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**Data Quality Assessment Framework (DQAF)
for
Balance of Payments Statistics**

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DATA QUALITY ASSESSMENT FRAMEWORK (DQAF) FOR BALANCE OF PAYMENTS STATISTICS

Introduction

A. Purpose of the Framework

The main purpose of the Framework is to provide a flexible structure for the qualitative assessment of the balance of payments statistics (referred to as the statistics throughout the Framework).

The Framework could be used in a variety of contexts, including the following:

- reviews performed in the context of IMF country work, e.g., the data module of the Reports on the Observance of Standards and Codes (ROSCs), technical assistance, and surveillance;
- self-assessments performed by national statistical offices, central banks, and other data producing agencies; and
- assessments by other groups of data users, such as financial market participants.

B. Structure of the Framework

The DQAF comprehensively covers the various quality aspects of data collection, processing, and dissemination. The Framework is organized in a cascading structure that progresses from the abstract/general to the more concrete/specific details.

The first level covers the **prerequisites** of quality and five **dimensions** of quality; assurances of integrity, methodological soundness, accuracy and reliability, serviceability, and accessibility. For each of these prerequisites and five dimensions, there are **elements** (two-digit level) and **indicators** (three-digit level).¹

At the next level, **focal issues** that are specific to the compilation of balance of payments statistics are addressed. Below each focal issue, **key points** identify quality features that may be considered in addressing the focal issues. The key points are meant to be suggestive, not exhaustive.

Box A provides a view of the cascading structure employed in the Framework.

¹ The first three levels are common with other Data Quality Assessment Frameworks that have been developed to assess datasets. This design was implemented to ensure a common and systematic assessment across datasets. To date, frameworks have been developed for national accounts statistics, consumer price index, producer price index, government finance statistics, monetary statistics, balance of payments statistics, and income poverty statistics.

C. Content of the Framework

The elements and indicators within their respective dimensions are described below.

- 0. Prerequisites of quality:** Although not itself a dimension of quality, this group of “pointers to quality” includes elements and indicators that have an overarching role as prerequisites, or institutional preconditions, for quality of statistics. Note that the focus is on the agency, such as a national statistical office, central bank, or a ministry/department. These prerequisites cover the following elements:
 - 0.1 legal and institutional environment,
 - 0.2 resources available for the statistical program,
 - 0.3 relevance, and
 - 0.4 other quality management.

- 1. Assurances of integrity:** 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. The three elements for this dimension of quality are the following:
 - 1.1 professionalism,
 - 1.2 transparency, and
 - 1.3 ethical standards.

- 2. Methodological soundness:** This dimension covers the idea that the methodological basis for the production of statistics should be sound and that this can be attained by following internationally accepted standards, guidelines, or good practices. This dimension is necessarily dataset-specific, reflecting different methodologies for different datasets. This dimension has four elements, namely:
 - 2.1 concepts and definitions,
 - 2.2 scope,
 - 2.3 classification/sectorization, and
 - 2.4 basis for recording.

- 3. Accuracy and reliability:** This dimension covers the idea that statistical outputs sufficiently portray the reality of the economy. This dimension is also data specific, reflecting the sources used and their processing. The five elements of this dimension cover the following:
 - 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, and
 - 3.5 revision studies.

- 4. Serviceability:** This dimension relates to the need that statistics are disseminated with an appropriate periodicity in a timely fashion, are consistent internally and with other

major datasets, and follow a regular revision policy. The three elements for this dimension are as follows:

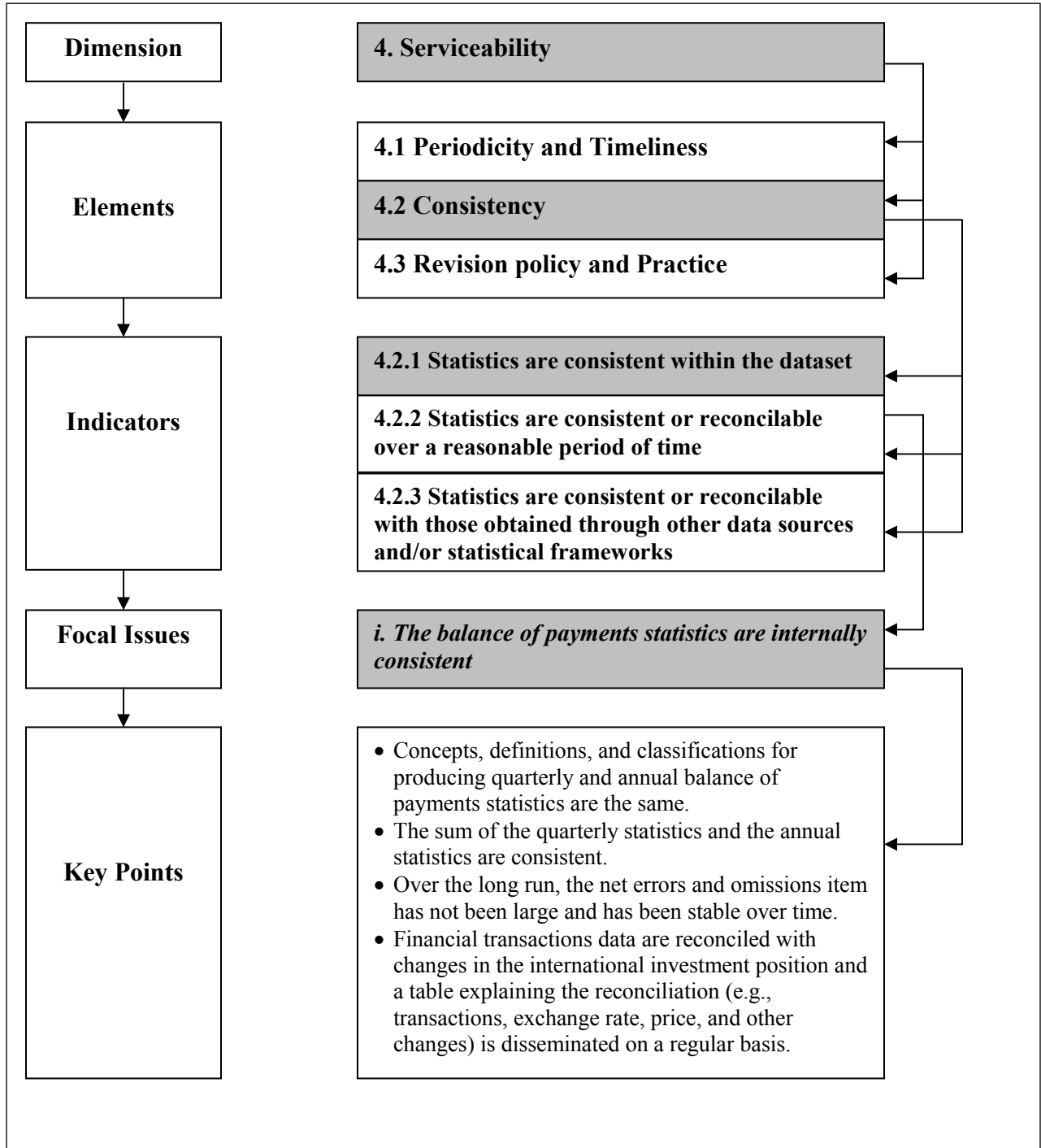
- 4.1 periodicity and timeliness,
- 4.2 consistency, and
- 4.3 revision policy and practice.

5. Accessibility: 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, that metadata are up-to-date and pertinent, and that a prompt and knowledgeable support service is available. This dimension has three elements, namely:

- 5.1 data accessibility,
- 5.2 metadata accessibility, and
- 5.3 assistance to users.

Box A: The Cascading Structure of the Data Quality Assessment Framework, DQAF July 2003, for the Balance of Payments Statistics: An Example

Using serviceability as the example of a dimension of quality, the box below shows how the framework identifies three elements that point toward quality. Within consistency, one of those elements, the framework next identifies three indicators. Specifically, for each indicator, focal issues are addressed through key points that may be considered in identifying quality.



0. Prerequisites of Quality

0.1 Legal and institutional environment

— *The environment is supportive of statistics.*

0.1.1 The responsibility for collecting, processing, and disseminating the statistics is clearly specified.

i. The primary responsibility for collecting, processing, and disseminating the statistics is clearly established.

- A law, such as a statistical law, or other formal provision (e.g., inter-agency protocol or executive decree, supranational legislation) assigns primary responsibility as well as the authority to an agency (agencies) for the collection, processing, and dissemination of the statistics.
- Working arrangements are consistent with this assignment of responsibility.
- If more than one data producing agency is involved in producing parts of the statistics, arrangements are in place to promote consistency of methods and results.
- Conflicts or potential conflicts between the legal authority to produce the statistics and other laws or provisions (e.g., access to information law or bank secrecy laws) have been successfully resolved or reconciled with no major impairment to the data production.

0.1.2 Data sharing and coordination among data-producing agencies are adequate.

i. Arrangements or procedures exist to facilitate data sharing and coordination between the agency (agencies) with the primary responsibility for compiling the statistics and other data producing agencies.

- Procedures are in place to provide for the effective and timely flow of source data (e.g., administrative data as well as survey data) to the data-producing agency (agencies).
- Contacts (e.g., regular meetings and workshops) are maintained with other data producing agencies to promote a proper understanding of data requirements, to avoid duplication of effort, and to take into account reporting burden (e.g., by discussing changes to administrative processes before they take place.)

0.1.3 Individual reporters' data are to be kept confidential and used for statistical purposes only.

i. The confidentiality of individual reporters' data is guaranteed and that guarantee is widely known.

- A law or other formal provision clearly states that individual data are to be treated as confidential, and shall not be disclosed or used for other than statistical purposes unless disclosure is agreed to in writing.
- In surveys and other statistical inquiries, respondents are informed of their rights and obligations with regard to the provision of information, and they are informed that the information they provide will be used for the purpose of producing statistics.

ii. Procedures are in place to prevent disclosure of individual reporters' data.

- Rules and regulations to prevent disclosure include penalties against staff who disclose confidential data.
- Access to individual data is restricted to staff who require the information in the performance of their statistical duties.
- Special aggregation rules are used to prevent residual disclosure when aggregations of survey or other confidential data are disseminated.
- Staff review all data prepared for dissemination for possible indirect disclosure of individual data and design tables and outputs in a way that prevents disclosure.
- Where unit records are made available (e.g., for research purposes), the confidentiality of the individual data is protected (e.g., by making all records anonymous, or ensuring that access to data is bound by confidentiality provisions).
- Confidentiality of data is appropriately guarded during storage and during the process of the destruction of records.
- Steps are taken to secure the premises of the data producing agency and its computer systems to prevent unauthorized access to individual data.

0.1.4 Statistical reporting is ensured through legal mandate and/or measures to encourage response.

i. A law or other formal provision provides for the reporting of information needed to compile the statistics.

- The data producing agency has the legal authority to collect data required to compile the statistics.
- Collection activity is consistent with the legal authority.
- If reporting is mandatory, penalties for noncompliance (including misreporting) act as effective deterrent, even if such provisions rarely need to be employed.

ii. Other mechanisms are in place to provide for adequate reporting of data for compiling the statistics.

- The data producing agency considers carefully response burden (e.g., by actively pursuing alternative avenues to obtain data, adapting questions to reporters' terminology and record-keeping systems, carefully designing new surveys, closely monitoring response burden, and periodically evaluating existing surveys).
- The data producing agency provides assistance to respondents in completing and submitting forms (e.g., by providing a point of contact).
- The data producing agency seeks to secure cooperation by creating goodwill (e.g., by registering and dealing with respondents' complaints, indicating the purpose of the data collection, informing of measures to limit response burden, raising awareness of the importance of good quality statistics, and providing respondents with data upon request).

0.2 Resources

— *Resources are commensurate with needs of statistical programs.*

0.2.1 Staff, facilities, computing resources, and financing are commensurate with statistical programs.

i. Staff resources for compiling the statistics are adequate to perform required tasks.

- Overall, the number of staff is adequate to perform the required tasks.
- The qualifications of the staff are adequate, with their skills maintained and developed to perform the required tasks.
- A core staff with adequate training is maintained and staff turnover is manageable.
- Salary levels are adequate for the nature of the work and competitive with public administration conditions in the country.

ii. Computing resources for compiling the statistics are adequate to perform required tasks.

- Overall, sufficient resources are allocated and best efforts are made to exploit the full potential of effective computing technology for compiling and disseminating the statistical series.
- Software utilized for compiling and analyzing the statistical series is effective, periodically updated, and well adapted to perform existing and emerging tasks.
- Hardware is distributed adequately to facilitate the efficient collection and processing of data, and management of databases.
- Adequate protection is provided for computer resources, including through provision of emergency back-up systems for retrieval of statistical series and updates in the event of natural disasters, accidents, and other unusual events.

iii. Physical facilities and other resources are adequate to perform required tasks.

- Office buildings provide adequate working facilities (e.g., lighting, heat, and cooling).
- Office furniture and equipment (e.g., desks, chairs, filing cabinets, telephones, and related equipment) are adequate to perform required tasks.
- Transportation arrangements (e.g., for data collection) are adequate.

iv. Funding for compiling the statistics is adequate to perform required tasks.

- Funding is reasonably secure for the identified needs of the statistical program.
- Budgeting practices provide clear information to financing authorities (e.g., when reviewing priorities for improvements, cutbacks, or increase in certain elements of programs).
- The funding horizon is amenable to planning for statistical developments (e.g., over a two- to three-year period).

0.2.2 Measures to ensure efficient use of resources are implemented.

i. Management ensures that resources are used efficiently.

- Periodic reviews of staff performance are conducted.

- Efficiencies are sought through periodic reviews of work processes, e.g., seeking cost effectiveness of survey design in relation to objectives, and encouraging consistent concepts, classification and other methodologies across datasets.
- When necessary, the data producing agency seeks outside expert assistance to evaluate statistical methodologies and compilation systems.
- ii. Costing and budgeting practices are in place and provide sufficient information to management to make appropriate decisions.*
- Resources used to compile the statistics are measured periodically (costing) and compared to other statistical programs.
- Budgeting procedures are used to help allocate resources.

0.3 Relevance

— *Statistics cover relevant information on the subject field*

0.3.1 The relevance and practical utility of existing statistics in meeting users' needs are monitored.

- i. Specific actions are taken to ensure that current statistics meet needs of data users.*
- Data users are consulted and/or kept informed on specific aspects of current data (e.g., usefulness in terms of detail, periodicity, and timeliness) through surveys, newsletters or seminars, with their feedback actively sought (e.g., e-mail address provided).
- ii. Mechanisms are in place to identify new and emerging data requirements.*
- A structured and periodic process of consultation (e.g., users' advisory committee or working groups) takes place with policy departments/ministries and other principal data users, which include academia, the press, and/or other private sector representatives, to review the usefulness of existing statistics and to identify emerging data requirements.
- The data producing agency regularly participates in statistical meetings and seminars organized by international and regional organizations and by professional organizations (e.g., International Statistical Institute (ISI) and International Association for Official Statistics (IAOS)).
- The data producing agency undertakes studies to help identify new and emerging data requirements.

0.4 Other quality management

— *Quality is a cornerstone of statistical work*

0.4.1 Processes are in place to focus on quality.

i. There is recognition throughout the organization that quality builds trust and thus is a cornerstone of statistical work.

- Management is sensitive to all dimensions of data quality, and promotes a shared concern for quality throughout the organization (e.g., mission statement emphasizes importance of quality, managers are held accountable for achieving quality).
- Staff training programs emphasize the importance of quality and give staff an understanding as to how quality may be achieved.
- The organization provides an infrastructure for quality by recognizing trade-offs, economies of scale, and interrelations between datasets.
- The organization has implemented externally recognized processes or activities that focus on quality (e.g., Total Quality Management, ISO 9000, quality initiatives within the European Statistical System, and independent evaluations).
- Information is publicly available on the organization's commitment to quality, including information about trade-offs affecting the statistical work program.

0.4.2 Processes are in place to monitor the quality of the statistical program.

i. Measures are in place for a systematic monitoring and review of quality.

- Monitoring processes are in place to inform managers on the quality achieved for ongoing statistical activities (e.g., response rates, editing rates, revisions history, timeliness evaluations).
- Compiling areas have access to expert guidance on the quality of their statistics and on strategies for improving data production.
- Periodic reviews are undertaken to identify steps necessary to maintain quality requirements.

0.4.3 Processes are in place to deal with quality considerations in planning the statistical program.

i. In planning the statistical program, quality issues (including implicit and explicit trade-offs among the dimensions of quality) are considered.

- Quality issues, such as the following, are addressed explicitly and taken into account in the work program planning process:
 - quality improvements identified during ongoing monitoring and in periodic reviews;
 - feedback from users on quality standards and on new and emerging data requirements; and
 - trade-offs among the dimensions of quality (e.g., resources availability, timeliness, and accuracy/reliability).

1. Assurances of Integrity

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

1.1 Professionalism

— Statistical policies and practices are guided by professional principles.

1.1.1 Statistics are produced on an impartial basis.

i. The terms or conditions under which the statistics are produced are in accordance with professional independence.

- A law or other formal provision supports professional independence by, for example:
 - addressing the general need for the professional independence of the data-producing agency (e.g., the importance of professional independence in carrying statistical functions is clearly stated and recognized);
 - prohibiting interference from others, including other government agencies, in the compilation and/or dissemination of statistical information; and
 - ensuring that the choice, tenure, and reporting arrangements of the agency's head are supportive of the professional independence of the statistical agency (e.g., tenure does not usually coincide with that of current government; appointment and removal of head result from transparent processes with emphasis on professional qualifications and performance).
- If there is no law or formal provision to support professional independence,
 - traditions or cultures of professionalism are clearly recognized as essential to the credibility of statistical results (e.g., others, including other government agencies, understand the importance or noninterference); and
 - the choice, tenure, and reporting arrangements of the agency's head are supportive of the professional independence of the agency.

ii. Professionalism is actively promoted and supported within the organization.

- Recruitment and promotion are based on relevant aptitude and/or expertise in statistics (e.g., sampling techniques or in the subject matter area).

- Formal (using internal and outside experts) and on-the-job training in the methodology and compilation methods is provided, including participation in seminars, courses, and workshops arranged by regional and international organizations to further knowledge of statistical practices and providing easy access to professional literature.
- Processes and activities in the workplace promote a culture of professionalism (e.g., by professional accreditation of staff, peer review of statistical work, recognition of authors of methodological papers, organization of lectures and conferences, and the institutional support of professional bodies).
- Research and analysis (including rationale for the choice of methodologies) are encouraged and published subject to internal review and other processes to maintain the agency's reputation for professionalism.

1.1.2 Choices of sources and statistical techniques as well as decisions about dissemination are informed solely by statistical considerations.

i. The choices of data sources and statistical techniques are informed solely by statistical considerations.

- The choice of source data (e.g., among surveys, between surveys and administrative records, or between collected data and administrative records) is based on measurement objectives and data requirements.

ii. Decisions about dissemination are informed solely by statistical considerations.

- Decisions to disseminate data are based solely on statistical considerations.
- Decisions about the timing, media, and other aspects of dissemination are based solely on statistical considerations.

1.1.3 The appropriate statistical entity is entitled to comment on erroneous interpretation and misuse of statistics.

i. The data producing agency comments when its statistics are misinterpreted or misused.

- The data producing agency seeks to prevent misinterpretation or misuse of statistics by providing explanatory materials and briefings (e.g., to the media).
- There is a formal policy or well-established custom to deal with data misinterpretations or misuse of statistics.
- The data producing agency
 - monitors media coverage of its data (“clipping service”), and

- comments publicly and in a timely manner on erroneous interpretations or misuse of the statistics in the media and in other fora.

1.2 Transparency

— *Statistical policies and practices are transparent.*

1.2.1 The terms and conditions under which statistics are collected, processed, and disseminated are available to the public.

i. Information is available to the public about the terms and conditions under which the statistical series are compiled and disseminated, including the obligation to compile and disseminate the statistics, the confidentiality of individual reporters' data, and other key features.

- Agency publications and/or websites reproduce material from the statistical law and other relevant documents about the terms and conditions under which official statistics are compiled and disseminated. These terms and conditions may refer to the obligation to compile and disseminate the statistics, the confidentiality of individual reporters' data, and other key features (e.g., the codes of conduct under which official statistics are compiled and disseminated, the approval process for data dissemination, the procedures to hire and remove the head of the data producing agency).
- In public speeches and other gatherings, the agency makes an active and ongoing effort to inform about the terms and conditions under which it operates.
- Statistical publications identify where more information about the data producing agency and its products can be found.

1.2.2 Internal governmental access to statistics prior to their release is publicly identified.

i. The public is made aware of internal government access to statistics prior to their release to the public.

- Internal government access to statistics prior to release is made public in terms of who has access, and how long before the dissemination access is given.

1.2.3 Products of statistical agencies/units are clearly identified as such.

i. Statistical products are clearly identified so that the public is aware of what the data producing agency takes responsibility for.

- Data released to the public are clearly identified as the data producing agency's product (e.g., by name, logo, and insignia).

- In the case of joint publications, the part attributable to the data producing agency is identified (e.g., statistics are clearly distinguished from policy interpretation).
- The data producing agency requests attribution when its statistics are used for reproduced.

1.2.4 Advanced notice is given of major changes in methodology, source data, and statistical techniques.

i. Users of statistics are made aware in advance of major changes in methodology, source data, and statistical techniques.

- Advance notice is given to the public (e.g., articles in bulletins, briefings, or news releases) when major changes are introduced in methodology, sources, and statistical techniques.

1.3 Ethical standards

— *Policies and practices are guided by ethical standards.*

1.3.1 Guidelines for staff behavior are in place and are well known to the staff.

i. A clear set of ethical standards has been prepared.

- There are clear guidelines outlining correct behavior when the agency or its staff are confronted with potential conflict of interest situations.
- There are clear guidelines that make the connection between ethics and staff work (e.g., with respect to guarding against misuse and misrepresentation of statistics (see also 1.1.3)).
- A strong culture for maintaining ethical standards discourages political interference.

ii. Staff are made aware of the ethical standards.

- Management acknowledges its status as a role model and is vigilant in following the standards.
- New staff are made aware of the standards when they join the organization.
- Staff are reminded periodically of the standards (e.g., in staff training, announcements to staff, or by requiring staff to periodically reaffirm ethical practices or adhere to conflict of interest policy).

2. Methodological Soundness

The methodological basis for the statistics follows internationally accepted standards, guidelines, or good practices.

The methodological soundness dimension is assessed against the balance of payments guidelines outlined in the fifth edition of the *Balance of Payments Manual (BPM5)*. The application of these guidelines would generally be evaluated at the level of the materially-significant balance of payments data categories (e.g., goods, travel, income, direct investment, and portfolio investment).

2.1 Concepts and definitions

— Concepts and definitions used are in accord with internationally accepted statistical frameworks.

2.1.1 The overall structure in terms of concepts and definitions follows internationally accepted standards, guidelines, or good practices.

i. The overall conceptual framework of the balance of payments statement is in broad conformity with guidelines outlined in the BPM5.

- Current, capital, and financial accounts of the balance of payments statement are defined according to the guidelines of the *BPM5*, and the current account balance in principle is equal (with sign reversed) to the net capital and financial account balance.
- In constructing the balance of payments statement, a double-entry system is applied as a basic principle, and the net residual is embedded in the errors and omissions item.
- A clear distinction is made in the system between the income component and the goods and services components.
- The balance of payments financial account provides for a separate recording of transactions in assets and transactions in liabilities.
- The directional basis is employed in compiling and recording the foreign direct investment component.
- Deviations from the above concepts and definitions are kept under review (see also 5.2.1).

ii. Concepts and definitions used to compile the balance of payments statistics are in broad conformity with guidelines outlined in the BPM5.

- Resident institutional units are defined in conformity with the *BPM5* and relate to those that have a center of economic interest in the country/territory, for example:

- enterprises, including unincorporated branches are considered to be residents of the economic territories where they operate;
 - for construction enterprises that operate as unincorporated establishments in the economy where work is being performed, the one-year guideline is applied flexibly together with other considerations (e.g., maintain a complete set of accounts, pay income taxes to the host country, etc.);
 - the residence of units operating mobile equipment in international waters or airspace is attributed to the operating enterprise's country of residence;
 - the residence of offshore entities and enterprises operating in free trade zones is attributed to the economy in which they are located;
 - the residence of Special Purpose Entities (SPEs) is attributed to the economy in which they are located;
 - international organizations and supranational authorities are not considered residents of any national economy;
 - all units of general government (e.g., embassies, military bases) are considered to be resident in their own economy;
 - subject to specific circumstances, an individual may cease being a resident of his country when he or she works continuously for one year or more in a foreign country.
- Balance of payments transactions are defined according to the guidelines of the *BPM5*, for example:
 - both exchanges and unrequited transfers (transactions without a quid pro quo) are registered;
 - the type of transaction is identified using the *BPM5* concepts and definitions (e.g., foreign direct investment transactions are defined by applying the 10 percent of ownership rule; reserve assets are defined considering the concept of monetary authorities' effective control and availability for use, the distinction between inbound and outbound transportation is made at the point after goods are loaded on board at the custom frontier of the exporting country).
 - The balance of payments transactors are defined as all resident economic entities of a compiling economy engaged in transactions with nonresidents.
 - Deviations from the above concepts and definitions are kept under review (see also 5.2.1).

2.2 Scope

— *The scope is in accord with internationally accepted standards, guidelines, or good practices.*

2.2.1 The scope is broadly consistent with internationally accepted standards, guidelines, or good practices.

i. The scope of the balance of payments statistics is broadly consistent with guidelines outlined in the BPM5.

- In principle, all resident-nonresident transactions as specified in the *BPM5* are covered in the balance of payments statistics (e.g., goods for processing, repairs on goods, nonmonetary gold, shuttle trade, smuggling, purchase of computer software, mineral exploration, e-commerce transactions, leases and other transferable contracts, reinvested earnings, intercompany lending, portfolio investment of private sector, trade credit, short-term debt transactions, debt arrears, noncash transactions).
- In principle, all resident institutional units engaged in transactions with nonresidents are covered, for example:
 - incorporated or unincorporated affiliates of nonresident companies;
 - resident territorial enclaves in the rest of the world (e.g., embassies);
 - free zones/bonded warehouses/factories operated by offshore enterprises under customs control;
 - workers who work temporarily in another country.
- Deviations from the above scope are kept under review (see also 5.2.1).

2.3 Classification/sectorization

— *Classification and sectorization systems are in accord with internationally accepted standards, guidelines, or good practices.*

2.3.1 Classification/sectorization systems used are broadly consistent with internationally accepted standards, guidelines, or good practices.

i. Classification and sectorization used for the balance of payments statistics are in broad conformity with guidelines outlined in the BPM5.

- Institutional units are classified and attributed to the relevant sector according to the *BPM5*, for example:
 - government guaranteed external debt transactions are attributed to the institutional sector of the borrower;
 - public enterprise claims and liabilities are attributed to other sectors;

- Transactions are classified to the relevant standard component of the *BPM5*, for example:
 - transactions in goods and services by government entities abroad are classified under the government services not-included-elsewhere component;
 - long-term construction projects are classified under the foreign direct investment component;
 - license fees for fishing and hunting are included in current transfers;
 - borrowing and lending—including debt securities and supplier’s credits—between direct investors and direct investment enterprises are classified under the Foreign Direct Investment (FDI), except when that transactions are between affiliated financial intermediaries;
 - loan transactions of the banking sector are classified separately from currency and deposits transactions of this sector;
 - the short-term and long-term attribution of transactions in the other investment component is made according to the original maturity of the financial instrument.
- Deviations from above classification systems are kept under review (see also 5.2.1).

2.4 Basis for recording

— *Flows and stocks are valued and recorded according to internationally accepted standards, guidelines, or good practices.*

2.4.1 Market prices are used to value flows and stocks.

i. Valuation rules used for recording transactions follow the principle of market valuation outlined in the BPM5.

- The principle of market valuation specified in the *BPM5* is used to value transactions, for example:
 - total imports and exports are valued on an f.o.b. basis;
 - monetary gold is valued at market prices;
 - financial instruments generally traded on a regular basis are valued by directly using the price quotations from markets;
 - nontradable financial instruments are valued at nominal value.
- Where transaction estimates are derived from stock data, the value of the transaction excludes valuation and other changes.

- Appropriate substitute measures for market price are developed when no actual market prices are available (e.g., barter trade, transactions between affiliated enterprises, gifts or grants).
- ii. *Foreign currency transactions are converted into domestic currency/unit of account following guidelines outlined in the BPM5.***
 - As specified in *BPM5*, transactions in foreign currency are converted using the mid-point exchange rate prevailing in the market on the transaction date. When the actual exchange rate is not available, the average exchange rates for the shortest applicable period is used.
 - Where transaction estimates are derived from stock data, an attempt is made to value the stock data in their original currencies, and then convert the change in original currency to domestic currency/unit of account at the average exchange rate for the applicable period.
 - Proper adjustments are made if a system of multiple official exchange rate exists.
- iii. *Deviations from the above valuation principles, inclusive of focal issues i. and ii., are kept under review (see also 5.2.1).***

2.4.2 Recording is done on an accrual basis.

i. Transactions are recorded on an accrual basis.

- In general, change of ownership as specified in the *BPM5* is the principle governing the recognition of transactions and their time of recording, for example:
 - the change in ownership of goods is considered to occur at the time the partners record the transactions in their books or accounts;
 - services are recorded when rendered (delivered or received);
 - for all financial instruments bearing interest, the accrual of interest costs is recorded when interest accrues instead of when paid or due for payment;
 - dividends are recorded as of the dates payable or the dates declared payable;
 - reinvested earnings on direct investment are recorded in the periods when earned;
 - loan drawings are entered in the accounts at the time of actual disbursement, and loan repayments are entered when due for payment;
 - for loan repayments not made when due, entries are recorded as if repayments of the contractual obligations were made and new short-term liabilities created.

- If accrual accounting is not in place, there are appropriate adjustments made to approximate accrual (e.g., by applying income yields to the value of assets and liabilities using various types of the extrapolation techniques).
- Deviations from the above accrual accounting are kept under review (see also 5.2.1).

2.4.3 Grossing/netting procedures are broadly consistent with internationally accepted standards, guidelines, or good practices.

i. The recording of current, capital, and financial account transactions follows guidelines of the BPM5.

- In line with the recommendations of the *BPM5*, current and capital account transactions are recorded on a gross basis while financial account transactions are recorded on a net basis, separately for the individual asset and liability components.
- Deviations from the above recording are kept under review (see also 5.2.1).

3. Accuracy and Reliability

Source data and statistical techniques are sound and statistical outputs sufficiently portray reality.

The accuracy and reliability dimension would generally be evaluated at the level of the materially-significant balance of payments data categories (e.g., goods, travel, income, direct investment, and portfolio investment).

3.1 Source data

— *Source data available provide an adequate basis to compile statistics.*

3.1.1 Source data are obtained from comprehensive data collection programs that take into account country-specific conditions.

i. The data collection programs employed to compile the balance of payments statistics are adequate.

- The composition of data sources within the collection program provides for sufficient coverage of the balance of payments transactions.
- The core data sources (surveys and/or international transactions reporting system²) are broadly sufficient to compile the balance of payments statistics.

² *Balance of Payments Compilation Guide* (IMF, 1995), Chapters III and IV.

- Information from other available sources supplement core compilation, for example:
 - international merchandise trade statistics, which are based on customs recording procedures, are used to compile data on goods;³
 - monetary and financial statistics on the external positions of resident units are used to derive the financial transactions for these units;⁴
 - data on reserve assets are provided by the central bank with transactions distinguished from valuation changes or with sufficient detail to enable derivation of transitions measures that exclude valuation changes;
 - the finance/other government department(s) provide information on the government's external transactions (e.g., transactions in the government's external debt and data on embassy expenditures abroad).

ii. *Data collections based on surveys are adequate.*

- A comprehensive and up-to-date business register provides the basis for sample surveys of business units.
- Established procedures provide for frequently integrating new transactor units into the register(s) and accounting for mergers, cessation of operations, and other changes.
- In the absence of a business register, other comprehensive frames are available (e.g., annual registers developed for licensing or other administrative purposes).
- Surveys of households and individuals are based on an up-to-date register or on an area-based sample frame that is current.
- The timing of the household/individuals survey takes account of seasonal variations.
- Sample design ensures that the population in scope is represented properly.
- The sample selections are assessed regularly, especially in relation to maintaining acceptable levels of sample error. Estimation methods for probability-based sample surveys are routinely assessed.

³ *International Merchandise Trade Statistics: Concepts and Definitions* (United Nations, 1998).

⁴ *Monetary and Financial Statistics Manual* (IMF, 2000), Chapters V and VII.

- Population benchmarks and weights used in the estimation process are reviewed and updated periodically.
- Survey questionnaires are constructed according to sound design principles (e.g., questionnaires are subject to field/pilot testing; observation studies are conducted during the design of survey questionnaires). They are reviewed periodically to take account of changed circumstances, and proposed changes are pre-tested to ensure effectiveness.
- Survey instruments are designed for efficient data capturing/processing that minimizes nonsampling errors.
- Benchmark collections are conducted, or other framework information is collected, with sufficient frequency, to ensure that the survey methodology is effective.
- The survey framework supports supplementary collections to allow the irregular collection of information to support the main compilation.

iii. Data collection based on the international transactions reporting system (ITRS) is adequate.

- The coverage of reporting banks in the ITRS is integrated with the bank register maintained by the bank supervisory authorities.
- Sufficiently detailed information is available for both transactions via banking accounts and transactions in cash.
- Reporting instructions request explanations about transactions that are above a given reporting threshold (as means of verification that they have been correctly classified in reports submitted by banks).
- Reporting instructions emphasize the need to minimize the number and value of transactions that are not classified by category.
- Reporting instructions do not permit netting of balance of payments transactions (e.g., credits net of debits)
- For transactions that fall below the reporting threshold, a sample survey of banks and nonbanking institutions with the accounts abroad is conducted periodically to obtain information in order to classify the low-value transactions across the balance of payments components.
- The structure of the reporting system for banks and enterprises with accounts abroad is consistent with the accounting practices employed by banks and enterprises and thus data can be readily extracted from the operational records.

- The ITRS report forms are designed in a way that makes them easy to complete and appropriate for computer processing and have also been pilot-tested with a sample of respondents.

iv. Data collections based on administrative data sources are adequate.

- Data from administrative records used to derive balance of payments components are adequate, and their gaps in terms of detail and coverage are known and accounted for.

v. The data collection programs are sufficiently open and flexible to provide for new developments in sources.

- Periodic meetings are held with financial market participants and the business community to identify new developments that need to be taken account in the balance of payments compilation system.
- The financial press and research papers are monitored for information on international transactions and transactors that need to be taken account in the balance of payments compilation system.
- International standards, guidelines, and practices are monitored for changes that need to be taken into account in the balance of payments compilation system.

3.1.2 Source data reasonably approximate the definitions, scope, classifications, valuation, and time of recording required.

i. Source data are consistent with the definitions, scope, and classifications adopted by the compiling agency.

- Source data drawn from surveys and ITRS are consistent with the definitions, scope and classifications, and time of recording of the balance of payments statistics employed by the compiling agency. Pilot tests have been conducted to ensure that data collected will allow compilation of estimates according to international guidelines.
- Administrative records used to compile balance of payments statistics provide reasonable approximations of the methodological requirements of the balance of payments.

ii. Information is available on the extent to which supplementary data sources differ from international statistical guidelines.

- Information on deviations of the source data (e.g., international merchandise trade data from customs documents) from requirements of the balance of payments is sufficiently detailed to ensure the appropriate adjustment.

- Information on external debt obtained from the debt compiling agency(agencies) is broadly in line with the recommendations of the *BPM5*.

3.1.3 Source data are timely.

i. The data collection programs provide for the timely receipt of data.

- Data collection and processing timetables are adequate to meet timeliness and periodicity for disseminating the balance of payments statistics.
- Respondents are made aware of the deadlines set for reporting.
- The data producing agency employs rigorous follow-up procedures to ensure the timely receipt of respondents' data (e.g., by contacting the respondent).

3.2 Assessment of source data

— *Source data are regularly assessed.*

3.2.1 Source data—including censuses, sample surveys and administrative records—are routinely assessed, e.g., for coverage, sample error, response error, and nonsampling error; the results of the assessments are monitored and made available to guide statistical processes.

i. Accuracy of the data from surveys is routinely assessed.

- Information about sampling errors for each of the surveys conducted is monitored on a regular basis. Also monitored is information about nonsampling errors (survey operations, biases, over/under-coverage, misclassification, measurement, processing, and nonresponse).
- The effects of changes to questionnaires on survey estimates are assessed.
- Source data are analyzed in the context of revisions. All material changes from available up-to-date data are incorporated into the balance of payments statement according to a revision cycle that prevents the accumulation of revisions over long periods of time.
- The procedures identify outliers and other atypical differences in periodic responses by individual survey units. Extreme values are confirmed with respondents, and records maintained on the confirmation.
- The source data are analyzed for underreporting/misreporting, in particular to check for:
 - temporal consistency,
 - consistency with related data sources.

ii. Accuracy of the information from the ITRS is routinely assessed.

- Information about nonsampling errors is monitored: under-coverage, misclassification, processing, and nonresponse.
- The completeness of closed-type ITRS reporting by banks is assessed, for instance:
 - on balances of accounts and reported transaction;
 - by monitoring the equality between debit and credit entries for nonbalance of payments transactions.
- The source data are analyzed for underreporting/misreporting, in particular to check for:
 - temporal consistency,
 - consistency with related data sources.
- The ITRS transactions that are not of the balance of payments nature are carefully analyzed (e.g., type of transaction, spread, and sign of fluctuation) to ensure that they are canceled out.
- High-value transactions are confirmed with respondents.

iii. Accuracy of the information from administrative data and other supplementary sources is routinely assessed.

- Accuracy of public sector external debt data, international trade, and other supplementary sources used to compile balance of payments statistics is routinely assessed.

3.3 Statistical techniques

— *Statistical techniques employed conform to sound statistical procedures.*

3.3.1 Data compilation employs sound statistical techniques to deal with data sources.

i. Data compilation procedures are sound.

- Compilation procedures minimize processing errors such as coding, editing, and tabulation errors.
- Adjustments to unit records are made only when clearly warranted (e.g., unusual values are not replaced or modified unless clearly required), and can be identified in datasets.
- Procedures for imputation and adjustment for nonresponse are soundly based.

- Appropriate use is made of ancillary and benchmark information in compiling estimates.
- Appropriate measures are undertaken when the nonsampling errors become large.

ii. Appropriate measures are taken to adjust the source data.

- Sound estimation techniques are employed to adjust data for missing observations in statistical collections.
- Adjustments for undercoverage and/or population units out of scope follow appropriate guidelines. Grossing-up factors are derived scientifically, based on sample design.
- Attribution of uncoded ITRS data to the specific balance of payments components are made using sound statistical techniques.
- Appropriate measures are undertaken when the value of uncoded ITRS transactions below the threshold become too large and when inequality between debit and credit entries for nonbalance of payments transactions arise in the closed ITRS.
- Any discrepancy between the sum of the quarterly data and data from annual surveys is removed through benchmark procedures or indicators.

3.3.2 Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques.

i. Sound adjustments are employed to make source data consistent with balance of payments requirements.

- Specific procedures are developed to adjust data from various sources to improve coverage, classification, and valuation and conform to guidelines set out in *BPM5*, for example:
 - the c.i.f./f.o.b. factor for valuing imports is estimated each year on the basis of a sample survey of transportation enterprises;
 - adjustments using information from the finance/other government department(s) are made to record income and service payments, inclusive of withholding taxes deducted at source;
 - estimates and travel data models are used to augment or verify data from the ITRS, surveys of travelers/households and tourist providers, and credit card data that are employed to compile the travel component;

- surveys of travelers/households and tourist providers are used to augment or verify data from the ITRS;
 - data on net transactions in telecommunications services reported in the ITRS are adjusted to a gross basis using information collected from a sample of telecommunications firms;
 - source data on securities transactions in secondary markets, which are reported net of fees and commissions, are adjusted to a gross basis based on information on average commission rates obtained from a sample of securities dealers.
- Statistical procedures used to incorporate unrecorded activities (including informal, hidden, and illegal activities) follow a detailed, case-by-case, approach using specific sources that are most closely related to the estimated variables and pertinent to the reference period, for example:
 - estimates of shuttle trade are made based on information from periodic surveys conducted at major border points on goods carried by organized and nonorganized traders and data are extrapolated from the monthly volume of shuttle traders identified by customs and immigration authorities.
 - adjustments of trade data are made using partner-country data, notably partners' import data to adjust for the underestimation of exports.
 - Seasonal adjustments that were undertaken use internationally accepted methodologies.

3.4 Assessment and validation of intermediate results and statistical outputs.

— *Intermediate results and statistical outputs are regularly assessed and validated.*

3.4.1 Intermediate results are validated against other information where applicable.

i. Intermediate results are validated against other independent data sources.

- Intermediate results are checked across a wide range of data sources, including, for example:
 - data received from the finance/other government department(s) on withholding taxes on income are used to assess the accuracy of reported information on income transactions;
 - information reported in the financial press is used to verify high-value direct investment and other transactions.

3.4.2 Statistical discrepancies in intermediate data are assessed and investigated.

i. The behavior of series is cross-checked with related series/indicators.

- The behavior of series is routinely assessed against related series, for instance:
 - reported data on investment income payments and receipts are regularly assessed in relation to the corresponding stock data in the international investment position statistics;
 - data on freight earnings are regularly assessed in relation to the value/volume of the trade flows;
 - data on travel-related transactions are analyzed in relation to information compiled by the customs and immigration authorities on the numbers of international travelers entering/leaving the country;
 - the reported financial flow data are reconciled with changes in the corresponding stock data collected for external debt and for other elements of the international investment position;
 - the discrepancies between merchandise trade and the associated financial flows from the ITRS are reviewed.

3.4.3 Statistical discrepancies and other potential indicators of problems in statistical outputs are investigated.

i. Errors and omissions are monitored.

- Staff involved in producing balance of payments data monitor developments in the errors and omissions item and seek to understand them, e.g., by cross-checks between entries in the current, capital, and financial accounts.

ii. Bilateral comparisons/reconciliations are conducted with data of other countries and international organizations.

- Bilateral data reconciliations are conducted for selected trade, other current, and financial account items with principal trading partners and large differences are investigated. Differences in concepts and compilation methods are identified and are taken into account in the data comparisons.
- Data on selected external debt transactions are compared with the Joint BIS-IMF-OECD-World Bank Statistics on external debt or the BIS locational international banking statistics.

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 internally to inform statistical processes (see also 4.3.3).

i. Revisions to the balance of payments statistics are periodically assessed.

- Studies assess the initial estimates against revised or final estimates over a given period of time and comprise:
 - studies of scale (frequency of revision and number of time series revised);
 - studies of direction and magnitude of revisions.
- Studies of long-term trends in the revision pattern are conducted periodically to identify systematically biased revisions.
- Studies investigate the sources of errors, omissions, and fluctuations in the data.

ii. Measures are taken to incorporate the findings from revision studies in data compilation.

- Findings from revision studies (such as the pattern of availability of major data sources) are used to define the optimal revision cycle.
- Findings from revision studies are used to refine preliminary data and data collection programs for the subsequent periods (e.g., findings of persistent misreporting from enterprises are routinely analyzed and used in an internal quality control exercise).
- Time-series of revisions to output data are examined to identify the long-term trends in the revision patterns. Appropriate adjustments that reflect a predicted revision pattern are made at the time of initial estimates to enhance the accuracy of data.
- Adequate documentation on revisions is maintained and includes descriptions of causes of revisions, methods used to incorporate new data sources, and the way data are adjusted.

4. Serviceability

Statistics, with adequate periodicity and timeliness, are consistent and follow a predictable revisions policy.

4.1 Periodicity and timeliness

— *Periodicity and timeliness follow internationally accepted dissemination standards.*

4.1.1 Periodicity follows dissemination standards.

i. The periodicity of the balance of payments statistics follows the IMF data dissemination standards (SDDS or GDDS).

- Balance of payments statistics are disseminated quarterly (SDDS).
- Balance of payments statistics are disseminated annually (GDDS).

4.1.2 Timeliness follows dissemination standards.

i. The timeliness of the statistical series follows the IMF data dissemination standards (SDDS or GDDS).

- Quarterly balance of payments statistics are disseminated within one quarter after the reference period (SDDS).
- Annual balance of payments statistics are disseminated within six to nine months after the reference period (GDDS).

4.2 Consistency

— *Statistics are consistent within a dataset, over time, and with major datasets.*

4.2.1 Statistics are consistent within the dataset.

i. The balance of payments statistics are internally consistent.

- Concepts, definitions, and classifications for producing quarterly and annual balance of payments statistics are the same.
- The sum of the quarterly statistics and the annual statistics are consistent.
- Over the long run, the net errors and omissions item has not been large and has been stable over time.
- Financial transactions data are reconciled with changes in the international investment position and a table explaining the reconciliation (e.g., transactions, exchange rate, price, and other changes) is disseminated on a regular basis.

4.2.2 Statistics are consistent or reconcilable over a reasonable period of time.

i. The balance of payments statistics are consistent over time.

- Consistent time series are available for an adequate period of time (at least five years).

- When changes in source data, methodology, or techniques are introduced, historical series are reconstructed as far back as reasonably possible.
- Detailed methodological notes identify and explain the main breaks and discontinuities in the balance of payments component time series, their causes, as well as adjustments made to maintain consistency over time.
- Unusual changes in economic trends are explained in the commentary included in the balance of payments publication and in the database accessible to users.

4.2.3 Statistics are consistent or reconcilable with those obtained through other data sources and/or statistical frameworks.

i. The balance of payments statistics are consistent or reconcilable with the international merchandise trade, national accounts, monetary and financial statistics, external debt, and/or international investment position statistics.

- The balance of payments data on trade in goods is reconciled with international merchandise trade data.
- The balance of payments statistics are largely consistent with national accounts statistics.
- The banking sector transactions in the balance of payments statistics are largely consistent with monetary and financial statistics.
- The balance of payments components comprising external debt data are largely consistent with the corresponding debt stocks.

4.3 Revision policy and practice

— *Data revisions follow a regular and publicized procedure.*

4.3.1 Revisions follow a regular and transparent schedule.

i. The practice of revisions (e.g., from provisional estimates, weight updates, for changes in methodology) follows a predictable pattern of which users of statistics are informed.

- The revision cycle is predetermined and reasonably stable from year to year.
- The revision cycle is made known to the public.
- The reasons underlying the cycle (e.g., the availability of source data, the timing of revisions with related datasets, the timing for preparing important economic policy documents) are explained.

- Adequate documentation of revisions is included in the publication of the statistical series and in the database accessible to users.
- When revisions outside the regular cycle are called for (e.g., by the discovery of new source data, errors), they are made known to the public.

4.3.2 Preliminary and/or revised data are clearly identified.

i. Users are informed about the preliminary nature of the data.

- At the time of data dissemination, users are informed whenever data are preliminary.

ii. Users are informed about the revised nature of the data.

- At the time of data dissemination, users are informed whenever data are revised.

4.3.3 Studies and analyses of revisions are made public (see also 3.5.1).

i. Users are informed of results and studies of the revisions to the statistics.

- Revisions are measured, assessed, and explained in the balance of payments publication and in the database accessible by users.
- Analysis of differences between the revised and preliminary data is published for major aggregates to allow an assessment of the reliability of the preliminary data.

5. Accessibility

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

5.1 Data accessibility

— Statistics are presented in a clear and understandable manner, forms of dissemination are adequate, and statistics are made available on an impartial basis.

5.1.1 Statistics are presented in a way that facilitates proper interpretation and meaningful comparisons (layout and clarity of text, tables, and charts).

i. The presentation of balance of payments data is commensurate with users' needs.

- The balance of payments statistics are disseminated according to the standard components of the *BPM5*, and with time series.
- Additional series are disseminated to meet a range of users' needs with various levels of detail (disaggregation).

- The statistics are disseminated in a clear manner, with charts and tables to facilitate analysis.
- Commentaries on current-period developments are included.
- Series subject to seasonality are disseminated in a seasonally adjusted form.

5.1.2 Dissemination media and formats are adequate.

i. Statistics are disseminated in formats to suit users' needs.

- Statistics are disseminated in ways that facilitate re-dissemination in the media (e.g., information releases).
- More comprehensive and/or detailed statistics are also disseminated in paper and/or electronic formats.
- Current statistics and longer time series can be accessed (perhaps for a fee) through an electronic database maintained by or on behalf of the data producing agency.

5.1.3 Statistics are released on the preannounced schedule.

i. Statistics are released on the preannounced schedule.

- A schedule announces in advance the dates the statistics are to be released.
- The statistics are released punctually, that is according to the pre-announced schedule.

5.1.4 Statistics are made available to all users at the same time.

i. The balance of payments statistics are made available to all users of statistics at the same time.

- The public is informed of the statistics being released and of the procedures to access them (e.g., Internet, publications).
- The statistics are made available to all interested users simultaneously.
- If the press is briefed in advance, embargos are imposed to prevent early public disclosure.

5.1.5 Statistics not routinely disseminated are made available upon request.

i. Statistics not routinely disseminated are made available to users upon request.

- In addition to the statistics routinely disseminated, other general statistics are made available upon request.
- Customized tabulations can be provided (perhaps for a fee) to meet specific requests.
- The availability of additional statistics and of the procedures for obtaining them are made known.

5.2 Metadata accessibility

— *Up-to-date and pertinent metadata are made available.*

5.2.1 Documentation on concepts, scope, classifications, basis of recording, data sources, and statistical techniques is available, and differences from internationally accepted standards, guidelines, or good practices are annotated.

i. The balance of payments statistics metadata give adequate information about the meaning of the data and about the methodology used to collect and process them.

- A comprehensive sources and methods document is published and updated regularly, and it includes the following:
 - information on concepts, definitions, classifications, data sources, compilation methods, statistical techniques and other relevant methodological aspects and procedures;
 - departures from internationally accepted standards, guidelines, or good practices;
 - information on survey sources, such as survey characteristics (response rates, survey monitoring and studies of non sampling errors) and other survey features (method, sample frame, sample design and selection, estimation and imputation techniques, etc.), and on the nature of administrative data sources; and main linkages with related major data systems.
- The SDDS/GDDS metadata, SDDS summary methodologies, and other related descriptions are reviewed and updated regularly.
- The metadata are readily accessible (e.g., websites, statistical publications) and their availability is cross-referenced in data releases, and otherwise well publicized (e.g., in catalogs).

5.2.2 Levels of detail are adapted to the needs of the intended audience.

i. Different levels of metadata detail are made available to meet users' requirements.

- General use information (e.g., a brochure) about the balance of payments and other external sector statistics (e.g., how to locate the data) is available and made public.
- More specialized information (e.g., background papers, working documents) is available and made public.

5.3 Assistance to users

— *Prompt and knowledgeable support service is available.*

5.3.1 Contact points for each subject field are publicized.

i. Adequate assistance is given to users of statistics.

- Prompt and knowledgeable service and support are available to users of statistics.
- All statistical releases identify contact points for enquiries by mail, telephone, facsimile, or by e-mail.
- Material to raise awareness on the use of statistics is available (e.g., for schools and research).
- Access points for clients to obtain statistical information are well advertised.
- Assistance to users is monitored and reviewed periodically (e.g., time of response to e-mail requests).

5.3.2 Catalogs of publications, documents, and other services, including information on any charges, are widely available.

i. Catalogs of publications and other services are available to users of statistics.

- Catalogs of publications, documents, and other services to users are available, and updated regularly (e.g., each year if needed).
- The prices of the statistical products and services are clearly disclosed and assistance is provided in placing orders.