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Relationship Between Macroeconomic Statistical Guidelines and Accounting Standards

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Abstract

The paper provides an overview of macroeconomic statistical and accounting datasetting systems, highlights areas of similarities between them, and proposes approaches aimed at further reconciliation between the two systems. Following a summary of the recent developments that set the stage for further harmonization, each system is analyzed in terms of reporting entity, assets/liabilities in the balance sheet statement, and changes in assets/liabilities in the flows statements. The emphasis that each system puts on various aspects of data quality is then reviewed, serving to highlight the specific purposes they each serves. Appendix I and II provide more details, respectively, on the forces that are driving the two systems closer on the one hand, and on the quality requirements that explain the respective specificities of each system, on the other hand..

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I. INTRODUCTION

1. The aim of this paper is to promote harmonization between macroeconomic statistical guidelines[2] and financial accounting standards. The paper views harmonization in the following broad terms: identifying and describing differences; enhancing convergence to narrow differences; and, when convergence cannot be achieved, providing the rationale and developing bridges to reconcile differences between the two data-setting systems.

2. In its own specific area, each statistical and accounting data-setting system provides the framework to identify, record, classify, and summarize economic activities of entities. These two data-setting systems differ in their scope, preparation, and use. The statistical guidelines, as embodied in national accounts for macroeconomic datasets, pertain to the economic behavior of all the economic units of the economy, while the accounting statements refer to the behavior of individual units in the corporate and government sectors. Whereas in the statistical data-setting system the third-party statisticians report the national accounts, each unit reports on its own operations in the financial statements.[3]

3. It should come as no surprise that the two systems have common users since each system provides a distinct perspective on the same underlying economic realities: The national accounts give a macro reading of the economic activities of entities that accounting statements purport to measure at the micro level. To a certain extent, the two datasets are also complementary: Data from accounting statements serve as major data sources in the production of the national accounts, and aggregates of national accounts provide background information on the economic events measured by accounting statements. (Of course, the relationship in the first case is in the nature of accounting identities, whereas the relationship in the second case is more behavioral in nature.)

4. Efforts to relate the statistical and accounting systems have so far largely focused on explaining adjustments that statisticians need to make to the accounting data that they use as a major source to produce macroeconomic datasets.[4] The need for such adjustments stems

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[2] The term *statistical guidelines* is preferred to *statistical standards.* Guidelines embody the accounting rules and procedures that provide guidance for a broad range of macroeconomic datasets (national accounts, balance of payments, etc.) and of statistical manuals (ranging from those dealing exclusively with concepts, definitions, and classification, to compilation guides, or a combination of the two). The term guidelines throughout the text also helps to maintain the distinction from public and business accounting, which is referred to as accounting standards.

[3] Reporting is generally by qualified accountants who are subject to a code of ethics. The financial statements of public corporations are audited by a third party.

[4] United Nations, *Handbook of National Accounting: Links between Business Accounting and National Accounting*, Series F, No. 76, Statistics Division, New York, 2000. In certain countries where the accounting standards are more aligned with statistical guidelines, adjustments can be made at a low level of homogeneous groupings, referred to as intermediate systems of account. For instance, in France, the corporate accounting is formally linked to statistical guidelines through a charter of accounts.

from accounting conventions and valuations differing from those required for statistical outputs. Adjustments are generally made at an aggregate level.

5. The present paper endeavors to explore ways to harmonize the statistical guidelines, as embodied in the *System of National Accounts 1993* (*1993 SNA*),[5] and the accounting standards. Greater harmonization should help in reducing the need for adjustments and in providing the details to meet both statistical and accounting requirements when preparing accounting data, thus alleviating reporting burden. Furthermore, since national accounts are rooted in economic foundations, the narrowing of the "micro-macro link" should enhance the understanding of how economic agents themselves view their activities.

6. The time seems ripe for such harmonization for at least four interrelated reasons:[6]

7. **First**, the statistical guidelines and the accounting standards are undergoing major changes, with those in statistics led by the ongoing fifth revision of the System of National Accounts (SNA) to be finalized in 2008. From a diversity of accounting standards among countries, the increasingly global capital market has prompted the development in recent years of international accounting standards.[7]

8. **Second**, research in recent years in finance, accounting, and macroeconomic statistics has helped, among other things, to enhance the understanding of the valuation of assets.

9. **Third**, accountants are increasingly adopting practices that are fundamental in statistics, such as fair value, performance reporting that distinguishes transactions from other economic events, and inflation accounting.

10. **Fourth**, with the globalization of economies, the financial crises of the 90s, followed by the recent years' corporate scandals, took up an international dimension. This prompted policymakers to develop analytical, monitoring, and assessment tools that all call for more extensive and detailed information,[8] including statistical information.

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[5] Commission of the European Communities, IMF, OECD, United Nations, and World Bank, *System of National Accounts 1993 (1993 SNA)*, Brussels, 1993. The *1993 SNA* represents the body of thought on statistical guidelines with which the macroeconomic datasets developed since 1993 have been harmonized. Also see Carson S. Carol and Lucie Laliberté, "Manuals on Macroeconomic Statistics: A Stocktaking to Guide Future Work," IMF Working Paper 01/183, International Monetary Fund, Washington, D.C., November 2001.

[6] An overview of these developments is presented in Appendix I.

[7] With the International Financial Reporting Standards (IFRs) set up by the International Accounting Standard Board, and the International Public Sector Accounting Standards (IPSAS) set up by the Public Sector Committee of the International Federation of Accountants (PSC-IFAC).

[8] The IMF and World Bank have endorsed internationally recognized standards and codes in 12 areas (e.g., data, fiscal, transparency, monetary and financial policy transparency) as important for their work. Reports on the Observance of Standards and Codes (ROSCs) are prepared and published at the request of the member country by the IMF and/or World Bank in each of the 12 areas. ROSCs covering financial sector standards are

(continued)

11. In response to the above developments, statisticians and accountants created the Task Force on Harmonization on Public Sector Accounting (TFHPSA)[9]—the first formal initiative at the international level that attempts to harmonize statistical guidelines and accounting standards. The Task Force operates on the basis of two working groups (WGs)[10]—the WGI, focusing on narrowing differences between statistical guidelines and accounting standards, and the WGII, providing inputs for public sector activities to the *1993 SNA* review.

12. In addition to the TFHPSA, other research groups provide inputs into the group in charge of reviewing the *1993 SNA*, the Inter Secretariat Working Group in National Accounts (ISWGNA)[11] that is assisted by the Advisory Expert Group. The research groups include the Canberra II group on nonfinancial assets, the IMF Balance of Payments Committee on the rest of the world account, and electronic and other discussion forums.

Plan of the paper

13. Drawing from the TFHPSA activities, Section II of this paper broadly describes existing practices in each of the statistical and accounting systems, and identifies where harmonization efforts between these two systems are under way and/or in need of further promotion. Section III compares data quality features of the two systems. By shedding light on the context in which each system operates, the section on quality helps to better grasp the principles that drive each system and, thus, the scope of the harmonization efforts. The last section, IV, concludes with a summary and a look forward.

II. SELECTED AREAS FOR HARMONIZATION

14. The areas for potential harmonization are explored in this paper under the following three broad topics:

- **entities** covered by statistical guidelines and accounting statements, i.e., the entity for which statements are prepared ("who" conducts the economic activities);

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usually prepared in the context of the Financial Sector Assessment Program. See http://www.imf.org/external/standards/index.htm

[9] See http://www.imf.org/external/np/sta/tfhpsa/index.htm

[10] The Task Force is chaired by the IMF, represented by the author of this paper; the WGI is chaired by the IFAC Public Sector Committee (PCS), initially represented by Ian Mackintosh, previous PSC chairman (current chairman is Philipee Adhémar), and WGII is chaired by the OECD, represented by Jean-Pierre Dupuis.

[11] See http://www.imf.org/external/np/sta/umgmd/index.htm and http://unstats.un.org/unsd/nationalaccount/snarev1.htm

- **assets**[12] in the balance sheet of entities (the "outcome" of economic activities); and

- **flows** reported on these assets ("what" economic activities give rise to/affect assets).

15. For each topic (see Table 1), the paper first sketches characteristic aspects in each system, depicting how statistics and accounting numbers convey information in their respective contexts. Then, the paper explores how these aspects could be made to converge or reconcile. Where applicable, it refers to the work of research groups involved in the review of the *1993 SNA*.

Table 1: Selected Aspects of Relationships Between Statistics and Accounting

Topics	Aspects
Entity	Statistics: sectors made up of institutional units Accounting: controlling unit and its controlled units
Assets*	Statistics: based on ownership rights and economic benefits Accounting: based on resources controlled and economic benefits/service potential
Balance sheet	
Financial equity assets: related entities	Statistics: subsidiaries at 50 percent and more ownership; associates at 10 to 50 percent. Income: *dividends declared* for subsidiaries, associates, and other Accounting: subsidiaries at 50 percent and more ownership; associates at 20 to 50 percent. Income: *fully consolidated* for subsidiaries; *equity basis* for associates; and *dividends declared* other
Debt assets	Statistics: market value except for loan. Income on effective interest rate Accounting: different values. Income on effective and/or yield to maturity basis
Nonfinancial assets	Statistics and Accounting: mixture of expensing/capitalizing intangible and transaction costs; clarification for special purpose vehicles and building/operating schemes
*Contingent assets**	Statistics and Accounting: Clarification for externalities, provisions, employers pension schemes, social security and assurance, and guarantees
Flows	
Recording of accounts	Statistics: transactions and other changes Accounting: transactions and other events
Reporting statements	Statistics: current, capital, financial accounts, and other changes Accounting: income/performance statement, changes in net assets, shareholders' equity, and cash flows

*encompass liabilities

[12] Throughout the paper, financial assets also encompass liabilities. It should be noted that liabilities are exclusively financial in statistics, that is, they are due to/owned by another unit or other units. "The term *financial asset* will be used to cover both financial assets and liabilities, except when the context requires liabilities to be referred to explicitly" *(1993 SNA*, par. 12.22).

A. Entities Covered in Statistical and Accounting Statements

16. The definition of the entity/unit of reporting is crucial because it is the entity's economic activities, as recognized/accounted for by each system, that are reported in the statistical/financial statements.

Statistical guidelines

17. The reporting unit of the statistical guidelines is the sector. Each sector comprises an institutional unit or a group of institutional units. An institutional unit is a resident (economic) entity that is capable, in its own right, of owning assets, incurring liabilities, and engaging in economic activities and in transactions with other entities, and that has or could compile a complete set of accounts (*1993 SNA*, par. 4.2). Residency is defined according to the economy, that is, the territory over which a national government has jurisdiction and provides for the laws under which the economic activities are carried out.

18. The delineation of resident sectors (i.e., groupings of institutional units) is based on their principal functions, behaviors, and objectives. The national accounts report on five mutually exclusive sectors: general government, nonfinancial corporations, financial corporations, nonprofit institutions serving households (NPISHs), and households. For instance, government comprises institutional units, which in addition to fulfilling their political responsibilities and their role of economic regulation, "assume responsibility for the provision of goods and services to the community as a whole or the individual households on a nonmarket basis; transfer payments to redistribute income and wealth; and they finance their activities, directly or indirectly, mainly by means of taxes and other compulsory transfers from units in other sectors."[13] The economic activities between the resident sectors and nonresidents are grouped in the national accounts under the rest of the world account, which plays a role similar to that of an institutional unit (*1993 SNA*, par. 2.164).

19. In statistics, depending on the needs to be served, sectors are combined and/or subsectors created. Examples of groupings include the "corporate sector" that combines nonfinancial corporations and financial corporations. The corporate sector in turn can be broken down between "private corporations" and "public corporations", with public corporations defined as corporations controlled by the government. The "public sector" consolidates the government and the public corporations, and the "private sector" regroups the remaining resident units (private corporations, NPISHs and households). Conversely, subsectoring ranges from several institutional levels (e.g., central, state, and/or local governments) to the individual unit (e.g., the central bank).

[13] International Monetary Fund, *Government Finance Statistics Manual 2001 (GFSM 2001)*, Washington, D.C., 2001, par. 2.20, p. 9.

20. For each sector/grouping/subsector, the economic activities of the comprising institutional units, as a rule, are aggregated, notably the production activities, with the activities of monetary institutions and general government more generally consolidated, depending of the reporting statements.

> Consolidation involves the elimination of those transactions or debtor/creditor relationships which occur between transactors belonging to the same institutional sector or subsector. The rule of nonconsolidation takes a special form regarding outputs and intermediate consumption that are to be recorded at the level of establishment (*1993 SNA*, par 3.122).

Accounting standards[14]

21. In accounting, the reporting economic unit consists of an individual entity or a group of entities comprising a controlling unit and its controlled units.[15] The notion of control is key to determining the reporting unit and, hence, whose economic activities are recorded. For instance, the government unit covers the "whole of government," that is, the fully consolidated economic activities of the government and its controlled units (at levels such as central government, state government, territory government, or local government). Controlled units include government business enterprises (GBEs).[16] The economic activities of the controlling unit are fully consolidated with those of controlled units in accounting reporting.

> The financial statements of the controlling entity and its controlled entities are combined on a line-by-line basis by adding together like items of assets, liabilities, net assets/equity, revenue and expenses. Balances and transactions between entities within the economic entity and resulting unrealized gains are eliminated in full. Unrealized losses resulting from transactions within the economic entity should also be eliminated unless cost cannot be recovered (IPSAS, p. 206).

[14] As represented by International Federation of Accountants, *2003 Handbook of International Public Sector Accounting Pronouncements* (IPSAS), New York, 2003. Referred to throughout the text as IPSAS (themselves related to the IFRs, see footnote 7).

[15] IPSAS 1.

[16] A GBE is defined in IPSAS as an entity that (1) has the power to contract in its own name; (2) has been assigned the financial and operational authority to carry on a business; (3) sells goods and services, in the normal course of its business, to other entities at a profit or full cost recovery; (4) is not reliant on continuing government funding to be a going concern (other than purchases of outputs at arm's length); and (5) is controlled by a public sector entity (IPSAS, pg. 688). This definition of GBE ("as at a profit") is not necessarily equivalent to that of public corporations ("economically significant prices") in statistical guidelines.

Relationship between statistical and accounting entities

22. Unlike the accounting standards, the statistical guidelines do not use control as a criterion for defining institutional units. For instance, though controlled by government, public corporations are institutional units on their own; and so are quasi-corporations that are unincorporated enterprises that function as if they were corporations.[17] Instead, the statistical guidelines delineate institutional units on the basis of being (resident) centers of legal responsibility, that is, having legal independent holdings of assets and liabilities. The statistical guidelines give preference to units ("autonomous decision centers") legally holding assets/liabilities over other units, "because it provides a better way to organize the collection and presentation of statistics even if its usefulness is limited in some cases" (*1993 SNA*, par. 2.19).

23. At the same time, the statistical guidelines recognize that units controlled by other units may not be centers of decision-making for all aspects of economic life. In fact, they use the same terms as the accounting standards to characterize these relationships, defining subsidiaries as entities controlled by another corporation (generally evidenced by 50 percent or more equity ownership) and associates as influenced by another corporation (generally between 10 percent to 50 percent share ownership).

> However, with the exception of ancillary corporations each individual corporation should be treated as a separate individual unit, whether or not it forms part of a group. Although the management of a subsidiary corporation may be subject to the control of another corporation, it remains responsible and accountable for the conduct of it own production activities (*1993 SNA*, par. 4.38).

24. With the statistical "public sector" defined as comprising the government and public corporations, there should be equivalence with the accounting "whole of government." This is not always the case, and harmonization could be enhanced in at least two ways:

25. **First**, the two systems could cover the same units making up the public sector by relying on a common definition of control to define "public corporations" and "GBEs." In this endeavor, the use of the term "benefits" in IPSAS in defining control could be reviewed against that of the *1993 SNA* where benefits are referred to in a narrower sense (e.g., to define assets):

> Whether an entity controls another entity for financial reporting purposes is a matter of judgment based on the definition of control in this Standard and the particular circumstances of each case. Definition includes powers (to govern the financial and

[17] This is to be distinguished from ancillary corporations that are wholly-owned subsidiaries, whose activities are strictly to provide services to the parent corporations, or other ancillary corporations. In the statistical guidelines, ancillary corporations are treated as part of the institutional unit to whom they provide services (*1993 SNA*, par. 4.40).

> operating policies of another entity) and benefits (from the activities of another entity) (IPSAS 6, pp. 200–205).

26. **Second**, within the public sector (statistics) and whole of government (accounting), a common delineation of *market* and *nonmarket* activities could help the two systems distinguish "government" entities from the "other public" entities along the same lines. This could be made possible in accounting, as evidenced by existing IPSAS that recognizes the need for reporting of a grouping that may differ from the controlled grouping:

> In the public sector many controlling entities that are either wholly owned or virtually wholly owned represent key sectors or activities of a government, and the purpose of this standard is not to exempt such entities from preparing consolidated financial statements. In this situation the information needs of certain users may not be served by the consolidated financial statements at a whole of government level alone. In many jurisdictions governments have recognized this and have legislated the financial reporting requirements of such entities (IPSAS, p. 198)
> .

27. One of the five teams of Working Group II of the TFHPSA is working on the above two areas of harmonization. With a view to make data available at the level of the government unit, and the GBEs (controlled units), the IFAC–PSC undertook to "encourage or allow note disclosure of financial information about the general government sector as defined in the *Government Financial Statistics Manual 2001* (*GFSM 2001*)."[18]
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B. Balance Sheet Statement

28. The two systems share many features related to assets. They both report on entities that have property rights on economic assets, recording the economic activities that each system deems as affecting the entities' levels of assets and wealth. The measurement is done in monetary units. These assets have been either purchased/transferred by the entity, generated through economic operations, or created by other events, and they are all financed, directly or indirectly, by the creditors or stockholders/net asset owners. Both systems present the amounts of assets (resources owned), liabilities (external claims on these assets), and stockholders' equity[19] (owners' capital contributions and other internally generated sources of capital) in a balance sheet statement.

29. In both systems also, the major classes of assets are similar: claims on other units in the form of financial assets and nonfinancial assets, with the latter comprising tangible (fixed assets, inventory, valuables) and intangible (such as computer software, patents, and trademarks) assets. Financial assets comprise equity, debt, and other financial assets, all

[18] March 2004 meeting.

[19] The national accounts classify shareholders' equity as liabilities; the statistical definition of "net worth" is the difference between the value of all assets and all liabilities, and hence is different from that in accounting. Eurostat, *European System of Accounts (ESA95)*, Luxembourg, 1996, 7.05 defines own funds as the sum of net worth and equity issued.

delineated along similar lines in both systems. In both systems, assets can be grouped under equity and/or claims on other entities. The equity owner is entitled to the rewards and risks that arise from equity financial assets and nonfinancial assets. This is to be contrasted with the holder of claims who has a right to receive either cash or another financial asset from the other entity as sets in the claim arrangements (e.g., a contractual right in the case of debt asset). Finally, the two systems differ somewhat on the delineation they make between existing and contingent assets. Furthermore, both systems exclude contingent assets from their respective recording and reporting statements.

30. While using the same nomenclature for assets, the two systems however define asset slightly differently. In statistics, assets are subject to *ownership rights*, and are a source of *economic benefits*. An asset is "economic" in the sense that its owner can enforce ownership rights and expect economic benefits from it.[20] The IPSAS define assets as *resources controlled by an entity* as a result of past events and from which *future economic benefits or service potential* are expected to flow to the entity (IPSAS, p. 29).

31. The two systems could come closer in defining assets. **First**, while all assets are *owned* (as stated in statistical guidelines) by the institutional unit, it is not all assets that are *controlled* (as stated in accounting standards). Specifically, as covered in the next subsection, claims on other entities (debt and other financial assets) would not generally involve control, nor does equity investment in other entities with a limited threshold of percentage ownership.

32. **Second**, the difference between *economic benefits* (in statistical guidelines) and *economic benefits/service potential* (in accounting standards) appears to stem from accounting standards defining nonfinancial assets as "used to deliver goods and services" and, as such, "embodying service potential" by creating an opportunity to generate an inflow of cash or other assets. This is to be distinguished from financial assets that give a present right to receive cash or other financial assets and that embody "future economic benefits" through them generating cash or other financial assets.

33. The next subsections (a) review the treatment of financial equity assets; (b) briefly refer to debt assets; (c) discuss nonfinancial assets; and (d) review contingent assets, which both systems exclude in their reporting statements.

[20] For the update of balance of payments guidelines, it is proposed to explain "ownership" as meaning "economic benefits" in terms of access to rights and benefits rather than legal rights. For an examination of the current definition of assets in the *1993 SNA* and consideration of amendments, see John S. Pitzer, "The Definition of an Economic Asset in the System of National Accounts 1993, Rev. 1," paper presented at meeting of Canberra II Group, Washington, D.C., March 17-19, 2004.

Financial equity assets

Statistical guidelines

34. The statistical guidelines record all financial equity investment at market or market-equivalent values in the balance sheet; the income from such investment is recorded on a dividends-declared basis, except for foreign direct investment. The income from direct investment equity, defined as conferring influence in the management of the nonresident entity in which the investment is made, is recorded on an equity basis.[21]

Accounting standards

35. Accounting standards state that the types of financial equity assets (subsidiaries and joint ventures, associates, other) determine the valuation used as well as the treatment of income (fully consolidated, equity, and declared dividends)[22] depending on whether the investment confers control, influence, or no influence.

Controlled investment in subsidiaries and joint venture

36. Controlling another entity entails "the power to govern the financial and operating policies of another entity so as to benefit from its activities" (IPSAS, p. 122).[23] As noted earlier, the units controlled are an integral part of the reporting entity, with their income fully consolidated with that of the controlling unit(s), or the portion owned by the various entities in joint ventures.

Investment in associates

37. An associate is an "entity in which the investor has significant influence and which is neither a controlled nor a joint venture of the investor" (IPSAS, p. 218). The ownership interest in associates "confers to the investor the risks and rewards incidental to an ownership interest in the formal equity structure of the investee, that is share capital or an equivalent form of unitized capital, such as units in a property trust." While they are less than controlled, associates have their operating and strategic activities significantly

[21] "The retention of some or all of the earnings of a foreign direct investment enterprise within that enterprise can be regarded as a deliberate investment decision by the foreign owners. Accordingly, the retained earnings are rerouted in the System by showing them as first remitted to the foreign owners as property income and then reinvested in the equity of the direct investment enterprises" (*1993 SNA*, par. 3.27). It should be noted that rerouting is a "rearrangement" of transactions as opposed to an "imputation." Imputation applies to internal transactions (e.g., own consumption or capital formation) where values are imputed, though the goods and services themselves are not imputed (*1993 SNA*, par. 1.73).

[22] IPSAS 7 Accounting for Investments in Associates (IAS 27); IPSAS 6 Consolidated Financial Statement and Accounting for Controlled entities; IPSAS 15 Financial Instruments: Disclosure and Presentation (IAS 32 and 39).

[23] The IPSAS definition of control as it relates to benefits was questioned at the TFHPSA meeting of September 2004.

influenced by the investor entity. If the investor's ownership interest is in the form of shares, and it holds, directly or indirectly through controlled entities, 20 percent or more of the voting power of the investee, it is presumed that the investor has a significant influence unless it can be clearly demonstrated not to be the case.

38. The income from associates is recorded on an equity basis, that is, the investor's share of the results of operations of the investee (IPSAS, p. 31).

Other financial equity investment

39. As for the remaining equity investment, where the investor holds less than 20 percent, the investor is presumed not to have a significant influence. Accountants record the investment at cost and record the revenue only to the extent that the investor receives "distribution from accumulated net surpluses of the investee arising subsequent to the date of acquisition" (IPSAS, p. 219). "Entitlements due or received in excess of such surpluses are considered a recovery of investment and are recognized as a reduction of the cost of the investment" (IPSAS, p. 221).

Relationship between statistical and accounting financial equity assets

40. Except for direct investment where the income from subsidiaries and associates is recorded on an equity basis, the income in statistical guidelines does not distinguish whether units are related or not. This is to be contracted with the accounting treatment of income that varies depending on the degree of influence conferred by the investment in another entity.

41. Based on at least four reasons, this paper suggests that the equity income across sectors in statistical guidelines could be modified to come closer to that of accounting: income to be accrued on an equity basis for equity investment that entails control/influence in another sector/subsector, and on an "as declared basis" for the remaining equity investment.

42. **First**, recording the income on an equity basis for units that are related would help toward recognizing families of units. The rationale is that related institutional units that are classified in different sectors have an economic behavior that differs from that of unrelated entities operating in different sectors. This is especially important where there is a public sector relationship:

> The recognition of revenue on the basis of distributions received may not be an adequate measure of the revenue earned by an investor on an investment in an associate because the distributions received may bear little relationship to the performance of the associate. In particular, where the associate has not-for-profits objectives, investment performance will be determined by factors such as the cost of outputs and overall service delivery. As the investor has significant influence over the associate, the investor has a measure of responsibility for the associate's performance and, as a result, the return on its investment. The investor accounts for this stewardship by extending the scope of its consolidated financial statement to include

> its share of net surplus or deficits of such an associate and provides an analysis of earning and investment from which more useful ratios can be calculated. As a result, the application of equity method provides more informative reporting of the net asset/equity and net surplus/deficit of the investor (IPSAS, p. 224).

43. **Second**, it would create consistency of treatment between domestic and foreign direct investment. In a public sector setting, statisticians would record as "earned" the investment that confers government control/influence, that is investment in public corporations. This recording is currently applied for resident sectors' investment in related entities in the rest of the world, referred to as direct investment.

44. **Third**, the suggested income treatment would help to delineate financial assets along similar lines in both systems. The *direct investment* interests (statistical guidelines) could be more clearly paralleled to those in *controlled, associates, and joint ventures entities* (accounting standards). Also, the statistical *portfolio investment* (that presumes that the investor has no significant influence) could be more closely aligned with the accounting *investment in financial instruments* (other than in controlled, associates, and joint ventures entities). A major step in that direction would be for the statistical guidelines to define portfolio investment as less than 20 percent threshold equity ownership, instead of the 10 percent currently used.[24]

45. **Fourth,** as noted previously in Section II.A, income that is recognized on an equity basis in statistics would provide more impetus for accountants to report on the "controlled" units in addition to the entire controlling entity. This is especially critical when the controlling entity straddles different jurisdictions, creating "uncertainties surrounding parent support for local subsidiaries."[25]

Debt assets

The two systems treat debt assets as follows. The statistical guidelines value all debt assets, except for loans, at market or market-equivalent values, whereas the accounting standards use both carrying value and fair value.[26] The uniformity of valuation in statistics leads to symmetry of amounts between the debtor and creditor units; this is not always the case in accounting since valuations can vary between the debtor and the creditor. In both systems, the income from debt investment is accrued using the debtor approach, that is, the effective

[24] This topic is being explored by the Balance of Payments Committee. See http://www.imf.org/external/np/sta/bop/bopman5.htm.

[25] An aspect of private sector vulnerability signaled under the Financial Stability Assessment Program, jointly undertaken by the IMF and the World Bank.

[26] The terms "fair value" and "market or market-equivalent" are used interchangeably throughout the paper. Market values (determined from price quotations in active markets) can be distinguished from fair values (estimations that approximate market values when active market price quotations are unavailable) as is done in the IMF's *Compilation Guide for Monetary and Financial Statistics*, Washington, D.C., forthcoming 2005.

interest rate[27] at the inception of the debt (debtor approach); in cases, however, where the debt instrument is acquired in the secondary market, accounting uses the effective yield to maturity (the acquisitor approach).

Nonfinancial assets

46. Nonfinancial assets, the subject of study of the Canberra II group, comprise tangible and intangible assets. The group is focusing largely on intangible assets, owing in great part to the significant increase of these assets in recent years, mostly in the information and service industries.

47. Harmonization of statistical guidelines with accounting standards[28] would help to clarify the extent to which differences are warranted at various stages of recording: initial recognition and measurement at acquisition/creation of assets, measurement subsequent to initial recognition, inclusive of depreciation and amortization, as well as allowance, impairment, retirement, and disposal of assets. Harmonization on nonfinancial assets is especially important since long-lived assets play a key role in decision making both for the firm and in a macroeconomic setting. For these two levels, using definitions that differ on what constitutes nonfinancial assets may lead to different analytical results and, hence, decision making. Expensing cost (that is them not record as asset) shows a reduction in wealth; to the extent, however, that these costs generate future benefits, capitalizing[29] them would show a better measure of future profitability and solvency. For instance, R&D, which are generally expensed, may have an impact on the production function similar to purchased equipment, which, however, is generally capitalized. This subject is under study by the Canberra II group along with other subjects, such as the capitalization/expensing of transaction costs.[30]

48. Another area of research concerns the reliability of measurement of assets. In accounting. certain assets are not capitalized owing to a lack of reliability of measurement. For instance, internally generated R&D, advertising, patents, copyrights, brands, and

[27] For variable interest and index-linked securities, the indexed proceeds are treated as interest income (*1993 SNA,* par. 11.78).

[28] The Canberra II group undertook at its March 17, 2004 meeting to establish formal links with IFAC/PSC and IASB and to keep these two organizations informed on the group's proposals.

[29] At the time resources are acquired, capitalizing entails carrying their cost as assets in the balance sheet (i.e., expensing it over a number of reporting periods) whereas expensing would entail recognizing such cost as expenses in the income statement for that period.

[30] Defined as "incremental costs that are directly attributable to the acquisition or disposal of a financial asset or liability" in IAS 39.66. These may be inclusive of auxiliary borrowing costs, attributable to the acquisition, construction, or production of various assets and liabilities (either nonfinancial or financial), such as fees and commissions paid to agents, advisors, brokers, and dealers; levies by regulatory agencies and securities exchanges; and transfer taxes and duties.

trademarks would be generally expensed because of the difficulty of reliably estimating their future benefits (although the development and legal fees incurred can be capitalized). On the other hand, intangible assets purchased from other entities would be capitalized.[31]

49. A further area of interest is the extent to which the owner retains the equity risks of benefits that it leases to/shares with other units. In the case of goods leased to another unit, the treatment is generally straightforward once the lease is determined as an operating or financial lease. However, when units share economic activities with other units (partnerships), issues of concern include 1) the extent to which the units share the significant risks and rewards of ownership, principally in the case of unsatisfactory performance (rewards associated with the asset against the associated risk undertaken by the various units), 2) what units retain continuing managerial involvement, and 3) the probability and degree to which the economic benefits or services potential will flow to the units involved. This is highly important where the government and the private sector are jointly involved, such as in building and operating private schemes.[32]

50. Another important aspect concerns the degree of certainty that the economic benefits will flow to the unit—one aspect that helps distinguish actual (recognized) assets from contingent assets, as described next.

Contingent assets

51. While both systems exclude contingent assets, how they delineate such assets from actual assets may vary.

Statistical guidelines

52. In the *1993 SNA*, "the principal characteristic of contingencies is that one or more conditions must be fulfilled before a financial transaction takes place" (*1993 SNA* par. 11.24).

> First, contingent assets or liabilities are treated as financial assets and liabilities only if the claim or liability is unconditional to both parties and/or the arrangement has an observable value because it is tradable. Secondly, sums set aside in business accounting to provide for transactors' future liabilities, either certain or contingent, or for transactors' future expenditures generally are not recognized in the System. (The only "provision" recognized in the System is accumulated consumption of fixed capital.) Only actual current liabilities to another party or parties are explicitly included. When the anticipated liability becomes actual—for example, a tax lien—it is included (*1993 SNA*, par. 13.22).

[31] John Pitzer argued that measurement is implicit in the definition of asset in statistics, and need not to be specified (see Pitzer, 2004).

[32] This subject is being covered by a team of WGI of the TFHPSA, the Canberra II group, and the IMF BOP Committee (concerning nonresident activities).

53. Externalities, entitlements related to social benefits, and loan guarantees are examples of contingencies in the statistical guidelines.

54. *Externalities* refer to certain economic actions carried out by institutional units that cause change in the conditions or circumstances of other units without their consent.

> It is necessary to consider, however, whether values should be assigned to such externalities. Economic accounts have to measure economic functions such as production or consumption in the context of a particular legal and socio-economic system within which relative prices and costs are determined. Some countries, at least at certain points in their history, may choose to frame their laws so that some producers are permitted to reduce their private costs by polluting with impunity. This may be done deliberately to promote rapid industrialization, for example. The wisdom of such a policy may be highly questionable but it does not follow that this is appropriate for economic accounts to try to correct for presumed institutional failures of this kind by attributing costs to producers that society does not choose to recognize (*1993 SNA*, par. 3.52).

55. In this context, units do not view externalities as agreements but rather as unsolicited services or disservices. Since there are no agreements among units, statistics do not record the externalities as existing liabilities. Furthermore, because externalities are essentially nonmarket phenomena, no mechanism exists to ensure that the positive or negative values attached to externalities by the various parties involved would be mutually consistent.

> If such values were to be replaced by actual payments the economic behavior of the units involved would change, perhaps considerably. For example, the whole purpose to trying to internalize some externalities by imposing taxes on pollution is to bring about a change in production methods to reduce pollution. A complete accounting for externalities also would be extremely complex as it is not sufficient merely to introduce costs into the accounts of producers. It also would be necessary to introduce various other adjustments of questionable economic significance (*1993 SNA*, par. 3.53).

56. *Social benefits*[33] form another category of contingent liabilities. These benefits are generally uncertain or not quantifiable, or both. Moreover, the amount of benefits that an individual unit may eventually receive is not proportional to the amount of the previous payments and may be very much greater or smaller than the latter. Thus, payments, such as a social insurance contribution or a nonlife insurance premium, may entitle the unit that is making the payment to some contingent future benefits. Also, a household paying taxes may be able to consume certain collective services provided by government units, but these payments are regarded as transfers rather than exchanges (*1993 SNA*, par. 3.20).

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[33] For the proposed treatment in accounting, refer to IFAC Public Sector Committee, "Accounting for Social Policies of Governments," Draft Invitation to Comment, New York, July 2003.

57. An electronic discussion group (EDG) is examining pensions, which can be treated as existing or contingent liabilities, depending on the schemes from which they arise. A first subject is employers' pension schemes, which are likely to be treated as liabilities, and the related contributions/benefits as financial transactions. Another subject is social security or social assistance. The EDG recommends continuing the *1993 SNA* recording, which consists of simultaneously recording these contributions/benefits as transfers (i.e., revenue/expense of scheme, "above the line") while recording an adjustment entry as a nonfinancial transaction (*1993 SNA*, par. 9.14-9.16).[34]

58. In the same way, "*guarantees* of payments by third parties are contingencies since payment is only required if the principal debtor defaults" (*1993 SNA*, par. 11.25). Guarantee refers to the contractual right of the lender to receive cash from the guarantor and a corresponding obligation of the guarantor to pay the lender if the borrower defaults. The contractual right and obligation exist because of a past transaction or event (assumption of the guarantee). This is even though the lender's ability to exercise its right and the requirement for the guarantor to perform under its obligation are both contingent on a future act of default by the borrower.

Accounting standards

59. The accounting standards recognize some of the assets (that are "contingent" in statistics) as "provisions"[35] under liabilities. Provisions in this accounting context do not refer to entries, such as depreciation,[36] impairment[37] of assets, and doubtful debts (IPSAS, p. 603) that are essentially adjustments to existing assets. Furthermore, accounting standards consider provisions as distinct from other liabilities, such as bank borrowing, because of the inherent uncertainty about the timing or amount of future expenditure required to settle them. At the same time, the standards do not view provisions as contingent, because their existence does not need to be confirmed by the occurrence or nonoccurrence of one or more uncertain future events not wholly within the control of the entity.

60. More specifically, the accounting standards recognize provisions so long as three conditions are met:

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[34] Since liabilities arise exclusively from financial transactions in the current statistical guidelines, treating such obligations as liabilities would entail, under the current rules, recording the flow of contributions/social benefits as financial transactions (and not as the current treatment of revenue/expense).

[35] IPSAS 19 Provisions, Contingent Liabilities, and Contingent Assets (IPSAS, pp. 593-649).

[36] The only provision currently recognized in statistics (see quotation in para. 54).

[37] IFAC Public Sector Committee, "Impairment of Assets," Exposure Draft 23, New York, September 2003.

- An entity has a present obligation[38] arising from a past event, the obligating event. The obligation can be legal, enforceable by law, or constructive. The obligation is constructive to the extent that the obligating event creates valid expectations in other parties that the entity will discharge the obligation;[39] because it always involves a commitment to another party, it follows that a decision does not give rise to a constructive obligation unless it has been communicated before the reporting date to those affected in a way to raise a valid expectation (IPSAS, p. 609). The obligations, legal and constructive, arising from past events have to exist independently of an entity's future actions (that is, the future conduct of activities) to be recognized as provisions.

- It is probable that an outflow will be required. There must be not only a present obligation but also the probability that an outflow is more likely to occur than not. Where it is not probable that a present obligation exists, a contingent liability should be disclosed (IPSAS, p. 610).

- A reliable estimate can be made of the amount. The use of estimates is acceptable, notably for provisions, which by their nature are more uncertain than most other assets or liabilities (IPSAS, p. 606).

61. This is to be contrasted with a contingent liability that refers to a possible and/or present obligation that arises from past events. However, the liability is not recognized because (1) it is not probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation, and (2) the amount of the obligation cannot be measured with sufficient reliability (IPSAS, p. 604).

Relationship between statistical and accounting contingent assets

62. Both systems report on existing liabilities and exclude contingencies. They both view existing liabilities as present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events. Nonetheless, their interpretations of "present obligation" and "result of past transactions or events" may vary.

63. For example, where an entity provides guarantees in exchange for a fee, both systems recognize revenue.[40] However, accounting standards recognize financial guarantees that

[38] Where it is more likely than not that a present obligation exists, a provision is recognized (if the recognition criteria apply); where it is more likely that no present obligation exists, a contingent liability is recognized.

[39] While the other party may not always be identified, a provision always involves an obligation to another party (IPSAS, p. 607).

[40] IPSAS 9 Revenues from Exchange Transactions (IPSAS pp. 253-279) and IFAC Public Sector Committee's "Revenue from NonExchange Transactions," Invitation to Comment, New York, January 2004. "Any payments of fees related to the establishment of contingent arrangements are treated as payments for services" (*1993 SNA*, par. 11.26).

meet certain criteria's actual "provision" liabilities, whereas statistical guidelines currently view them as contingent liabilities, where "provisioning," among other things, would distort the debtor/creditor symmetry of treatment. One team of WGI of the TFHPSA as well as the Balance of Payments Committee are researching the topic of guarantee.

64. Though excluded in both systems, the fact remains that contingent rights and obligations shape the economic reality and often constitute an important element for projecting the future (e.g., vulnerability analysis). Significant problem areas include environmental remediation liabilities (e.g., restoration of strip mines after mining is completed; removal of toxic waste caused by production; decontamination of site when a nuclear power plant is decommissioned), litigation, expropriation, self-insurance, and guarantees.

> For the purpose of the SNA, the treatment of contingencies is clear. However, by conferring certain rights or obligations that may affect future decisions, contingent arrangements obviously produce an economic impact on the parties involved. Where contingent positions are important for policy and analysis, it is recommended that supplementary information be collected and presented as supplementary data (*1993 SNA*, par. 11.26).

65. While accounting has been traditionally reporting contingencies as notes to the financial statements, this has not been the case in statistical guidelines.[41] The latter are now however increasingly meeting the needs of supplementary data in the form, among other things, of a greater use of memorandum items[42] and of satellite accounts:

> The manuals on satellite accounts may use concepts and definitions that differ from existing accounts; add detail or other information about a particular aspect of the economy to that in existing accounts; and rearrange information differently, using classification that differs from the primary guidelines.[43]

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[41] The *1993 SNA* provides for few memorandum items (consumer durables and direct foreign investment, par. 13.84); supplementary information (as for contingencies, par. 11.26); and satellite accounts (to expand the analytical capacity of national accounting, par. 21.4). In the review of the IMF's *Balance of Payments Manual*, fifth edition, Washington, D.C., 1993, memorandum items will be considered part of the standard components, whereas supplementary information will be treated as options that may be considered.

[42] The IMF's *External Debt Statistics: Guidelines for Compilers and Users*, Washington, D.C., 2003, and *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template*, Washington, D.C., 2001, have moved in that direction.

[43] Carol Carson and Lucie Laliberté, 2001.

C. Flow Statements

66. Assets are a bundle of economic benefits whose creation, transformation, exchange, transfer, and extinction are reported as *flows* in both systems. As such, assets are the outcome of flows, and, at the same time, flows explain changes of assets in balance sheets between two periods.

67. In terms of flows, differences between the two systems may arise on two counts. **First**, to the extent that the economic activities recognized by each system differ, so would the flows that purport to capture such activities. **Second**, unlike the accounting standards, the statistical guidelines clearly distinguish between transactions and other flows in the reporting statements.

Statistical guidelines

68. All assets in the statistical guidelines result from transactions, except for nonproduced-nonfinancial assets and valuables[44] that are created as a result of other flows, primarily other changes in volume.

Transactions

69. Transactions (see Table 2) involve interactions between institutional units by mutual agreement (items 1 and 2) or actions within an institutional unit (item 3) that are treated like transactions often because the unit is operating in two different capacities (*1993 SNA*, par. 3.12).

Table 2. Types of Transactions

Description	Units involved	Valuation	Examples
1. Observable in value terms	2	Monetary transactions	Purchase of goods or services
2. Observable but not immediately valued	2	A value in monetary terms is attributed	Barter of goods, education services provided free by government
3. Physically observable	1	A value in monetary terms is attributed	Own account, such as consumption of fixed capital

[44] It is suggested here that since valuables are actual assets that result from previous production, their "appearance" as an asset could be viewed as a revaluation phenomenon rather than an other change in volume as is currently the case.

70. Most of the interactions between institutional units are monetary transactions where institutional units make a payment (receive a payment) or incur a liability (receive an asset) stated in units of currency. Monetary transactions (item 1) can be in the form of exchange (something for something) or transfer (something for nothing). Two-party transactions also include certain activities not expressed in monetary terms (item 2). Nevertheless, the system limits nonmonetary recording to very specific cases: barter, remuneration in kind, payments in kind other than compensation in kind, and transfers in kind (*1993 SNA*, par. 3.36), such as education provided free by government. The rationale for limiting recording nonmonetary transactions is that "if values are assigned to production outside the market, values have also to be assigned to the income generated by the production as to the consumption of the output. It is clear that the economic significance of these flows is very different from that of monetary flow...the inclusion of large nonmonetary flows ...can obscure what is happening on markets and reduce the analytical usefulness of the data" (*1993 SNA*, par. 1.21).

71. The actions within a unit (item 3) include own account productive activities, such as consumption of fixed capital, entries in and withdrawal from inventories, and intermediate consumption. These are referred to as "internal transactions," because they show how units allocate goods or services for their own consumption or capital formation; the outputs of these productive activities are not disposed of in monetary transactions with other units (*1993 SNA*, par. 1.73).

Other changes

72. Other changes are the economic events that are not transactions and that affect the value of economic assets. The *1993 SNA* distinguishes between two types of "other changes": "revaluations" and "other changes in volume." This distinction reflects the price/volume distinction in the national accounts, according to which value is the product of price and volume.

73. *Revaluations* are caused by holding gains and losses, which are either "neutral" (if caused by general changes in prices, that is, inflation) or "real." Real gains and losses result if the value of an asset changes more than the general price in the economy.

74. *Other changes in volume* can be caused, among other things, by "unexpected losses" (e.g., destruction caused by political events, such as war, and catastrophes, such as earthquakes) and "economic appearance" (e.g., discoveries or depletion of subsoil resources). They would also include "certain actions undertaken unilaterally by one institutional unit (that) have consequences on other institutional units without the latter's consent. The System records such actions only to a limited extent, essentially when governments or other institutional units take possession of the assets of other institutional units, including nonresident units, without full compensation. In real life, unilateral economic actions bearing consequences on other economic units (externalities) are much broader. However, such externalities are not recorded in the System" (*1993 SNA*, par. 2.26). Other changes in volume may also record changes in classification of institutional units and assets and in the structure of institutional units (*1993 SNA*, par. 12.8).

Reporting in the statistical guidelines

75. The *1993 SNA* clearly delineates the "transactions" accounts (current, capital, and financial accounts) from the "other changes" accounts, and the "balance sheet" (described in the previous section).

76. The current account comprises the production, distribution and use of income. The production account shows only output as resources and intermediate consumption as uses; the balancing item is value added (*1993 SNA*, par. 2.109). The income account is made up of the distribution and use of income. Distribution is decomposed into three main steps: primary distribution, secondary distribution, and redistribution in kind. The first refers to the distribution of value added to factors of labor and capital and to government (through taxes, less subsidies, on production and imports). The second covers redistribution of income through, essentially, transfers in cash. The last one relates to further redistribution through transfers in kind.[45] The use of income applies to those sectors that have final consumption (or final consumption expenditure), that is, government, nonmarket nonprofit institutions serving households (NIPISHs), and households.

77. The capital account records transactions linked to acquisitions/disposals of nonfinancial assets and capital transfers. The financial account records transactions in financial instruments.

78. *Other changes* , which comprise holding gains/losses and other changes in volume, represent economic events, although they are often misleadingly viewed as residual accounts.

> The fact that the two accounts [revaluation accounts and other changes in volume] in question are not widely implemented for the time being should not lead to underestimating their importance and significance. Without a good and common understanding of the meaning of the *1993 SNA*, discussions on many new issues may prove exceedingly confused and fruitless.[46]

79. In a nutshell, in the *1993 SNA*, changes in the level of assets can originate from transactions and from other changes, each recorded in distinct reporting statements.

Accounting standards

80. The accounting standards also record transactions and other events (similar to other flows in statistical guidelines) but report them indistinguishably in the income statement and/or the net asset/shareholders' equity (the balance sheet was covered in the previous

[45] The latter transfers are not significant in the case of corporations (*1993 SNA*, par. 2.112) but are important for governments and NIPISHs.

[46] André Vanoli, "Interest and Inflation Accounting," *Review of Income and Wealth*, Series 45, No. 3 (September), 1999, p. 295.

section). Some of the events that are not recognized in the accounting statements may be reported in the notes to the financial statements. The notes have no exact equivalent in the statistical guidelines—the closest equivalent is memorandum items and metadata.

Recording

81. In the past, with few exceptions, accounting only recognized value changes at the time transactions occurred with other units. This is changing.

82. **First**, public sector accounting is increasingly adopting the accrual concept, a practice that has been more prevalent in business accounting.

83. **Second**, the historical cost-based approach, prevalent in the balance sheet till very recently, meant awaiting the disposal of assets or the fulfillment of certain impairment criteria before the changes in asset values could be recorded in the income statement. There is now an increasing tendency to measure assets at fair value.

84. **Third**, the increasing use of fair valuation led to questioning the constraints of the income statement. It also brought more attention to the risks embedded in the benefits expected to flow from assets, notably on financial assets. The protection from risks, which had been traditionally limited to the property (damage) and casualty, is now increasingly extended to financial instruments in the form of hedging (transferring to another party one or more of the financial risks). Among risks, those related to debt assets (e.g., creditors' risks) are usually smaller and may be more quantifiable than the risk of equity (generally larger and more volatile, being residual). The equity risk applies to both nonfinancial assets and to financial equity assets. In the latter case, the equity risk conveys the entitlement to the distribution of benefits, although the portfolio equity owner does not have the discretion on the distribution of such benefits (as discussed above in the section on financial equity assets).

85. The accounting standards classify transactions and other flows under revenues and expenses. Revenues refer to "the gross inflows in economic benefits or services potential during the reporting period when those inflows result in an increase in net asset/equity, other than increases relating from contributions from owners" (IPSAS, p. 33). For instance, public sector entities may derive revenues from exchange and nonexchange transactions. An exchange transaction is one in which the entity receives assets or services, or has liability extinguished, and directly gives approximately equal value (primarily in the form of goods, services, or use of assets) to the other party in exchange. Examples of nonexchange transactions include revenue from taxes, grants, and donations.

86. Transactions and events recognized as expenses are decreases in "economic benefits or service potential in the form of outflows or consumption of assets or incurrence of liabilities that result in decreases in net asset/equity, other than those relating to distributions to owners" (IPSAS, p. 31).

Reporting statements in accounting

87. In accounting, the financial statements on flows consist of the income statement (also referred to as financial performance), the statement of changes in net asset/equity, and the cash flow statement. Notes or schedules may also supplement the financial statements.

88. The revenues and expenses reported in the income statement arise from transactions with other units, as well as from certain events. The income statement includes revenue/expense activities, such as ordinary operating, investing, and financing activities (part of an entity's service delivery or trading activities, inclusive of activities incidental to, or arising from these activities); as well as extraordinary activities ("events or transactions that are not expected to recur frequently or regularly and are outside the control or influence of the entity") (IPSAS, p. 31).

89. The remaining events that give rise to revenues/expenses are reported as part of the net assets/equity (e.g., revaluation surplus on physical assets, and gains/losses from the translation of financial statements of a foreign entity). Other events, not recognized as revenues and expenses, can however be explained in the notes to financial statements.

Relationship between statistical and accounting flows

Recording

90. While both the current account (statistics) and income statement (accounting) report transactions with other units,[47] the current account specifically excludes "other flows." This is to be contrasted with accounting where the income statement includes a number of "other events", as do the changes in net asset/equity.

91. Further, the "other flows" reported in statistics, being conceptually based, are more encompassing than the accounting "other events" that are more driven by practical considerations. In accounting, the recording of events that affect the value of assets and liabilities has been traditionally hampered by the income statement accounting rules, where changes in valuation could not be reported unless realized. (For instance, capital gain is recognized only upon sales, that is, when transactions with other units occurred.) As such, the balance sheet reflected only selected changes in assets and liabilities, such as the lowest of market or historical cost value (the exchange price at its acquisition date augmented by the payable/receivable arising from accruing the income).

92. Valuing assets at historical cost (still in use in accounting) means that similar assets have different valuations within the balance sheet and across firms, depending on the timing of the transaction/event that gave rise to them. This is to be contrasted with statistical guidelines where the use of market or market-equivalent values for all assets (with the

[47] Except for capital consumption (depreciation), the statistical "internal transactions" are not viewed as transactions in accounting since they are not disposed of in monetary transactions with other units.

exclusion of loans)[48] means that all assets are comparable across types of assets and sectors.[49]

93. Using the discount rate model, the following illustrates the differences between market value and historical value. The discount flow equation captures the parameters used to value assets as the present value of future benefits (cash flows for financial assets), discounted by a rate that reflects the risks attached to the expected benefits. The future benefits of an asset constitute the numerator of the equation, and the discount rate that embeds adjustments is shown in the denominator.[50] [51] The discount rate would generally capture the real rate of interest plus risks that may affect the expected benefits. In other words, the numerator captures the benefits that are expected, and the denominator measures the risks—that is, of the probability of occurrence of the benefits. In the case of a financial asset, the terms are as follows:

$$\textit{Asset value} = \sum_{t=1}^{N} \frac{\textit{Future cash flows}_t}{(1+r)^t}$$

where t is the period in which cash flows are expected,
N is the number of periods over which cash flows are expected, and
r is the discount rate (the internal rate of return, IRR).

94. Using the discount flow equation above, Table 3 identifies the factors that would affect the terms of the equation for valuing bonds at market value, and loans (valued at nominal value in statistics, and/or at carrying value in accounting).

95. For bonds at market value, the IRR of the equation is the current market interest rate for the bond, referred to as the "yield to maturity." The value of the bond will fluctuate as a result of changes in the numerator: transactions (such as coupons payable paid out) and other volume changes (such as coupons payable not paid out on the due date). In the same way, to the extent that any component of the IRR fluctuates (e.g., inflation, credit risk), so

[48] And with the exclusion of "most components of liabilities in the form of shares and other equity that should be valued at book value" in the IMF's *Monetary and Financial Statistics Manual*, Washington, D.C., 2000, par. 213.

[49] This also applies to the transformation that assets undergo within producing units. As such, transformation is recorded at market or market-equivalent values, and these internal transactions are reported in the flow statements.

[50] An alternative presentation would be to reduce the amount of the cash flows by the expected loss (such as expected default for loans) and to discount at the risk-free rate. "To avoid double counting, the discount rate does not reflect risks for which future cash flow estimates have been adjusted" (IAS 36, par. 53).

[51] For indexed securities, expected benefits are inclusive of the fluctuations in the value of benefits that have been agreed upon by contract. These fluctuations are part of the agreed value, even if the amount cannot be determined at the inception of the contract.

will the value of the bond. While the financial account records transactions on bonds, the "other changes" accounts in the statistical guidelines capture nonpayment of cash flows[52] (other volume changes) and changes in the probability of risks.

96. Unlike for market valuation where the terms of the equation evolve to reflect market conditions, the nominal valuation of loans entails setting the terms of the equation: the expected benefits are the "amount that a debtor must pay to the creditor to extinguish the claim" (*1993 SNA*, par. 13.64), that is, the proceeds of the loan, adjusted only to take into account interest payable; the discount rate is that used at the inception of the contract. As such, the nominal valuation effectively disregards the impact of changes in the credit risk, inflation expectation, and real interest rate that occur after the loan was contracted out. The *1993 SNA* values loans as if they represent money;[53] it justifies this special treatment for loans on the basis of their nonnegotiability,[54] creating a major inconsistency in valuation with other assets in the system, where tradability is not an issue. Problems associated with the *1993 SNA* valuation of loans have been the subject of a paper[55] for cases where the loans become nonperforming, that is, when the debtor fails to respect the contractual arrangements. The valuation of loans is the subject of a study of an electronic discussion group moderated by the IMF.[56]

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[52] Except when there is forgiveness agreed upon by the parties, in which case the impairment is recorded as transfer, a transaction item, in the capital account.

[53] "The monetary value of some assets and liabilities—cash, deposits, loans, advances, credits, etc.—remains constant over time. As already noted, the 'price' of such assets is always unity while the quantity is given by the number of units of the currency in which they are denominated. The nominal holding gains on such assets are always zero. For this reason the difference between the values of the opening and closing stocks of such assets is entirely accounted for by the values of the transactions in the assets, this being one case in which it is possible to deduce the latter from the balance sheet figures" (*1993 SNA*, par. 12.107). The definition of money is similar to that in accounting standards: "Monetary assets are money held and assets to be received in fixed or determinable amounts of money" (IAS 22, par. 8).

[54] "Negotiable"—a term used in the *1993 SNA*—represents the likelihood that the asset will be sold quickly (referred to as marketability in financial terms). Marketability, along with some certainty in the expected price, and continuity of price unless due to substantial new information, are components of liquidity. Liquidity, in turn, is simply a characteristic of a "good" market for a given asset, as is information, transaction cost, and external efficiency or information efficiency. For more information on liquidity, please refer to Frank Reilly and Keith Brown, *Investment Analysis and Portfolio Management*, 6th ed., Dryden Press, Forth Worth, 2000, p. 108. The authors suggested, for a more formal discussion of liquidity and the effects of different market systems, Sanford J. Grossman and Merton H. Miller, "Liquidity and Market Structure," *Journal of Finance*, Vol. 43, No. 3 (July), 1988, pp. 617-33; and Puneet Handa and Robert A. Schwartz, "How Best to Supply Liquidity to a Securities Market," *Journal of Portfolio Management*, Vol. 22 (Winter), 1996, pp. 44-51.

[55] Please refer to Adriaan Bloem and Cornelis Gorter, "The Treatment of Nonperforming Loans in Macroeconomic Statistics," IMF Working Paper 01/209, International Monetary Fund, Washington, D.C., 2001.

[56] See http://www.imf.org/external/np/sta/npl/eng/discuss/index.htm

Reporting

97. In terms of reporting, a major difference[57] between the two systems results because the "current account" includes transactions and excludes other flows, whereas the "income statement" includes both transactions and other events.

98. The income statement reflects current accounting practices that are ad hoc and that lack conceptual basis. This became especially obvious with the increased use of fair valuation for certain assets but not for others. Therefore, the IASB has been proposing the "performance reporting" project. Performance reporting would provide for a comprehensive income statement that would consist of two columns: one that would distinguish between income and expenses other than "remeasurements," and the other that would be remeasurements. The reporting would include the change in equity (net asset) from transactions and other events and circumstances from nonowners' sources. The comprehensive income concept would facilitate integrating valuation adjustments (e.g., foreign currency transaction) and other economic events (e.g., restructuring). It would provide more flexibility in delineating operations from the financing and the revaluation of the accounts. Finally, but importantly, such a presentation would mirror closely the concepts used in statistical guidelines.

Table 3. Sources of changes on debt assets[58]

Discount Flow Equation Terms	**Bonds at market (fair value)**	**Loans at nominal value (carrying value)**
Expected benefits (numerator)	Transactions and other volume changes in case of default	Transactions
Credit risk specific to the assets and to the asset issuer built into the "r" (denominator)	As the risk evolves through the life of the bond	The risk as prevailing at the time of the inception of the loan
Expected inflation built into the "r" (denominator)	As the risk evolves through the life of the bond	The risk as prevailing at the time of the inception of the loan
Risk-free real interest rate (denominator)	As the risk evolves through the life of the bond	The risk as prevailing at the time of the inception of the loan

[57] As noted earlier, other differences stem from the current account, including internal transactions, whereas the transformation within the unit is not recognized in the income statement. These differences in reporting are not treated here, and the reader is referred to Appendix 3 of *GFSM 2001* for more information between the current account and the income statement.

[58] Presented in Lucie Laliberté, "Income from Bonds: Treatment in the System of National Accounts 1993," IMF Working Paper 02/221, International Monetary Fund, Washington, D.C., December 2002, p. 6.

99. In this regard, the PSC agreed[59] to activate a project to develop a comprehensive report of financial performance, which distinguishes between transactions and other economic flows as defined in *GFSM 2001*. It also agreed to consider adopting current values in IPSAS and to value inventories at current replacement cost when all other assets are valued at fair value.

III. Relationship Between the Data Quality of the Two Systems

100. Both statistical and financial statements strive to capture, through data, relevant aspects of the economic reality—the economy as a whole for statistics, and the individual entity for accounting. The differences in recording and reporting covered in the previous section partly reflect the emphasis that each system places on certain aspects of data quality.[60] The quality characteristics of statistics, as shown in the IMF's Data Quality Assessment Framework (DQAF), cover governance of statistical systems, core statistical processes, and observable features of the statistical outputs. The DQAF identifies, in addition to the prerequisites of quality, five dimensions of quality: assurances of integrity, methodological soundness, accuracy and reliability, serviceability, and accessibility for the statistical guidelines. The four principal quality characteristics of financial reporting are relevance, reliability, comparability, and understandability (IPSAS, p. 81).

101. Using the DQAF frame, Table 4 illustrates the quality aspects of both systems. While they have much in common, these aspects come into play in each system as trade-offs that differ reflecting each system's specific objectives on how best to satisfy the decision-making needs of users. The following compares how some of these trade-offs apply in the two systems.

Relevance, timeliness, and reliability

102. An inherent trade-off exists between relevance and timeliness, since undue delay in making the data available may lead to their losing their relevance, that is, their capacity to assist users in the decision-making process. Timeliness is the amount of time between the reference period and dissemination date, with "punctuality" showing the amount of time between the preannounced release date and the effective dissemination date. Both systems recognize that if reporting is delayed, highly accurate data would be of little use to users who have to make decisions in the interim.

103. The IMF Data Dissemination initiatives[61] recommend that countries that seek capital in the international market produce, for example, national accounts and balance of payments data on a quarterly basis, with data disseminated three months after the quarter-end. This

[59] Meeting of March 2004.

[60] See Appendix II for more details on each system.

[61] See Dissemination Standards Bulletin Board at http://dsbb.imf.org/Applications/web/dsbbhome/.

compares with the IAS that call for the presentation of financial statements on at least an annual basis (with a maximum lag of six months from the balance sheet date) (IPSAS, p. 52).

104. Since the full range of data sources, including the accounting data, are not necessarily all available to meet these periodicity/timeliness requirements, the statistical production implies relying on estimates for producing timely datasets. This explains the key role of revisions in the statistical production process; preliminary estimates are first produced and are superseded by revisions,[62] as additional information becomes available. Statisticians can enhance the reliability of preliminary estimates by conducting revision studies and incorporating the results in the preliminary estimates. Such revision practice helps alleviate the trade-off between timeliness and reliability while at the same time maintaining the relevance of timely data in statistics.

105. At the same time, relevance and reliability tend to be opposing qualities. For instance, market or market-equivalent values, used in statistics, may be highly relevant but accurate (reliable) only to a limited extent. This compares to historical cost (used in accounting) which, though highly reliable, may have little relevance.

Methodological soundness/Comparability across reporting units

106. The comparability of data across geographical areas in statistics and across reporting units in accounting largely reflects the use of common statistical methodology/accounting practices. Unlike the statistical guidelines, the accounting standards permit preparers, in certain cases, to recognize economic events in different ways (e.g., inventory and depreciation of fixed assets). While accounting traditionally focused on the records of individual entities, the requirement for comparability is now becoming a major aspect of data quality, which explains the narrowing in recent years of choices given in selecting among different accounting methods.

Consistency

107. Two levels of consistency are considered: across time and within datasets.

Across time

108. Statistical guidelines stress the consistency in time series much more than accounting standards do. Statisticians accommodate consistency by relying extensively on revisions to incorporate new data sources, changes in methodology, as well as correction of errors.

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[62] Carol S. Carson, Sarmad Khawaja, and Thomas K. Morrison, "Revisions Policy for Official Statistics: A Matter of Governance," paper presented at the 54th Session of the International Statistical Institute, Berlin, Germany, August 13-20, 2003. Also published as IMF Working paper04/87, International Monetary Fund, Washington, D. C., May 2004.

Table 4. Aspects of data quality in IMF Data Quality Assessment Framework and IPSAS

DQAF July 2003 **Dimensions** and Elements	**IPSAS Quality Characteristics**
0. Prerequisites of quality	
0.1 Legal and institutional environment	
0.2 Resources	
0.3 Relevance	**Relevance**
0.4 Other quality management	
1. Assurances of integrity	**Code of ethics**
1.1 Professionalism	
1.2 Transparency	
1.3 Ethical standards	
2. Methodological soundness	**Comparability** *(part) with other units*
2.1 Concepts and definitions	
2.2 Scope	
2.3 Classification/sectorization	
2.4 Basis for recording	
3. Accuracy and reliability	**Reliability**
3.1 Source data	
3.2 Assessment of source data	
3.3 Statistical techniques	
3.4 Assessment and validation of intermediate data and statistical outputs	
3.5 Revision studies	
4. Serviceability	
4.1 Periodicity and timeliness	
4.2 Consistency	**Comparability** *(part) in time and internally*
4.3 Revision policy and practice	
5. Accessibility	**Understandability**
5.1 Data accessibility	
5.2 Metadata accessibility	
5.3 Assistance to users	

109. In accounting, revisions, which take the form of restated statements, are not usual. Granted that the use of estimates is more limited in accounting, the accounting policies change and mistakes are made. The adjustments for the revision of estimates would be generally made to the opening balance of accumulated surpluses of deficits. As for changes to accounting policies, adjustments are made retrospectively "unless the amount of any resulting adjustment that relates to prior periods is not reasonably determinable (IPSAS, p. 136)" and "unless it is impractical to do so" (IPSAS, p. 137). Changes due to errors would normally be included in the determination of net surplus/deficit for the current period. Also, to the extent they have sufficiently significant effect on one or more prior periods, the financial statements may have to be restated to apply to the period to which they apply "unless it is impractical to do so." Since the question of practicality plays a major role in determining how to treat revisions, it is only on rare occasions that financial statements are amended, making it difficult to obtain consistent time series from the accounting data.

Such practices help at the same time to understand the significant importance that is attached to reliability of measurement in accounting.

Within datasets (and with other statistical datasets)

110. Both systems ensure internal consistency through the double-entry bookkeeping principle, whereby a transaction gives rise to a pair of matching debit and credit entries within the accounts of each entity. The two systems differ, however, in applying the principle: In accounting, the recording requires a perfect match between the two entries, whereas in statistics the two entries are likely to be recorded from unrelated data sources, with the balancing used as a way to validate/supplement the data sources. In both systems, the use of the double-entry system results in fully integrating the reporting statements within each system: the "transactions," "other changes," and "balance sheet" in statistics; and the "income statement" and "balance sheet" in accounting.

111. Furthermore, unlike in accounting, which is limited to one unit, the consistency in national accounts extends to the counterpart unit involved in the transactions, providing for a quadruple-entry system. This leads to internal symmetry in statistics where the entries of sellers, for instance, match those of the buyers. Finally, because of their economy-wide perspective, the statistical guidelines have also given predominance to consistency with other datasets, as evidenced by the harmonization with the *1993 SNA* of the macroeconomic datasets developed since 1993.[63]

IV. Concluding Comments

Efforts to harmonize

112. At this crucial juncture of development in statistical guidelines and accounting standards, their harmonization would constitute important progress. For statistics, it would provide wider access to readily usable data sources, including the rich details available from accounting, with minimum impact on respondent burden. Though statistics emphasize aggregates, the availability of details is extremely important for the design of focused policies in a broad range of areas (e.g., trade, industrial, monetary, and financial). This need became especially evident during the financial crisis of the 1990s when more information on financial assets and liabilities would have helped analysts to more accurately assess the liquidity and solvency conditions in countries.

113. At the same time, the economic foundations and comprehensiveness of statistical guidelines provide methodological elements that could benefit accounting standards, particularly in market valuation, performance reporting, and inflation accounting. Furthermore, extending the bridge with statistical guidelines would help encourage the internationalization of accounting standards. Statistical guidelines have achieved virtual

[63] See Carson S. Carol and Lucie Laliberté, 2001.

universality of application, that is, they lead to data comparability across countries while taking into account countries' specific legal, commercial, and social systems that characterize each economy.

114. This paper explores some of the areas where harmonization is being or could be explored:

- Use the same delineation between public and private sectors and between government and public corporations/GBEs.

- In statistics, record income accrued on an equity basis for related units that operate in different sectors; in accounting, apply the notion of ownership to all assets; and apply the notion of control to a subset of equity assets that confer control/influence.

- Commonly use direct/portfolio investment based on a less than 20 percent threshold to presume portfolio investment (where the investor has no influence) instead of the less than 10 percent currently used in statistics.

- For intangible assets, delineate clearly differences and rationale for expensing and capitalizing costs, including transaction costs.

- For economic activities conducted jointly by units, such as SPVs, delineate clearly differences and rationale of recording/reporting, notably on government/private schemes.

- For employers' pension schemes, delineate clearly differences and rationale of recording/reporting.

- For other social benefits, including old age pensions, delineate clearly differences and rationale of recording/reporting.

- Identify clearly differences and rationale of recording/reporting as existing or contingent assets, notably externalities and loan guarantees across sectors/units.

- Promote fair valuation in accounting and definition of fair value/market valuation common to both systems.

- Promote performance reporting that separates transactions from other events, in particular holding gains/losses in accounting.

115. Concepts that guide harmonization should provide the most realistic assessment at any moment of the underlying economic realities. However, if the concepts are to achieve their respective objectives, neither framework could adopt the other framework in its entirety without compromising its own effectiveness. For instance, in addition to informing users about the latest developments, macroeconomic datasets also inform them about structural trends—hence the importance of consistent times series. On the other hand,

accounting standards focus on imminent developments—thus, the importance of reliable and timely information for quick and relatively short-term decision making.

> A system consists of practices and conventions that are logically related to one another, and one cannot change a rule or definition at only one point in the system.[64]

116. A proper understanding of the fundamentals that drive the selection of treatments in each system is essential to determine areas of convergence and areas where bridging would be called for. Bridging helps users understand how statistics relate to the accounting data.[65]

The way forward

117. A major success of the work that led to the *1993 SNA* was to pave the way for the development of a set of harmonized guidelines for macroeconomic statistics. Furthermore, in the European context, the *European System of Accounts 1995*—the European equivalent of the *1993 SNA*—is used to measure government performance (the Stability and Growth Pact). The next challenge is to narrow the gap between accounting standards and macroeconomic statistical guidelines.

118. This means aligning and coordinating efforts currently under way in both statistics and accounting to improve the information systems provided. The aim is the same: serve users by quantifying relevant aspects of economic activities. A set of consistent and integrated quantitative statements should assist users in validating the various hypotheses/assumptions on which they base their decision making. To the extent that each system purports to measure different facets/angles of the economy, this entails that each system has its own requirements in certain areas for it to remain both efficient and effective in meeting its specific purposes.

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[64] Utz-Peter Reich, *National Accounts and Economic Value: A Study in Concepts*, Palgrave, New York, 2001, p. 41.

[65] The IMF's *Compilation Guide on Financial Soundness Indicators*, Washington, D.C., forthcoming 2004, provides a detailed appendix that reconciles the income and expense and balance sheet items underlying FSIs with the relevant international accounting and *1993 SNA* standards.

DRIVERS FOR HARMONIZATION OF THE STATISTICAL GUIDELINES AND ACCOUNTING STANDARDS

119. The developments in recent years that are opening the doors for harmonizing the statistical and accounting data systems consist of the internationalization of accounting standards, advances in the research on fundamentals of asset valuation, the greater adoption of market valuation of assets in accounting, and the increased demands made on official statistics. These developments led, among other things, to the creation of the Task Force on Harmonization of Public Sector Accounts.

A. Internationalization of Accounting Standards

120. First, unlike national accounts that have long been recognized worldwide, [66] accounting standards vary across countries in aspects of recognition, timing, and measurement, although they draw from broadly common principles. The resulting diversity of accounting standards among countries has been precluding any serious attempts at harmonization with statistical guidelines.

121. The creation of multinational industrial and financial enterprises and the increasingly global capital markets have prompted a need for more common reporting standards at the worldwide level. In the early 1970s, the International Accounting Standard Committee (IASC) was set up (replaced in 2001 by the International Accounting Standards Board, IASB).[67] The International Accounting Standards (IAS),[68] developed by this organization, have emerged as a rival source of accounting standards to countries' specific standards.

122. In the same vein, the Public Sector Committee of the International Federation of Accountants (PSC-IFAC) has developed international standard setting for the public sector. Based on international accounting standards (IAS, now known as International Financial Reporting Standards or IFRS), it has developed 20 core accrual-based standards based on IAS, now IFRS, and a comprehensive standard on the cash basis of accounting. These standards are referred to as International Public Sector Accounting Standards (IPSAS).

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[66] The work on national accounts, which was launched officially after World War I with the National Bureau of Economic Research and Simon Kuznets, was given a major impetus with World War II. "Branching off from Keynes were the national accounts, starting with Stone's and Meade's National Income and Expenditure (1944) and culminating after four painful revisions, with the *1993 SNA*, the binding rules for measuring economic value all over the world" (Reich, 2001, p. 127).

[67] The IASB and the International Accounting Standards Committee Foundation (IASFC) were established in 2001 to replace the IASC.

[68] International Accounting Standards Board, *International Financial Reporting Standards* (IFRS), London, 2000, comprise the IAS and appendices, supporting interpretations, and examples.

123. The recent corporate accounting and governance scandals added to the impetus for a greater harmonization in the accounting world. Reinforcing the international applicability of the IAS, the European Union adopted them for listed companies as of 2005.[69] As candidates for "world generally accepted accounting principles," the IAS/IPSAS provide a framework for exploring harmonization with statistical guidelines.

B. Research in the Fundamentals of Economic Value

124. Second, intensive research in finance, accounting, and national accounts in recent years greatly enhanced the knowledge on the fundamentals of value, providing for promising cross-fertilization among these three fields.

125. In *finance*, studies of relevant interest concern the impact of accounting information on financial markets, notably the capital asset pricing model (CAPM) and the hypothesis of efficient market. The CAPM characterizes the relationship between a common stock's price and its expected return and risk (based on the rate of return of the stock, that of the market, and the beta that measures the co-movement of that firm's returns with those of the market). More recent literature concluded that beta was not only related to average rates of returns on stock (that is, the price of the stock) but to measures such as company size, market-to-book ratio, leverage, and price-earning ratio. It was supplemented with developments in financial analysis where analysts use accounting variables to derive financial ratios for comparing the risks and returns of firms. Financial analysis distinguishes characteristics of firms that are relevant to specific investors, with short-term creditors primarily interested in the immediate liquidity, long-term creditors in long-term solvency (risk minimization to ensure that resources are available for the payment of interest and principal), and equity owners in the overall risks of the firms.

126. Under the efficient market hypothesis, "a market is efficient if asset prices fully reflect the information available." This theory initially undermined the fundamental analysis based on accounting variables; however, the theory has been challenged by its inability to explain the volatility that characterizes the stock market. This further reinforced the idea that the availability of information, such as financial data, helps to make the markets efficient. It is as part of this trend that the Financial Sector Assessment program, along with the Standards and Codes initiatives, were established at the international level.

127. Partly influenced by developments in finance, research in *accounting* also evolved in recent years. Three phases can be tracked.[70] Under the classical approach to accounting, the reality would be a given that accounting standards purport to capture. This approach, which

[69] Adopted in July 2003 by the European Council and by Bruxelles on September 29, 2003, except for IAS 32, *Recognition of financial instruments*, and IAS 39, *Measurement of financial instruments*. IASB proposed amendments to IAS 39 in August 2003 on hedging on interest and issued revisions of IAS 32 and 39 in 2004; there remains however resistance to the adoption of the fair valuation proposed in these two standards.

[70] Summarized from Gerald I. White, Ashwinpaul C. Sondhi, and Dov Fried in *The Analysis and Use of Financial Statements*, second edition, John Wiley and Sons, New York, 1997.

still underlies much of existing accounting standards, consists of deducing correct accounting methods from a set of concepts, principles, and objectives. No explicit efforts are made to assess users' motivation/reaction to the information contained in the statements. This is to be contrasted with the subsequently developed market-based approach to accounting. That approach reflects advances in finance theory where the primary focus is on the market reaction to the release of accounting data.

128. According to yet another approach, the accounting theory approach, the environment of a firm would include not only financial markets, but also other "environments" that are conditioned by the firm's contractual arrangements, such as management compensation and debt agreements with creditors. The firm is viewed as a "nexus of contracts." These environments help to define and determine the firm's economic reality. Under that approach, the accounting variables are viewed as integral to the firm and its organizational structure. The financial information would interact with the firm's investment, production, and financing decisions. In other words, management, in allocating resources, compensating management, and so on, would take into account the financial information effects in making their decisions and in their choice of accounting methods.

> Current research involves a return to principles of valuation. No longer are prices or returns taken as given and accounting data just tested to justify their usefulness. Emphasis has shifted to the information derived from accounting data and its relationship to value. Furthermore, that value may or may not be the same as that reflected in market prices. This shift signals a return to the thinking inherent in the classical approach (e.g. accounting data could yield information about value), however with a major difference. The relationship has to be justified empirically. Much of the empirical research cast as a refinement of how prices react not only to changes in current earnings but also in expected earnings.[71]

129. Concurrently, the research in *national accounts* statistical methodology also advanced since the last SNA revision.[72] Among other things, it took into account the continuing evolution of financial sectors (e.g., the work on derivatives and on financial soundness indicators) and institutional developments (e.g., extensive research by the European Union in the application of the statistical guidelines for regulatory purposes). Research has also been carried out in an attempt to link/extend the notion of value, traditionally developed in microeconomy, to a macroeconomic setting.[73] With the system of national accounts now undergoing its fifth revision planned for 2008, it is crucial that it reflect the findings in these various disciplines for it to retain its relevancy.

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[71] *Idem*, page 245.

[72] An overall review of such research is provided by André Vanoli, "La comptabilité nationale face aux transformations de la finance et de la comptabilité," *Revue d'économie financière*, Association d'Economie Financière, Paris, forthcoming Autumn 2004.

[73] Reich, 2001.

C. Increased Use of Market Valuation of Assets in Accounting

130. Third, a fundamental conceptual difference in the valuation used by the two systems has been another major reason hampering their harmonization. National accounts record a prospective view of assets by valuing them at market value, in contrast to the retrospective valuation of historical cost in accounting standards. The latter valuation is increasingly challenged as these costs fail to reflect the true financial situation, and this became especially obvious in periods of high inflation. This is leading accounting standards to a shift from historical cost to market value, also referred to as fair valuation. Fair valuation, which initially focused on traded financial assets, is now gradually being extended to other financial and nonfinancial assets. Fair valuation narrows the gap with the market valuation used in national accounts.

> In the System, however, the concept of opportunity costs as defined in economics is employed. The best practical approximation to opportunity cost accounting is current cost accounting, whereby assets and goods used in production are valued at their actual or estimated current market prices at the time the production takes place (*1993 SNA*, par. 1.60).
>
> Current cost accounting has ramifications that permeate the entire System. This implies that goods withdrawn from inventories by producers must be valued at the prices prevailing at the time the goods are withdrawn and not at the prices at which they enter inventories. This method of recording changes in inventories is not commonly used in business accounting, however, and may sometimes give very different results—especially when inventory levels fluctuate while prices are rising. Similarly, consumption of fixed capital in the System is calculated on the basis of the estimated opportunity costs of using the assets at the time they are used, as distinct from the prices at which the assets were acquired. When there is persistent inflation, the value of consumption of fixed capital is liable to be much greater than depreciation at historic costs, even if the same assumptions are made in the System and in business accounting about the service lives of the assets and their rates of wear and tear and obsolescence. To avoid confusion, the term “consumption of fixed capital” is used in the System to distinguish it from “depreciation” as typically measured in business accounting, just as the term “operating surplus” is used instead of “profit” and “operating profit” (*1993 SNA*, par. 1.62).

131. At the same time, to the extent that prices fluctuate, fair valuation may create volatility that is difficult to explain. Performance reporting would help to distinguish the operating activities from those caused by other events in the economy, such as increases in prices. Though not as much in demand when prices are relatively stable, reporting for hyperinflation could be pursued in the accounting standards to enhance the analytical usefulness of the financial statements. This would further help bring closer the two systems.

> In addition (to current prices), the System emphasizes calculations at constant prices, that is, use of the system(s) of prices which prevailed in a past period(s). The changes

> over time in the current values of flows of goods and services and of many kinds of assets can be decomposed into changes in the prices of these goods and services or assets and changes in their volumes. Flows and stocks at constant prices take into account the changes in the price of each item covered. They are said to be in *volume* terms. However, many flows and stocks do not have price and quantity dimensions on their own. Their current value may be deflated by taking into account the changes in the prices of some relevant baskets of goods and services or assets, or the change in the general price level. In that case, flows or stocks are said to be in *real* terms (at constant purchasing power). For example, the System provides for the calculation of income in real terms" (*1993 SNA*, par 2.77).

D. More Demand on Official Statistics

132. Fourth, with the globalization of economies, the financial crises of the 90s, followed by the recent years' corporate scandals, took up an international dimension. This prompted policymakers to develop analytical, monitoring, and assessment tools that all call for more extensive and detailed statistical information. For instance, policymakers are increasingly using the balance sheet analytical framework to provide both an overall view of the economy as well as the necessary details on which to base policy actions.

133. This is paralleled by increasing accountability requirements to enhance the efficiency and effectiveness of statistical production, notably by limiting respondent burden through further harmonization with accounting standards:

> The continuing development of International Accounting Standards and their endorsement by government bodies inside and outside the European Union open up the prospect of a simultaneous decrease of the statistical reporting burden and an improvement of the quality of statistics.[74]

E. A Major Harmonization Initiative—the International Task Force on Harmonization of Public Sector Accounting (TFHPSA)

134. Building on the momentum of the above research and in response to the need to provide inputs on the public sector to the SNA review, the international Task Force on Harmonization of Public Sector Accounting (TFHPSA) was created in October 2003 by the International Federation of Accountants–Public Sector Committee (IFAC–PSC), the IMF, the OECD, and Eurostat. The Task Force operates on the basis of two working groups (WGs)—WGI focuses on narrowing differences between statistical guidelines and accounting standards, and WGII provides inputs for public sector activities to the *1993 SNA* review. While the tasks are divided between them, the two WGs share a common iterative approach, as both the statistical guidelines and the accounting standards are in evolution.

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[74] Quoted from Dr. A.H.E.M. Wellink, "Business Accounting Standards and Statistical Standards," Introduction to the Round Table Discussion, Second ECB Conference, Frankfurt, April 22-23, 2004.

135. In terms of statistical guidelines, the IMF's *Government Finance Statistics Manual 2001 (GFSM 2001)* has a central place in the work of the Task Force, since these guidelines are broadly harmonized with the *1993 SNA*[75] and *ESA95*.

136. The accounting standards selected are the IPSAS. In developing these standards, the IFAC–PSC adapted the private sector IAS to a public sector context.[76] While not necessarily currently used by a majority of countries (although the EU adopted the IAS for listed companies), the IPSAS/IAS provide a benchmark for comparing against countries' own accounting standards. This is particularly in the areas of scope and coverage and major exclusions or exceptions.[77] The relevance of the IAS is further confirmed because they are increasingly referred to in the statistical guidelines that have recently or are being developed (e.g., *Compilation Guide on Financial Soundness Indicators* and the upcoming *Guide to the Monetary and Financial Statistics*).

137. A major challenge for WGI was to gather systematically the massive amount of information contained in the two systems in order to compare them.[78] The WGI successfully accomplished the task by categorizing differences/similarities according to the sequence that broadly reflects the decision process adopted in developing accounting statements for an entity. The boundary of the entity was first identified, the decisions about definition and recognition were then reviewed, followed by those on measurement, with the last sequence focusing on the presentation of information in the two systems. The results have been documented in a matrix[79] and are being prepared as a PSC occasional paper.

138. As for updating the SNA review, carried out by WGII, five specific areas are being worked on:

- government transactions with public corporations, in terms of earnings (reinvested earnings, dividends) and funding (dividends and capital injections);

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[75] The relationship between the government finance statistics and the SNA is provided in Appendix 3 of the *GFSM 2001*.

[76] The focus of the IPSAS (20 accrual-based and one cash-based) is on financial reporting, not budgeting, and they apply to the published financial statements of public sector entities other than government business entities only. The PSC resolved that government business entities should apply the IAS, as representative of national commercial accounting standards.

[77] PricewaterhouseCoopers et al, *GAAP 2000: A Survey of National Accounting Rules in 53 Countries*, status report at the end of year, England, 2000.

[78] Similar initiatives at the national level include the Australian project to merge public sector accounting and government finance statistics guidelines in reporting for the public sector.

[79] Robert Keys (Australian Accounting Standard Board), Betty Gruber (IMF), and Paul Sutcliffe (PSC staff). The matrix can be found on the IFAC website.

- privatization/restructuring agencies and special purpose vehicles (SPV) (privatization agencies, bad banks and other SPVs, and securitization);
- tax revenue and tax credits;
- private, public, and government sector delineation; and
- guarantees, inclusive of loan partitioning.[80]

[80] "Partitioning records a transaction that is a single transaction from the perspective of the parties involved as two or more differently classified transactions" (*1993 SNA*, par. 3.28).

DATA QUALITY REQUIREMENTS IN THE STATISTICAL GUIDELINES AND IN ACCOUNTING STANDARDS

139. The quality requirements of the statistical guidelines and accounting standards reflect the information needs that these two systems strive to fulfill. The main purpose of national accounts is economic analysis for policymaking and further analysis; other purposes are as follows:

- Provide an impartial assessment of the economy, helping to identify issues of concern to society and enhancing the understanding of these issues;
- Shed light on trade-offs among issues, such as choices between short-term economic growth and sustainable environment;
- Assist in assessing the impact of selected programs and policies and, as such, promote greater transparency and accountability by government; and
- Provide private economic agents with background information on the economic and financial conditions of the economy.

140. The main purpose of accounting statements is to assess the viability and sustainability of individual entities for major stakeholders, notably creditors and equity owners. Financial statements are used for the following purposes: [81]

- Demonstrate the accountability of the entity for the resources entrusted to it;
- Predict the level of resources required for and generated from continuing operations, and the associated risks and uncertainties; and
- Indicate, specifically for the public sector, whether resources were obtained and used in accordance with legal (e.g., budgetary) and contractual requirements.

141. At the same time, the statements are useful to managers[82] who measure and compare their economic results with other units and to other interested parties, such as government, regulatory bodies (tax and supervisory authorities) and the general public and special interest groups (political parties, labor unions, and consumer groups).

[81] IPSAS, pp. 35-36.

[82] Managers also rely on internal information systems (e.g., management accounting) to monitor the activities of their organization.

Statistical guidelines

142. The main aspects of data quality in statistics, as per the IMF's Data Quality Assessment Framework (DQAF), are captured through a prism that covers governance of statistical systems, core statistical processes, and observable features of the statistical outputs. The framework captures the quality characteristics of statistical production through prerequisites of quality and five dimensions of quality: assurances of integrity, methodological soundness, accuracy and reliability, serviceability, and accessibility.

Prerequisites of quality

143. Although not itself a dimension of quality, this group refers to institutional and organizational conditions that have an impact on data quality. The elements within the category refer to the legal and institutional environment, resources, relevance, and other quality management. Relevance provides for two modes: internal processes to reach users and users' feedback through surveys and the like.

Assurances of integrity

144. This dimension relates to the adherence to the principle of objectivity in the collection, compilation, and dissemination of statistics. The dimension encompasses institutional arrangements that ensure professionalism in statistical policies and practices, transparency, and ethical standards so as to maintain users' confidence. Elements refer to the professionalism and ethical standards in guiding policies and practices, which should be reinforced by their transparency.

Methodological soundness

145. This dimension covers the idea that the methodological basis for the production of statistics should be sound and that this can be attained only by following internationally accepted standards, guidelines, or good practices. This dimension is necessarily dataset-specific, reflecting different methodologies for different datasets (e.g., *GFSM 2001* for government and other public sector statistics). The dimension has four elements, viz., concepts and definitions, scope, classification/sectorization, and basis for recording. Application of such standards fosters international comparability.

Accuracy and reliability

146. This dimension covers the idea that statistical outputs sufficiently portray the reality of the economy. It too is data specific, reflecting the sources used and their processing. The five elements of this dimension cover source data, assessment of source data, statistical techniques, assessment and validation of intermediate data and statistical outputs, and revision studies.

Serviceability

147. This dimension relates to the need for statistics to be disseminated with an appropriate periodicity in a timely fashion, be consistent internally and with other major datasets, and follow a regular revision policy. The three elements for this dimension are periodicity and timeliness, consistency, and revision policy and practice.

Accessibility

148. This dimension relates to the need for data and metadata to be presented in a clear and understandable manner on an easily available and impartial basis, for metadata to be up-to-date and pertinent, and for a prompt and knowledgeable support service to be available. It deals with the availability of information to users. The elements refer to data accessibility (presentation, dissemination media and formats, preannounced schedule released simultaneously to all users, availability of nonpublished details upon request); metadata accessibility (documentation available, with levels of details to meet various needs, contact person publicized, and catalogs, documents, and other services widely available); and assistance to users.

Accounting standards

149. The four principal quality characteristics of financial reporting are relevance, reliability, comparability, and understandability (IPSAS, p. 81).

Relevance

150. Relevance is viewed as the "capacity of information to make a difference in a decision" by assisting users in their evaluation of past, present, or future events or in confirming, or correcting, past evaluations. Timeliness is an important aspect of relevance, since information loses value rapidly, notably in the financial world. For instance, as market prices are predicated on estimates of future events, data on the past are helpful in making projections. But as time passes and the future becomes the present, past data become increasingly irrelevant.

Reliability

151. This characteristic means free from material error and bias. This quality is concerned about data being measured accurately, with the lack of bias ensured by neutrality in data production. However, neutrality can be somewhat undermined by the prudence principle that is prevalent in accounting.[83] Too much prudence could be exercised in making estimates under conditions of uncertainty, resulting, for example, in creating hidden reserves or excessive provisions. This would lead to financial statements not being neutral and,

[83] See Olivier Frécault, "Banking System Losses in Indonesia: Looking Out for Fifty Billion U.S. Dollars–Can the SNA Help?" presented at the 27th General Conference of The International Association for Research in Income and Wealth, 2002.

therefore, not being reliable. In other words, reliability entails representing faithfully the performance and financial position of the entity, reflecting the economic substance of events and transactions, whatever the legal form.

152. Another important aspect is that the accounting statements are prepared by the managers who may have a vested interest in terms of timing and measurement in reporting the data. IFAC established an international Code of Ethics for Professional Accountants "to be the basis on which the ethical requirements (code of ethics, detailed rules, guidelines, standards of conduct, etc.) for professional accountants in each country" (IPSAS, p. 768).

Comparability

153. This quality characteristic refers to users being able to identify similarities and differences between that information and information in other reports. Comparability applies to the comparison of financial statements of different entities[84] and comparison of the financial statements of the same entity over periods of time (IPSAS, p. 83).

Understandability

154. Understandability means that users might reasonably be expected to comprehend the meaning of the financial reporting. For this purpose, users are assumed to have a reasonable knowledge of the entity's activities and the environment in which it operates and to be willing to study the information. Information about complex matters should not be excluded from the financial statements merely on the grounds that it may be too difficult for certain users to understand (IPSAS, p. 81 and p. 588).

155. The disclosure requirements of accounting are a way to promote ease of comprehension. In a broad sense, they encompass the items presented in financial statements as well as in the notes to the financial statements. The notes to the financial statements are a means to convey the accounting policies and practices used in preparing the statements, such as revenue recognition, consolidation principles, including controlled entities, recognition, and depreciation/amortization of tangible and intangible assets, etc.

[84] The implication is that users need to be informed of the policies employed in the preparation of financial statements, changes to those policies, and the effects of these changes.

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