Approaches to Assessing Data Accuracy and Reliability

Both national accounts and balance of payments are based on multiple, complex source data and typically undergo several routine revisions as more and better source data are incorporated into the final estimates. As a result, neither dataset can be subjected directly to the usual statistical measures of sampling biases, variances, and other measurement error properties. This article describes four approaches that Australia, Canada, the United Kingdom, and the United States use in assessing the accuracy and reliability of national accounts and balance of payments data: examination of statistical discrepancies, comparison with other data, analysis of revisions, and judgmental evaluation.

The purpose of this article is to (1) increase awareness of the approaches; (2) stimulate thinking about additional approaches; and (3) spur consideration of how these approaches can be generalized for use in assessing other economic data. Readers are invited to comment; the goal is to assemble a reference document to advance assessments of the accuracy and reliability of economic data. (See “Invitation to Respond and Comment” on p. 8.)

This article takes as its frame of reference the accuracy and reliability dimension of the IMF’s Data Quality Assessment Framework (DQAF), which identifies dimensions of quality that compilers and users can refer to in evaluating macroeconomic data. The DQAF brings together internationally accepted core principles, standards, and practices for compiling economic statistics.

The Accuracy and Reliability Dimension of the DQAF

In the DQAF, accuracy refers to the closeness between the estimated value and the (unknown) true value that the statistics were intended to measure. Reliability refers to the closeness of the initial estimated value(s) to the subsequent estimated values. Assessing the accuracy of an estimate involves evaluating the error associated with an estimate. Assessing reliability involves comparing estimates over time; that is, comparing initial estimates with the revised data. Economic data tend to be accurate and reliable when the source data and statistical techniques are sound and when the data sufficiently depict reality.

Box 1 shows the key elements and indicators of accuracy and reliability of macroeconomic data. Continued on page 3
Approaches To Assessing National Accounts and Balance of Payments Data

The approaches to assessing accuracy and reliability discussed in this paper pertain to assessment and validation of output data, as shown in elements 3.4 and 3.5 of Box 1.

Examinations of statistical discrepancies

Statistical discrepancies are generally defined as the difference between two totals that should be equal. Statistical agencies examine the magnitude, sign, and variability of the discrepancies to assess accuracy and to detect if something is amiss in the data.

For national accounts data, the statistical discrepancy most widely used for assessing accuracy is the difference between the sums of the components that add up to GDP derived from the income, product, and by-industry methods of measurement. In the U.S. national income and product accounts (NIPAs) prepared by the Bureau of Economic Analysis (BEA), the statistical discrepancy, in current dollars, is shown on the income side of the national income and product account where it is the difference between the sum of final expenditures and inventory change and the sum of the “income” components.

The statistical discrepancy has been drawn into recent discussion of the accuracy of U.S. GDP estimates. Over the 10 years before the 1995–96 benchmark revision, the statistical discrepancy averaged 0.3 percent of GDP. In 1996–98, the average was still about that size, but in 1999 and 2000 the sign changed (it became negative) and it averaged 0.8 percent of the GDP. The Council of Economic Advisers, in The Economic Report of the President (February 1997), expressed concern over the size of the discrepancy and concluded that the product-

For balance of payments data, “net errors and omissions” are often used to assess the accuracy of the data. Under the double-entry accounting framework of the balance of payments accounts, in principle, the sum of credit entries should equal the sum of debit entries. In practice, because of the different data sources used to compile the credit and the debit entries, such equality rarely exists. The difference between the two sums is recorded as “net errors and omissions” in the balance of payments accounts.

About a decade ago, the large and persistent “net errors and omissions” of the same sign in the U.S. balance of payments accounts (also known as accounts of “U.S. International Transactions”) raised concern about whether the estimates were capturing reality. In 1990, the “net errors and omissions” were unprecedentedly large ($73 billion). This size was particularly troubling at that time because, after a decade of large recorded net capital inflows, lower rates of return and increased uncertainty about the U.S. economy appeared to have, combined with increased demand for credit in the rest of the world, reduced the supply of capital to the United States. The resulting large decline in recorded capital inflows was not matched, however, by a similar drop in the current account deficit. If the cur-
Box 1. The Accuracy and Reliability Dimension of the Data Quality Assessment Framework—Generic Framework  
(As of July 2001)

<table>
<thead>
<tr>
<th>Quality Dimensions</th>
<th>Elements</th>
<th>Indicators</th>
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| 3. Accuracy and reliability                            | 3.1 Source data—Source data available provide an adequate basis to compile statistics. | 3.1.1 Source data are collected from comprehensive data collection programs that take into account country-specific conditions.  
3.1.2 Source data reasonably approximate the definitions, scope, classifications, valuation, and time of recording required.  
3.1.3 Source data are timely.  
3.2 Statistical techniques—Statistical techniques employed conform to sound statistical procedures. |
|                                                         | 3.2 Statistical techniques—Statistical techniques employed conform to sound statistical procedures. | 3.2.1 Data compilation employs sound statistical techniques.  
3.2.2 Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques. |
|                                                         | 3.3 Assessment and validation of source data—Source data are regularly assessed and validated. | 3.3.1 Source data—including censuses, sample surveys, and administrative records—are routinely assessed, e.g., for coverage, sample error, response error, and non-sampling error; the results of the assessments are monitored and made available to guide planning. |
|                                                         | 3.4 Assessment and validation of intermediate data and statistical outputs—Intermediate results and statistical outputs are regularly assessed and validated. | 3.4.1 Main intermediate data are validated against other information where applicable.  
3.4.2 Statistical discrepancies in intermediate data are assessed and investigated.  
3.4.3 Statistical discrepancies and other potential indicators of problems in statistical outputs are investigated. |
|                                                         | 3.5 Revision studies—Revisions, as a gauge of reliability, are tracked and mined for the information they may provide. | 3.5.1 Studies and analyses of revisions are carried out routinely and used to inform statistical processes.                                                                                                                                                     |

Note: Five quality dimensions are presented in the DQAF. “Accuracy and reliability” is the third dimension discussed in the framework, hence the figure “3” shown in the box. The other four are integrity, methodological soundness, serviceability, and accessibility.
rent account deficit figure was correct, the United States must still have been borrowing large sums from abroad to finance its deficit in goods, services, income, and unilateral transfers. The large “net errors and omissions” in the U.S. balance of payments accounts, however, made it difficult to determine whether capital inflows into the United States had declined. Subsequently, BEA made substantial efforts to strengthen the compilation of capital flows in the U.S. balance of payments accounts.

**Comparisons with like estimates**

Comparisons of estimates that purport to measure the same or related phenomena but are drawn from different sets of statistics—after reconciliation of concepts, time of recording, valuations, and other differences—may shed light on data quality or suggest that something is amiss. Comparisons may take a number of forms including (1) comparisons with different sources, (2) comparisons of corresponding components of different macroeconomic datasets, and (3) comparisons of partner country data.

With respect to comparisons with different sources, BEA publishes a number of “relation” tables that show the coverage, valuation, timing, and other sources of difference between the NIPA estimates and other estimates. Examples of these tables include (1) the relation of consumption of fixed capital in the national income and product accounts to depreciation and amortization as published by the Internal Revenue Service; (2) the relation of corporate profits, taxes, and dividends in the national income and product accounts to corresponding measures published by the Internal Revenue Service; (3) the relation of net farm income in the national income and product accounts to net farm income published by the U.S. Department of Agriculture; and (4) the relation of wages and salaries in the national income and product accounts to wages and salaries as published by the Bureau of Labor Statistics. In addition, from time to time BEA publishes articles that compare NIPA estimates with other measures. For example, a recent article compares NIPA profits with Standard and Poor’s operating earnings.

Regarding comparisons of corresponding components of different macroeconomic datasets, BEA each month publishes a table that shows a reconciliation of the NIPA net exports of goods and services with net receipts of income on goods, services, and income in the U.S. balance of payments accounts. A more detailed comparison is provided in an annual table that shows the relation between foreign transactions in the NIPA to corresponding items in the U.S. balance of payments accounts. Separately for exports and imports of goods, for exports and imports of services, for receipts and payments of income, and for net unilateral transfers as well as the balances, the table identifies geographical differences in coverage, conceptual differences, and statistical differences (revisions incorporated in one dataset but not the other).

Concerning comparisons of partner country data, bilateral comparisons of balance of payments data are based on the principle that an outflow (inflow)
from one country should approximate an inflow (outflow) to the other. The United States and Canada have long conducted annual exercises to compare their current account estimates and published their results. A number of other countries also conduct bilateral reconciliations—for example, between Australia and New Zealand on goods and services trade and on capital flows, and between Australia and several partners—the United States, Japan, and the European Union—on goods trade. [4]

Partner-country data comparisons were a key part of the study that the IMF’s Working Party on the Measurement of International Capital Flows undertook in the early 1990s, and its report has continued to shape international efforts to improve balance of payments data. The Working Party concluded that “national data providing geographic details of (financial) flows vis-à-vis partner countries . . . are particularly useful in detecting and quantifying gaps and discrepancies.” [8, p. 33] Following this conclusion, the Working Party recommended that countries collect stock and flow data on a country-by-country basis and exchange these data. Another related recommendation was that countries engaged in significant amounts of investing should conduct a coordinated survey of portfolio investment positions, broken down by partner country, to enhance coverage, to ensure uniformity of data reporting practices, and to serve as a benchmark for addressing gaps in the reporting of portfolio investment flows. One outcome was the coordinated portfolio investment survey, which facilitated bilateral comparisons of national data on portfolio investment assets and liabilities. 9

Multilateral reconciliations may be represented by those conducted under the auspices of the Asia Pacific Economic Cooperation (APEC). APEC has established a database to analyze goods and services trade and international direct investment flows for the 17 participating countries. Efforts have been made to identify areas where major differences exist in partner country data, with the aim of reducing these differences over time. [1] Multilateral reconciliations are now undertaken in the European Union and Euro area contexts.

**Analyses of revised data**

As noted earlier, this involves assessing the quality of the first estimate in relation to later estimates and it is assumed that later estimates are more accurate than earlier ones. Revisions therefore reflect improvements in accuracy relative to earlier estimates.

In revision analyses, the BEA has prepared estimates of dispersion (mean of absolute values of the revisions), relative dispersion (dispersion as a percentage of the average of the absolute values of the latest estimates), and bias (mean of the value of the revisions). 10

For national accounts, the U.K. Office of National Statistics has carried out a series of revision studies since the early 1990s. 11 The most recent study covered constant-price GDP growth (and its components) since 1970. It dealt with annual
estimates between successive editions of the *United Kingdom National Accounts*, namely the edition in which the estimate appears the first time and that in which it appears the second time. The study focused on bias; bias “provides information about the reliability of a series, but not about the accuracy of a series.” [12, p. 41] It also considered the dispersion of the revision and the mean square error, the latter because it captures the notions of bias and dispersion of revisions in one measure. (The mean square error of a series is the sum of the square of the bias and the variance of the series.)

For balance of payments data, the Australian Bureau of Statistics (ABS) also focuses on measures of bias and dispersion, which it characterizes as follows: bias is a measure of the extent to which the initial estimate is generally higher or lower than the latest estimate and indicates the direction of the revisions. Dispersion is a measure of the spread of latest estimates about the initial estimate and indicates the magnitude of the revisions.

**Judgmental Valuations**

The assumption underlying this approach is that it is possible, from knowledge of the data, to form intuitive, albeit subjective, judgments of the ranges of reasonable doubt attaching to the estimates. For example, the Canadian evaluation of national accounts lists the factors that underlie a three-grade “subjective quality assessment” of the final estimates of current-price components of GDP:

- Most reliable: (a) estimates are based on highly reliable sources and (b) the concepts and definitions underlying the input data closely correspond to those required or adjustments are straightforward.
- Reliable: sources are administrative records or surveys that are not highly reliable or require difficult, error-prone adjustments.
- Acceptable: direct, reliable observation is not possible and therefore the estimates depend on judgment to a large degree or are based on related indicators.

The ABS prepares ratings for the current-price income and expenditure components of GDP, for the chain-volume measures of the expenditure components of GDP, and for the industry value-added chain-volume measures. The ratings pertain to the initial quarterly estimates of movement of key components; initial quarterly estimates of movement have been chosen because they are generally the most anticipated of the national accounts estimates. The ratings are A (good), B (fair), C (poor), and D (very poor).

For balance of payments data, Statistics Canada uses the same three levels as for national accounts—most reliable, reliable, and acceptable. The indicator of accuracy is applied to each specific account of the balance of payments. The ABS provides a rating of the principal balance of payments components: A (less than 5 percent margin of error); B (5 percent to less than 10 percent); C (10 percent to
Invitation to Respond and Comment

Readers are invited to respond to the following questions:

a. Four main approaches to assessing accuracy and reliability of national accounts and balance of payments are discussed in this article. Are there approaches that have not been identified? Should time-series analysis be explored more fully?

b. The examples in this article are drawn from a limited set of country experiences. Are there additional examples, particularly those that are more up to date and/or are available on the Internet, that could be cited?

c. The article mentioned several examples where the approaches proved useful in signaling that a problem exists and sometimes pointing toward a remedy—for example, when the statistical discrepancy in the U.S. balance of payments in the early 1990s signaled that something might be amiss with the data. Are there additional good examples about the circumstances in which the studies proved their usefulness?

d. Are there rules of thumb related to any of the approaches, such as a rule about the size of a statistical discrepancy relative to an estimate? Are these rules of thumb useful?

e. At least one approach, revision studies, may be less applicable for datasets that are subject to few (or no) revisions. Are the other three approaches applicable for other datasets? Are there special features of these that may be exploited further for other datasets?

f. Datasets based on a single survey can turn to statistical methodology, as embodied in a substantial literature, to assess accuracy. Are there other approaches more applicable to datasets based on administrative records?

Please send comments to Ms. Claudia Dziobek, Statistics Department, International Monetary Fund, Washington, D.C. 20431 or by e-mail at cdziobek@imf.org.
less than 15 percent); D (15 percent or greater). The ratings apply to the initial quarterly and annual estimates. The ratings are assessments of the quality of the estimates in terms of: (1) the possible discrepancy between the estimates and the true value and (2) the upper bounds in which revisions may occur from time to time. The assessments are based on a number of factors including analyses of the statistical processes within the agency, observations of the types of error occurring, examinations of residuals and of consistency in the behavior of the series, comparisons with partner country data, and the revisions history of the series.

Postscript

This article has focused on assessment and validation of output data. As shown in Box 1, assessment and validation are also carried out in data processing stages that transform source data into intermediate data and finally into output data. In the authors' experience, at least two of the approaches described in the article (examinations of statistical discrepancy and comparisons of like estimates) can also be used for assessment and validation at the source data and intermediate data stages. For example, the BEA makes adjustments to limit the size of the published statistical discrepancy as it prepares the GDP estimates. In addition, for national accounts, comparisons can sometimes be made of results from two surveys or from an administrative source and a survey. A case in point is that results of household surveys on expenditures can be compared with retail sales survey data for components of household consumption, or administrative data on wages and salaries from an unemployment insurance program can be compared with data from an enterprise survey of employment, hours, and earnings.

Selected References


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1This article is an abridged version of the paper entitled “Assessing Accuracy and Reliability: A Note Based on Approaches Used in National Accounts and Balance of Payments Statistics,” by Carol S. Carson and Lucie Laliberte, Director and Assistant Director, respectively, Statistics Department, International Monetary Fund.


4The most recent publication of the annual tables was in the August 2001 *Survey of Current Business*, in the “National Income and Product Tables.”


6Another approach that may be seen as a combining source data and the assessment technique is the use of an events tracking system to monitor international transactions by scanning business media. The tracked events are both company-specific and of a general background nature. Statistics Canada uses such information in editing and updating survey coverage of Canada’s balance of payments. [11, p. 2]

7The most recent publication of this table was in the August 2001 *Survey of Current Business*, Table 4.5 B in the “National Income and Product Tables.”
The latest available reconciliation was published in the November 2001 *Survey of Current Business* and in *Canada’s Balance of International Payments, Third Quarter 2001*.


As typically calculated using percent change from quarter to quarter, at annual rates dispersion is:

$$\sum \frac{|P - L|}{n},$$

where $P$ is the percentage change in the current estimate, $L$ is the percentage change in the latest estimate, $n$ is the number of quarterly changes,

relative dispersion is: $$\frac{\sum |P - L|}{n},$$

and bias is: $$\frac{\sum (P - L)}{n}.$$

The studies also covered, in addition to national accounts, other “headline” series such as the index of production and the balance of trade in goods; see [4].
Clarifications of Recommended Treatments of Selected Direct Investment Transactions

A 1997 review of countries’ practices for compiling data on foreign direct investment (FDI) transactions indicated that the treatment of three types of FDI transactions can cause confusion among compilers, namely, (i) transactions with affiliated financial intermediaries, (ii) payments associated with the acquisition of a right to undertake a direct investment, and (iii) the shutdown of an FDI enterprise established for natural resources exploration. The IMF Committee on Balance of Payments Statistics (Committee), in consultation with the Organisation for Economic cooperation and Development (OECD) Working Party on Financial Statistics (WFS) and the European Central Bank’s Working Group on Balance of Payments and External Reserves (WGBP&ER), has worked to clarify the treatments of these transactions. This article highlights the clarifications.

Transactions With Affiliated Financial Intermediaries

In the case of transactions with affiliated financial intermediaries, confusion has arisen for three reasons:

- Paragraph 372 of the fifth edition of the *Balance of Payments Manual (BPM5)* limits FDI transactions “between affiliated banks (depository corporations) and affiliated financial intermediaries (for example, security dealers)” to transactions involving equity and permanent debt. That paragraph could be interpreted as meaning only those transactions between affiliated banks and between affiliated financial intermediaries, and not transactions between affiliated banks and affiliated financial intermediaries.

- The BPM5 and the *Balance of Payments Textbook (BOP Textbook)* are not clear about what exactly is meant by financial intermediaries.

- Paragraphs 542–544 of the BOP Textbook specifically exclude from the FDI data non-equity/non-permanent debt transactions between a nonfinancial enterprise and an affiliated [special purpose enterprise](1) (SPE) abroad that has the sole purpose of financial intermediation. Those paragraphs, however, specifically include such transactions between a nonfinancial enterprise and an affiliated SPE that has the primary purpose of financial intermediation in the FDI data. These guidelines have caused concern because it could be argued that there is essentially no economic difference between the two types of SPEs.

Following discussions with the OECD’s WFS and the ECB’s WGBP&ER, the Committee at its October 2001 meeting recommended that transactions with affiliated financial intermediaries be treated as follows:
• The BPM5 coverage of “other financial intermediaries such as security dealers” should be equivalent to certain subsectors of “financial corporations” as defined in the 1993 System of National Accounts (1993 SNA), which are (1) other depository corporations (other than the central bank); (2) other financial intermediaries, except insurance corporations and pension funds; and (3) financial auxiliaries. This follows that SPEs principally engaged in financial intermediation for a group of related enterprises would be encompassed in the definition.

• The implications of the above clarification are that financial (and investment income) transactions between two affiliated enterprises that are part of: (1) other depository corporations (other than the central bank); (2) other financial intermediaries, except insurance corporations and pension funds; or (3) financial auxiliaries would be excluded from FDI except for transactions in the form of equity capital or permanent debt.

• Financial transactions between units that are not financial intermediaries and affiliated financial SPEs abroad should be recorded under FDI.

The last recommendation overturns the practice described in the BOI Textbook, which excludes from the FDI data transactions between nonfinancial FDI enterprises and affiliated SPEs with the sole purpose of financial intermediation. The effect of the recommendation is that there no longer will be any difference in the treatment of SPEs that have the sole purpose of financial intermediation and SPEs that have the primary purpose of financial intermediation. The FDI data are to include both (i) transactions between nonfinancial FDI enterprises and affiliated SPEs with the sole purpose of financial intermediation, and (ii) transactions between nonfinancial FDI enterprises and affiliated SPEs with the primary purpose of financial intermediation.

The Committee also agreed that the decision about the inclusion in the FDI data of financial transactions between units that are not financial intermediaries and affiliated financial SPEs abroad would be re-examined in the context of the next revision of the Balance of Payments Manual.2 In the meantime, countries that exclude such transactions from the direct investment data are encouraged to explain their practices and, if possible, to publish memorandum items to facilitate international comparability.

Payments Associated With the Acquisition of a Right To Undertake a Direct Investment

In many developing or transition economies, the government requires the payment of a fixed amount of money by direct investors for the right to undertake a direct investment in the host economy. These operating or concession rights often are related to the extraction of natural resources. In transition economies, compilers refer to these payments as “bonuses.”3 The issue was to determine whether or not such bonuses constitute direct investment transactions and to recommend a common recording practice for such transactions.
Following consultations with the OECD and ECB groups, the Committee at its October 2001 meeting recommended that payments for the right to undertake a direct investment be treated as follows:

- The contra-entry to the payment of a rent (bonus) by a nonresident investor to the government authorities should be recorded under direct investment when there is a clear intention to establish a direct investment enterprise (such as in the case of a contractual arrangement between the investor and the government).
- The contra-entry to the payment of a rent by a nonresident enterprise, when no direct investment enterprise is or will be established, should be recorded under “income; investment income; other investment” until a “rent” sub-component of income is included in the balance of payments manual. Rent would be paid by nonresident enterprises when they make payments to exploit movable natural resources such as in the case of tree cutting rights or fishing rights in a country’s territorial waters.

The Shutdown of an FDI Enterprise Established for Natural Resources Exploration

The recommendation in paragraph 383 of the BPM5 is that “expenditures of direct investment enterprises established for exploration of minerals and other natural resources in an economy are treated as capital expenditures (fixed capital formation).” In addition, the text stipulates that “if the exploration proves unsuccessful and results in a shutdown of the enterprise, no further balance of payments entries are recorded. Rather, a negative stock adjustment is made in the direct investment position of the direct investor in the host economy, and an equal reduction is made in the liability position of that economy to that of the direct investor. (Both adjustments fall under the heading of “other adjustments” in the international investment position.)” Paragraph 60 of the OECD Benchmark Definition of Foreign Direct Investment (Benchmark) uses similar language.

However, some balance of payments compilers have argued that a stream of negative reinvested earnings flows should be recorded in the current account of the host economy over a number of years until the stock of fixed capital corresponding to the total exploration expenditures of the direct investment enterprise has been fully amortized as consumption of fixed capital, with corresponding entries recorded for the investing economy. Such treatment would be consistent with the 1993 SNA (paragraph 10.91), which recommends that the capitalized exploration costs should be amortized as consumption of fixed capital over the average service lives of such exploration assets. According to that argument, the direct investment enterprise continues to exist and the equity value remains until it is fully amortized. Each year, the direct investment enterprise will have negative reinvested earnings equivalent to the amortization of the exploration asset. If the amortization approach is not adopted, there is an asymmetric treatment of unsuccessful expenditures in natural resources exploration in the host economy’s national balance sheets, as such expenditures of
“national” enterprises would be amortized, whereas those of direct investment enterprises would be written-off.

The Committee considered three possible approaches to treating the shut-down of an FDI enterprise established for natural resources exploration:

- The first approach would be the amortization method envisaged above. However, this is an unsatisfactory approach in a balance of payments context, as following the shut-down of the enterprise the direct investor does not have a claim on the host economy and, symmetrically, the host economy does not have a liability to the investor. Thus, the flows of reinvested earnings recorded are purely artificial and cannot be associated with any nonresident claims or liabilities.

- A second approach, which would satisfy the requirements of the 1993 SNA, would be to record a capital transfer, by the direct investor to the host economy, that corresponds to the residual value of the natural resources exploration costs. This would represent the contra-entry for the equity capital withdrawal by the direct investor that follows the shut-down of the operation and would correspond to a transfer of know-how to the host economy equal to the value of the exploration expenditure not yet depreciated under consumption of fixed capital. However, this is not the preferred approach, as the direct investor did not willingly transfer the know-how concerning the location of dry holes, in the instances of oil exploration, but was simply faced with non-profitable operations and forced to write-off these expenditures.

- The third approach, which is the one set out in the BPM5 and the Benchmark, is to record the shut-down under “other adjustments” in the international investment position (IIP) statement, even though this approach creates an asymmetry in the treatment of the natural resources exploration expenditures that cannot be reconciled with the amortization of such expenditures of “national” enterprises under the 1993 SNA framework.

In light of the concurrence of the OECD and ECB groups, the Committee decided that the recommended treatment in instances of the shutdown of an FDI enterprise established for natural resources exploration is that the transactions should be recorded in accordance with the approach set out in the BPM5 and the Benchmark, namely, to use the “other adjustments” heading of the IIP statement to show the reduction in assets and to show no further entries in the balance of payments statistics.

1Special Purpose Entities (SPEs) are: (1) generally organized or established in economies other than those in which the parent companies are resident and (2) engaged primarily in international transactions but in few or no local operations. SPEs are defined either by their structure (e.g., financing subsidiary, holding company, base company, regional headquarters), or their purpose (e.g., sale and regional administration, management of foreign exchange risk, facilitation of financing of investment). SPEs should be treated as direct investment enterprises if they meet the 10 percent ownership criterion. SPEs are an integral part of direct investment networks.
as are, for the most part, SPE transactions with other members of the group. For SPEs that have the sole purpose of serving as financial intermediaries: (i) All transactions except those with affiliated banks and affiliated financial intermediaries, should be recorded in the direct investment data, and (ii) transactions with affiliated banks and affiliated financial intermediaries should be excluded from the direct investment data, except transactions in equity capital and permanent debt.

2This was in response to concerns raised by several countries that SPEs were “artificial” creations often established to raise funds for the parent companies or groups and such loans should be treated in the same way as instances where the nonfinancial parent companies or nonfinancial related enterprises raise funds directly from overseas markets; that is, recorded under “other investment” in the balance of payments accounts.

3They are legal transactions and should not be associated with poor governance.

4“Rent” is not a component of the balance of payments accounts as set forth in the BPM5. See the document Clarification of the International Recommendations for Direct Investment (http://www.imf.org/external/pdfe/clarif.pdf ) for a more detailed discussion on the treatment as rent.
Procedures Established for Updating the BPM5

The IMF Committee on Balance of Payments Statistics (Committee) agreed at its 2001 meeting that steps to be taken to update the BPM5 should be similar to those adopted for updating the 1993 System of National Accounts (1993 SNA). The Committee observed that the BPM5 framework is part of the broader macro-economic statistics framework that is described in the 1993 SNA and elaborated and extended in various related statistical manuals\(^1\) and that the updating of the BPM5 should be carried out in conjunction with the updating of related manuals.

Earlier at its meeting in October 2000, the Committee noted the need to update the fifth edition of the IMF’s Balance of Payments Manual (BPM5), particularly given the changes in the world economy since its publication. It was agreed that the work would proceed on two fronts. First, the IMF’s Statistics Department (STA) would identify issues that need to be addressed in updating the BPM5 and second, STA would prepare a proposal for the Committee’s consideration at its 2001 Committee meeting on procedures for updating the manual. This article reports on the issues STA has identified and the steps the Committee has agreed to be taken in updating the BPM5.

Issues Considered in Developing Procedures for Updating the BPM5

- **How should the process of updating the BPM5 be brought into the public domain?**

  STA observed that it would be important to inform compilers and users when there were updates to the existing BPM5 framework. At present, the Balance of Payments Statistics Newsletter and the IMF website are used to publicize the results of work carried out in particular areas; these vehicles could be used to provide compilers with information on the updating process. An additional means would be to write periodically to balance of payments compilers providing them with information on the updates.

- **Is it better to introduce updates incrementally (that is, as soon as they are agreed), or to make multiple updates at regular intervals, say every two or three years, or to wait until a new manual is produced and introduce all updates at that time, as was done with the BPM5?**

  STA noted that on the one hand, it would be important to have one common standard that all countries could move toward within a reasonable period, thereby assisting international comparability of data. On the other hand, it would be important to keep the statistical framework and the statistics as relevant as possible in a changing world.

  At the 2000 Committee meeting, the general view of the Committee was that the incremental approach was appropriate, so that updates to the
BPM5 would be introduced as soon as they were agreed. However, a number of participants did not agree because updates to the framework might require new data collection systems to be established and different time frames for doing this in different countries might hamper regional and international data comparisons. An alternative would be to introduce editorial amendments, clarifications, and interpretations immediately, as these should not require major changes to data collection and compilation systems. It was agreed at the 2001 Committee meeting that the Committee would make decisions on the introduction of changes to the BPM5 guidelines on a case-by-case basis, weighing the importance of immediate introduction, the importance of the availability of comparable data across countries, and the importance of consistency with other macroeconomic statistics frameworks.

- **What formal procedures are needed for identifying work to be carried out, agreeing on updates to the BPM5, and putting the results into the public domain?**

STA observed that there is a set of procedures in place for the continual updating of the 1993 SNA. The procedures for updating the BPM5 should follow closely those for updating the 1993 SNA, as the two systems are closely linked, and any updates should be closely coordinated.

- **What would be the most appropriate format for the publication of updates to BPM5, including a revised Balance of Payments Manual?**

STA commented that there are a number of alternatives available: (i) hardcopy (either as a bound document or in a more easily updateable format such as a loose-leaf binder); (ii) the IMF website; (iii) the *Balance of Payments Statistics Newsletter*; and (iv) other electronic formats (such as CD-ROM).

**Procedures for Updating the BPM5**

The Inter-Secretariat Working Group on National Accounts (ISWNGA) in 1999 introduced a mechanism for updating the 1993 SNA. A similar mechanism has been adopted for updating the balance of payments framework. Updates to the BPM5 will be divided into four types: editorial amendments, clarifications beyond dispute, interpretations, and changes. Each of these types of updates has a different set of steps to be followed in the approval process. (See Table 1.)

- **Editorial amendments** refer to wording errors, apparent contradictions, and, for non-English versions of BPM5, translation errors. These corrections affect neither concepts nor the structure of the system. IMF staff will draft these amendments, which will be brought to the Committee for approval. After the approval, an errata sheet will be produced and the amendments will be publicized through the IMF website and the *Balance of Payments Statistics Newsletter.*
• A clarification beyond dispute arises when a new economic situation emerges or when a situation that was negligible when the BPM5 was produced has become considerably more important; however the BPM5 is not clear as to the appropriate treatment and an unambiguous clarification can be made. The IMF staff will draft these clarifications, based on existing BPM5 guidelines and, after approval by the Committee, they will be publicized through the IMF website and the Balance of Payments Statistics Newsletter.

• An interpretation is needed when an economic situation arises for which the treatment under BPM5 may not be clear. In this case, IMF staff, in consultation with the Committee, will draft a preliminary interpretation that would be reviewed by working parties, panels of experts, and the ISWNGNA. The IMF staff, with guidance from the Committee, will prepare a final interpretation for approval by the Committee. Interpretations will be publicized through the IMF website and the Balance of Payments Statistics Newsletter.

• A change to the balance of payments framework is warranted when an economic situation arises in which the concepts and definitions of the framework are no longer relevant or were misleading. In such a case, the IMF staff, in consultation with the Committee, will prepare proposals for review by working groups, panels of experts, the ISWNGNA, and IMF member countries. Subsequently, the Committee will decide whether such changes should be promulgated immediately, or whether they should be held until a new manual would be issued. A change is to be promulgated, a booklet detailing the changes to the BPM5 will be produced and provided to all IMF member countries. Additionally, changes would be publicized through the IMF website and the Balance of Payments Statistics Newsletter.

The Committee noted that, at some future date, there would be a need to gather together the various editorial amendments, clarifications, and interpretations, and changes to the BPM5 to produce a new hard copy of the balance of payments manual. This process, in turn, would need to be coordinated with updates to the other macroeconomic statistics manuals. Taking into consideration the resources required, the required updates to the BPM5, and ongoing revisions of the 1993 SNA, STA aims to publish a new hard copy of the balance of payments manual in 2007. STA will present an annotated timetable for the production of the new manual to the Committee at its 2002 meeting.

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<td>newsletter, website, possibly promulgated immediately in booklet form and ultimately included in a revised BPM</td>
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²There is no equivalent to this step in the 1993 SNA process.
The IMF Balance of Payments Website Expanded

This article describes the contents of the Balance of Payments section of the IMF external website, provided by the Statistics Department of the IMF. The website is aimed at improving the accessibility by national compilers and the public to information about issues affecting balance of payments and other external sector statistics.

The Balance of Payments section of the IMF external website, which can be located at http://www.imf.org/bop, is organized into the following major groups.

- **Balance of Payments Committee**—The site provides information on the IMF Committee on Balance of Payments Statistics, comprising national and international expert data compilers, established in 1992 to advise the IMF on methodological and compilation issues affecting balance of payments and international investment position statistics. The site publishes the Annual Reports of the Committee and statistical papers presented at Committee meetings. The latter cover a range of methodological and practical issues, such as appropriate statistical treatments of repurchase agreements and accrual of interest on debt securities, methods of estimating travel expenditure, and models for estimating the value of shuttle trade and illegal drug imports. The address for the site is http://www.imf.org/external/boppage/bopindex.htm.

- **Balance of Payments Statistics Newsletters**—The site publishes copies of the IMF Balance of Payments Statistics Newsletter from 1993 to the present. The Newsletter was initiated in 1993 on the recommendation of the IMF Committee on Balance of Payments Statistics to provide information on the work of the Committee and on statistical developments in balance of payments taking place in different countries and in international organizations. The address for the site is http://www.imf.org/external/boppage/nlindex.htm#top.


- **Direct Investment Methodology**—The site focuses on an ongoing joint IMF/OECD study of the data sources, collection methods, and methodological practices used to compile foreign direct investment (FDI) statis-
tics. The site contains the report on the results of the Survey on the Implementation of Methodological Standards for Direct Investment (SIMSDI) covering more than 100 countries that was undertaken in 1997. The report on the 2001 update of the SIMSDI survey for the OECD countries is to be posted in early 2002 and the report on the results of the 2001 update for selected non-OECD countries later in 2002. These reports will include comparative tables showing the practices of those participating countries that have agreed to release this information to the general public—currently these number more than 50, including all 30 of the OECD countries. During 2002 it is also planned to add to the site summary descriptions of the compilation practices, data sources, and methodology (so-called “metadata”) for those participating countries that have agreed to this information being made available to the general public. The address for the site is http://www.imf.org/external/np/sta/di/index.htm.

- **External Debt Statistics**—The IMF is one of several international agencies involved in the work of measuring and monitoring external debt. In particular, the IMF chairs the Inter-Agency Task Force on Finance Statistics (TFFS), an interagency task force with the objective of improving the quality, transparency, timeliness and availability of financial statistics. The site provides, in particular, links to:
  - The text of the *External Debt Statistics: Guide for Compilers and Users (Final draft)* prepared by the TFFS. The purpose of the document is to provide comprehensive guidance for the measurement and presentation of external debt statistics, as well as advice on the compilation and analytical use of external debt statistics. The address for the site is http://www.imf.org/external/np/sta/ed/guide.htm.
  - The joint BIS/IMF/OECD website that disseminates quarterly external debt data with a timeliness of approximately one quarter. These data are obtained primarily from creditor and market sources, and cover the external debt of developing and transition countries and territories. The address for the site is http://www.imf.org/external/np/sta/ed/ed.htm.

- **Financial Derivatives**—The site covers recent methodological developments in this area, including a link to the text of a working paper on the statistical measurement of financial derivatives. The address for the site is http://www.imf.org/external/np/sta/fd/index.htm.

- **International Reserves**—The site focuses on the data disseminated using the “data template” on international reserves and foreign currency liquidity, which is now a prescribed component of the Special Data Dissemination Standard (SDDS). The main elements of the site are links to:
  - IMF member countries’ data on international reserves and foreign currency liquidity presented in a standard template format and in a common currency (the U.S. dollar). Historical data by country and by
selected topics, such as official reserve assets and other foreign currency assets, are also available in spreadsheet compatible pdf (portable-document format) and csv (comma-separated values). The site redisseminates the data of more than 40 countries, including subscribers to the SDDS, and is found at http://www.imf.org/external/np/sta/ir/index.htm.

- The text of the International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template, available as a PDF file. The site can be found at http://dsbb.imf.org/guide.htm.

- **International Trade in Services**—The site provides the text of the final draft Manual on Statistics of International Trade in Services that has been developed by the Interagency Task Force on Statistics of International Trade in Services, which includes the IMF. The Manual was prepared to meet the needs of a variety of compilers and users of statistics on international trade in services—statistical compilers, governments and international organizations that use statistical information in international negotiations related to trade in services, and businesses and other users that wish to assess developments in international services markets. A particular impetus for the preparation of Manual has been the recent tendency for trade agreements to cover services as well as goods, and the need for statistics both to guide the negotiations relating to these agreements and to monitor the outcomes. The address for the site is http://www.imf.org/external/np/sta/itserv/metdev.htm.

- **Portfolio Investment**—The site focuses on an ongoing project, the Coordinated Portfolio Investment Survey (CPIS), that is being conducted in an effort to improve the reporting of portfolio investment data. The first CPIS was undertaken in 1997, and involved major investing countries. A second CPIS, covering approximately 70 countries, is being conducted with respect to countries’ investment as of December 31, 2001. Participating countries undertake a benchmark survey of portfolio assets at the same time, follow definitions and classifications that are mutually consistent, and provide a breakdown of their stock of portfolio investment assets by the country of residency of the nonresident issuer, which permits the construction of a partner country source for portfolio investment liabilities. The site provides information on how to order the publications related to the 1997 CPIS and publishes the text of the Coordinated Portfolio Investment Survey Guide: second edition (final draft), which sets out the definitions and classifications being used for the 2001 CPIS. The address of the site is http://www.imf.org/external/np/sta/pi/cpisdg.htm.

The Balance of Payments website also includes information on balance of payments codes for data compilation and on concepts and methods for collecting data on international travel.
A New Coordinated Portfolio Investment Survey Under Way

Building on the success of the first coordinated portfolio investment survey (CPIS) for end-December 1997, the IMF is leading a second CPIS for end-December 2001. The 2001 CPIS is designed to collect data on countries' portfolio investment as shown by the country of issuer of the financial instrument. About 70 jurisdictions are participating in the 2001 survey, as compared with 29 in 1997. A notable development is the inclusion of a range of small economies with international financial centers, which play an important part in global financial markets but have been poorly covered in statistics.

The survey will provide estimates, at market value, as of December 31, 2001 of countries' of portfolio investment in securities, categorized by equities, long-term debt securities, and short-term debt securities, broken down by country of residence of the issuer.

In addition, countries are encouraged but not required to produce data on (i) their portfolio investment liabilities broken down by country of holder, (ii) the institutional sector of the holder for assets, and (iii) the currency composition of assets in aggregate.

Separately, the IMF has requested that countries report their holdings of securities that are held as part of their international reserves in the Survey of Geographic Distribution of Securities Held as Foreign Exchange Reserves (SEFER) and that international organizations to report their holdings of securities in the Survey of the Geographic Distribution of Securities Held by International Organizations (SSIO).

The results of the 2001 CPIS, SEFER and SSIC, with associated metadata, are to be released by the IMF in late 2002 or early 2003. These results will provide as comprehensive a picture as possible of the assets and counterpart liabilities, thus allowing analysis of global financial markets and helping to reduce the discrepancy between data on global portfolio investment assets and global portfolio investment liabilities. The CPIS will afford countries the opportunity to establish a benchmark of their outstanding portfolio investment assets, and will also assist them in improving their data on financial flows of these instruments and the associated investment incomes. The CPIS should help countries to develop good statistical practices by benefiting from the experiences of other countries. Information on countries' holdings of assets by the country of the issuer of the securities will also allow counterpart countries to derive estimates of their liabilities.

Further information on the CPIS can be found in the second edition of the Coordinated Portfolio Investment Survey Guide (CPISG2), which is available on the IMF website at http://www.imf.org/external/np/sta/pi/cpisg2.htm
Announcing . . .

The 2001 Balance of Payments Statistics Yearbook

The IMF has released its Volume 52 of the *Balance of Payments Statistics Yearbook (Yearbook)*. The 2001 Yearbook has three parts. Part 1 presents annual balance of payments data for 166 countries and international investment position (IIP) data for 71 countries. The IIP of a country is a balance sheet of its external financial assets and liabilities. Part 2 of the Yearbook contains regional and world totals for major components of the balance of payments. Part 3 provides metadata (countries’ methodologies, compilation practices, and data sources) relating to the balance of payments and IIP of reporting countries. Part 1 is separately bound, and Parts 2 and 3 are bound together.

Both the country data and related metadata that appear in the 2001 Yearbook are largely based on information countries provide to the IMF. The metadata are intended to enhance users’ understanding of the coverage, as well as of the limitations, of individual country’s data published in the Yearbook. They are also designed to inform compilers of data sources and practices of their counterparts in other countries. The balance of payments and IIP data are presented in the Yearbook in accordance with the standard components of the fifth edition of the IMF’s *Balance of Payments Manual (BPM5)*, published by the IMF in September 1993.

There are six annexes in the Yearbook presenting the standard components of balance of payments and IIP data, the accompanying data codes, and the conceptual frameworks of the balance of payments and the IIP. The annexes also explain the coverage of major components of the balance of payments accounts, as set forth in the BPM5.

Statistics published in Parts 1 and 2 of the Yearbook are also available on CD-ROM. The monthly CD-ROM provides updates and revisions of Part 1 data as they become available. Inquiries about the Yearbook should be addressed to:

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Washington, D.C. 20431, U.S.A.  
Telephone: (202) 623-7430  
Telefax: (202) 623-7201  
E-mail: Publications@imf.org Internet: http://www.imf.org
New Guidelines on External Debt Statistics Available on IMF Website


Previous international guidelines for external debt statistics contained in External Debt: Definition, Statistical Coverage and Methodology were published in 1988 by the BIS, the IMF, the OECD, and the World Bank. Since the publication of that document, there have been new international statistical guidelines for compiling national accounts and balance of payments statistics; substantial growth in private sector financial flows; and, associated with such financial flows, an increased use of instruments such as debt securities and financial derivatives to manage and redistribute risks. The need for comprehensive, comparable, and reliable information on external debt to inform policy makers, financial markets, and other users helped motivate the preparation of the Guide.

The Guide is organized in four parts. The first part explains definitions, accounting principles, measurement methods, and ways to present external debt statistics. The second part provides guidelines for compiling the data, including case studies on experiences of 12 countries in various aspects of the compilation and use of external debt data. The third part discusses the use of external debt statistics for debt sustainability analysis. The fourth part outlines the work of international agencies involved in the publication of external debt statistics and related technical assistance they provide. The Guide has several appendices presenting glossaries of terms and elaborate on the linkages of external debt statistics and external sector statistics such as the international investment position (IIP) accounts, balance of payments transactions, and the national accounts.

The conceptual framework used in the Guide is derived from the System of National Accounts, 1993 (1993 SNA) and the fifth edition of the IMF’s Balance of Payments Manual (BPM5) also issued in 1993. In the Guide, external debt is classified in two ways: by resident institutional sectors as presented in the IIP, and by public and publicly guaranteed debt and non-guaranteed private sector debt. As evidenced by international financial crises of the 1990s, comprehensive information is vital to assist in identifying vulnerability to solvency and liquidity problems arising from countries’ gross external debt positions. The Guide goes beyond the 1993 SNA and the BPM5 frameworks in identifying additional ways to measure external debt including: on a remain-
ing maturity basis, by currency of denomination, and by debt service payment schedule (especially relevant for liquidity analysis). External debt data can also be presented by the ultimate obligor, rather than the immediate obligor typically reported in economic statistics. The Guide also explains the concept of net external debt—that is, a comparison of the stock of external debt against holdings of external financial assets of similar instrument type. The Guide incorporates financial derivative positions into external debt analysis.

\*1The Guide was developed under the auspices of Inter-Agency Task Force on Finance Statistics (TFFS), in close consultation with national compilers of external debt and balance of payments statistics. The TFFS was chaired by the IMF. The TFFS was set up in 1992 and was one of the interagency task forces formed under the aegis of the United Nations Statistical Commission and the Administrative Committee on Coordination-Sub-Committee on Statistical Activities. It was reconvened in 1998 to coordinate work among the participating agencies to improve the methodological soundness, transparency, timeliness, and availability of financial statistics. Edited hard copies of the Guide in English and other languages will be available in mid-2002.

\*2The transition period for the external debt data category of the Special Data Dissemination Standard prescription is end-March 2003.
IMF Releases *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template*

The IMF released the volume entitled *International Reserves and Foreign Currency Liquidity: Guidelines for a Data Template* in October 2001. The *Guidelines* set forth the underlying framework for the data template on international reserves and foreign currency liquidity and provides guidance on how the requisite data can be compiled. The IMF and a working group of the Committee on the Global Financial System (CGFS) of the Group of Ten central banks jointly developed the template in 1999, in the aftermath of international financial crisis of the 1990s. The purpose was to promote transparency of countries’ international reserves and related information. The template integrates data on balance-sheet and off-balance-sheet international financial activities of country authorities and supplementary information. It aims to provide a comprehensive account of countries’ official foreign currency assets and drains on such resources arising from various foreign currency liabilities and commitments of the authorities. The public disclosure of such information by countries on a timely and accurate basis facilitates assessments of countries’ external vulnerability and foreign currency exposure, such assessments, at times can alert decision makers to take appropriate actions to avert financial crisis, thereby helping to improve the functioning of global financial markets.

The *Guidelines* clarify data concepts, definitions, and classifications of international reserves and related information and discuss ways to disclose the requisite data in a comprehensive format. The *Guidelines* are presented in five chapters and a number of appendices. Chapter 1 provides an overview of the genesis of the template and outlines its structure and key features. The chapter is primarily intended for readers seeking a general understanding of international reserves and official foreign currency obligations that would drain such resources. The later chapters and the appendices are designed to facilitate compilation of the template by countries, and are more technical in nature. They are also intended to explain to users what is behind the numbers. In developing the guidelines, the IMF staff consulted with IMF member countries, the CGFS, the European Central Bank (ECB), and other institutions.


Countries’ template data can be found on the websites of their central banks or finance ministries. The data are also accessible on the IMF’s website at [http://www.imf.org/external/np/sta/ir/index.htm](http://www.imf.org/external/np/sta/ir/index.htm). The IMF website redisseminates countries’ template data in a common format and in a common currency to facilitate users’ access to the information and to promote data comparability across countries. The *Guidelines* are also available in CD-ROM.

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Email: publications@imf.org and Internet: [http://www.imf.org](http://www.imf.org)

\(^1\)See also midyear and endyear 2000 issues of *Balance of Payments Statistics Newsletter.*