying the first-round filtering can be established. Some general principles are suggested:

- *The setting of absolute movement rules* should focus on the materiality of the cell item to the quality of the aggregate output to which the data contribute. Data should not be subjected to further investigation if any reporting errors that potentially could be uncovered by such testing would be too small to materially affect the interpretation of the aggregate data. A commonly used pragmatic approach applies a movement rule equivalent to 10 percent of the computed standard error of the aggregate output to which the data contribute.
- Application of *the percentage movement rule* may focus on changes in the individual reporter's data without regard for the impact on the aggregated data. Rules should be specified carefully to ensure that the percentage movement rule encompasses a normal range of variability in the data for each reporter, but do not trigger an exorbitant number of plausibility alerts in the data of very small

reporters. The focus may be on percentage change thresholds designed to signal the unusual movements in the data in large balance sheets.

- *The use of a "To/from zero" rule* — a hybrid between validation and plausibility testing — has been found by some compilers to be a useful means of alerting when data inadvertently have been entered in the wrong line of the reporting form or when the reporting institution has begun holding a new type of instrument or offering a new financial service.[46]

[46] Compilers should be encouraged to report any additional information that the plausibility testing reveals about new activities of individual reporters and emerging market trends within the financial corporations subsector.

Annex 2.1 Accrued Interest in the Accounts

2.119 Table 2.1.1 illustrates the accrued-interest accounts that are needed for an ODC that offers a wide range of services. The ODC holds interest-bearing transferable deposits at ODCs located abroad. All transferable deposits of domestic DCs are non-interest-bearing.

Table 2.1.1 Other Depository Corporation: Accrued Interest Accounts

Assets: Accrued interest (revenue)

Deposits

Transferable deposits (interest bearing)

In foreign currency

Nonresidents

Other deposits

In national currency

Central bank
Other depository corporations
Other financial corporations
Nonresidents

In foreign currency

Central bank
Other depository corporations
Other financial corporations
Nonresidents

Securities other than shares

Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents

Loans

Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents

Table 2.1.1 Other Depository Corporation: Accrued Interest Accounts (continued)

Liabilities: Accrued interest (expense)

- **Deposits included in broad money**
  - **Other deposits**
    - **In national currency**
      - Other financial corporations
      - State and local government
      - Public nonfinancial corporations
      - Other nonfinancial corporations
      - Other resident sectors
    - **In foreign currency**
      - Other financial corporations
      - State and local government
      - Public nonfinancial corporations
      - Other nonfinancial corporations
      - Other resident sectors
- **Deposits excluded from broad money**
  - **Other deposits**
    - **In national currency**
      - Central bank
      - Other depository corporations
      - Other financial corporations
      - Central government
      - State and local government
      - Public nonfinancial corporations
      - Other nonfinancial corporations
      - Other resident sectors
      - Nonresidents
    - **In foreign currency**
      - Central bank
      - Other depository corporations
      - Other financial corporations
      - Central government
      - State and local government
      - Public nonfinancial corporations
      - Other nonfinancial corporations
      - Other resident sectors
      - Nonresidents

Table 2.1.1 Other Depository Corporation: Accrued Interest Accounts (concluded)

Securities other than shares, included in broad money
- **In national currency**
  - Other financial corporations
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors
- **In foreign currency**
  - Other financial corporations
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors

Securities other than shares, excluded from broad money
- **In national currency**
  - Central bank
  - Other depository corporations
  - Other financial corporations
  - Central government
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors
  - Nonresidents
- **In foreign currency**
  - Central bank
  - Other depository corporations
  - Other financial corporations
  - Central government
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors
  - Nonresidents

Loans
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

2.120 Some categories of accrued interest shown in Table 2.1.1 would not be applicable to other depository corporations that are small or specialized and, therefore, do not have all asset and liability categories in their balance sheets and, for a given asset or liability category, do not have financial positions with some economic sectors.

2.121 Other financial corporations typical have more limited sets of accrued-interest accounts. Table 2.2.2 illustrates the categories for an other financial intermediary that

extends loans to resident sectors, holds a diversified portfolio of securities other than shares, accepts deposits excluded from broad money, borrows in the domestic loan market, and issues securities that are denominated in national currency and are held by resident sectors.

Table 2.1.2 Other Financial Intermediary: Accrued Interest Accounts
Assets: Accrued interest (revenue)
Deposits
Transferable deposits (interest bearing)
In foreign currency
Nonresidents
Other deposits
In national currency
Other depository corporations
In foreign currency
Other depository corporations
Nonresidents
Securities other than shares
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Nonresidents
Loans
Other depository corporations
Other financial corporations
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors

Table 2.1.2 Other Financial Intermediary: Accrued Interest Accounts (concluded)

Liabilities: Accrued interest (expense)

Deposits excluded from broad money – Other deposits

In national currency

Other depository corporations
Other financial corporations
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents

In foreign currency

Other depository corporations
Other financial corporations
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents

Securities other than shares

Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations

Loans

Other depository corporations

2.122 Insurance corporations, pension funds, and financial auxiliaries would have relatively short lists of accrued interest accounts. For the illustration in Table 2.1.3, a life insurance corporation extends policy loans to other resident sectors (households), holds interest-earning deposits and securities other than shares, and issues liabilities in the form of national-currency-denominated securities other than shares.

Table 2.1.2 Life Insurance Corporation: Accrued Interest Accounts

Assets: Accrued interest (revenue)

Deposits
- **Transferable deposits (interest-bearing)**
  - **In foreign currency**
    - Nonresidents
- **Other deposits**
  - **In national currency**
    - Other depository corporations
  - **In foreign currency**
    - Other depository corporations
    - Nonresidents

Securities other than shares
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Nonresidents

Loans - Other resident sectors

Liabilities: Accrued interest (expense)

Securities other than shares, excluded from broad money - In national currency
- Other depository corporations
- Other financial corporations
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Annex 2.2 Valuation Changes in the Accounts

2.123 The tables in this annex illustrate the disaggregation of accounts for valuation changes (gains and losses), as required as source data for the monetary and financial statistics. Table 2.2.1 illustrate the gain and loss accounts for an ODC engaged in a wide range of activities. Tables 2.2.2 illustrates a less extensive sets of accounts for an other financial intermediary. Table 2.2.3 shows the types of accounts that would be most prevalent for a life insurance corporation or a pension fund.

2.124 The accounts in Tables 2.2.1-2.2.3 are applicable to the revenue/expense items for gains/losses in the profit-or-loss accounts and to the *valuation adjustment* account within the *shares and other equity* account, depending on whether gains and losses are posted through profit or loss, or directly to equity. Under national financial reporting standards based on the IFRSs, the accounts in Tables 2.2.1-2.2.3 apply mainly to the profit and loss accounts, given that the IFRSs stipulate that most types of the gains and losses are to be recorded through profit or loss. Under national financial reporting standards not based on the IFRSs, a larger subset of the accounts may apply to the *valuation adjustment* accounts, given a greater propensity for gains and losses to be recorded directly to equity.

2.125 National financial reporting standards may stipulate that gains and losses are to be presented on a net basis, or that gains and losses are to be shown separately. Gains or losses on a net basis are sufficient for the monetary and financial statistics, subject only to the requirement that, where appropriate, the net gains and losses have been disaggregated by financial asset, national/foreign currency of denomination, and economic sector.

Table 2.2.1 Other Depository Corporation: Accounts for Gains and Losses (Valuation Changes)

Assets: Gains (revenue) or losses (expense)

Foreign currency (exchange rate change)

Deposits (exchange rate change)

- **Transferable deposits – In foreign currency**
  - Central bank
  - Other depository corporations
  - Other financial corporations
  - Nonresidents
- **Other deposits – In foreign currency**
  - Central bank
  - Other depository corporations
  - Other financial corporations
  - Nonresidents

Securities other than shares (price and/or exchange rate change)

- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Loans denominated in foreign currency (exchange rate change)

- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Shares and other equity (price and/or exchange rate change)

- Central bank
- Other depository corporations
- Other financial corporations
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Insurance technical reserves – prepayment of premiums denominated in foreign currency (exchange rate change)

Financial derivatives (price and/or exchange rate change)

- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Table 2.2.1 Other Depository Corporation: Accounts for Gains and Losses (Valuation Changes)
Other accounts receivable
Trade credit and advances denominated in foreign currency (exchange rate change)
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents
Other (price and/or exchange rate change)
Resident sectors
Nonresidents
Nonfinancial assets (gains or losses price change)
Liabilities: Gains (revenue) or losses (expense)
Deposits included in broad money (exchange rate change)
Transferable deposits – In foreign currency
Other financial corporations
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Other deposits – In foreign currency
Other financial corporations
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Deposits excluded from broad money (exchange rate change)
Transferable deposits – In foreign currency
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents
Other deposits – In foreign currency
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents

Table 2.2.1 Other Depository Corporation: Accounts for Gains and Losses (Valuation Changes)

Securities other than shares, included in broad money
- **In domestic currency (price change)**
  - Other financial corporations
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors
- **In foreign currency (price and/or exchange rate change)**
  - Other financial corporations
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors

Securities other than shares, excluded from broad money
- **In domestic currency (price change)**
  - Central bank
  - Other depository corporations
  - Other financial corporations
  - Central government
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors
  - Nonresidents
- **In foreign currency (price and/or exchange rate change)**
  - Central bank
  - Other depository corporations
  - Other financial corporations
  - Central government
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors
  - Nonresidents

Loans – In foreign currency (exchange rate change)
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Financial derivatives (price and/or exchange rate change)
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Table 2.2.1 Other Depository Corporation: Accounts for Gains and Losses (Valuation Changes)
Other accounts payable
Trade credit and advances – In foreign currency (exchange rate changes)
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents
Other – In foreign currency (price and/or exchange rate change)
Resident sectors
Nonresidents
Shares and other equity (share price changes; balance-sheet and flow-of-funds data for the financial statistics; memorandum items for monetary statistics; gains or losses)[1]

2.126 Many categories of valuation change data shown in Table 2.2.1 would not be applicable to other depository corporations that are small or specialized and, therefore, do not have all asset and liability categories in their balance sheets and, for a given asset or liability category, do not have financial positions with some economic sectors.

2.127 An OFC usually would have fewer applicable gain/loss accounts than an ODC, given that OFCs generally have fewer categories of assets and liabilities and, for a given category, have positions with fewer economic sectors.

Table 2.2.2. Other Financial Intermediary: Accounts for Gains and Losses (Valuation Changes)
Assets: Gains (revenue) or losses (expense)
Foreign currency (exchange rate change)
Deposits (exchange rate change)
Transferable deposits – In foreign currency
Central bank
Other depository corporations
Other financial corporations
Nonresidents
Other deposits – In foreign currency
Central bank
Other depository corporations
Other financial corporations
Nonresidents
Securities other than shares (price and/or exchange rate change)
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents

Loans denominated in foreign currency (exchange rate change)
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Shares and other equity (price and/or exchange rate change)
- Central bank
- Other depository corporations
- Other financial corporations
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Insurance technical reserves – prepayment of premiums denominated in foreign currency (exchange rate change)

Financial derivatives (price and/or exchange rate change)
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Table 2.2.2. Other Financial Intermediary: Accounts for Gains and Losses (Valuation Changes)
Other accounts receivable
Trade credit and advances denominated in foreign currency (exchange rate change)
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents
Other (price and/or exchange rate change)
Resident sectors
Nonresidents
Nonfinancial assets (gains or losses price change)
Liabilities: Gains (revenue) or losses (expense)
Deposits included in broad money (exchange rate change)
Transferable deposits – In foreign currency
Other financial corporations
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Other deposits – In foreign currency
Other financial corporations
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Deposits excluded from broad money (exchange rate change)
Transferable deposits – In foreign currency
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents
Other deposits – In foreign currency
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents

Table 2.2.2. Other Financial Intermediary: Accounts for Gains and Losses (Valuation Changes)

Securities other than shares, included in broad money
- **In domestic currency (price change)**
  - Other financial corporations
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors
- **In foreign currency (price and/or exchange rate change)**
  - Other financial corporations
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors

Securities other than shares, excluded from broad money
- **In domestic currency (price change)**
  - Central bank
  - Other depository corporations
  - Other financial corporations
  - Central government
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors
  - Nonresidents
- **In foreign currency (price and/or exchange rate change)**
  - Central bank
  - Other depository corporations
  - Other financial corporations
  - Central government
  - State and local government
  - Public nonfinancial corporations
  - Other nonfinancial corporations
  - Other resident sectors
  - Nonresidents

Loans – In foreign currency (exchange rate change)
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Financial derivatives (price and/or exchange rate change)
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Table 2.2.2. Other Financial Intermediary: Accounts for Gains and Losses (Valuation Changes)
Other accounts payable
Trade credit and advances – In foreign currency (exchange rate changes)
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents
Other – In foreign currency (price and/or exchange rate change)
Resident sectors
Nonresidents
Shares and other equity (share price changes; balance-sheet and flow-of-funds data for the financial statistics; memorandum items for monetary statistics; gains or losses)[1]

2.128 Table 2.2.3 illustrates the valuation-change data for a life insurance corporation or a pension fund that holds national currency, transferable deposits in national currency, securities other than shares (issued in national currency by central government, state and local government, and other financial corporations, and in foreign currency by nonresidents), and shares and other equity (issued in national currency by other nonfinancial corporation, and in foreign currency by nonresidents), and financial derivatives (denominated in domestic and foreign currency). In the illustration in Table 2.2.3, the liabilities of the insurance corporation or pension fund include securities, financial derivatives, and trade credit from nonfinancial corporations and nonresidents, as well as insurance technical reserves—net equity of households in life insurance corporations and in pension funds, respectively—and prepayment of premiums and reserves against outstanding claims (life insurance corporation only).

Table 2.2.3. Life Insurance Corporation or Pension Fund: Accounts for Gains or Losses

Assets: Holding gains (revenue) or losses (expense)

Securities other than shares (price and/or exchange rate change)
- Central government
- State and local government
- Other nonfinancial corporations
- Nonresidents

Shares and other equity (price and/or exchange rate change)
- Other nonfinancial corporations
- Nonresidents

Financial derivatives (price and/or exchange rate change)
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Nonfinancial assets (price change)

Liabilities: Gains (revenue) or losses (expense)

Securities other than shares

In national currency (price change)
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

In foreign currency (price and/or exchange rate change)
- Central bank
- Other depository corporations
- Other financial corporations
- Central government
- State and local government
- Public nonfinancial corporations
- Other nonfinancial corporations
- Other resident sectors
- Nonresidents

Insurance technical reserves (from revaluation of net equity and reserves)
- Net equity of households in life insurance reserves (life insurance corporation only)
- Net equity of households in pension funds (pension fund only)
- Prepayment of premiums and reserves against outstanding claims (life insurance corporation only)

Table 2.2.3. Life Insurance Corporation or Pension Fund: Accounts for Gains or Losses
Financial derivatives (price or exchange rate changes)
Central bank
Other depository corporations
Other financial corporations
Central government
State and local government
Public nonfinancial corporations
Other nonfinancial corporations
Other resident sectors
Nonresidents
Other accounts receivable: Trade credit and advances – In foreign currency (exchange rate changes)
Other financial corporations
Nonresidents
Shares and other equity (life insurance corporation only; price changes)[1]

[1] The data on gains/losses for shares and other equity are needed for memorandum items that accompany the sectoral balance sheet in the monetary statistics, as well as for flow data for the financial statistics. The data need to be disaggregated by economic sector of equity holder. Data for estimating the sectoral holdings of a corporation's shares and the corresponding valuation changes for the accounting period may need to be obtained from sources outside the accounting system of the financial corporation.