CHAPTER 8. FINANCIAL STATISTICS

CONTENTS PAGE

I. INTRODUCTION

8.1. ***Financial statistics cover the stock positions and flows of financial assets and liabilities between all sectors of the economy and between the sectors of the economy and the rest of the world.*** Financial statistics thus have broader sectoral coverage than monetary statistics, which cover the stock positions and flows of the assets and liabilities of the financial corporations.

8.2. Financial statistics can have various degrees of details—it can cover both stock positions and flows or only stock positions or flows; or the breakdown of institutional sectors or categories of financial instruments can vary. Further, financial statistics can either be two- or three-dimensional. Three-dimensional financial statistics have from-whom-to-whom information, where the breakdowns of the financial stock positions and flows of each sector also include the counterpart sectors, for example the purchase by nonfinancial corporations sector of debt securities issued by the central government. Two-dimensional financial statistics do not provide information on counterpart sectors. For example, it can show the purchase by the nonfinancial corporation sector of debt securities but not identify the sector these securities were purchased from. The two-dimensional financial statistics are similar to the financial accounts, as defined in the *2008 SNA*, chapter 11. Compilers can present financial statistics, or selected components, in different ways, depending on the availability of source data, level of detail compiled, analytical needs, and other considerations.

8.3. Financial statistics are increasingly used for analytical purposes. The from-whom-to-whom information highlights the role of financial corporations in financial intermediation. For instance, it can illustrate how the relative importance of various types of financing between sectors/subsectors is changing over time. Macro prudential analysis is another type of analysis, where financial statistics are useful. For instance, the IMF's balance sheet approach (BSA)[1] uses financial statistics to see how interconnections among sectors impact the whole economy through debtor/creditor relationships.

8.4. From a statistical compilation point of view, financial statistics can reveal inconsistencies in the underlying data across institutional sectors and can be used to identify the reasons for these discrepancies.

8.5. Financial statistics follow the *2008 SNA* framework (see Figure 8.1 and Annex 8.1) and, in principle, use the same institutional sectors, categories of instruments, and valuation and recording principles (covered in Chapters 3–5). Financial statistics include the financial account, balance sheets, and the other changes in assets account of the *2008 SNA*.

[1] See IMF Working Papers "A Balance Sheet Approach to the Financial Crisis," 2002, by Mark Allen, Christoph Rosenberg, Christian Keller, Brad Setser and Nouriel Roubini; and "Using Balance Sheet Approach in Surveillance: Framework and Data Sources and Availability," 2007, by Johan Mathisen and Anthony Pellechio.

8.6. This *Manual* recommends compiling financial statistics quarterly or annually but encourages quarterly compilation. Compilation on a quarterly basis is applicable to countries that have quarterly data for the current accounts of their national accounts statistics, or are currently working on migration from annual to quarterly national accounts statistics. The degree of detail provided on a quarterly frequency depends on country circumstances with respect to sectoral and financial instrument coverage and the level of detail of the financial statistics being compiled. This *Manual* does not make specific recommendation on the timeliness of the financial statistics but encourages a time lag of around one quarter for quarterly data. Data from the SRF's can be utilized to form a substantial part of the financial statistics.

8.7. This chapter first provides an overview of the framework for financial statistics, including the *2008 SNA*. The next section covers the compilation and presentation of financial statistics, and provides examples of presentational formats, including possible aggregations of subsectors and categories of financial instruments of the *2008 SNA*. The last section discusses source data and related issues. Figure 1, Annex 8.1, and Table 8.11 provide an overview of the *2008 SNA* focusing on aspects relevant for financial statistics.

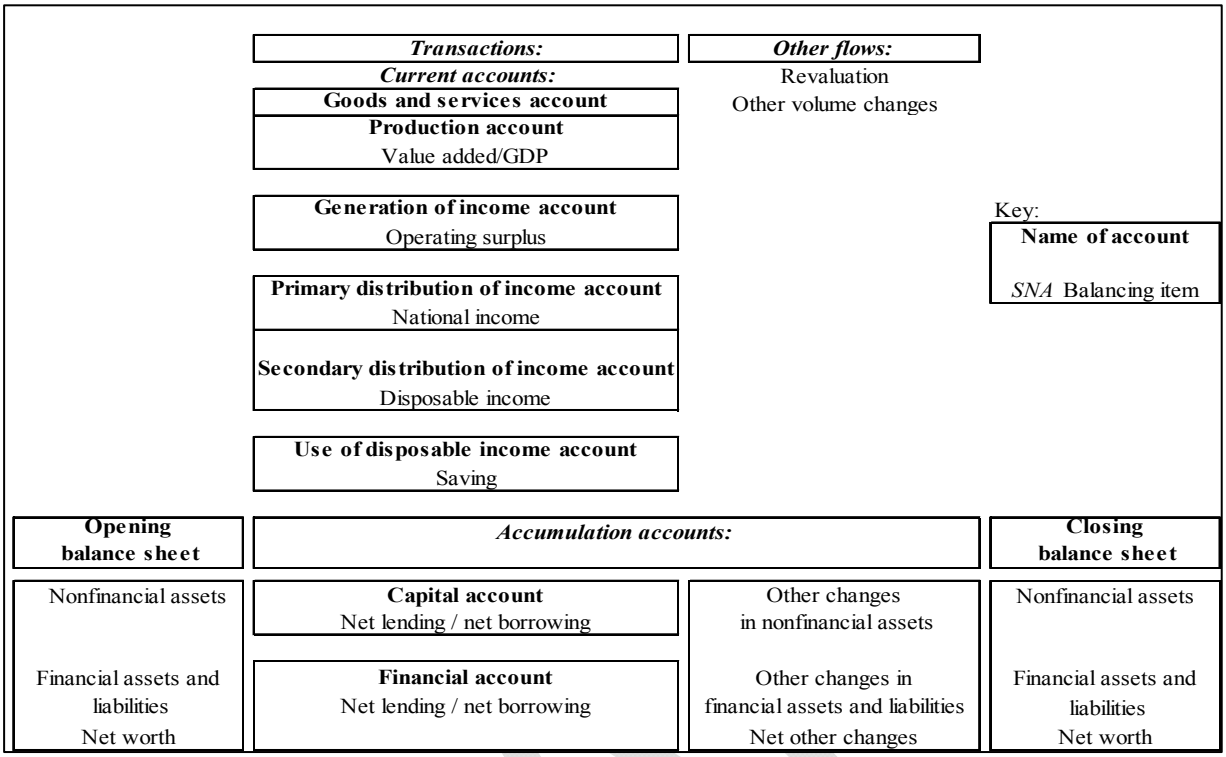
II. Framework and Scope of Financial Statistics

8.8. As noted in the introduction, financial statistics are a comprehensive set of data on stock positions and flows of financial assets and liabilities between all sectors of an economy and with the rest of the world, on a from-whom-to-whom basis where applicable. The financial statistics show flows in financial instruments between the sectors of an economy and the corresponding financial asset and liability positions. The framework for financial statistics is the *2008 SNA* balance sheets and accumulation accounts because they provide an internationally-recognized set of guidelines for integrating financial stocks and flows into a complete system of accounts. The integration of sectoral flows and stocks also follows the principles of the *Guidelines on Integrated Economic Statistics*[2] which sets out a consistent framework for measuring a country's economic activity in an increasingly interconnected global economy.

8.9. The most comprehensive financial statistics cover the following SNA accounts: the financial account, balance sheets, and the other changes in assets account, all on a *from-whom-to-whom* basis (see Figure 8.1 and Section B of Annex 8.1).

[2] United Nations, February 2012, at http://unstats.un.org/unsd/nationalaccount/ies/.

Figure 8.1. Overview of the *System of National Accounts* Framework



8.10. The sequence of accounts of the *2008 SNA* provides the integrated and comprehensive framework for both flows and stock positions. The *current accounts* record the production of goods and services, income generation and distribution and the use of income for consumption and saving during the period. The current accounts are followed by the *accumulation accounts* that record the acquisition and disposal of financial and nonfinancial assets and liabilities and changes in net worth. Finally, the balance sheets show assets and liabilities of each institutional sector at the beginning and end of the period. The opening and closing balance sheets are linked through transactions and other flows, also called horizontal adding-up requirement in Chapter 5 (see paragraph 5.9). The balance sheet completes the sequence of accounts and shows the final result of the entries in the production, distribution and use of income and accumulation accounts.

8.11. The current accounts record transactions relating to production and the generation, distribution and use of income. Each account records the *resources* available to the institutional units comprising the sector and uses of these resources by these units. Each account also contains an accounting construct, a balancing item obtained as the difference between the resources or changes in liabilities and the uses or changes in assets. The balancing items have significant analytical value representing the results of the economic behavior recorded in the specific account. The balancing item for a specific account is recorded as a use in that account and then introduced in the next account as a resource.

8.12. The major balancing items of the current accounts for the total economy are gross domestic product (GDP), gross national income (GNI), gross national disposable income

(GNDI), and gross saving. Each of these balancing items may be recorded either gross or net. The difference between gross and net recording in the accounts is an adjustment for the consumption of fixed capital. This adjustment is undertaken in the production account and carries through all the other balances in the current accounts. Consumption of fixed capital represents the decline in the current value of the fixed assets due to their use in the production process.

8.13. The accumulation accounts cover changes in assets and liabilities, and net worth. They show all changes that occur between the opening and closing balance sheet dates for a subsector, sector or the entire economy. Accumulation accounts comprise the capital account, the financial account, the other changes in the volume of assets account (OCVA), and the revaluation account. Accumulation accounts thus record transactions as well as other flows. The financial account shows how an institutional sector with a balance on net lending, makes these surplus resources available to other sectors by acquiring net financial assets or reducing net liabilities. Likewise, the financial account shows how a net borrowing sector obtains financial resources by reducing its net holdings of assets or increasing its net liabilities.

8.14. The balance sheets show stocks of nonfinancial and financial assets and liabilities on the balance sheet date for all the sectors of the economy and the counterpart positions for the rest of the world. The difference between total assets and liabilities is net worth. For each category of assets and liabilities, and thus net worth, changes between the opening and closing balance sheets result from transactions and other changes recorded in the accumulation accounts.

A. Flow Accounts

8.15. Flows accounts comprise the flows of financial assets and liabilities of all the sectors of the economy and with the rest of the world. Various presentational formats can be used with different degrees of cross classifications and details.

8.16. Following the *2008 SNA*, the savings in the last current account (use of disposable income account) should, in principle, match the capital account which covers the transaction flows in nonfinancial assets and net lending/borrowing (see Figure 8.1 and Table 8.4). Net lending indicates a sector's net financing of other sectors and net borrowing indicates a sector's net borrowing from other sectors.

8.17. The financial account of the *2008 SNA*[3] records the net acquisition of financial assets and net incurrence of liabilities for all institutional sectors by type of financial asset, and shows how net lending or net borrowing is reflected in transactions in financial assets. The net lending/borrowing from the financial account should, in principle, be equal to the net lending/borrowing from the capital account. In practice, there is always a difference which is either presented as a statistical discrepancy or distributed to residual sectors for each financial instrument (see subsection *Statistical Discrepancies* below).

[3] See Table 27.3 in the *2008 SNA*.

8.18. For each sector, the financial account shows the liabilities that the sector incurs to mobilize financial resources and the financial assets that the sector acquires during the reference period. This information is valuable in identifying the financial instruments that net borrowing sectors use to finance their deficits and the instruments that net lending sectors use to allocate their surpluses. In cases where a sector is a net-zero borrower, the financial account is still useful because it shows how that sector's composition of financial assets and liabilities has changed.

8.19. The financial account does not identify counterpart sectors for financial transactions and, therefore, the question of who is financing whom is not answered. For a full understanding of financial flows and the role they play in the economy, it is important to identify counterpart sectors. Adding counterpart sectors for financial transactions enables from-whom-to-whom type analysis which allows tracking how surpluses by one sector are allocated amongst domestic sectors and cross-border using specific financial instruments and how sectors with deficits meet their financing needs in terms of financial instruments used and financing sectors.

8.20. This type of from-whom-to-whom approach is particularly important in analyzing the role of FCs in financial intermediation; that is, mobilizing financial resources and making them available to other sectors in forms suitable to these sectors, including through the transformation of different characteristics of the financial instruments, such as maturity. FCs sector and its subsectors play a critical role in directing financing flows from net lending sectors to net borrowing sectors and in supplying the instruments used.

8.21. In addition to financial transactions, flow accounts may also be compiled that identify counterparties to changes in financial assets and liabilities due to revaluations or OCVA.

B. Stock Accounts

8.22. Stock accounts comprise the balance sheets of all the sectors of the economy and with the rest of the world. Various presentational formats can be used for balance sheets with different degrees of cross classifications and details.

8.23. The SNA balance sheets[4] show the opening and closing balance sheets of all sectors of the economy and the counterpart assets and liabilities of the rest of the world for each financial instrument category, as well as changes during the reference period. Like the financial account, the SNA balance sheets do not identify counterpart sectors for financial assets and liabilities. Adding counterpart sectors enables from-whom-to-whom analysis, highlighting the financial intermediation role of the FCs sector and its subsectors.

[4] See Table 13.1 in the *2008 SNA*.

III. Compilation and Presentation of Financial Statistics

8.24. The complex and detailed information of financial statistics presents both presentational opportunities and challenges. Striking a balance between providing sufficiently detailed data and conveying information efficiently to users is challenging, particularly since different users may have different needs. Tables with many details may hinder a user's ability to extract the required information or to uncover trends and relationships of interest.

8.25. Different possible presentations range from sector specific and/or instrument specific templates for stocks and/or flows or specific flow components to detailed templates for all the sectors on a from-whom-to-whom basis. In addition to data for a specific period, compilers and users can focus on sets of templates for several time periods to trace the changes over time. This approach is relevant particularly for presentations containing more detailed information, such as covering counterpart sectors for all instruments and stocks/flows covering multiple time periods.

8.26. A fully-articulated set of standard templates covering stock positions were developed in the context of the G-20 Data Gaps Initiative (DGI). These templates are a set of internationally comparable sectoral accounts and balance sheets which provide a minimum and encouraged classification for sectors, financial assets and liabilities, and nonfinancial assets.[5]

A. Two-dimensional Financial Statistics

8.27. Two-dimensional financial statistics can be prepared for (i) transactions; (ii) stock positions; and (iii) other flows, including separately for revaluations and OCVA; or (iv) all flows together. Two-dimensional financial statistics can be constructed for one period or several time periods.

8.28. Two-dimensional financial statistics for transactions correspond to the financial account of the *2008 SNA* (see Table 27.3). Each sector has two columns—one for net acquisition of financial assets (uses) and one for net incurrence of liabilities (resources). To emphasize that transactions in financial instruments can be directly measured, *net financial investment* is used (instead of net lending/borrowing) and is calculated as net acquisition of financial assets *less* net incurrence of liabilities.

8.29. If all the transactions are covered, including transactions in nonfinancial assets, conceptually, the sum of all columns for uses for each sector equals the sum of all columns for sources. A financial instrument may be both a resource and a use for a sector, for example, when a sector both issues and buys equity shares. For each financial instrument category, conceptually, the sum of resources across all the sectors equals the sum of uses. If the identities do not hold, the table would show discrepancies between uses and resources for

[5] The templates are available at http://www.imf.org/external/np/sta/templates/sectacct/index.htm.

sectors and instruments. Table 8.1 presents an example of two-dimensional financial statistics for transactions for a single period.

8.30. Two-dimensional financial statistics for stock positions follows the balance sheets of the *2008 SNA* (see Table 13.1). For each sector, assets and liabilities are shown separately. The net financial position equals financial assets *less* financial liabilities (see Table 8.2).

8.31. The other flows table can be presented in the same format as transactions, which bridges the gap between transactions and period-to-period changes in stock positions. For each sector, instead of columns for uses and resources the *other flows* table has columns for changes in assets and liabilities, respectively (see Table 8.3). Further, instead of *net financial investment*, the other flows presentation shows *net other flows*. For more detailed information, separate tables for revaluations and OCVA may be constructed, if the source data allow.

8.32. A combined presentation of balance sheet opening stock positions, transactions, other flows, and closing stock positions can be used as shown in Table 8.3. This combined presentation highlights the adding-up requirements that must be satisfied for each sector and for each instrument.

8.33. Financial statistics are developed within the integrated framework of the *2008 SNA*. Conceptually and analytically the inter-linkage between the capital account and the financial account allows linking the nonfinancial accounts and the financial accounts through the net lending/net borrowing balancing item, which can be derived both from the capital account and from the financial account. Table 8.4 presents an example of an integrated capital and financial account which shows how net lending or borrowing in the financial account is equal to that in the capital account. It draws on the net incurrence of financial liabilities (426 for the total economy), net acquisition of financial assets (436 for the total economy), net capital formation (192) and changes in net worth due to savings and capital transfers in the capital account (202) all from Table 8.11.

Table 8.1. Two-Dimensional Financial Statistics for Transactions

Transactions	Nonfinancial Corporations		Financial Corporations		General Government		Households and NPISH		Total Domestic		Rest of the World	
1st quarter 2013	Uses	Resources	Uses	Resources	Uses	Resources	Uses	Resources	Uses	Resources	Uses	Resources
A. Monetary gold and SDRs			-1						-1	0	1	
B. Currency and deposits	39		10	65	-26	37	66		89	102	11	-2
C. Debt securities	7	6	66	30	4	38	9	0	86	74	9	21
D. Loans	19	21	53	0	3	9	3	17	78	47	4	35
E. Equity and investment fund shares	10	83	28	22	3		66		107	105	12	14
F. Insurance, pension and standardized guarantee schemes	1		7	48	1	0	39		48	48	0	0
G. Financial derivatives and employee stock options	3	3	8	8	0	0	3	0	14	11	0	3
H. Other accounts receivable/payable	4	26	1	0	5	9	5	4	15	39	10	-14
Subtotal	83	139	172	173	-10	93	191	21	436	426	47	57
Net financial investment (net acquisition of financial assets less net incurrence of liabilities)		-56		-1		-103		170		10		-10

Sources: *2008 SNA* and *BPM6*

Table 8.2. Two-Dimensional Financial Statistics for Stock Positions

Stock Positions	Nonfinancial Corporations		Financial Corporations		General Government		Other Residents		Total Domestic		Rest of the World	
End-March 2013	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
A. Monetary gold and SDRs	0		700		81		0		781		1	782
B. Currency and deposits	421	40	10	1,346	124	139	1,016	48	1571	1573	116	114
C. Debt securities	100	51	1,046	1117	4	257	239	2	1389	1427	138	100
D. Loans	69	918	1,240	0	118	337	35	229	1462	1484	74	52
E. Equity and investment fund shares	297	2,087	595	804	15	6	1,848	0	2755	2897	360	218
F. Insurance, pension and standardized guarantee schemes	26	12	38	483	21	19	434	6	519	520	26	25
G. Financial derivatives	8	7	21	18	0	0	6	0	35	25	0	10
H. Other accounts receivable/payable	154	263	1	0	24	31	63	47	242	341	144	45
Subtotal	1,075	3,378	3,651	3,768	387	789	3,641	332	8,754	8,267	859	1,346
Net financial position (financial assets less financial liabilities)		-2,303		-117		-402		3,309		487		-487

Sources: *2008 SNA* and *BPM6.*

Table 8.3. Two-dimensional Financial Statistics for Stock Positions, Transactions, and Other Flows

Opening Stock Positions	**Nonfinancial Corporations**		**Financial Corporations**		**General Government**		**Other Residents**		**Total Domestic**		**Rest of the World**	
End-December 2012	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
A. Monetary gold and SDRs			690		80				770			770
…												
H. Other accounts receivable/payable	150	237			19	22	58	43	227	302	134	59
Subtotal	982	3,221	3,421	3,544	396	687	3,432	310	8,231	7,762	805	1,274
Net financial position (financial assets less financial liabilities)		-2,239		-123		-291		3,122		469		-469
Transactions 1st quarter 2013	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources
A. Monetary gold and SDRs	0	0	-1	0	0	0	0	0	-1	0	1	0
…												
H. Other accounts receivable/payable	4	26	1	0	5	9	5	4	15	39	10	-14
Subtotal												
Net financial investment (Uses less sources)		-56		-1		-103		170		10		-10
Other Flows 1st quarter 2013	Change in Assets	Change in Liabilities	Change in Assets	Change in Liabilities	Change in Assets	Change in Liabilities	Change in Assets	Change in Liabilities	Change in Assets	Change in Liabilities	Change in Assets	Change in Liabilities
A. Monetary gold and SDRs	0	0	11	0	1	0	0	0	12	0	0	12
…												

H. Other accounts receivable/payable	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal												
Net financial investment (financial assets less financial liabilities)		-8		7		-8		17		8		-8
Closing Stock Positions	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
End-March 2013												
A. Monetary gold and SDRs	0	0	700	0	81	0	0	0	781	0	1	782
…												
H. Other accounts receivable/payable	154	263	1	0	24	31	63	47	242	341	144	45
Subtotal												
Net financial position (financial assets less financial liabilities)		-2,303		-117		-402		3,309		487		-487

Sources: *2008 SNA* and *BPM6.*

Table 8.4. Integrated Capital and Financial Account

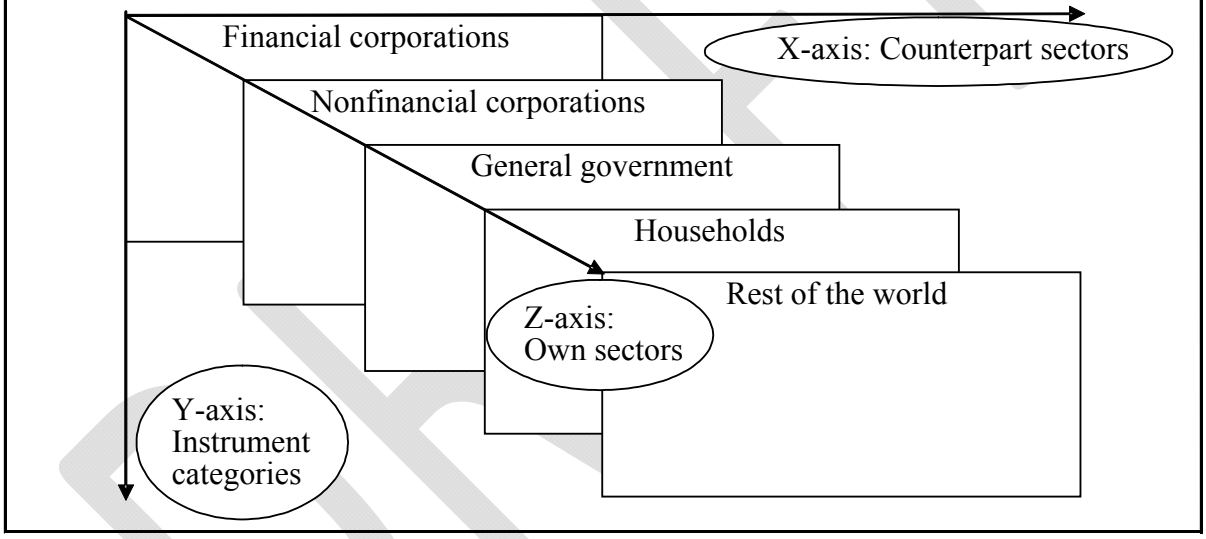
Changes in Assets							Changes in Liabilities and Net Worth					
Rest of the World	Total Domestic Economy	Other Resident Sectors	General Government	Financial Corporations	Non-financial Corporations	**Transactions**	Non-financial Corporations	Financial Corporations	General Government	Other Resident Sectors	Total Domestic Economy	Rest of the World
						Saving and capital transfers	88	-5	-90	209	202	-10
						Net saving	71	2	-62	194	205	-13
						Net capital transfers	17	-7	-28	15	-3	3
-10	202	209	-90	-5	88	Total net investment (Net capital formation *plus* net financial investment						
	192	39	13	-4	144	Net capital formation						
	154	27	8	-4	123	Net fixed capital formation						
	28	2	0	0	26	Changes in inventory						
	10	5	3	0	2	Acquisitions *less* disposals of valuables						
	0	5	2	0	-7	Acquisitions *less* disposals of nonproduced nonfinancial assets						
-10	10	170	-103	-1	-56	Net lending/net borrowing = Net financial investment = Acquisitions of financial assets *less* incurrence of liabilities						

47	436	191	-10	172	83	I. Net acquisition of financial assets/ incurrence of liabilities	139	173	93	21	426	57
1	-1		0	-1		Monetary gold and SDRs						
11	89	66	-26	10	39	Currency and deposits	0	65	37	0	102	-2
9	86	9	4	66	7	Debt securities	6	30	38	0	74	21
4	78	3	3	53	19	Loans	21	0	9	17	47	35
12	107	66	3	28	10	Equity and investment fund shares	83	22	0	0	105	14
0	48	39	1	7	1	Insurance, pension and standardized guarantee schemes	0	48	0	0	48	0
0	14	3	0	8	3	Financial derivatives	3	8	0	0	11	3
10	15	5	5	1	4	Other accounts receivable/payable	26	0	9	4	39	-14
						Discrepancy (saving and capital transfers *less* total net investment						
						Memorandum item: *Total sources/uses*						
						Sources = Saving and capital transfers + Net incurrence of liabilities	227	168	3	230	628	47
47	628	225	1	168	234	Uses = Capital accumulation + Net acquisition of financial assets + Statistical discrepancy						

B. Three-Dimensional Financial Statistics

8.34. Three-dimensional financial statistics adds the counterpart sector to the two-dimensional financial statistics allowing for from-whom-to-whom analysis. Figure 8.2 presents the concept of the three-dimensional financial statistics, which provides a framework to present flows and stock positions for all categories of instruments for all the sectors or subsectors by counterpart sector. Within this framework, it is possible to trace who finances whom, by which category of financial instrument, and the financing amount. For transactions, the three-dimensional presentation shows both parties to the transaction as well as the financial instrument being used—this is also sometimes called flow-of-funds statistics. For stocks positions, the similar three-dimensional presentation shows the creditor and debtor for each financial instrument category—this is also sometimes called the balance sheet approach.

Figure 8.2. Concept of Three Dimensional Financial Statistics



8.35. For analyzing bilateral cross-border stocks and flows, the three-dimensional presentation may be expanded further by breaking down the rest of the world by country, and even sector, i.e. both domestic and cross-border information are on a from-whom-to-whom basis (by country and sector). Ultimately, such an expansion across many countries would allow constructing bilateral financial statistics at the global level. Such "global flow of funds" data would provide invaluable analytical value, such as analysis of interconnectedness, global liquidity flows, and global financial networks. Individual economies could also benefit by being able to identify possible spill-over channels of external shocks into the domestic economy and its sectors.

8.36. A three-dimensional presentation for stock positions is presented in Table 8.5. It shows the creditor and debtor sector for each financial instrument category. Assets and liabilities are shown for each sector and, for convenience, the net financial position for each

financial instrument category, similar to the *net financial position* for the sectors in Tables 8.2 and 8.3.

8.37. The presentation shown in Table 8.5 can also be used for transactions and other flows (where relevant), on a from-whom-to-whom basis. For the transactions, columns for assets and liabilities for each sector are replaced by uses and resources, respectively, and for other flows, by columns for other changes in assets and liabilities, respectively. Further, instead of a *net financial position,* the transactions presentation shows *net financial investment*, and the other flows table, *net other flows*. In principle, separate from-whom-to-whom tables for revaluations and OCVA may also be constructed for financial assets, if the source data allow.

8.38. This *Manual* recommends compiling the three-dimensional financial statistics on an unconsolidated basis, which means that if a financial instrument is both an asset and a liability of the same sector, both the asset and liability positions are shown (in the shaded cells in Table 8.5 without netting). Furthermore, in unconsolidated data, the reciprocal asset/liability positions could be compared. Consolidated data could result in the loss of analytical content, especially if sectors are aggregated. When consolidated data are compiled, the diagonal cells (shaded boxes) representing intra-sector stock positions are empty.

8.39. Table 8.5a shows an extract of cross-cells for two sectors—general government and FCs. The net financial position of the FCs with the general government is -420 (see the total cell under NP in the upper right cell) which represents the net claim on the general government (which is negative in this case). The entries for debt securities of 750 under liabilities in the top right cell and under assets in the lower left cell show debt securities issued by central, state, and local governments and held by FCs.

8.40. As the number of financial instrument categories and sectors increases, compilers may present three-dimensional financial statistics separately for each sector. For example, complete sectoral balance sheets may be presented for each sector similar to those in Appendix II presenting opening stocks, transactions, valuation changes, and OCVA for all financial and nonfinancial assets with counterpart sectors where relevant. Similarly, from-whom-to-whom tables for stock positions (by issuer and holder sectors) and transactions (by debtor and creditor sectors) may be presented for a specific financial instrument, for example debt securities.[6]

8.41. Using standardized monetary statistics sources, such as the SRFs, allows further breakdowns of all the instruments by currency (into domestic and foreign currency).

[6] See as an example Table 1.2 in the [*Handbook of Securities Statistics—Part 2: Debt Securities Holdings*.]

Table 8.5. Three-Dimensional Financial Statistics for Stock Positions

Issuer/Debtor / Holder/Creditor	Financial Corporations			General Government			Nonfinancial Corporations			Households and NPISH			Rest of the World			All Debtors		
	A[1]	L[2]	NP[3]	A	L	NP	A	L	NP	A	L	NP	A	L	NP	A	L	NP
Financial Corporations																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
General Government																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
Nonfinancial Corporations																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
Other Residents																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
Rest of the World																		
Monetary gold and SDRs																		
…																		
Other accounts receivable/payable																		
All Creditors																		

[1] Financial assets

[2] Financial liabilities

[3] Net financial position (financial assets less financial liabilities)

Table 8.5a. An Example of Two Sectors (Simplified)

Issuer/Debtor / Holder/Creditor	Financial Corporations			General Government		
	A	L	NP[1]	A	L	NP
Financial Corporations	600	617	-17	550	970	-420
Monetary gold and SDRs				0	0	0
Currency and deposits	250	244	6	400	0	400
Debt securities	150	148	2	0	750	-750
Loans	70	65	5	100	200	-100
Equity and investment fund shares	35	30	5	0	0	0
Insurance, pension and standardized guarantee schemes	25	30	-5	0	0	0
Financial derivatives	15	15	0	0	0	0
Other accounts receivable/payable	55	85	-30	50	20	30
General Government	970	550	420	617	600	17
Monetary gold and SDRs	0	0	0			
Currency and deposits	0	400	-400	244	250	-6
Debt securities	750	0	750	148	150	-2
Loans	200	100	100	65	70	-5
Equity and investment fund shares	0	0	0	30	35	-5
Insurance, pension and standardized guarantee schemes	0	0	0	30	25	5
Financial derivatives	0	0	0	15	15	0
Other accounts receivable/payable	20	50	-30	85	55	30

[1] Conceptually, the net intra-sectoral financial position for FCs' sector as a whole should be zero.
Sources: *2008 SNA* and *BPM6*

8.43. A common use of three-dimensional statistics is the BSA analysis. The BSA can be used to analyze vulnerabilities arising from balance sheet positions and mismatches at a point in time, as well as of the buildup of such vulnerabilities over time. Simulations can be conducted to analyze the spillover of possible shocks from one sector into another, such as a sudden withdrawal of bank deposits or an inability to "rollover" maturing external debt.

8.44. The BSA framework considers four main types of balance sheet mismatches that can point to vulnerabilities for all sectors of the economy. These are: (i) currency mismatches which arise when borrowers' liabilities denominated in a foreign currency are larger than their assets denominated in domestic currency, or vice versa; (ii) remaining maturity mismatches between liabilities and assets such as short-term liabilities vs. longer-term assets that create funding and interest rate risks; (iii) capital structure problems including an excessive reliance on debt, rather than equity (or high leverage); and (iv) solvency or

counterpart risk if the assets of a debtor are not sufficient to cover its liabilities, including contingent liabilities. Thus, the BSA identifies inter-sector linkages and possible balance sheet mismatches by instrument, counterpart sector, currency, and possibly maturity.

8.45. For completeness and control totals, the BSA includes nonfinancial assets and memorandum items for which counterpart sectors are not identified in the SRFs, as well as certain off-balance sheet items taken from other sources (for example, contingent liabilities taken on by certain sectors such as credit commitments).

C. Statistical Discrepancies

8.46. Statistical discrepancies arise when two data sets provide different numerical values for the same data category. In financial statistics, there is typically a statistical discrepancy between *net lending/borrowing (NLNB)* derived from the capital account and *net financial investment (NFI)* derived from the financial account, which conceptually should equal (see paragraph 8.33). From the capital account, the identity for net lending/borrowing is:

NLNB = Net Saving – Net Capital Formation

From the financial account, the identity for net financial investment is:

NFI = Net Acquisition of Financial Assets – Net Incurrence of Liabilities

8.47. No clear international consensus on the treatment of this discrepancy exists. One approach is to keep the discrepancy through the use of a residual (referred to as a balancing item). This approach assists users in gauging the magnitude of errors and the overall quality of the data. Alternatively, the discrepancy can be removed by distributing the discrepancy across one or more items in the capital account, the financial account, or both—treating the discrepancy as a transaction or valuation change or, more likely, as OCVA. The advantage of removing discrepancies is that it provides "balanced" accounts, and ambiguity is eliminated for the users. Consistent with the *2008 SNA,* it is recommended to provide users with the recorded data for *NLNB* and *NFI,* and not distribute the discrepancy, while indicating which data set is more reliable (possibly, those for *NFI* and its components).

8.48. For compilers, data on the discrepancies provide valuable information for identifying areas that need improvement in data collection, estimation, and compilation system.

IV. Source Data for Financial Statistics

8.49. Monetary statistics are often the main data source for financial statistics. This is because of the financial intermediation role of financial corporations in an economy. The FCs sector is often the counterpart to financial transactions either as the creditor/holder or the issuer/debtor of a financial instrument.

8.50. Conceptually, source data for financial statistics can be obtained from both parties to each financial transaction/stock position. In practice, compilers may need to rely on the data reported by only one party to a financial transaction/stock position. For instance, the household sector, which consists of many small units, channels financial transactions through

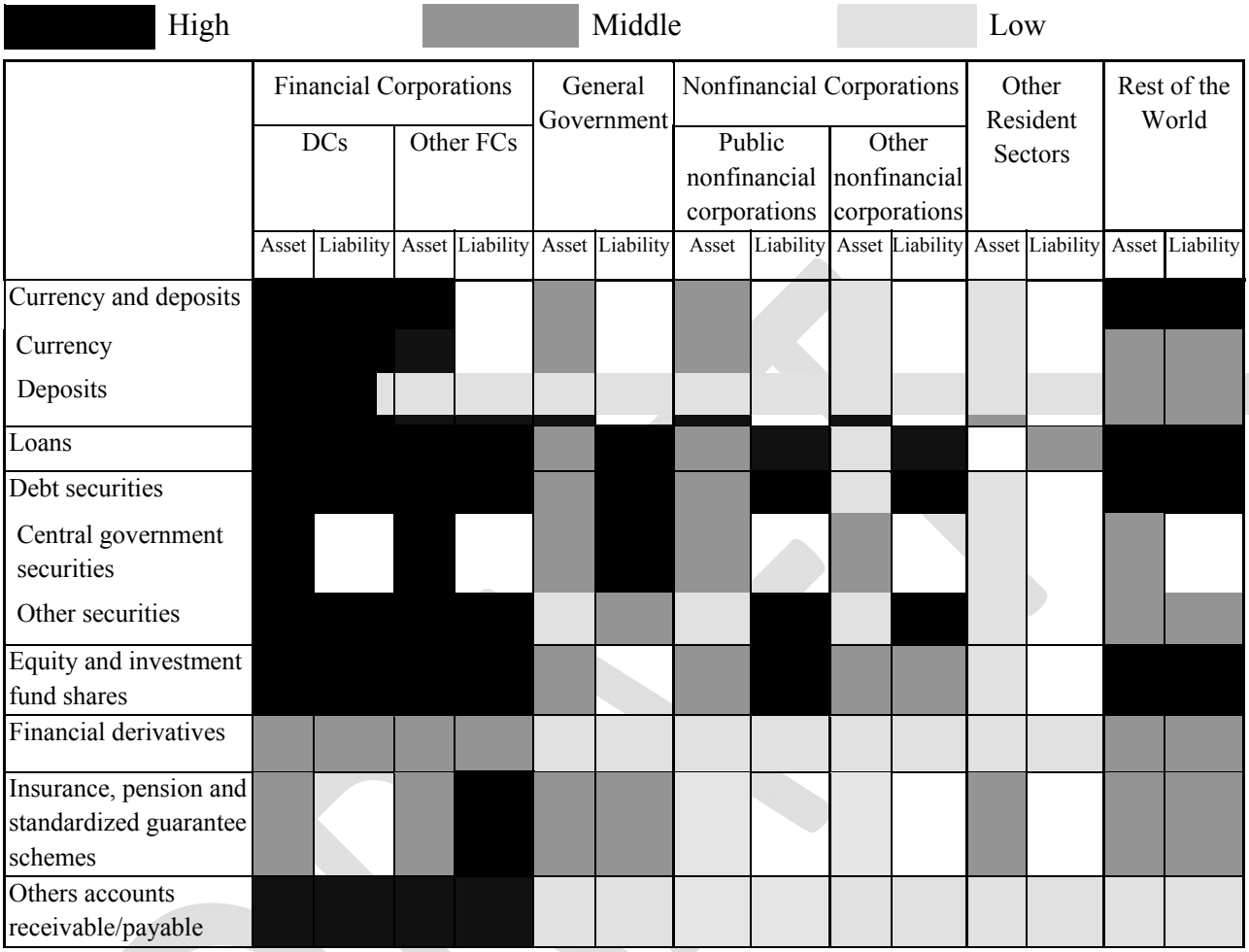
the FCs sector with much fewer institutional units and typically reliable data recording and reporting framework. It may therefore be feasible to derive the data on financial assets and liabilities of the household sector from FCs' records, rather than directly from the households, although financial assets and liabilities of the household sector vis-a-vis other nonfinancial corporations sectors, such as the nonresident sector, would need to be captured through alternative data sources.

8.51. Furthermore, standard sources for monetary statistics, such as SRFs presented in Appendix III, provide detailed counterpart information for almost all types of financial assets and liabilities of the FCs sector and its subsectors which enables developing from-whom-to-whom tables for stock positions.

8.52. If monetary statistics are compiled for the components of flows, as shown in Appendix II, these data can be used for compiling flows within the framework of the three-dimensional financial statistics. Otherwise, compliers use different direct or indirect data sources and/or methods to estimate transactions and other flows involving FCs' assets and liabilities, as explained in Chapter 5 (paragraphs 5.12–5.73). The remaining stock and flow data to complete the three dimensional financial statistics can be taken from other data sources such as government finance statistics, external sector statistics, and securities statistics that are compiled with counterpart sector detail.

8.53. Table 8.6 describes the relative reliability of various data collected or estimated for financial statistics. Highly reliable data are those that can be directly obtained from FCs' reported data, and the IIP and balance of payments statistics. The moderately reliable data are those that involve estimation, but for which some source data are available on an annual or less frequent basis, or are contained in surveys. The low reliability data are those which are difficult to obtain or for which source data do not usually exist. Many estimates of data in this category are based on residual calculations, as explained later in this section. The unshaded cells are those for which liabilities do not usually exist. For example, households and NPISH do not issue currency, and only the government issues government securities.

Table 8.6. Reliability of Data (SRF Source Data)



A. Main Source Data

8.54. Compilers of financial statistics will need to use a variety of data sources. The compilation usually starts by determining the stock positions for each sector and the rest of the world. Table 8.7 presents the most common sources for stock and flow data.

Table 8.7. Types of Main Source Data

Source	Possible Use
1. Balance sheet data of financial corporations (including counterpart data)	Stock positions of the financial corporations sector/subsectors and counterparts.
2. International Investment Position	Stock positions for the rest of the world and the domestic counterparts.
3. Balance sheet data for nonfinancial corporations	Stock positions of the nonfinancial corporations and their financing of households, such as through trade credits.
4. Government finance statistics, including government debt	Liabilities of the general government or its subsectors and their transactions with other sectors.
5. Financial markets/custodian data	Debt securities and shares by issuing and holding sectors.
6. Financial account of balance of payments	Transactions with the rest of the world.

B. Supplementary Source Data

8.55. Supplementary source data include administrative records, survey data, and market data which are outside of the regular data reporting systems for compiling the main macroeconomic datasets. These sources can be used to improve the data estimates and to fill gaps in the primary source data. Some types of supplementary data are described in Table 8.8.

Table 8.8. Types of Supplementary Source Data

Type	Possible Use
1. Surveys	Data on nonfinancial sectors' financial activities such as household savings, borrowings, business financing, and holdings of financial assets issued by nonresidents.
2. Tax records	Benchmarks for balance-sheet data of nonfinancial corporations and nonprofit institutions.
3. Trade association publications	Data on stock positions and activities of other financial corporations (OFCs), as well as transactions in particular types of financial instruments such as financial derivatives.
4. Market data, including exchange rates and price indices (for example, share price index)	Data on specific financial market activities (including from private vendors) such as asset securitization, securities trading, and financial derivatives. Market exchange rates and price indices—to separate transactions from revaluations.
5. Company accounting records, including profit and loss statements	To separate transactions from OCVA such as loan write-offs.

C. Application of Source Data

8.56. The main and supplementary source data provide most of the necessary data for financial statistics, but often do not properly cover flows and stocks for which both counterparties are nonfinancial corporations or households and NPISH. Further, for negotiable financial instruments full disaggregation by sector often is not available, especially for holders. Therefore, compilers need to allocate the aggregate data among issuers and holders, using available data sources and ancillary information.

8.57. In such circumstances, compilers usually apply either of two techniques—*counterpart* data or *residual* data. Both techniques apply the principle that every financial claim (other than gold bullion included in monetary gold held by a central bank) is financial instrument that has a counterpart liability or that for each category of financial instrument the sum of the net acquisitions (including those of the rest of the world) must equal the sum of the net incurrence of liabilities. A residual sector may need to be designated to ensure that the total value of the transactions or position in a financial asset/liability category is fully allocated, if data are available for all but one sector.

8.58. To fill data gaps for nonfinancial sectors and negotiable instruments, compilers can rely on *control totals* for financial assets and liabilities. A *control total* refers to the total amount (stocks and flows) of a certain financial instrument issued and held. The compilers can obtain the data for control totals from the following sources presented in Table 8.9:

(a) Balance sheet data of FCs (mainly for nonnegotiable instruments such as deposits and loans);

(b) Government records for government debt; and

(c) Other sources such as the records of financial market participants or custodians/security registration offices (mainly for negotiable instruments such as debt securities and shares).

8.59. For flow data, in addition to the main and supplementary source data shown in Tables 8.7 and 8.8, compilers may need to apply procedures for estimating the transactions, revaluations, and OCVA data, similar to those for monetary statistics described in Chapter 5.[7] Securities price indices are often used to estimate valuation changes for securities, when market values of the securities are unavailable.

Multiple Source Data

8.60. Compilers often deal with a lack of source data, but sometimes multiple or overlapping data sources for a sector or financial instrument may be available containing different numbers. In these cases, compilers need to assess the relative quality of the source data and try to find out the possible reasons for differences in order to use the most reliable data and aligned with statistical principles. For example, the government authorities may

[7] See subsection on flows in Chapter 5.

report data on most of their lending to public nonfinancial corporations. Liability data for the same loans may be reported by the public nonfinancial corporations themselves, as borrowings from the government. The two sets of data may contain different numbers, because one side of the reporting may not include data for all public nonfinancial corporations. In this case, compilers can use the most comprehensive and reliable data to estimate the stock of asset and liability position for loans extended by government to public nonfinancial corporations.

8.61. Multiple source data used for compiling financial statistics are not always based on the definitions, classifications, and accounting principles of the *2008 SNA*. For monetary statistics, there are at least two such cases. First, equity on the liabilities side of the sectoral balance sheets is book-valued, but needs to be market-valued for financial statistics. Second, provisions for expected loan and other losses are included in other accounts payable in monetary statistics and are not recognized in the *2008 SNA* and thus in financial statistics.

8.62. Compilers need to adjust the source data to meet the requirements and quality standards for compiling financial statistics, to the extent possible. Examples of such cases in source data include:

(a) Sectoring—the disaggregation with respect to counterpart sectors may differ from the sectoring used for the financial statistics.[8]

(b) Classification of financial instruments—the categories of financial assets and liabilities may differ from the instrument classifications required for financial statistics.

(c) Valuation—negotiable (or foreign currency denominated) financial instruments may not be valued at current market price (or market exchange rate) or fair value.

(d) Time of recording—transactions may not be recorded on an accrual basis and the time of recording may differ for the two parties to the transaction or position in stock.

(e) Coverage—macro data may cover units that are not in a sector or may exclude some units in the sector; for example, a nonresident branch of a financial corporation may be included in the accounts of the parent, but should be excluded as it is a nonresident institutional unit.

8.63. Compliers of financial statistics often need to deal with data reporting that is inconsistent, partial, or indirect, as well as with the absence of data reporting for certain units, subsectors, or even sectors. When both parties report a transaction and a position, several types of errors may occur; this introduces a data inconsistency. For example, the parties may use different valuations of transactions or positions, different timing for recording transactions, and different classifications by instrument or counterpart sector. These kind of inconsistencies need to be adjusted based on the more reliable source.

[8] Monetary statistics uses subsectors Other Depository Corporations and Other Financial Corporations, with MMFs included in the ODCs subsector.

8.64. The types of adjustments needed to align specific sets of source data with the requirements of financial statistics or to be internally consistent may vary depending on particular circumstances.

Estimation of Missing Data

8.65. Compilers of financial statistics may need to rely on various techniques to estimate incomplete data. For example, to maintain a timely release calendar for financial statistics, compilers may need to estimate missing data that will become available later, or use annual data to estimate quarterly data.

8.66. For estimating missing data for which historical series are available but the next observation becomes available with a delay, compilers may rely on known estimation techniques such as repeating the previous observation or extending the trend of historical series. For estimating higher frequency data (e.g., quarterly) using lower frequency data (e.g., annual), different interpolation methods may be used such as constant ratios, data smoothing, and regression methods.[9]

Editing and Checking Data

8.67. Compilers apply different validation and plausibility checks for rows and columns of financial statistics to identify data problems. Construction of charts and tables of time series data that may also be useful in revealing outliers to be verified or corrected.

8.68. For plausibility testing of the aggregate data, unexpected movements in the data should be explained in terms of economic behavior, if not attributable to data collection, estimation, or compilation errors. For this purpose, basic underlying relationships among macroeconomic data need to be applied. Compilers' knowledge may need to be complemented by consultation with different experts and analysts.

8.69. Data problems are more apparent in time series than for a single period. The presentational format for a period or end of period enables checking that the data meet adding-up requirements and broad plausibility tests, but time series presented in tables or charts—in differenced or percentage-change form, or as ratios—are useful for identification of outliers that need to be investigated.

V. SYSTEMATIC DEVELOPMENT OF FINANCIAL STATISTICS

8.70. Countries need a wide range of source data and methods to compile the full range of financial statistics. As these source data may be collected by different agencies, close cooperation among statistical agencies within an economy is crucial. Given differences in source data availability across countries, a single level and presentation of financial statistics is not applicable to all countries. Financial statistics can thus be developed with varying

[9] For a fuller exposition of estimation techniques for missing data, see Adèr, H.J. (2008); *"Chapter 13: Missing data;"* and Stoop, I., Billiet, J., Koch, A., and Fitzgerald, R. (2010); "*Improving Survey Response: Lessons Learned from the European Social Survey."*

degrees of detail depending on data availability and analytical needs. Table 8.9 presents different levels of compiling financial statistics in terms of covered details.

Table 8.9. Different Levels of Financial Statistics

Characteristics	Basic	Intermediate	Full details See Table 8.10
1. Use of flow and stock position data	For flow components mostly relies on period-to-period changes in stock positions.	Both stock position and flow data. For flow components relies on period-to-period changes in stock positions where flow data are not available. Some components may be compiled and presented on a from-whom-to-whom basis.	Full details on stock positions and components of flows. Reconciles stock and flow data for transactions, revaluations, and OCVA on a from-whom-to-whom basis.
2. Sector detail	Aggregated sectors; for instance, central government, deposit-taking corporations, other sectors, and rest of the world.	Expanded domestic sector coverage; for instance to include state and local government either separately identified or within general government, simplified breakdown of the financial sector, nonfinancial corporations, and other resident sectors (households and NPISH).	Full set of sectors in line with the *2008 SNA* with important subsectors separately identified. For instance: (i) central government and state and local government, (ii) public nonfinancial corporations, national private corporations, and foreign controlled nonfinancial corporations, (iii) central bank, other deposit-taking corporations, and the full 2008 SNA sub-sectors of other financial corporations.
3. Instrument detail	Basic categories of instruments; for instance, loan and deposits, debt securities, and equity.	Expanded categories of instruments; for instance, currency and deposits, debt securities, loans, equity, financial derivatives, and insurance and pension.	Full set of financial instruments in line with the *2008 SNA* and *MFSMCG*; with important subcategories separately shown. For instance (i) transferable deposits and other deposits; (ii) listed shares, unlisted shares, other equity, and investment fund shares; (iii) insurance, pension, and standardized guarantee schemes; (iv) financial derivatives by type; (v) other accounts receivable/payable by major categories.
4. Source data	Relies mostly on aggregate data from the depository corporations' survey and external sector statistics.	Relies substantially on balance-sheet data for financial corporations, supplemented with data from the government finance statistics, external sector statistics, and capital market sources.	A wide variety of sources, in addition to standard sources including (but not limited to) national accounts sources, administrative records from government units and regulatory agencies, market and trade data, and special surveys of households and corporations.

8.71. An example of a possible presentation of financial statistics at the intermediate level is set out in the IMF's Special Data Dissemination Standard (SDDS) Plus, Table 2.1.[10] This table is based on the requirement of the SDDS Plus for its adherents and presents 'minimum' classifications, by sector and instrument. Financial statistics provide most of the necessary input for compiling SNA balance sheets.

8.72. The most comprehensive financial statistics with full details can include additional subsectors and subcategories of financial instruments. Table 8.10 illustrates possible additional subsectors and financial instruments.

[10] The Special Data Dissemination Standard Plus: Guide for Adherents and Users, Table 2.1 on *Minimum Classifications for Sectors and Financial Instruments for Internationally Comparable Sectoral Accounts.*

Table 8.10. Examples of Disaggregated Sectors and Instruments

Sectors and subsectors	**Asset/Liability categories** (Can also be classified by currency and maturity)
Financial corporations	Nonfinancial assets
O*f which, public financial corporations*	Produced assets
Deposit-taking corporations	Non-produced assets
Central bank	Monetary gold and SDRs
Other deposit-takers	Monetary gold
Commercial banks	SDR holdings/SDR allocation
Savings banks	Currency and deposits
Credit unions and credit cooperatives	Bank notes and coins
Money Market Funds (MMFs)	Deposits
Insurance and Pension corporations	Transferable deposits
Insurance corporations	Other deposits
Life insurance corporations	Debt securities
Non-life insurance corporations	o/w structured financing products
Reinsurance corporations	Loans
Pension funds	o/w Real-estate loans
Other financial corporations (OFCs)	Consumer loans
Non-MMF investment funds	Financial leases
Other financial intermediaries	Repurchase agreements
Financial auxiliaries	Other loans
Captive financial institutions and money lenders	Equity and investment fund shares
General government	Equity
Central government	Listed equity
State and local government	Unlisted equity
Social security funds	Other equity
Nonfinancial corporations	Investment fund shares
Public nonfinancial corporations	MMF shares
Other nonfinancial corporations	Non-MMF investment fund shares
National private nonfinancial corporations	Insurance, pension and standardized guarantee schemes
Foreign controlled nonfinancial corporations	Non-life insurance technical reserves
Households	Life insurance and annuities
Nonprofit institutions serving households (NPISH)	Pension entitlements
Rest of the world (can be expanded by country and sector)	Provisions for calls under standardized guarantees
	Financial derivatives and employee stock options
	Financial derivatives
	Forward-type
	Option-type
	Employee stock options
	Other accounts receivable/payable
	Trade credit and advances
	Other

Annex 8.1. Overview of the 2008 System of National Accounts

A. Introduction

8.73. This annex provides an overview of the *2008 SNA* and illustrates how it presents the overarching framework for the development of financial statistics. Financial statistics are developed within the framework of the *2008 SNA*, which provides for comprehensive coverage of stocks and flows for the total economy as well as for each of its sectors.

8.74. The *2008 SNA* serves as a coordinating framework for macroeconomic statistics and provides a consistent conceptual and accounting framework for integrated macroeconomic aggregates. It provides a presentation of macroeconomic aggregates relating to all institutional sectors of the economy and the economic relationships of an economy with the rest of the world. These macroeconomic and sectoral data allow for key macroeconomic indicators to be derived on corporate borrowing, profitability, household wealth and savings, leverage ratios and estimates of debt service burden. As such, the *2008 SNA* provides consistency and coherence with other internationally-accepted standards.

8.75. The integrated economic accounts of the *2008 SNA* comprise the full sequence of accounts by institutional sector, the accounts for the rest of the world, and the accounts for the total economy. The key conceptual elements underlying the integrated economic accounts are as follows:

(a) Institutional units that are further grouped into sectors

(b) Transactions and other flows

(c) Assets and liabilities

8.76. Chapters 3 and 4 of the *2008 SNA* and chapters 3, 4, and 5 of this *Manual* elaborate on the conceptual framework for economic statistics. The *2008 SNA* is a closed system in that it is designed to record all economic flows undertaken by all units resident in the domestic economy and the assets and liabilities of these units. There are two aspects of the *2008 SNA* that facilitate this recording: (i) quadruple-entry accounting and (ii) the rest of the world account.

Quadruple entry accounting

8.77. Quadruple entry accounting is the result of the simultaneous application of vertical and horizontal entries, where each transaction results in four entries in the system. Vertical double entry accounting—also simply referred to as double-entry bookkeeping—results in two entries, commonly referred to as a credit entry and a debit entry. It is the accounting system commonly used in business accounting. Horizontal double entry bookkeeping reflects mutual economic relationships between two units.

8.78. When a transaction is undertaken, two pairs of entries are recorded. The first pair of entries records the provision of a good, service, or asset to a unit and the acquisition of the good, service or incurrence of liability by the other. The second pair of entries usually appears in the financial account and records one party supplying the means of payment (by

incurring liabilities or reducing assets) and the other party receiving payment. The second pair of transactions may appear in the current accounts or capital account in cases of unrequited transfers or transfers in kind. Further, in cases where the transaction is based on changing the composition of the portfolio of financial assets or liabilities, both pairs of entries would appear in the financial account.

8.79. As a consequence of the quadruple accounting system, the system of national accounts is a closed system, meaning that there is both a horizontal and vertical adding up constraint. All transactions have counterpart entries both horizontally and vertically. Conceptually all transactions of an individual sector and subsector sum to zero, as do transactions across all sectors; and all liability positions have counterpart financial asset positions, except for gold bullion held as a reserve asset. Table 8.11 provides a numerical example of the production of the 'top-to-bottom' accounts.

Rest of the world account

8.80. The total economy consists of units that are resident in the domestic economy. These units are grouped in five institutional sectors; these units also undertake transactions with nonresidents. The *2008 SNA* records transactions between residents and nonresidents as if these nonresidents constitute a separate, single institutional sector, which is referred to as the rest of the world.

8.81. Flows in all the accounts may have entries in the rest of the world account, with the exception of the production and generation of income accounts. The production account records domestic production and the generation of income account records how the income generated from production is distributed among domestic sectors. Flows to the rest of the world are shown as uses of the rest of the world and flows from the rest of the world are shown as resources.

8.82. The rest of the world account records the same transactions as the balance of payments statement; it is a mirror of the balance of payments. The balance of payments records transactions from the perspective of residents and the rest of the world account records these transactions from the perspective of the rest of the world.

B. The Structure of the *2008 SNA* Accounts

8.83. The *2008 SNA* accounts allow for the recording of all flows and stocks relating to economic activity. The accounts provide a consistent and integrated framework that covers all institutional sectors of the economy and the economic relationships of an economy with the rest of the world.

8.84. The accounts comprising the sequence of accounts are grouped into three main categories: current accounts, accumulation accounts, and balance sheets. Figure 8.1 in the main text of this chapter presents an illustration of the inter-relationships of the accounts.

Table 8.11. Full Sequence of Accounts and Balance Sheets for the Total Economy[i]

	Uses	Transactions and balancing items	Resources
	Production account		
		Output at basic prices	3604
	1883	Intermediate consumption	
	1721	Gross value added at basic prices	
		Taxes less subsidies on products	133
	1854	Gross domestic product	
	222	Consumption of fixed capital	
	1632	Net domestic product	
	Generation of income account		
		Gross domestic product	1854
	1150	Compensation of employees	
	191	Taxes less subsidies on production and imports	
	513	Gross operating surplus/mixed income	
	Allocation of primary income account		
		Gross operating surplus	513
		Compensation of employees[ii]	1154
		Taxes less subsidies on production and imports	191
	391	Property income[iii]	397
	1864	Gross national income	
	Secondary distribution of income account		
		Gross national income	1864
	1212	Current transfers[iv]	1174
		Gross disposable income	1826
	Use of disposable income account		
		Gross disposable income	1826
	1399	Final consumption expenditure[v]	
	11	Adjustment for change in pension entitlements	11
	427	Gross saving	
	222	Consumption of fixed capital	
	205	Net saving	
Accumulation accounts	**Change in assets**	**Transactions and balancing items**	**Change in liabilities and net worth**
	Capital account		
		Net saving	205
	192	Net capital formation	
		Net capital transfers	-3
		Changes in net worth due to saving and capital transfers	202
	10	Net lending (+)/ net borrowing (-)	
	Financial account		
		Net lending (+)/ net borrowing (-)	10

	436	Net acquisition of financial assets / liabilities	426
	Other changes in the volume of assets account		
	10	Non-financial assets	
	3	Financial assets/liabilities	3
		Change in net worth due to other changes in volume of assets	10
	Revaluation account		
	280	Non-financial assets	
	84	Financial assets/liabilities	76
		Change in net worth due to holding gains/losses	288
Balance sheets	Stocks and changes in assets **Opening balance sheet**		
	4621	Non-financial assets	
	8231	Financial assets /liabilities	7762
		Net worth	5090
	Total changes in assets and liabilities		
	482	Non-financial assets	
	523	Financial assets /liabilities	505
		Total change in net worth	500
	Closing balance sheet		
	5103	Non-financial assets	
	8754	Financial assets /liabilities	8267
		Net worth	5590
Memo: Goods and services account			
	Uses		Resources
		Output	3604
		Imports	499
		Taxes less subsidies on products	133
	1883	Intermediate consumption	
	1399	Final consumption expenditure	
	414	Gross capital formation	
	540	Exports	
	4236	Total	4236

i Abridged version of the tables, 2.13 and 2.14 of the *System of National Accounts 2008*.

ii This includes compensation of employees (net, from rest of the world), which is equal to 4 and could be obtained as the difference between CE in the allocation of primary income account (1154) and generation of income account (1150).

iii Property income (net, from rest of the world) is equal to 6 and could be obtained as the difference of property income on the resources side (397) and uses side (391) of the allocation of primary income account.

iv Current transfers (net, from rest of the world) is equal to -38 and could be obtained as the difference of current transfers on the resources side (1174) and uses side (1212) of the secondary distribution of income account.

v Final consumption expenditure for the total economy (1399) is the sum of final consumption expenditures of households (1015), non-profit institutions serving households (32), and general government (352).

8.85. The transactions recorded in the current accounts often entail counterpart entries in the capital and financial accounts. Every resource in the current account corresponds to an increase in economic value available to the owning unit, and every use corresponds to a decrease. Thus, resources increase the net worth of a unit, and uses decrease net worth. The final balancing item of the current accounts—saving—is that part of income that is not used for final consumption expenditure. Saving is the starting point for the *accumulation accounts* and, together with net capital transfers, represents resources available for financing capital formation, adding to financial assets, and reducing liabilities. Accumulation accounts cover changes in stocks of nonfinancial and financial assets, in liabilities, and in net worth caused by transactions and other events. *Balance sheets* cover the stock of nonfinancial and financial assets and liabilities, as well as the net worth of institutional sectors and the economy.

Current accounts

8.86. The goods and services account is not an account in the sequence of accounts, but reflects transactions in goods and services that are undertaken by institutional units. This account shows how total supply of goods and services from output (domestic production) and imports is used for capital formation, intermediate consumption, final consumption, and exports. It is possible to rearrange the account to show how GDP can also be calculated from the expenditure side as the sum of final consumption expenditures, capital formation, and net exports (exports *less* imports).

8.87. The current accounts comprise the production account, the distribution of income account (primary and secondary), and the use of income account. These are described below.

8.88. Production account. This account records the results of production (output) and the use of goods and services in that production (intermediate consumption). The wear and tear of capital that is used in that production is not recorded as intermediate consumption, but is presented as consumption of fixed capital. The balancing item for the production account of a given sector or unit is value added. The balancing item for the total economy is gross domestic product or net domestic product. Thus, the balancing item for the total economy is derived as the sum of value added plus the sum of taxes on products less subsidies on products. Taxes on products are not allocated to individual units or sectors, but to the economy as a whole.

8.89. Distribution of income accounts. The distribution and redistribution of income is presented in various accounts as follows.

8.90. Primary distribution of income account. This account *s*hows how the value generated through the production process is distributed to labor, capital, government, and to/from the rest of the world. The primary distribution of income account is presented as two sub-accounts:

(a) the generation of income account, and

(b) the allocation of primary income account

8.91. The generation of primary income account shows how value added is distributed among labor (as compensation of employees), government (as taxes less subsidies), and capital. The distribution to capital is not estimated directly, but is shown as the balancing item in the account as operating surplus. In the case of unincorporated enterprises owned by households, the balancing item may include compensation to the owners or to the family members working in the unincorporated enterprise. It may not be possible to separate this compensation from the operating surplus; the balance (which includes some compensation) is referred to as mixed income.

8.92. The allocation of primary income account shows operating surplus or mixed income as a resource and shows compensation of employees receivable by households, taxes less subsidies receivable by government, and property income receivable and payable by the institutional sectors. Thus, the generation of income account shows which sectors paid compensation of employees and taxes less subsidies and the allocation of primary income account shows which sectors received this income.

8.93. The balancing item of the primary distribution of income account is the balance of primary incomes for the institutional sector and national income (gross or net) for the total economy.

8.94. Secondary distribution of income account. This account records the redistribution of income through current transfers. Except for the balance of primary income, which is brought forward as a resource from the previous account, the secondary distribution of income account records the same types of transfers as resources and uses. This is because one transfer that may be a resource for one sector may be a use for another. The balancing item for this account is disposable income.

8.95. Redistribution of income in kind account. This account shows social transfers in kind made by government and NISPHs, to households. This account is relevant only for these three sectors. The balancing item for this account is adjusted disposable income.

8.96. At the level of the total economy, disposable income and adjusted disposable income would be the same; the distinction is only relevant for the accounts of individual sectors.

8.97. Use of income account. This account may be presented separately as the *use of disposable income account* and the *use of adjustable disposable income account*. The account shows how disposable income (or adjusted disposable income) is allocated between final consumption and saving. Corporations do not undertake final consumption and final consumption is recorded for the government, NPISH, and household sectors. The adjustment for the change in pension entitlements is recorded in both the use of disposable income account and the use of adjusted disposable income account. This transaction is recorded as a resource for households and as a use for FCs.

8.98. The balancing item for the use of income account is saving and it is the final balancing item of the current accounts. If there is no final consumption (as would be the case with corporations), saving would be equal to disposable income (after the adjustment for the change in pension entitlements). Saving may be positive (when disposable income exceeds

final consumption expenditure) or negative (when final consumption expenditure exceeds disposable income).

Accumulation accounts

8.99. The accumulation accounts consist of the capital account, the financial account, the other changes in the volume of assets account, and the revaluation account. Along with the balance sheets, the accumulation accounts provide the framework for the financial statistics, which cover the stocks and flows of financial assets and liabilities of all the sectors of the economy.

8.100. The capital account is the first of the accounts that records changes in the value of assets. It records changes in the value of nonfinancial assets due to transactions.

8.101. Nonfinancial assets comprise produced and non-produced nonfinancial assets. Produced assets are assets that have come into existence as a result of the production process (produced assets are recorded as outputs in the production account). Non-produced assets are assets that are not the results of the production process.

8.102. Produced assets comprise the following:

(a) fixed assets—assets that are used repeatedly, or continuously, in production processes for more than one year (dwellings, other buildings and structures, machinery and equipment, and cultivated assets, such as livestock for breeding and plantations; and intellectual property products);

(b) inventories (materials and supplies, work-in-progress, finished goods, and goods for resale); and

(c) valuables (assets that are acquired and held primarily as stores of value).

8.103. Non-produced assets consist of the following:

(a) natural resources—naturally occurring assets such as land, water, uncultivated forests;

(b) contracts, leases and licenses—where the terms of the contract, lease or license specify a price for the use of the asset (or provision of a service) that differs from the price that would prevail in the absence of the contract, lease or license, and a party to the contract is able to realize the price difference; and

(c) purchased goodwill and marketing assets which are recorded only when a unit is purchased or an identifiable marketable asset is sold.

8.104. The capital account records the values of nonfinancial assets acquired, or disposed of, by resident institutional units by engaging in transactions (including consumption of fixed capital) and shows the changes in net worth due to savings and capital transfers.

8.105. *Net lending/Net borrowing* is the balancing item of the capital account. It is calculated as changes in net worth due to saving and capital transfers *less* net acquisition of nonfinancial assets. The net resources available to an economy or sector from saving and net capital transfers that are not used to acquire nonfinancial assets represents the resources available for net acquisition of financial assets, that is, net lending. An institutional sector with a surplus of resources (through saving and net capital transfers) over capital accumulation is a net lender. An institutional sector that has capital expenditures in excess of these resources is a net borrower.

8.106. The *2008 SNA* defines capital transfers as unrequited transfers where either the party making the transfer realizes the funds involved by disposing of an asset (other than cash or inventories), relinquishing a financial claim (other than accounts receivable) or the party receiving the transfer is obliged to acquire an asset (other than cash).

8.107. The financial account is the final account in the sequence of accounts for the recording of flows due to transactions. It records transactions in financial instruments. The use of the term "instrument" relates only to items on the financial balance sheet, unlike in monetary statistics, where the term is used to relate to all financial instruments, including some off-balance sheet items.

8.108. The net lending or borrowing in the financial account is equal to that in the capital account. Whereas it is presented on the assets side of the capital account, it is presented on the liabilities side of the financial account.

8.109. Since the financial account is the final account for recording transactions in the system, there is no balancing item to be carried forward. When transactions of all sectors are taken into account—including transactions with the rest of the world—the net acquisition of financial assets (excluding gold bullion) is equal to the net incurrence of liabilities. The balance shown in the financial account is net lending or net borrowing of each sector and is equivalent (with the sign reversed) to the net lending or net borrowing of the capital account.

8.110. The financial account shows how an institutional sector with a balance on net lending, makes these surplus resources available to other sectors. The sector can acquire net financial assets or reduce net liabilities. Likewise, the financial account shows how a net borrowing sector is able to obtain financial resources by reducing its net holdings of assets or increasing its net liabilities.

8.111. The *other changes in the volume of assets account* records changes in the value of assets and liabilities during the period (between the opening and closing balance sheets) that are not due to transactions between institutional units (recorded in the capital and financial accounts), or to price or exchange rate changes (recorded in the revaluation account).

8.112. The other changes in the volume of assets account records the following five changes: (i) the economic appearance and disappearance of assets, including cases where naturally occurring assets gain economic value or lose economic value and new discoveries of subsoil assets where an institutional unit establishes ownership over the newly discovered asset; (ii) catastrophic losses in which the effects of external events that are exceptional and

unanticipated and which may affect the overall value of the asset, including losses due to natural disasters or wars; (iii) uncompensated seizures of assets; (iv) other changes in volume not elsewhere classified; and (v) changes in classifications of institutional units and assets and in the structure of institutional units.

8.113. All increases in assets and reductions in liabilities arising from other changes in the volume of assets account increase net worth, while all decreases in assets and increases in liabilities arising from other changes in the volume of assets account decrease net worth.

8.114. The revaluation account records holding gains and losses accruing to holders of nonfinancial and financial assets and liabilities, as a result of changes in prices of assets and liabilities and changes in exchange rates. It records nominal holding gains and losses; these are then decomposed into neutral holding gains and real holding gains.

8.115. The nominal holding gain on a nonfinancial asset is the value of the benefit accruing to the owner of that asset as a result of a change in its price over a period of time. The nominal holding gain on a financial asset is the increase in value of the asset, other than transactions in the assets (including the accrual of interest over a period of time) and other changes in the volume of assets. The nominal holding gain on a liability is the decrease in value of the liability, other than by transactions or by other volume changes.

8.116. The difference between the nominal holding gain or loss and the neutral holding gain or loss for the same asset over the same time period is the real holding gain or loss. If the value of the asset increases faster than the neutral holding gain, there is a real holding gain. If the value of the asset does not increase as fast as the overall increase in prices, or does not increase at all, the owner of the asset registers a real holding loss.

Balance sheets

8.117. Balance sheets record the stock of nonfinancial assets and financial assets and liabilities of a sector, the total economy, or the rest of the world. The balance sheet for the total economy reflects the national wealth, which is the sum of non-financial assets and net claims on the rest of the world.

8.118. The balancing item of balance sheets is net worth, which is the total value of assets *less* total liabilities. It indicates the present value of the stock of economic value by sector.

8.119. For a given asset, the opening and closing balance sheets are linked through transactions and other flows as follows:

Value of the stock at the beginning of the period (opening balance sheet)

plus**:** value of acquisitions through transactions less value of disposals through transactions (as recorded in the capital and financial accounts)

plus**:** the value of changes in volume (as recorded in the other changes in volume of assets account)

plus**:** value of holding gains accruing during the period (as recorded in the revaluation account)

equals: the value of stock at the end of the period (closing balance sheet).

8.120. For the rest of the world, the account shows the stock of assets originating in the domestic economy and held by non-residents and the stock of foreign assets held by residents. Nonfinancial assets are not reflected in the rest of the world account. Produced assets are not covered in the balance sheet of the rest of the world because the ultimate use of the products—as capital formation or final consumption—is of concern only to the domestic economy.

8.121. For nonproduced assets, land and other natural resources are not covered because these are always considered assets of the domestic economy. Thus, if a nonresident purchases land or natural resources in the domestic economy, a notional resident unit in the form of a quasi-corporation is established in the accounts as being the owner of this asset. The nonresident is then considered to be the owner of this notional unit.

8.122. The balance sheets of the household sector include dwellings. Consumer durables (cars, appliances) are not included in the balance sheets because they are not considered fixed assets; these are considered consumption goods. If the household owns an unincorporated enterprise, the value of the proportion of assets used in production for this enterprise is included in the balance sheets.